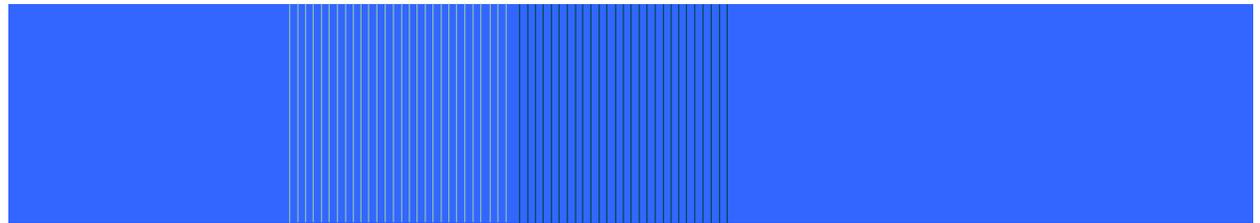


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The State of Minority- and Women- Owned Business Enterprise: Evidence from Northeast Ohio

Prepared for the Northeast Ohio Regional Sewer District



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Acknowledgments

This Study would not have been possible without the assistance of personnel throughout NEORS, especially at the Departments of Law and Purchasing. Special thanks go to the District's project manager for this study, Katarina Waag, Assistant Director of Law, as well as Marlene Sundheimer, Director of Law, and Denise Andres, Manager of District Records, and Tiffany Jordan, Contract Compliance Manager.

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NERA Economic Consulting is a global firm of experts dedicated to applying economic, finance, and quantitative principles to complex business and legal challenges. For half a century, NERA's economists have been creating strategies, studies, reports, expert testimony, and policy recommendations for government authorities and the world's leading law firms and corporations. We bring academic rigor, objectivity, and real world industry experience to bear on issues arising from competition, regulation, public policy, strategy, finance, and litigation.

NERA's clients value our ability to apply and communicate state-of-the-art approaches clearly and convincingly, our commitment to deliver unbiased findings, and our reputation for quality and independence. Our clients rely on the integrity and skills of our unparalleled team of economists and other experts backed by the resources and reliability of one of the world's largest economic consultancies. With its main office in New York City, NERA serves clients from over 20 offices across North America, Europe, and Asia Pacific.

NERA's employment and labor experts advise clients on a wide range of issues both inside and outside the courtroom. We have provided expert testimony on statistical issues both at the class certification phase (on issues of commonality and typicality) and at the liability phase (for class or pattern-and-practice cases). Our experts have extensive experience examining issues of statistical liability in discrimination and other wrongful termination claims. We also provide detailed statistical analyses of workforce composition to identify potential disparities in hiring, layoffs, promotions, pay, and performance assessments and have conducted studies on labor union issues and on affirmative action programs for historically disadvantaged business enterprises.

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Colette Holt & Associates is a Chicago-based law practice specializing in public sector affirmative action programs. The firm provides legal and consulting services to governments and businesses relating to procurement and contracting; employment discrimination; regulatory compliance; organizational change; program development, evaluation and implementation; and issues relating to inclusion, diversity and affirmative action. Colette Holt, J.D. is a nationally recognized expert in designing and implementing legally defensible affirmative action programs and is a frequent author and media commentator in this area. On this Study, Colette Holt served as legal counsel for NERA, providing advice and recommendations for the study's design and implementation, conducting interviews with business owners and state procurement officials, and drafting key study findings, among other duties.

Abt SRBI is a New York-based business with a national reputation for excellence in computer assisted telephone interviewing. Abt SRBI provides analysis in the rapidly evolving markets and public policy areas of communications, financial services, utilities, transportation, media, health and business services. The firm was founded in 1981 with the explicit purpose of combining high quality analytic capabilities with in-house control of the research implementation to ensure accurate, timely and actionable research use by decision makers working in rapidly changing environments. Abt SRBI clients include the Eagleton Institute at Rutgers, the Annenberg Institute at the University of Pennsylvania, and the major networks. Abt SRBI has conducted numerous surveys of M/WBEs and non-M/WBEs on behalf of the NERA team. On this Study, Abt SRBI conducted telephone surveys of race and gender misclassification and of mail survey non-response under the supervision of Abt SRBI Project Manager Andrew Evans.

J&D Data Services is a small business enterprise owned by Mr. Joe Deegan and based in Plano, Texas. After a long career with ScanTron, Mr. Deegan started his own business to offer a solid and proven alternative to the time consuming and expensive job of key data entry long associated with mail surveys. The firm helps its clients conserve their surveying resources by designing and delivering survey instruments that can be electronically and automatically scanned upon return and sent directly to electronic format. J&D Data Services has conducted numerous surveys of M/WBEs and non-M/WBEs on behalf of the NERA team. On this assignment they provided printing, postage, mail-out and mail-back service for the subcontract data collection, the mail survey, and the business owner interview invitations.

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Triad Research Group based in Cleveland, Ohio, has been delivering customized primary research solutions to clients for nearly thirty years. Two of Northeast Ohio's most respected firms, joined forces to create Triad, a firm with knowledge of both private and public sector institutions. Kathy Severinski, President of Triad, has been an integral part of the team for more than 20 years. She holds a Master's Degree in Political Science from Kent State University, with a Certificate in Political Campaign Management. With an impressive background in project planning and coordination, she has designed and analyzed many large scale research studies. On this project they project managed and assisted with the focus groups by contacting associations, making phone calls, and attending the meetings.

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Executive Summary

A. Introduction

NERA was commissioned to examine the past and current status of minority-owned and women-owned business enterprises (“M/WBEs”) in the geographic and product markets for contracting and procurement by the Northeast Ohio Regional Sewer District (“NEORSRD”). The purpose of this Study is to assist the District in evaluating whether race- and gender-conscious contracting remedies are necessary to ameliorate discrimination, and to narrowly tailor any new measures that may be adopted.

The results of NERA’s Study (hereinafter the “2010 Study”), provide the evidentiary record necessary for the District’s consideration of whether to implement renewed M/WBE policies that comply with the requirements of the courts and to assess the extent to which previous efforts have assisted M/WBEs to participate on a fair basis in the District’s contracting and procurement activity. *The 2010 Study finds both statistical and anecdotal evidence of business discrimination against M/WBEs in the District’s relevant market area.*

B. Legal Standards for Government Affirmative Action Contracting Programs

To be effective, enforceable, and legally defensible, a race- and gender-based program must meet the judicial test of constitutional “strict scrutiny.” Strict scrutiny requires current “strong evidence” of the persistence of discrimination, and any remedies adopted must be “narrowly tailored” to that discrimination. Applying these terms to government affirmative action contracting programs is complex and constantly shifting, and cases are quite fact specific. Over the last 21 years, federal appellate and district courts have developed parameters for establishing a state government’s compelling interest in remedying discrimination and evaluating whether the remedies adopted to address that discrimination are narrowly tailored. The 2010 Study follows the guidelines developed by the *National Academy of Sciences*, which our team was proud to develop.¹

Chapter II of the Study provides a detailed and up-to-date overview of current constitutional standards and case law and outlines the legal and program development issues the District must consider in evaluating its M/WBE Program and any future initiatives, with emphasis on critical issues and evidentiary concerns.

C. Defining the Relevant Markets

Chapter III describes how the relevant geographic and product markets were defined for this Study. Five years of prime contract and subcontract records were analyzed to determine the

¹ Wainwright, J. and C. Holt (2010), *Guidelines for Conducting a Disparity and Availability Study for the Federal DBE Program*, Transportation Research Board of the National Academies, NCHRP Report, Issue No. 644.

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geographic radius around NEORSD that accounts for at least 75 percent of aggregate contract and subcontract spending. These records were also analyzed to determine those detailed industry categories that collectively account for over 99 percent of contract and subcontract spending in the relevant procurement categories, which were Construction, Construction-Related Professional Services (“CRS”) such as architectural, engineering, surveying, and testing services, Other Professional and General Services (“Services”), and Commodities, Supplies and Equipment (“Commodities”). The District’s relevant geographic market area was determined to be comprised of five Core Based Statistical Areas (CBSAs) that collectively and adjacently cover Northeast Ohio. They are the: (1) Cleveland-Elyria-Mentor, OH Metropolitan Statistical Area, (2) Akron, OH Metropolitan Statistical Area, (3) Canton-Massillon, OH Metropolitan Statistical Area, (4) Youngstown-Warren, OH Metropolitan Statistical Area, and (5) the Ashtabula, OH Micropolitan Statistical Area.

The relevant geographic and product markets were then used to focus and frame the quantitative and qualitative analyses in the remainder of the Study.

D. M/WBE Availability in the District’s Market Area

Chapter IV estimates the percentage of firms in the District’s relevant market area that are owned by minorities and/or women. For each industry category, M/WBE availability is defined as the number of M/WBEs divided by the total number of businesses in the District’s contracting market area. Determining the total number of businesses in the relevant markets is more straightforward than determining the number of minority-owned or women-owned businesses in those markets. The latter task has three main parts: (1) identifying all listed M/WBEs in the relevant market; (2) verifying the ownership status of listed M/WBEs; and (3) estimating the number of unlisted M/WBEs in the relevant market.

Table A below provides an executive level summary of the current M/WBE availability estimates derived in the Study.

Table A. Overall Current Availability—By Major Procurement Category and Overall

Detailed Industry	African American	Hispanic	Asian	Native American	MBE	Non-minority Female	M/WBE	Non-M/WBE
CONSTRUCTION	4.06	0.31	0.15	1.03	5.54	16.77	22.31	77.69
CRS	3.12	1.27	1.81	0.08	6.28	15.75	22.03	77.97
SERVICES	4.35	0.70	0.32	0.19	5.57	17.19	22.76	77.24
COMMODITIES	4.20	0.13	0.19	0.55	5.07	20.66	25.73	74.27
TOTAL	3.81	0.70	0.75	0.50	5.76	16.78	22.54	77.46

Source: Table 4.17.

Notes: For this study, “Black” or “African American” refers to a person having origins in any of the Black African racial groups; “Hispanic” refers to a person of Mexican, Puerto Rican, Dominican, Cuban, Central or South American, of either Indian or Hispanic origin, regardless of race; “Asian and Pacific Islander” or “Asian” refers to a person having origins in any of the Far East countries, South East Asia, the Indian Subcontinent, or the Pacific Islands; “Native American” refers to a person having origins in any of the original peoples of North America; and “White” or “non-minority” means a non-Hispanic person having origins in Europe, North Africa, or the Middle East.

E. Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Chapter V demonstrates that **current M/WBE availability levels in the NEORSD market area, as measured in Chapter IV, are substantially lower than those that we would expect to observe if commercial markets operated in a race- and gender-neutral manner and that these levels are statistically significant.**² In other words, minorities and women are substantially and significantly less likely to own their own businesses as the result of marketplace discrimination than would be expected based upon their observable characteristics, including age, education, geographic location, and industry. We find that these groups also suffer substantial and significant earnings disadvantages relative to comparable non-minority males, whether they work as employees or entrepreneurs.

In particular, we found that annual average wages for African Americans (both sexes) in 2006–2008, were 37 percent lower in the NEORSD market area than for non-minority males who were otherwise similar in terms of geographic location, industry, age, and education. These differences are large and statistically significant. Large, adverse, and statistically significant wage disparities were also observed for Hispanics, Asians, Native Americans, persons of mixed race, and non-minority women. These disparities are consistent with the presence of market-wide discrimination. Observed disparities for these groups ranged from a low of -27 percent for Asians to a high of -33 percent for non-minority women. Similar results were observed when the analysis was restricted to the Construction and CRS sector. That is, large, adverse, and

² Typically, for a given disparity statistic to be considered “statistically significant” there must be a substantial probability that the value of that statistic is unlikely to be due to chance alone. *See also fn.* 219

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statistically significant wage disparities were observed for all minority groups and for non-minority women. All wage and salary disparity analyses were also constructed to test whether observed disparities in the NEORSD market area were different enough from elsewhere in the country or the economy to alter any of the basic conclusions regarding wage and salary disparity. They were not.

This analysis demonstrates that minorities and women earn substantially and significantly less from their labor than their similarly situated non-minority male counterparts. Such disparities are symptoms of discrimination in the labor force that, in addition to its direct effect on workers, reduce the future availability of M/WBEs by stifling opportunities for minorities and women to progress through precisely those internal labor markets and occupational hierarchies that are most likely to lead to entrepreneurial opportunities. These disparities reflect more than mere “societal discrimination” because they demonstrate the nexus between discrimination in the job market and reduced entrepreneurial opportunities for minorities and women. Other things equal, these reduced entrepreneurial opportunities in turn lead to lower M/WBE availability levels than would be observed in a race- and gender-neutral marketplace.

Next, we analyzed race and sex disparities in business owner earnings. We observed large, adverse, and statistically significant business owner earnings disparities for African Americans, Hispanics, Asians, Native Americans, and non-minority women consistent with the presence of discrimination in these markets. Large, adverse, and statistically significant business owner earnings disparities were observed overall as well as in the Construction and CRS sector. As with the wage and salary disparity analysis, we enhanced our basic statistical model to test whether minority and female business owners in the NEORSD market area differed significantly enough from business owners elsewhere in the U.S. economy to alter any of our basic conclusions regarding disparity. They did not.

As was the case for wage and salary earners, minority and female entrepreneurs earned substantially and significantly less from their efforts than similarly situated non-minority male entrepreneurs. These disparities are a symptom of discrimination in commercial markets that directly and adversely affects M/WBEs. Other things equal, if minorities and women cannot earn remuneration from their entrepreneurial efforts comparable to that of non-minority males, growth rates will slow, business failure rates will increase, and as demonstrated in this Chapter, business formation rates will decrease. Combined, these phenomena result in lower M/WBE availability levels than would otherwise be observed in a race- and gender-neutral marketplace.

Next, we analyzed race and gender disparities in business formation. As with earnings, in almost every case we observed large, adverse, and statistically significant disparities consistent with the presence of discrimination in these markets in the overall economy, in the Construction and CRS sector, and in the Services & Commodities sector.³ In almost every instance, business formation rates for African Americans, Hispanics, Asians, Native Americans, and females were substantially and statistically significantly lower than the corresponding non-minority male business formation rate.

³ The Construction and CRS sectors were combined for the analyses in Chapter V, as were the Services & Commodities sector. Elsewhere in the study they are analyzed separately

Finally, as a further check on the statistical findings in this Chapter, we examined evidence from the Census Bureau's *Survey of Business Owners and Self-Employed Persons* (SBO).⁴ These data show large, adverse, and statistically significant disparities between M/WBEs' share of overall revenues and their share of overall firms in the U.S. as a whole, and in the State of Ohio. The size of the disparities facing minority and female-owned firms in Ohio is striking. For example, although 4.47 percent of all firms in Ohio were owned by African Americans, they earn barely 1.1 percent of all sales and receipts. African American employer firms were 1.7 percent of the total but earned only 0.98 percent of sales and receipts. Disparities for women and for other minority groups were also very large in Ohio—overall, in the Construction and CRS sectors, and in the Goods & Service sectors.

F. Statistical Disparities in Credit/Capital Markets

In Chapter VI, we analyzed current and historical data from the Survey of Small Business Finances, conducted by the Federal Reserve Board and the U.S. Small Business Administration, along with data from nine customized matching mail surveys we have conducted throughout the nation since 1999. This data examines whether discrimination exists in the small business credit market. Credit market discrimination can have an important effect on the likelihood that M/WBEs will succeed. Moreover, discrimination in the credit market might even prevent such businesses from opening in the first place. This analysis has been held by the courts to be probative of a public entity's compelling interest in remedying discrimination. We provide qualitative and quantitative evidence supporting the view that M/WBE firms, particularly African American-owned firms, suffer discrimination in this market.

The results are as follows:

- Minority-owned firms were more likely to report that they did not apply for a loan over the preceding three years because they feared the loan would be denied.
- When minority-owned firms applied for a loan their loan requests were substantially more likely to be denied than non-minorities, even after accounting for differences like firm size and credit history.
- When minority-owned firms *did* receive a loan they were obligated to pay higher interest rates on the loans than comparable non-minority-owned firms.
- A larger proportion of minority-owned firms than non-minority-owned firms report that credit market conditions are a serious concern.
- A larger share of minority-owned firms than non-minority-owned firms believes that the availability of credit is the most important issue likely to confront them in the upcoming year.

⁴ Formerly known as the *Survey of Minority- and Women-Owned Business Enterprises* (SMWOBE).

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- There is no evidence that discrimination in the market for credit is significantly different in the East North Central census division or in the construction and construction-related professional services industries than it is in the nation or the economy as a whole.
- There is no evidence that the level of discrimination in the market for credit has diminished between 1993 and 2003.

We conclude that there is evidence of discrimination against M/WBEs in the NEORSD market area in the small business credit market. This discrimination is particularly acute for African American-owned firms.

G. M/WBE Public Sector Utilization vs. Availability in the District's Contracting and Procurement Markets, FY 2004–2008

Chapter VII analyzes the extent to which M/WBEs were utilized by NEORSD between SFY 2004-2008 and compares this utilization rate to the availability of M/WBEs in the relevant market area. Table B provides an executive level summary of utilization findings for the 2010 Study by industry category and M/WBE type.

Table B. M/WBE Utilization in NEORSD Contracting and Procurement, 2004-2008

M/WBE Type	Procurement Category				
	Construction	CRS	Services	Commodities	Overall
	(%)	(%)	(%)	(%)	(%)
African American	11.33	3.80	2.75	0.00	7.28
Hispanic	1.74	0.00	2.36	0.00	1.26
Asian	1.26	11.59	0.28	0.00	3.26
Native American	0.07	1.62	0.24	0.00	0.43
MBE	17.14	18.91	6.07	0.36	14.21
Non-minority Females	10.04	6.77	4.92	8.18	8.42
M/WBE Total	27.18	25.69	11.00	8.54	22.62
Non-M/WBE Total	72.82	74.31	89.00	91.46	77.38
Total (%)	100.00	100.00	100.00	100.00	100.00
Total (\$)	200,591,730	82,296,429	51,741,285	40,146,392	374,775,836

Source: Table 7.1

Next we compared the District's and its prime contractors' use of or collaboration with M/WBEs to our measure of M/WBE availability levels in the relevant marketplaces. If M/WBE utilization is lower than measured availability in a given category we report this result as a disparity.

Table C provides a top-level summary of our disparity findings for the 2010 Study for Construction, CRS, Services, and Commodities. We find significant evidence of disparity in the District's contracting and procurement activity in a number of categories, despite the operation of the M/WBE Program between 2004 and 2008.

Table C. Disparity Results for NEORS Contracting, Overall and By Procurement Category, 2004-2008

Procurement Category / M/WBE Type	Utilization	Availability	Disparity Ratio	
Construction				
Black	11.33	4.06		
Hispanic	1.74	0.31		
Asian	1.26	0.15		
Native	0.07	1.03	7.09	
Minority-owned	14.40	5.54		
White female	10.04	16.77	59.85	
M/WBE total	24.44	22.31		
CRS				
Black	3.80	3.12		
Hispanic	0.00	1.27	0.07	
Asian	11.59	1.81		
Native	1.62	0.08		
Minority-owned	17.01	6.28		
Non-minority female	6.77	15.75	43.03	**
M/WBE total	23.78	22.03		
Services				
Black	2.75	4.35	63.20	
Hispanic	2.36	0.70		
Asian	0.28	0.32	86.23	
Native	0.24	0.19		
Minority-owned	5.63	5.57		
Non-minority female	4.92	17.19	28.63	**
M/WBE total	10.55	22.76	46.37	**
Commodities				
Black	0.00	4.20	0.00	**
Hispanic	0.00	0.13	0.00	
Asian	0.00	0.19	0.00	
Native	0.00	0.55	0.00	
Minority-owned	0.00	5.07	0.00	**
Non-minority female	8.18	20.66	39.59	**
M/WBE total	8.18	25.73	31.79	**
All Procurement				
Black	7.28	3.81		
Hispanic	1.26	0.70		
Asian	3.26	0.75		
Native	0.43	0.50	85.34	
Minority-owned	12.22	5.76		
Non-minority female	8.42	16.78	50.17	**
M/WBE total	20.64	22.54	91.56	

Source: Table 7.10.

Notes: (1) “*” indicates an adverse disparity that is statistically significant at the 10% level or better (90% confidence). “**” indicates the disparity is significant at a 5% level or better (95% confidence). “***” indicates significance at a 1% level or better (99% confidence). An empty cell in the Disparity Ratio column indicates that no adverse disparity was observed for that category.

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Finally, Chapter VII compares current levels of M/WBE availability for NEORSD with what we would expect to observe in a race- and gender-neutral marketplace. If there is perfect parity in the relevant marketplace, then the expected M/WBE availability rate (that is, the M/WBE availability level that would be observed in a non-discriminatory marketplace) will be equal to the actual current M/WBE availability rate, because the disparity ratio will equal 100.

If there are adverse disparities facing M/WBEs in the relevant market area, however, as documented in Chapters V, VI, VII, and VIII of this Study, then expected availability will *exceed* actual current availability, because the disparity ratio is less than 100. Expected availability percentages for the District's overall contracting and by major procurement category are presented below in Table D. Expected availability exceeds actual current availability in 30 of 35 cases examined.

Table D. Expected Availability and Actual Current Availability, Overall and By Major Procurement Category

Procurement Category	M/WBE Type	Current Availability	Expected Availability
All	African American:	3.81	7.26
	Hispanic	0.70	0.75
	Asian	0.75	0.66
	Native American	0.50	0.67
	Minority total	5.76	9.26
	Non-minority female	16.78	27.64
	M/WBE total	22.54	35.78
Construction	African American:	4.06	5.84
	Hispanic	0.31	0.14
	Asian	0.15	0.24
	Native American	1.03	1.19
	Minority total	5.54	7.53
	Non-minority female	16.77	36.46
	M/WBE total	22.31	34.01
CRS	African American:	3.12	4.49
	Hispanic	1.27	0.58
	Asian	1.81	2.92
	Native American	0.08	0.09
	Minority total	6.28	8.53
	Non-minority female	15.75	34.24
	M/WBE total	22.03	33.58
Services	African American:	4.35	8.07
	Hispanic	0.70	1.13
	Asian	0.32	0.29
	Native American	0.19	0.27
	Minority total	5.57	8.97
	Non-minority female	17.19	25.28
	M/WBE total	22.76	34.75
Commodities	African American:	4.20	7.79
	Hispanic	0.13	0.21
	Asian	0.19	0.17
	Native American	0.55	0.78
	Minority total	5.07	8.16
	Non-minority female	20.66	30.38
	M/WBE total	25.73	39.28

Source: Table 7.15.

H. Anecdotal Evidence

Chapter VIII presents the results of a large scale mail survey we conducted of M/WBEs and non-M/WBEs about their experiences and challenges in obtaining contracts. The survey quantified and compared anecdotal evidence on the experiences of M/WBEs and non-M/WBEs as a method to examine whether any differences might be due to discrimination.

We found that M/WBEs that have been hired in the past by non-M/WBE prime contractors to work on public sector contracts with M/WBE goals are rarely hired—or even solicited—by these prime contractors to work on projects without M/WBE goals. The relative lack of M/WBE hiring and, moreover, the relative lack of solicitation of M/WBEs in the absence of affirmative efforts by NEORSD and other public entities in the NEORSD market area shows that business discrimination continues to fetter M/WBE business opportunities in the District’s relevant markets.

We found that M/WBEs in the District’s market area report suffering business-related discrimination in large numbers and with statistically significantly greater frequency than non-M/WBEs. These differences remain statistically significant when firm size and other “capacity-related” owner characteristics are held constant. We also find that M/WBEs in these markets are more likely than similarly situated non-M/WBEs to report that specific aspects of the regular business environment make it harder for them to conduct their businesses, less likely than similarly situated non-M/WBEs to report that specific aspects of the regular business environment make it easier for them to conduct their businesses.

We conclude that the statistical evidence presented in this report is consistent with these anecdotal accounts of contemporary business discrimination.

Chapter VIII also presents the results from a series of in-depth personal interviews conducted with M/WBE and non-M/WBE business owners in the NEORSD market area. Similar to the survey responses, the interviews strongly suggest that M/WBEs continue to suffer discriminatory barriers to full and fair access to NEORSD, other public sector, and private sector contracts. Participants reported negative perceptions of M/WBE competence and being subject to higher performance standards; exclusion from industry networks; barriers to obtaining work on an equal basis; and discrimination in access to capital.

While not definitive proof that NEORSD has a compelling interest in implementing race- and gender-conscious remedies for these impediments, the results of the surveys and the personal interviews are the types of anecdotal evidence that, especially in conjunction with the Study’s extensive statistical evidence, the courts have found to be highly probative of whether, without affirmative interventions, NEORSD would be a passive participant in a discriminatory local marketplace. It is also highly relevant for narrowly tailoring any M/WBE goals for its contracts and procurements.

I. M/WBE Program Overview and Feedback Interviews

Chapter IX provides an overview of the District’s race- and gender-neutral Small Business Enterprise Program and prior M/WBE Program, and a discussion of the operations of the current

efforts. We interviewed 156 business owners throughout the Northeast Ohio area to solicit their feedback regarding these Programs.

Chapter IX presents a summary of our interviews, which covered the following subjects:

- **Contract specifications**

Numerous owners described what they experienced as overly restrictive contract specifications, including for qualifications, insurance and experience.

- **Access to information**

Smaller and new firms found it very difficult to access information on upcoming opportunities or to contact the appropriate District personnel. There was a general consensus that more outreach, more access to information, and more transparency are needed.

- **Payment**

Participants reported few problems with being paid promptly by the District, once all required paperwork was submitted. Even subcontractors were generally mostly satisfied with payment by the prime contractor, again, once all required paperwork was submitted.

- **NEORS D's Small Business Enterprise Programs**

There was much discussion about the District's new race- and gender-neutral programs. Overall, minority- and women-owners reported that it is not an adequate for a remedial M/WBE program. Many majority-owned prime vendors preferred the SBE program, which permits small, local White-male owned firms to participate, to the former M/WBE program. It was seen as more flexible and it is easier to meet the goal. Small business set-asides were endorsed as one method to increase opportunities for firms to obtain work as prime contractors and consultants. Additional efforts to "unbundle" contracts were also suggested.

- **Supportive Services Programs**

More supportive services were cited as a critical need by M/WBEs and prime contractors. These ranged from technical assistance with preparing bids to bonding and financing programs to more "matchmaking" sessions with State buyers and prime vendors. The District's recent efforts, including workshops and vendor fairs, were praised. There was some support for a mentor-protégé program, whereby larger established firms would work with emerging businesses to provide advice and other assistance.

- **Meeting M/WBE goals**

The goal setting process and meeting contract goals elicited many comments. For the most part, contractors were able to meet M/WBE goals. Several prime vendors complained that the SBE goals, and the MBE and WBE goals under the prior program, were arbitrary and did not reflect actual subcontracting opportunities of the project. Implementing contract specific goals rather than arbitrary, pre-set percentages, would ease the problem, as in the recent SBE program. Some

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prime contractors felt that M/WBEs were often too expensive, and that M/WBEs took unfair advantage of the preference to raise prices to contractors or refuse to be exclusive to one design team. Prime contractors thought M/WBEs should be more proactive in contacting them to submit quotes. Several participants had passed up bid or proposal opportunities with government agencies because they believed the M/WBE goals were unreasonable or overly burdensome. Many firms believed that waivers of goals based upon their good faith efforts were unavailable or feared retaliation from the agency. Some prime firms reported that it was difficult to make changes to compliance plans during contract performance to reflect changed circumstances, while other interviewees reported more flexibility during contract performance.

- **Contract performance monitoring**

Concerns were raised about how the District will monitor compliance with any new M/WBE initiatives, based upon M/WBEs' experiences with the prior program and other local affirmative action contracting programs. Some non-M/WBEs were also concerned about fraud in meeting goals.

J. Conclusion

As summarized above, and based on the detailed findings below, we conclude that there is strong evidence of large, adverse, and frequently statistically significant disparities between minority and female participation in business enterprise activity in NEORSD's relevant market area and the actual current availability of those businesses. We further conclude that these disparities cannot be explained solely, or even mostly, by differences between M/WBE and non-M/WBE business populations in factors untainted by discrimination, and that these differences therefore give rise to a strong inference of the presence of discrimination.

I. Introduction

The Northeast Ohio Regional Sewer District commissioned this study, pursuant to a Board of Trustees' resolution, to evaluate whether M/WBEs in the District's marketplace have full and fair opportunities to compete for its prime contracts and associated subcontracts. The Study will assist the District in evaluating whether its M/WBE initiatives are still necessary to remedy discrimination, and to narrowly tailor existing and new measures.

Like many local governments, NEORSD has a long record of commitment to including M/WBEs in its contracting and procurement activities. As will be documented in this Study, from calendar years 2004 through 2008, NEORSD has continued to be a source of demand in the regional economy for the products and services provided by M/WBEs—demand that, in general, is found to be lacking in the private sector of the regional economy.

As documented below in Chapter VII, the District's prior efforts have produced positive results—M/WBEs earned approximately 22.6 percent of the District's contracting and purchasing dollars between 2004 and 2008. The courts have made it clear, however, that in order to implement a race- and gender-based program that is effective, enforceable and legally defensible, NEORSD must meet the judicial test of constitutional "strict scrutiny" to determine the legality of such initiatives. Strict scrutiny requires current "strong evidence" of the persistence of discrimination, and "narrowly tailored" measures to remedy that discrimination. These legal principles guide and inform our work for the District.

A. History of NEORSD's M/WBE Contracting Program

The District first adopted a M/WBE policy in 1992. The Program included construction and consulting contracts valued at over \$25,000. "Minority" was defined as Blacks, Hispanics, Asian-Americans or Native-Americans. The District's contracting market was defined as the counties of Cuyahoga, Lake, Lorain, Medina, Geauga, Portage, and Summit. The Contract Compliance Administrator was to determine the annual goals for MBE and WBE participation for each procurement category and for each type of work to be performed on a particular contract, based upon the availability of certified MBEs and WBEs in the contracting market. The District staff were to consider the utilization of MBEs and WBEs when recommending a lowest and best bidder to the Board for contract award. However, the goals were not to be quotas, and the failure to meet a goal would not automatically disqualify a bidder, and a bidder who was unable to achieve the goal(s) could submit a "request for exception" on the appropriate form that documented its good faith efforts. A contractor who failed to comply with the policy was subject to sanctions, including withholding of payments, cancellation or rescission of the contract, or other legal actions. A certified firm that failed to comply was subject to revocation of its certification. Appeals of decisions related to the application of the policy were to be made to the Board.

In June 2009, the District suspended its M/WBE policy and implemented an interim Small Business Enterprise Program. It also directed the staff to procure a disparity study to determine whether the prior M/WBE Program complies and is consistent with all existing legal requirements and to protect the District from becoming a passive participant in any unlawful discrimination. Although the new SBE Program is race- and gender-neutral, the District's Board

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has emphasized by resolution that it continues to encourage prime vendors to utilize SBEs and D/M/WBEs and to work with the District's Office of Contract Compliance to provide subcontracting opportunities to such businesses.

B. Study Outline

To ensure compliance with constitutional mandates and M/WBE best practices, NEORSD commissioned NERA to examine the past and current status of M/WBEs in the District's geographic and product markets for contracting and procurement. The results of the 2010 Study provide the evidentiary record necessary for the District's consideration of whether to implement renewed M/WBE policies that comply with the requirements of the courts and to assess the extent to which previous efforts have assisted M/WBEs to participate on a fair basis in the District's contracting and procurement activity.

The 2010 Study finds both statistical and anecdotal evidence of business discrimination against M/WBEs in the private sector of the NEORSD market area. As part of our statistical findings, we surveyed the contracting experiences and credit access experiences of M/WBEs and non-M/WBEs in the market area and conducted a series of in-depth personal interviews with local business enterprises, both M/WBE and non-M/WBE. Statistical analyses of the District's public sector contracting behavior are contained in Chapters III, IV and VII.

The Study is presented in nine chapters, and is designed to answer the following questions:

- Chapter I: Introduction
- Chapter II: What are the current constitutional standards and case law governing strict scrutiny review of race- and gender-conscious government efforts in public contracting?
- Chapter III: What is the relevant geographic market for NEORSD and how is it defined? What are the relevant product markets for NEORSD and how are they defined?
- Chapter IV: What percentage of all businesses in the District's market area are owned by minorities and/or women? How are these availability estimates constructed?
- Chapter V: Do minority and/or female wage and salary earners earn less than similarly situated non-minority males? Do minority and/or female business owners earn less from their businesses than similarly situated non-minority males? Are minorities and/or women in the NEORSD market area less likely to be self-employed than similarly situated non-minority males? How do the findings in the NEORSD market area differ from the national findings on these questions? How have these findings changed over time?

- Chapter VI: Do minorities and/or women face discrimination in the market for commercial capital and credit compared to similarly-situated non-minority males? How, if at all, do findings locally differ from findings nationally?
- Chapter VII: To what extent have M/WBEs been utilized by NEORSD between 2004-2008, and how does this utilization compare to the availability of M/WBEs in the relevant marketplace?
- Chapter VIII: How many M/WBEs experienced disparate treatment in the study period? What types of discriminatory experiences are most frequently encountered by M/WBEs? How do the experiences of M/WBEs differ from those of similar non-M/WBEs regarding difficulties in obtaining prime contracts and subcontracts?
- Chapter IX: What general policies and procedures govern the District's M/WBE program? What were some of the most frequently encountered comments from M/WBEs and non-M/WBEs concerning the District's contracting affirmative action programs?

In assessing these questions, we present in Chapters III through VIII a series of quantitative and qualitative analyses that compare minority and/or female outcomes to non-minority male outcomes in all of these business-related areas. The Executive Summary, above, provides a brief overview of our key findings and conclusions.

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II. Legal Standards for Government Affirmative Action Contracting Programs

A. General Overview of Strict Scrutiny

To be effective, enforceable, and legally defensible, a race- and gender-based program must meet the judicial test of constitutional “strict scrutiny.” Strict scrutiny requires current “strong evidence” of the persistence of discrimination, and any remedies adopted must be “narrowly tailored” to that discrimination.

This area of constitutional law is complex and constantly shifting, and cases are quite fact specific. Over the last 21 years, federal appellate and district courts have developed parameters for establishing a local government’s compelling interest in remedying discrimination and evaluating whether the remedies adopted to address that discrimination are narrowly tailored. The following are the legal and program development issues NEORSD must consider in evaluating its former M/WBE Program and future race- and gender-conscious initiatives.

1. *City of Richmond v. J.A. Croson*

*City of Richmond v. J.A. Croson Co.*⁵ established the constitutional contours of permissible race-based public contracting programs. Reversing long established law, the Supreme Court for the first time extended the highest level of judicial examination from measures designed to limit the rights and opportunities of minorities to legislation that benefits these historic victims of discrimination. Strict scrutiny requires that a government entity prove both its “compelling interest” in remedying identified discrimination based upon “strong evidence,” and that the measures adopted to remedy that discrimination are “narrowly tailored” to that evidence. However benign the government’s motive, race is always so suspect a classification that its use must pass the highest constitutional test of “strict scrutiny.”

The Court struck down the City of Richmond’s Minority Business Enterprise Plan that required prime contractors awarded City construction contracts to subcontract at least 30 percent of the project to MBEs. A business located anywhere in the country which was at least 51 percent owned and controlled by “Black, Spanish-speaking, Oriental, Indian, Eskimo, or Aleut” citizens was eligible to participate. The Plan was adopted after a public hearing at which no direct evidence was presented that the City had discriminated on the basis of race in awarding contracts or that its prime contractors had discriminated against minority subcontractors. The only evidence before the City Council was: (a) Richmond’s population was 50 percent Black, yet less than one percent of its prime construction contracts had been awarded to minority businesses; (b) local contractors’ associations were virtually all White; (c) the City Attorney’s opinion that the Plan was constitutional; and (d) general statements describing widespread racial discrimination in the local, Virginia, and national construction industries.

⁵ 488 U.S. 469 (1989).

Legal Standards for Government Affirmative Action Contracting Programs

In affirming the court of appeals' determination that the Plan was unconstitutional, Justice Sandra Day O'Connor's plurality opinion rejected the extreme positions that local governments either have *carte blanche* to enact race-based legislation or must prove their own illegal conduct:

[A] state or local subdivision...has the authority to eradicate the effects of private discrimination within its own legislative jurisdiction.... [Richmond] can use its spending powers to remedy private discrimination, if it identifies that discrimination with the particularity required by the Fourteenth Amendment.... [I]f the City could show that it had essentially become a "passive participant" in a system of racial exclusion...[it] could take affirmative steps to dismantle such a system.⁶

Strict scrutiny of race-based remedies is required to determine whether racial classifications are in fact motivated by either notions of racial inferiority or blatant racial politics. This highest level of judicial review "smokes out" illegitimate uses of race by assuring that the legislative body is pursuing a goal important enough to warrant use of a highly suspect tool.⁷ It further ensures that the means chosen "fit" this compelling goal so closely that there is little or no possibility that the motive for the classification was illegitimate racial prejudice or stereotype. The Court made clear that strict scrutiny seeks to expose racial stigma; racial classifications are said to create racial hostility if they are based on notions of racial inferiority.⁸

Race is so suspect a basis for government action that more than "societal" discrimination is required to restrain racial stereotyping or pandering. The Court provided no definition of "societal" discrimination or any guidance about how to recognize the ongoing realities of history and culture in evaluating race-conscious programs. The Court simply asserted that

[w]hile there is no doubt that the sorry history of both private and public discrimination in this country has contributed to a lack of opportunities for black entrepreneurs, this observation, standing alone, cannot justify a rigid racial quota in the awarding of public contracts in Richmond, Virginia.... [A]n amorphous claim that there has been past discrimination in a particular industry cannot justify the use of an unyielding racial quota. It is sheer speculation how many minority firms there would be in Richmond absent past societal discrimination.⁹

Richmond's evidence was found to be lacking in every respect. The City could not rely upon the disparity between its utilization of MBE prime contractors and Richmond's minority population because not all minority persons would be qualified to perform construction projects; general population representation is irrelevant. No data were presented about the availability of MBEs in

⁶ *Id.* at 491-92.

⁷ See also *Grutter v. Bollinger*, 539 U.S. 306, 327 (2003) ("Not every decision influenced by race is equally objectionable, and strict scrutiny is designed to provide a framework for carefully examining the importance and the sincerity of the reasons advanced by the governmental decision maker for the use of race in that particular context.").

⁸ 488 U.S. at 493.

⁹ *Id.* at 499.

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either the relevant marketplace or their utilization as subcontractors on City projects. According to Justice O'Connor, the extremely low MBE membership in local contractors' associations could be explained by "societal" discrimination or perhaps Blacks' lack of interest in participating as business owners in the construction industry. To be relevant, the City would have to demonstrate statistical disparities between eligible MBEs and actual membership in trade or professional groups. Further, Richmond presented no evidence concerning enforcement of its own anti-discrimination ordinance. Finally, Richmond could not rely upon Congress' determination that there has been nationwide discrimination in the construction industry. Congress recognized that the scope of the problem varies from market to market, and in any event it was exercising its powers under Section Five of the Fourteenth Amendment, whereas a local government is further constrained by the Amendment's Equal Protection Clause.¹⁰

In the case at hand, the City has not ascertained how many minority enterprises are present in the local construction market nor the level of their participation in City construction projects. The City points to no evidence that qualified minority contractors have been passed over for City contracts or subcontracts, either as a group or in any individual case. Under such circumstances, it is simply impossible to say that the City has demonstrated "a strong basis in evidence for its conclusion that remedial action was necessary."¹¹

The foregoing analysis was applied only to Blacks. The Court then emphasized that there was "absolutely no evidence" against other minorities. "The random inclusion of racial groups that, as a practical matter, may have never suffered from discrimination in the construction industry in Richmond, suggests that perhaps the City's purpose was not in fact to remedy past discrimination."¹²

Having found that Richmond had not presented evidence in support of its compelling interest in remedying discrimination—the first prong of strict scrutiny—the Court went on to make two observations about the narrowness of the remedy—the second prong of strict scrutiny. First, Richmond had not considered race-neutral means to increase MBE participation. Second, the 30 percent quota had no basis in evidence, and was applied regardless of whether the individual MBE had suffered discrimination.¹³ Further, Justice O'Connor rejected the argument that individualized consideration of Plan eligibility is too administratively burdensome.

Apparently recognizing that the opinion might be misconstrued to categorically eliminate all race-conscious contracting efforts, Justice O'Connor closed with these admonitions:

Nothing we say today precludes a state or local entity from taking action to rectify the effects of identified discrimination within its jurisdiction. If the City of Richmond had

¹⁰ *Id.* at 504; *but see Adarand v. Peña*, 515 U.S. 200 (1995) ("*Adarand III*") (applying strict scrutiny to Congressional race-conscious contracting measures).

¹¹ 488 U.S. at 510.

¹² *Id.*

¹³ *See Grutter*, 529 U.S. at 336-337 (quotas are not permitted; race must be used in a flexible, non-mechanical way).

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evidence before it that non-minority contractors were systematically excluding minority businesses from subcontracting opportunities, it could take action to end the discriminatory exclusion. Where there is a significant statistical disparity between the number of qualified minority contractors willing and able to perform a particular service and the number of such contractors actually engaged by the locality or the locality's prime contractors, an inference of discriminatory exclusion could arise. Under such circumstances, the City could act to dismantle the closed business system by taking appropriate measures against those who discriminate based on race or other illegitimate criteria. In the extreme case, some form of narrowly tailored racial preference might be necessary to break down patterns of deliberate exclusion....Moreover, evidence of a pattern of individual discriminatory acts can, if supported by appropriate statistical proof, lend support to a local government's determination that broader remedial relief is justified.¹⁴

While much has been written about *Croson*, it is worth stressing in the context of the Model Study inquiry what evidence was and was not before the Court. First, Richmond presented *no* evidence regarding the availability of MBEs to perform as prime contractors or subcontractors and *no* evidence of the utilization of minority-owned subcontractors on City contracts.¹⁵ Nor did Richmond attempt to link the remedy it imposed to any evidence specific to the Program; it used the general population of the City rather than any measure of business availability. The "city has not ascertained how many minority enterprises are present in the local construction industry nor the level of their participation in city construction projects. The city points to no evidence that qualified minority contractors have been passed over for city contracts or subcontracts, either as a group or in any individual case."¹⁶

Some commentators have taken this dearth of any particularized proof and argued that only the most particularized proof can suffice in all cases. They leap from the Court's rejection of Richmond's reliance on only the percentage of Blacks in the City's population to a requirement that only firms that bid or have the "capacity" or "willingness" to bid on a particular contract at a particular time can be considered in determining whether discrimination against Black businesses infects the local economy.¹⁷

This contention has been rejected explicitly by some courts. For example, in denying the plaintiff firm's summary judgment motion to enjoin the City of New York's M/WBE construction ordinance, the court stated that

it is important to remember what the *Croson* plurality opinion did and did not decide. The Richmond program, which the *Croson* Court struck down, was insufficient because it was based on a comparison of the minority population in its entirety in Richmond, Virginia

¹⁴ 488 U.S. at 509 (citations omitted).

¹⁵ *Id.* at 502.

¹⁶ *Id.* at 510.

¹⁷ See, e.g., *Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715, 723 (7th Cir. 2007) ("*Northern Contracting III*").

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(50%) with the number of contracts awarded to minority businesses (.67%). There were no statistics presented regarding number of minority-owned contractors in the Richmond area, *Croson*, 488 U.S. at 499, and the Supreme Court was concerned with the gross generality of the statistics used in justifying the Richmond program. There is no indication that the statistical analysis performed by [the consultant] in the present case, which does contain statistics regarding minority contractors in New York City, is not sufficient as a matter of law under *Croson*.¹⁸

Further, Richmond made no attempt to narrowly tailor a goal for the procurement at issue that reflected the reality of the project. Arbitrary quotas, and the unyielding application of those quotas, did not support the stated objective of ensuring equal access to City contracting opportunities. The *Croson* Court said nothing about the constitutionality of flexible subcontracting goals based upon the availability of MBEs to perform the scopes of the contract in the government's local marketplace. The federal DBE program, as discussed below, avoids these pitfalls. Part 26 "provides for a flexible system of contracting goals that contrasts sharply with the rigid quotas invalidated in *Croson*."¹⁹

While strict scrutiny is designed to require clear articulation of the evidentiary basis for race-based decision-making and careful adoption of remedies to address discrimination, it does not, as Justice O'Connor stressed, have to be an impossible test that no proof can meet. Strict scrutiny need not be "fatal in fact."²⁰

2. Establishing a "Strong Basis in Evidence" for Local Race-Conscious Contracting Programs

The *Croson* Court's guidance regarding the type of evidence necessary to support a race-conscious contracting program gave rise to the "disparity study." Dozens of cities, states and other local entities engaged consultants to conduct studies to provide statistical and anecdotal evidence of discrimination against MBEs and WBEs. These studies used various approaches to estimating the availability of "ready, willing and able" MBEs and WBEs; determining the entity's utilization of such firms as prime contractors and subcontractors on its projects; analyzing whether there was a large and statistically significant disparity between availability and utilization; and gathering anecdotal information about the experiences of MBEs and WBEs on public and private contracts.

¹⁸ *North Shore Concrete and Associates, Inc. v. City of New York*, 1998 U.S. Dist. Lexis 6785, *28-29 (E.D. N.Y. 1998); see also *Harrison & Burrowes Bridge Constructors, Inc. v. Cuomo*, 981 F.2d 50, 61-62 (2nd Cir. 1992) ("*Croson* made only broad pronouncements concerning the findings necessary to support a state's affirmative action plan"); cf. *Concrete Works of Colorado, Inc. v. City and County of Denver* 36 F.3d 1513, 1528 (10th Cir. 1994) ("*Concrete Works II*") (City may rely on "data reflecting the number of MBEs and WBEs in the marketplace to defeat the challenger's summary judgment motion").

¹⁹ *Western States Paving Co., Inc. v. Washington Department of Transportation*, 407 F.3d 983, 994 (9th Cir. 2005), cert. denied, 546 U.S. 1170 (2006).

²⁰ See *Adarand III*, 515 U.S. at 237.

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Despite millions of dollars spent on such analyses, the results were often econometrically unsound,²¹ politically motivated²² and legally inadequate. For nearly 15 years after *Croson*, the federal courts had struck down almost every local M/WBE program for lacking sufficient evidence of discrimination and often adopting insufficiently narrowly tailored remedies.²³

Whatever the weaknesses in the disparity studies, it became clear that, absent government intervention, ready, willing and able minority and women firms were excluded from subcontracting opportunities on government projects. A different approach was clearly necessary if such dramatic declines in public contracting participation by minorities and women were to be forestalled. In 1999, a sea change occurred in the way the issue of contracting affirmative action was approached by its proponents.

First, the USDOT revised its DBE Program in 1998 to address strict scrutiny as required by the Supreme Court in *Adarand v. Peña*.²⁴ Second, in 1997 a local government finally employed an improved disparity study method, which we refer to as the “law and economics approach” to defend against a challenge to the constitutionality of its M/WBE program. The City and County of Denver’s Program defense relied primarily on expert reports and testimony derived from an economic model of business discrimination.²⁵ Denver recognized that the proper inquiry is not only whether disparities remain despite the operation of its affirmative action program (a statistical question to which many disparity studies, then and now, continue to limit themselves) but also whether disparities remain when remedial intervention is *not* present in the marketplace, as reflected by M/WBE participation on contracts *without* affirmative action goals, in the public sector, the private sector, or both.

The results of this improved approach to conducting disparity research and defending challenges to race-conscious contracting programs have been dramatic for local programs. Denver’s M/WBE Program was upheld by the Tenth Court of Appeals, and the Supreme Court declined review.²⁶ The City of Chicago’s M/WBE program for local construction contracts was also held

²¹ “Econometrics is the field of economics that concerns itself with the application of statistical inference to the empirical measurement of relationships postulated by economic theory.” (p. 1), Greene, William H. 1997. *Econometric Analysis*, 3rd ed. Upper Saddle River, New Jersey: Prentice Hall.

²² See, e.g., *Associated General Contractors of America v. City of Columbus*, 936 F. Supp. 1363, 1431-33 (S.D. Ohio 1996) (“political pressure played a role in the city’s adoption” of the M/WBE program and the study consultants).

²³ See, e.g., *Associated General Contractors of Ohio, Inc. v. Drabik*, 214 F.3d 730 (6th Cir. 2000); *Associated General Contractors of Maryland, Inc. v. Mayor of Baltimore*, 83 F.Supp.2d 613 (D. Md. 2000) (“*Baltimore I*”); *Contractors Association of Eastern Pennsylvania, Inc. v. City of Philadelphia*, 91 F.3d 586 (3d Cir. 1996) (“*Philadelphia IIP*”); *Engineering Contractors Association of South Florida, Inc. v. Metro. Dade County*, 122 F.3d 895 (11th Cir. 1997) (“*Engineering Contractors IP*”); *O’Donnell Construction Co. v. District of Columbia*, 963 F.2d 420 (D.C. Cir. 1992); *W.H. Scott Construction Co. v. City of Jackson*, 199 F.3d 206 (5th Cir. 1999); *Webster v. Fulton County*, 51 F.Supp.2d 1354 (N.D. Ga. 1999), *aff’d*, 218 F.3d 1267 (11th Cir. 2000).

²⁴ 515 U.S. 200 (1995) (applying strict scrutiny to federal legislation).

²⁵ Denver had commissioned disparity studies in 1990, 1991, 1995 and 1997.

²⁶ *Concrete Works of Colorado, Inc. v. City and County of Denver*, 321 F.3d 950 (10th Cir. 2003), *cert. denied*, 540 U.S. 1027 (2003) (“*Concrete Works IV*”).

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to meet compelling interest using this framework.²⁷ The *Denver* and *Chicago* decisions provide the most detailed analysis of the evidence necessary to establish that the District would be a passive participant in a discriminatory marketplace in the absence of race-based remedies

a. *Concrete Works, Inc. v. City and County of Denver*

Denver adopted an ordinance in 1990 that provided for annual goals of 16 percent for MBEs and 12 percent for WBEs in construction contracts, and 10 percent for both MBEs and WBEs in professional design and construction services contracts. Bidders were to meet contract specific goals or make good faith efforts to do so. To comply with *Croson*, the City commissioned a study to assess the propriety of the Program. The 1990 Study found large disparities between the availability and utilization of M/WBEs on City projects without goals. It likewise found large disparities on private sector projects without goals. Interviews and testimony revealed continuing efforts by white male contractors to circumvent the goals. A 1991 study of goods, services and remodeling industries also found large disparities for City contracts not subject to goals.

When the Tenth Circuit reversed and remanded for trial in *Concrete Works II*²⁸, the City commissioned another study. The 1995 Study used U.S. Census Bureau data to determine MBE and WBE availability and utilization in the construction and design industries in the Denver Metropolitan Statistical Area (MSA). It calculated separate disparity indices for firms with and without employees. Census data were also used to examine average revenues per employee and rates of self-employment. Disparities in self-employment rates persisted even after holding education and length of work experience constant. A telephone survey to determine the availability and utilization of M/WBEs in the Denver MSA showed large disparities in the construction and professional design industries. The 1995 Study included discussion of a 1993 Study for the Denver Housing Authority which found disparities for M/WBEs in some areas in some years, including those when it implemented an affirmative action program, and a 1992 Study for the Regional Transportation District that found large disparities for both prime and subcontracting in the Denver marketplace. Based upon this evidence, the City enacted the 1996 Ordinance.

In 1997, Denver commissioned another study of discrimination in construction projects of the type undertaken by the City. The court found this Study used a “more sophisticated” method²⁹ to calculate availability by: (1) specifically determining the City’s geographic and procurement marketplace; (2) using Dun & Bradstreet’s *Marketplace* data to obtain the total number of

²⁷ *Builders Association of Greater Chicago v. City of Chicago*, 298 F.Supp.2d 725 (N.D. Ill. 2003).

²⁸ *Concrete Works of Colorado, Inc.*, a construction firm owned by a white male, sued the City in 1992, alleging that it had been denied three contracts for failure to meet the goals or to make good faith efforts and seeking injunctive relief and money damages. The district court granted the City’s motion for summary judgment. *Concrete Works of Colorado, Inc. v. City & County of Denver*, 823 F.Supp. 821 (D. Colo. 1993) (“*Concrete Works I*”). The Tenth Circuit reversed, holding that genuine issues of material fact precluded summary judgment. *Concrete Works of Colorado, Inc. v. City & County of Denver*, 36 F.3d 1513 (10th Cir. 1994) (“*Concrete Works II*”). The district court, after a bench trial, held the ordinance to be unconstitutional. *Concrete Works of Colorado, Inc. v. City & County of Denver*, 86 F.Supp. 2d 1042 (D. Colo. 2000) (“*Concrete Works III*”). Denver appealed.

²⁹ 321 F.3d at 966.

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available firms and numerous directories to determine the number of M/WBEs; (3) conducting surveys to adjust for possible misclassification of the race and gender of firms; and (4) presenting a final result of weighted averages of availability for each racial group and women for both prime and subcontracts.

The 1997 Study then compared M/WBE availability and utilization in the Colorado construction industry. It also examined 1987 Census data from the Survey of Minority-Owned Business and the Survey of Women-Owned Businesses, the most current then available. All comparisons yielded large and statistically significant disparities. The 1997 Study also found that the potential availability of M/WBEs, as measured by the rates at which similarly situated white males form businesses, was significantly greater than their actual availability. The Study next examined whether minorities and women in the construction industry earned less than white males with similar characteristics. Large and statistically significant disparities were found for all groups except Asian-Americans. A mail survey was conducted to obtain anecdotal evidence of the experiences of MBEs and WBEs and non-M/WBEs in the construction industry. Again, with the exception of Asian-Americans, minorities and women with similar characteristics experienced much greater difficulties than did their white male counterparts. A follow up telephone survey indicated that the disparities were even greater than first indicated.

Based upon the 1997 Study, and additional surveys and hearings, the City enacted the 1998 Ordinance. It reduced the annual goals for both MBEs and WBEs in construction contracts to 10 percent and prohibited M/WBE prime contractors from counting self-performed work towards the goals.

Concrete Works' challenge finally came to trial in 1999. In addition to the statistical evidence in prior studies and expert reports prepared for the litigation, Denver introduced evidence of its contracting activities dating back to the early 1970s. This consisted of reports of federal investigations into the utilization and experiences of local MBEs and of the City's early affirmative action efforts. M/WBE participation dramatically increased when the City adopted its first MBE ordinance in 1984. The City also introduced additional, comprehensive anecdotal evidence. M/WBEs testified that they experienced difficulties in prequalifying for private sector jobs; their low bids were rejected; they were paid more slowly than non-M/WBEs; they were charged more for materials than non-M/WBEs; they were often required to do additional work not required of white males; and there were barriers to joining trade unions and associations. There was extensive testimony detailing the difficulties M/WBEs suffered in obtaining lines of credit. The "most poignant" testimony involved blatant harassment suffered at work sites, including physical assaults.

The trial court found for the plaintiff.

The Tenth Circuit reversed and directed the entry of judgment for Denver. The district court's legal framework "misstate[d] controlling precedent and Denver's burden at trial."³⁰

³⁰ *Id.* at 970.

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First, the government need not prove that the statistical inferences of discrimination are “correct.” Strong evidence supporting the government’s determination that remedial action is necessary need not be “irrefutable or definitive” proof of discrimination. Statistical evidence creating inferences of discriminatory motivations is sufficient and therefore evidence of marketplace discrimination can be used to meet strict scrutiny.³¹ It is the plaintiff who must prove by a preponderance of the evidence that such proof does not support those inferences.

Croson does not require that each group included in the ordinance suffer equally from discrimination. In contrast to Richmond, Denver introduced evidence of bias against each group; that is sufficient.³²

Nor must Denver demonstrate that the “ordinances will *change* discriminatory practices and policies” in the local marketplace; such a test would be “illogical” because firms could defeat the remedial efforts simply by refusing to cease discriminating.³³

Next, a municipality need not prove that “private firms directly engaged in any discrimination in which Denver passively participates do so intentionally, with the purpose of disadvantaging minorities and women.... Denver’s only burden was to introduce evidence which raised the inference of discriminatory exclusion in the local construction industry and link its spending to that discrimination.... Denver was under no burden to identify any specific practice or policy that resulted in discrimination. Neither was Denver required to demonstrate that the purpose of any such practice or policy was to disadvantage women or minorities. To impose such a burden on a municipality would be tantamount to requiring proof of discrimination and would eviscerate any reliance the municipality could place on statistical studies and anecdotal evidence.”³⁴ Similarly, the trial court was wrong to reject the statistical evidence because such evidence cannot identify the individuals responsible for the discrimination.³⁵

Contrary to the district court’s conclusion, the burden of compliance need not be placed only upon those firms directly responsible for the discrimination. The proper focus is whether the burden on third parties is “too intrusive” or “unacceptable.”³⁶

Croson’s admonition that “mere societal” discrimination is not enough to meet strict scrutiny³⁷ does not apply where the government presents evidence of discrimination in the industry targeted by the program. “If such evidence is presented, it is immaterial for constitutional purposes whether the industry discrimination springs from widespread discriminatory attitudes shared by society or is the product of policies, practices, and attitudes unique to the industry.... The genesis

³¹ *Id.* at 975.

³² *Id.* at 976.

³³ *Id.* at 973 (emphasis in the original).

³⁴ *Id.* at 971.

³⁵ *Id.* at 973.

³⁶ *Id.*

³⁷ *See* 488 U.S. at 497.

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of the identified discrimination is irrelevant.” The trial court was wrong to require Denver to “show the existence of specific discriminatory policies and that those policies were more than a reflection of societal discrimination.”³⁸

The Tenth Circuit further rejected the notion that a municipality must prove that it is itself guilty of discrimination to meet its burden. Denver can show its compelling interest by “evidence of private discrimination in the local construction industry coupled with evidence that it has become a passive participant in that discrimination...[by] linking its spending practices to the private discrimination.”³⁹ Denver further linked its award of public dollars to discriminatory conduct through the testimony of M/WBEs that identified general contractors who used them on City projects with M/WBE goals but refused to use them on private projects without goals.

The court then turned to the evidence of discrimination against M/WBEs in the market for commercial credit. The lending discrimination studies and business formation studies are relevant and probative because they show a strong link between the disbursement of public funds and the channeling of those funds due to private discrimination. “Evidence that private discrimination results in barriers to business formation is relevant because it demonstrates that M/WBEs are precluded *at the outset* from competing for public construction contracts. Evidence of barriers to fair competition is also relevant because it again demonstrates that *existing* M/WBEs are precluded from competing for public contracts.”⁴⁰ Plaintiff failed to present evidence to rebut the lending discrimination data, instead resting on its belief that such evidence is irrelevant. Contrary to the trial court’s ruling, the business formation studies were not flawed because they did not control for “quality of education,” “culture” and “religion.” Plaintiff failed not only to define such vague terms but also to conduct its own study controlling for these factors or to produce expert testimony that to do so would eliminate the disparities.⁴¹

The district court also erred in rejecting the disparity studies because they did not control for firm size, area of specialization, and whether the firm had bid on City projects. The circuit court agreed with Denver’s experts that, while it may be true that M/WBEs are smaller in general than white male firms, most construction firms are small and can expand and contract to meet their bidding opportunities. Importantly, Denver established that size and experience are not race- and gender- neutral variables: “M/WBE construction firms are generally smaller and less experienced *because* of discrimination.”⁴² Further, plaintiff failed to conduct any study showing that the disparities disappear when such variables are held constant. Likewise, it presented no evidence that controlling for firm specialization explained the disparities. “Additionally, we do not read *Croson* to require disparity studies that measure whether construction firms are able to perform a *particular contract*.”⁴³

³⁸ 321 F.3d at 976.

³⁹ *Id.* at 977.

⁴⁰ *Id.*

⁴¹ *Id.* at 979.

⁴² *Id.* at 983 (emphasis in the original).

⁴³ *Id.* at 987-88 (emphasis in the original).

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That M/WBEs were overutilized on City projects with goals goes only to the weight of the evidence because it reflects the effects of a remedial program. Denver presented evidence that goals and non-goals projects were similar in purpose and scope and that the same pool of contractors worked on both types. “Particularly persuasive” was evidence that M/WBE participation declined significantly when the program was amended in 1989. The “utilization of M/WBEs on City projects has been affected by the affirmative action programs that have been in place in one form or another since 1977. Thus, the non-goals data is the better indicator of discrimination in public contracting” and supports the position that discrimination existed before the enactment of the ordinances.⁴⁴

There is no requirement that anecdotal testimony be verified. “Denver was not required to present corroborating evidence and CWC was free to present its own witnesses to either refute the incidents described by Denver’s witnesses or to relate their own perceptions on discrimination in the Denver construction industry.”⁴⁵ This “failure” of the legislative body to somehow verify testimony had been a favorite shibboleth of plaintiffs in other cases.⁴⁶

Finally, as for the narrow tailoring requirement of strict scrutiny, the court held that because plaintiff had waived its claim that the ordinances were not narrowly tailored at an earlier stage in this litigation, the district court’s holding in *Concrete Works I* that the ordinances satisfy the other prong of strict scrutiny was affirmed.

b. Builders Association of Greater Chicago v. City of Chicago

The City of Chicago employed economic analyses similar to those upheld in *Concrete Works* in its successful defense of its compelling interest in remedying discrimination against Black-, Hispanic- and women-owned construction firms.⁴⁷ However, the program as implemented in 2003, which had not been reviewed since its inception in 1990, was not sufficiently narrowly tailored to meet strict constitutional scrutiny. The court stayed the final order against operation of the Program for construction contracts for six months, to permit the City to review the ruling and adopt a new program.⁴⁸

The opinion first reviews the historical proof of discrimination against minorities, particularly Blacks, in the Chicago construction industry. While not legally mandated, Chicago was a segregated city and “City government was implicated in that history.” After the election of Harold Washington as the first Black mayor, several reports focused on the exclusion of

⁴⁴ *Id.*

⁴⁵ *Id.* at 989.

⁴⁶ See, e.g., *Builders Association of Greater Chicago v. County of Cook*, 123 F.Supp.2d 1087 (N.D. Ill. 2000) (“*BAGC v. Cook*”).

⁴⁷ *Builders Association of Greater Chicago v. City of Chicago*, 298 F. Supp.2d 725 (N.D. Ill. 2003).

⁴⁸ A similar suit was filed against Cook County’s Program, which was declared unconstitutional in 2000. *Builders Association of Greater Chicago v. County of Cook*, 123 F.Supp.2d 1087 (N.D. Ill. 2000); *aff’d*, 256 F.3d 642 (7th Cir. 2001). In contrast to the City of Chicago, Cook County presented very little statistical evidence and none directed towards establishing M/WBE availability, utilization, economy-wide evidence of disparities, or other proof beyond anecdotal testimony.

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minorities and women from City procurement opportunities as well as pervasive employment discrimination by City departments. Mayor Washington imposed an executive order mandating that at least 25 percent of City contracts be awarded to minority-owned businesses and 5 percent to women-owned businesses.

In response to *Croson*, Chicago commissioned a Blue Ribbon Panel to recommend an effective program that would survive constitutional challenge. Based upon the Panel's Report, and 18 days of hearings with over 40 witnesses and 170 exhibits, Chicago adopted a new program in 1990 that retained the 25 percent MBE and 5 percent WBE goals; added a Target Market, wherein contracts were limited to bidding only by M/WBEs; and provided that larger construction contracts could have higher goals.

The court held that the playing field for minorities and women in the Chicago area construction industry in 2003 was still not level. The City presented a great amount of statistical evidence. Despite the plaintiff's attacks about over-aggregation and disaggregation of data and which firms were included in the analyses, "a reasonably clear picture of the Chicago construction industry emerged.... While the size of the disparities was disputed, it is evident that minority firms, even after adjustment for size, earn less and work less, and have less sales compared to other businesses."

That does not mean, however, that speculation about the greater number of M/WBEs that did exist in the absence of discrimination is sufficient to support a current race-based remedy. At the same time, that there was perhaps overutilization of M/WBEs on City projects was not sufficient to abandon remedial efforts, as that result is "skewed by the program itself."

Further, while it is somewhat unclear whether disparities for Asians and Hispanics result from discrimination or the language and cultural barriers common to immigrants, there were two areas "where societal explanations do not suffice." The first is the market failure of prime contractors to solicit M/WBEs for non-goals work. Chicago's evidence was consistent with that presented of the effects of the discontinuance or absence of race-conscious programs throughout the country. Not only did the plaintiff fail to present credible alternative explanations for this universal phenomenon but also this result "follows as a matter of economics.... [P]rime contractors, without any discriminatory intent or bias, are still likely to seek out the subcontractors with whom they have had a long and successful relationship.... [T]he vestiges of past discrimination linger on to skew the marketplace and adversely impact M/WBEs disproportionately as more recent entrants to the industry.... [T]he City has a compelling interest in preventing its tax dollars from perpetuating a market so flawed by past discrimination that it restricts existing M/WBEs from unfettered competition in that market."⁴⁹

The judge also relied upon the City's evidence of discrimination against minorities in the market for commercial loans. Even the plaintiff's experts were forced to concede that, at least as to Blacks, credit availability appeared to be a problem. Plaintiff's expert also identified discrimination against white females in one data set.

⁴⁹ 298 F. Supp.2d at 738.

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After finding that Chicago met the compelling interest prong, the court held that the City's program was not narrowly tailored to address these market distortions and barriers because:

- There was no meaningful individualized review of M/WBEs' eligibility;
- There was no sunset date for the ordinance or any means to determine a date;
- The graduation threshold of \$27.5M was very high and few firms have graduated;
- There was no personal net worth limit;
- The percentages operated as quotas unrelated to the number of available firms;
- Waivers were rarely granted;
- No efforts were made to impact private sector utilization of M/WBEs; and
- Race-neutral measures had not been promoted, such as linked deposit programs, quick pay, contract downsizing, restricting prime contractors' self-performance, reducing bonds and insurance requirements, local bid preferences for subcontractors and technical assistance.

Chicago is the only city ever to have received a stay to permit revision of its program to meet narrow tailoring. It amended its ordinance to meet the court's 2004 deadline and continues to implement M/WBE subcontracting goals without interruption.

3. Narrowly Tailoring a Race-Conscious Program

Even if a jurisdiction has a strong basis in evidence to believe that race-based measures are needed to remedy identified discrimination, the program must be narrowly tailored to that evidence. The courts have repeatedly examined the following factors in determining whether race-based remedies are narrowly tailored to achieve their purpose:

- The efficacy of race-neutral remedies at overcoming identified discrimination;
- The relationship of numerical benchmarks for government spending to the availability of minority- and women-owned firms and to subcontracting goal setting procedures;
- The flexibility of the program requirements, including the provision for good faith efforts to meet goals and contract specific goal setting procedures;
- The congruence between the remedies adopted and the beneficiaries of those remedies;
- Any adverse impact of the relief on third parties; and

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- The duration of the program.⁵⁰

The Fourth Circuit Court of Appeals has described the narrow tailoring requirements as follows:

The preferences may remain in effect only so long as necessary to remedy the discrimination at which they are aimed; they may not take on a life of their own. The numerical goals must be waivable if qualified minority applications are scarce, and such goals must bear a reasonable relation to minority percentages in the relevant qualified labor pool, not in the population as a whole. Finally, the preferences may not supplant race-neutral alternatives for remedying the same discrimination.⁵¹

It is imperative that remedies not operate as fixed quotas.⁵² Firms that fail to meet the subcontracting goals but make good faith efforts to do so must be eligible for contract awards.⁵³ Further, firms that meet the goals cannot be favored over those who made good faith efforts. In *Croson*, the Court refers approvingly to the contract-by-contract waivers used in the USDOT's DBE program.⁵⁴ This feature has been central to the holding that the DBE program meets the narrow tailoring requirement.⁵⁵

The over- or under-inclusiveness of those persons to be included in the program is an additional consideration, and goes to whether the remedies truly target the evil identified.⁵⁶ The "fit" between the problem and the remedy manifests in three ways: which groups to include, how to define those groups, and which persons will be eligible to be included within those groups.

First, the determination of presumptive social disadvantage of each racial and ethnic group must be based upon the evidence.⁵⁷ In striking down the District of Columbia's MBE program, the court noted that there were no "findings with respect to discrimination in the construction industry against Hispanic Americans, Asian Americans, Pacific Islander Americans, or Native

⁵⁰ *United States v. Paradise*, 480 U.S. 149, 171 (1987); see also *Sherbrooke*, 345 F.3d at 971-972; *Drabik II*, 214 F.3d at 737-738.

⁵¹ *Maryland Troopers Association, Inc. v. Evans*, 993 F.2d 1072, 1076-77 (4th Cir. 1993) (citations omitted).

⁵² See 49 C.F.R. 26.43 (quotas are not permitted and setaside contracts may be used only in limited and extreme circumstances "when no other method could be reasonably expected to redress egregious instances of discrimination").

⁵³ See, e.g., *BAGC v. Chicago*, 298 F. Supp.2d at 740 ("Waivers are rarely or never granted...The City program is a rigid numerical quota...formulistic percentages cannot survive strict scrutiny.").

⁵⁴ 488 U.S. at 508; see also *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147, 1181 (10th Cir. 2000), cert. granted then dismissed as improvidently granted, 532 U.S. 941, 534 U.S. 103 (2001) ("*Adarand VII*").

⁵⁵ See, e.g., *Sherbrooke Turf, Inc. v. Minnesota Department of Transportation*, 345 F.3d 964, 972 (8th Cir. 2003), cert. denied, 541 U.S. 1041 (2004).

⁵⁶ *Association for Fairness in Business, Inc. v. New Jersey*, 82 F.Supp.2d 353, 360 (D.N.J. 2000).

⁵⁷ *Contractors Association of Eastern Pennsylvania v. City of Philadelphia*, 6 F.3d 990, 1007 (3rd Cir. 1993) ("*Philadelphia II*") (strict scrutiny requires data for each minority group; data was insufficient to include Hispanics, Asians or Pacific Islanders or Native Americans); cf. *Northeastern Florida Chapter of the AGC v. Jacksonville*, 508 U.S. 656, 660-661 (1993) (new ordinance narrowed to Blacks and women).

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Americans, all of whom are included in the Act's definition of 'minority.'⁵⁸ The "random inclusion" of groups that may never have experienced discrimination in the entity's marketplace may indicate impermissible "racial politics."⁵⁹ Similarly, the Seventh Circuit, in striking down Cook County's program, remarked that a "state or local government that has discriminated just against blacks may not by way of remedy discriminate in favor of blacks and Asian-Americans and women."⁶⁰

However, at least one court has held that some quantum of evidence of discrimination for each group is sufficient. The Tenth Circuit held that *Croson* does not require that each group included in the ordinance suffer equally from discrimination.⁶¹

Next, the level of specificity at which to define beneficiaries must be addressed. Approaches range from a single goal like the DBE Program that includes all racial and ethnic minorities and White women,⁶² to separate goals for each minority group and women.⁶³ The State of Ohio's Program was specifically faulted for lumping together all "minorities," with the court questioning the legitimacy of forcing Black contractors to share relief with recent Asian immigrants.⁶⁴

Third, program remedies should be limited to those firms that have a nexus to the harms sought to be ameliorated. Some courts have held that state and local programs must provide proof that the individual owner of a firm seeking to benefit from the program has suffered discrimination.⁶⁵

Failure to make "neutral" changes to contracting and procurement policies and procedures that disadvantage all small businesses may result in a finding that the program unduly burdens non-

⁵⁸ *O'Donnell, v. District of Columbia*, 963 F.2d at 427.

⁵⁹ *Webster*, 51 F.Supp.2d at 1380–1381.

⁶⁰ *BAGC v. Cook County*, 256 F.3d at 646 (no evidence of discrimination against any group other than Blacks).

⁶¹ *Concrete Work IV*, 321 F.3d at 9761.

⁶² See 49 C.F.R. §26.45(h) (overall goal must not be subdivided into group-specific goals).

⁶³ See *Engineering Contractors II*, 122 F.3d at 900 (separate goals for Blacks, Hispanics and women).

⁶⁴ *Drabik II*, 214 F.3d at 737; see also *Western States*, 407 F.3d at 998 ("We have previously expressed similar concerns about the haphazard inclusion of minority groups in affirmative action programs ostensibly designed to remedy the effects of discrimination.").

⁶⁵ See, e.g., *Associated General Contractors of Ohio, Inc. v. Drabik*, 50 F.Supp.2d 741, 766 (S.D. Ohio 1999) ("*Drabik I*") (no "consideration given to whether the particular MBE seeking a racial preference has suffered from the effects of past discrimination by the state or prime contractors."); *Main Line Paving Co., Inc. v. Board of Education*, 725 F.Supp. 1349, 1362 (E.D. Penn. 1989) ("program contains no provisions to identify those who were victims of past discrimination and to limit the program's benefits to them").

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M/W/DBEs.⁶⁶ However, “innocent” parties can be made to share some of the burden of the remedy for eradicating racial discrimination.⁶⁷

Race-based programs must have duration limits.⁶⁸ A race-based remedy must “not last longer than the discriminatory effects it is designed to eliminate.”⁶⁹ As held by the Sixth Circuit, “[n]arrow tailoring also implies some sensitivity to the possibility that a program might someday have satisfied its purposes.”⁷⁰ One of the factors leading to the court’s holding that the City of Chicago’s M/WBE Program was no longer narrowly tailored was the lack of a sunset provision.⁷¹ In contrast, the USDOT DBE Program’s periodic review by Congress has been repeatedly held to provide adequate durational limits.⁷²

This means that affirmative action programs must be regularly reviewed to ensure that a strong basis in evidence remains to use the highly suspect tool of race in government decision making. Very old studies will not suffice to support current programs.⁷³ The City of Augusta, Georgia’s program failed to meet strict scrutiny, because “the [M/WBE] Program is still in place 13 years after the [Disparity] Study was compiled without any further investigation into the underlying reasons for creating a program, and without any sunset or expiration provision.”⁷⁴ Likewise, Chicago’s program was based on 14-year-old information, which while it supported the program adopted in 1990, no longer was sufficient standing alone to justify the City’s efforts in 1994.⁷⁵

⁶⁶ See *Engineering Contractors Assoc. of South Florida, Inc. v. Metropolitan Dade County*, 943 F.Supp. 1546, 1581-1582 (S.D. Fla. 1996) (“*Engineering Contractors I*”) (County chose not to change its procurement system).

⁶⁷ *Concrete Works IV*, 321 F.3d at 973; *Wygant v. Jackson Board of Education*, 476 U.S. 267, 280-281 (1986); *Adarand VII*, 228 F.3d at 1183 (“While there appears to be no serious burden on prime contractors, who are obviously compensated for any additional burden occasioned by the employment of DBE subcontractors, at the margin, some non-DBE subcontractors such as *Adarand* will be deprived of business opportunities”); cf. *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2005 U.S. Dist. LEXIS 19868, *5 (Sept. 8, 2005) (“*Northern Contracting II*”) (“Plaintiff has presented little evidence that it [sic] has suffered anything more than minimal revenue losses due to the program.”); *Western States*, 407 F.3d at 995.

⁶⁸ *Drabik I*, 50 F.Supp.2d at 766 (“The 1980 MBE Act is unlimited in duration.... There is no evidence that, at any time during the nearly two decades the Act has been in effect, the General Assembly has ever reconsidered whether a compelling state interest exists which would justify the continuation of a race-based remedy.”).

⁶⁹ 515 U.S. at 238.

⁷⁰ *Drabik II*, 214 F.3d at 737.

⁷¹ *BAGC v. Chicago*, 298 F.Supp.2d at 739; see also *O’Donnell*, 963 F.2d at 428 (the District “reenacted the law in 1980 and deleted the sunset provision. Fifteen years have now passed since the District put its minority contracting program into effect. The District has not suggested that an end is in sight.”). *Webster*, 51 F. Supp. 2d at 1382 (telling disqualifier was that the County had been implementing a “quota” program since 1979 with no contemplation of program expiration).

⁷² See *Western States*, 407 F.3d at 995; *H.B. Rowe, Inc. v. Tippett*, 2008 U.S. Dist. LEXIS 100569 at *27 (E.D. N.C. 2008) (state M/WBE program is reviewed every five years).

⁷³ See, e.g., *Baltimore I*, 83 F.Supp.2d at 620 (10 year-old evidence to justify 1999 goals is equivalent to no evidence).

⁷⁴ *Thompson v. Augusta*, at *9.

⁷⁵ *BAGC v. Chicago*, 298 F.Supp.2d at 739.

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How old is too old is not definitively answered,⁷⁶ but governments would be wise to analyze data at least once every five or six years.

B. Strict Scrutiny as Applied to Federal Enactments

In *Adarand v. Peña*,⁷⁷ the Court again overruled long settled law and extended the analysis of strict scrutiny under the Due Process Clause of the Fourteenth Amendment to federal enactments. Just as in the local government context, when evaluating federal legislation and regulations

[t]he strict scrutiny test involves two questions. The first is whether the interest cited by the government as its reason for injecting the consideration of race into the application of law is sufficiently compelling to overcome the suspicion that racial characteristics ought to be irrelevant so far as treatment by the government is concerned. The second is whether the government has narrowly tailored its use of race, so that race-based classifications are applied only to the extent absolutely required to reach the proffered interest. The strict scrutiny test is thus a recognition that while classifications based on race may be appropriate in certain limited legislative endeavors, such enactments must be carefully justified and meticulously applied so that race is determinative of the outcome in only the very narrow circumstances to which it is truly relevant.⁷⁸

1. U.S. Department of Transportation's Disadvantaged Business Enterprise Program

In the wake of *Adarand*, Congress reviewed and revised the Disadvantaged Business Enterprise (DBE) Program statute⁷⁹ and implementing regulations⁸⁰ for federal-aid contracts in the transportation industry. To date, every court that has considered the issue has found the regulations to be constitutional on their face.⁸¹ While binding strictly only upon the DBE Program, these cases provide important guidance to the District about the types of evidence necessary to establish its compelling interest in adopting a local affirmative action contracting

⁷⁶ See, e.g., *Drabik I*, 50 F.Supp.2d at 745, 750 (“A program of race-based benefits cannot be supported by evidence of discrimination which is now over twenty years old.... The state conceded that it had no additional evidence of discrimination against minority contractors, and admitted that during the nearly two decades the Act has been in effect, it has made no effort to determine whether there is a continuing need for a race-based remedy.”); *Brunet City of Columbus*, 1 F.3d 390, 409 (6th Cir. 1993) (fourteen-year-old evidence of discrimination “too remote to support a compelling governmental interest.”).

⁷⁷ 515 U.S. 200 (1995) (*Adarand III*).

⁷⁸ *Adarand Constructors, Inc. v. Peña*, 965 F. Supp. 1556, 1569-1570 (D. Colo. 1997), *rev'd*, 228 F.3d 1147 (2000) (“*Adarand IV*”); see also *Adarand III*, 515 U.S. at 227.

⁷⁹ Transportation Equity Act for the 21st Century (TEA-21), Pub. L. No. 105-178 (b)(1), 112 Stat. 107, 113.

⁸⁰ 49 C.F.R. Part 26.

⁸¹ See, e.g., *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147 (10th Cir. 2000) (“*Adarand VII*”), *cert. granted then dismissed as improvidently granted*, 532 U.S. 941, 534 U.S. 103 (2001); *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2004 U.S. Dist. LEXIS 3226 at *64 (N.D. Ill., Mar. 3, 2004) (“*Northern Contracting I*”).

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program and how to narrowly tailor a program. They are also highly relevant to how the District should meet its regulatory responsibilities in implementing its DBE program.

a. Challenges to the Disadvantaged Business Enterprise Regulations

All courts have held that Congress had strong evidence of widespread race discrimination in the construction industry.⁸² Relevant evidence before Congress included:

- Disparities between the earnings of minority-owned firms and similarly situated non-minority-owned firms;
- Disparities in commercial loan denial rates between Black business owners compared to similarly situated non-minority business owners;
- The large and rapid decline in minorities' participation in the construction industry when affirmative action programs were struck down or abandoned; and
- Various types of overt and institutional discrimination by prime contractors, trade unions, business networks, suppliers and sureties against minority contractors.⁸³

The Eighth Circuit Court of Appeals took a “hard look” at the evidence Congress considered, and concluded that the legislature had

spent decades compiling evidence of race discrimination in government highway contracting, of barriers to the formation of minority-owned construction businesses, and of barriers to entry. In rebuttal, [the plaintiffs] presented evidence that the data were susceptible to multiple interpretations, but they failed to present affirmative evidence that no remedial action was necessary because minority-owned small businesses enjoy non-discriminatory access to and participation in highway contracts. Thus, they failed to meet their ultimate burden to prove that the DBE program is unconstitutional on this ground.⁸⁴

Next, the regulations were facially narrowly tailored. Unlike the prior program,⁸⁵ Part 26 provides that:

⁸² See also *Western States*, 407 F.3d at 993 (“In light of the substantial body of statistical and anecdotal material considered at the time of TEA-21’s enactment, Congress had a strong basis in evidence for concluding that- in at least some parts of the country- discrimination within the transportation contracting industry hinders minorities’ ability to compete for federally funded contracts.”).

⁸³ See *id.*, 407 F.3d at 992-93.

⁸⁴ *Sherbrooke*, 345 F.3d. at 970; see also *Adarand VII*, 228 F.3d at 1175 (Plaintiff has not met its burden “of introducing credible, particularized evidence to rebut the government’s initial showing of the existence of a compelling interest in remedying the nationwide effects of past and present discrimination in the federal construction procurement subcontracting market.”).

⁸⁵ 49 C.F.R. Part 23.

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- The overall goal must be based upon demonstrable evidence of the number of DBEs ready, willing, and able to participate on the recipient's federally assisted contracts.
- The goal may be adjusted to reflect the availability of DBEs but for the effects of the DBE Program and of discrimination.
- The recipient must meet the maximum feasible portion of the goal through race-neutral measures as well as estimate that portion of the goal it predicts will be met through such measures.
- The use of quotas and set-asides is limited to only those situations where there is no other remedy.
- The goals are to be adjusted during the year to remain narrowly tailored.
- Absent bad faith administration of the Program, a recipient cannot be penalized for not meeting its goal.
- The presumption of social disadvantage for racial and ethnic minorities and women is rebuttable, "wealthy minority owners and wealthy minority firms are excluded, and certification is available to persons who are not presumptively disadvantaged but can demonstrate actual social and economic disadvantage."
- Exemptions and waivers from any or all Program requirements are available.⁸⁶

These elements have led the courts to conclude that the program is narrowly tailored on its face. First, the regulations place strong emphasis on the use of race-neutral means to achieve minority and women participation. Relying upon *Grutter v. Bollinger*, the Eighth Circuit held that while "[n]arrow tailoring does not require the exhaustion of every conceivable race-neutral alternative...it does require serious, good faith consideration of workable race-neutral alternatives."⁸⁷

The DBE Program is also flexible. Eligibility is limited to small firms owned by persons whose net worth is less than \$750,000. There are built-in Program time limits, and the recipient may terminate race-conscious contract goals if it meets its annual overall goal through race-neutral means for two consecutive years. Moreover, the authorizing legislation is subject to Congressional reauthorization that will ensure periodic public debate.

The court next held that the goals are tied to the relevant labor market. "Though the underlying estimates may be inexact, the exercise requires the States to focus on establishing realistic goals

⁸⁶ *Sherbrooke*, 345 F.3d. at 973.

⁸⁷ *Id.* at 972.

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for DBE participation in the relevant contracting markets. This stands in stark contrast to the program struck down in *Croson*....”⁸⁸

Finally, Congress has taken significant steps to minimize the race-conscious nature of the Program. “[W]ealthy minority owners and wealthy minority-owned firms are excluded, and certification is available to persons who are not presumptively [socially] disadvantaged but can demonstrate actual social and economic disadvantage. Thus, race is made relevant in the program, but it is not a determinative factor.”⁸⁹

DBE programs based upon a methodology similar to that for this Study for NEORSD, including the availability analysis and the examination of disparities in the business formation rates and business earnings of minorities and women compared to similarly situated non-minority males, have been held to be narrowly tailored in their application of Part 26. The Minnesota Department of Transportation relied upon a Study conducted by NERA and Colette Holt & Associates to set its DBE goal. The Eighth Circuit opined that while plaintiff

presented evidence attacking the reliability of NERA’s data, it failed to establish that better data was [sic] available or that Mn/DOT was otherwise unreasonable in undertaking this thorough analysis and in relying on its results. The precipitous drop in DBE participation in 1999, when no race-conscious methods were employed, supports Mn/DOT’s conclusion that a substantial portion of its 2001 overall goal could not be met with race-neutral measures, and there is no evidence that Mn/DOT failed to adjust its use of race-conscious and race-neutral methods as the year progressed, as the DOT regulations require.⁹⁰

Likewise, the Seventh Circuit Court of Appeals affirmed the district court’s trial verdict that the Illinois Department of Transportation’s application of Part 26 was narrowly tailored based in large part upon the report and expert trial testimony of NERA and Colette Holt & Associates.⁹¹ IDOT had a compelling interest in remedying discrimination in the marketplace for federally-funded highway contracts, and its DBE Plan was narrowly tailored to that interest and in conformance with the regulations.

To determine whether IDOT met its constitutional and regulatory burdens, the court reviewed the evidence of discrimination against minority and women construction firms in the Illinois area. IDOT had commissioned a NERA Availability Study to meet Part 26’s requirements. Similar to this Study for the District, the IDOT Study included a custom census of the availability of DBEs in IDOT’s marketplace, weighted by the location of IDOT’s contractors and the types of goods and services IDOT procures. NERA estimated that DBEs comprised 22.77 percent of IDOT’s

⁸⁸ *Id.*

⁸⁹ *Id.* at 973.

⁹⁰ *Id.*

⁹¹ *Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715 (7th Cir. 2007) (7th Cir. 2007) (“*Northern Contracting III*”). Ms. Holt authored IDOT’s DBE goal submission, and she and Dr. Wainwright testified as IDOT’s expert witnesses at the trial.

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available firms.⁹² The IDOT Study next examined whether and to what extent there are disparities between the rates at which DBEs form businesses relative to similarly situated non-minority men, and the relative earnings of those businesses. If disparities are large and statistically significant, then the inference of discrimination can be made. Controlling for numerous variables such as the owner's age, education, and the like, the Study found that in a race- and gender-neutral marketplace the availability of DBEs would be approximately 20.8 percent higher, for an estimate of DBE availability "but for" discrimination of 27.51 percent.

In addition to the IDOT Study, the court also relied upon:

- A NERA Availability Study conducted for Metra, the Chicago-area commuter rail agency;
- Expert reports relied upon by an earlier trial court in holding that the City of Chicago had a compelling interest in its minority and women business program for construction contracts;⁹³
- Expert reports and anecdotal testimony presented to the Chicago City Council in support of the City's revised M/WBE Procurement Program ordinance;
- Anecdotal evidence gathered at IDOT's public hearings on the DBE program;
- Data on DBE involvement in construction projects in markets without DBE goals;⁹⁴ and
- IDOT's "zero goal" experiment, where DBEs received approximately 1.5 percent of the total value of the contracts. This was designed to test the results of "race-neutral" contracting policies, that is, the utilization of DBEs on contracts without goals.

Based upon this record, the court of appeals agreed with the trial court's judgment that the Program was narrowly tailored. IDOT's plan was based upon sufficient proof of discrimination such that race-neutral measures alone would be inadequate to assure that DBEs operate on a "level playing field" for government contracts.

The stark disparity in DBE participation rates on goals and non-goals contracts, when combined with the statistical and anecdotal evidence of discrimination in the relevant marketplaces, indicates that IDOT's 2005 DBE goal represents a "plausible lower-bound estimate" of DBE participation in the absence of discrimination.... Plaintiff presented no persuasive evidence contravening the conclusions of IDOT's studies, or explaining the

⁹² This baseline figure of DBE availability is the "step 1" estimate U.S. DOT grant recipients must make pursuant to 49 CFR §26.45.

⁹³ *Builders Association of Greater Chicago v. Chicago*, 298 F. Supp. 2d 725 (N.D. Ill. 2003).

⁹⁴ *Northern Contracting III*, 473 F.3d at 719 ("Also of note, IDOT examined the system utilized by the Illinois State Toll Highway Authority, which does not receive federal funding; though the Tollway has a DBE goal of 15 percent, this goal is completely voluntary -- the average DBE usage rate in 2002 and 2003 was 1.6 percent. On the basis of all of this data, IDOT adopted 22.77 percent as its Fiscal Year 2005 DBE goal.").

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disparate usage of DBEs on goals and non-goals contracts.... IDOT's proffered evidence of discrimination against DBEs was not limited to alleged discrimination by prime contractors in the award of subcontracts. IDOT also presented evidence that discrimination in the bonding, insurance, and financing markets erected barriers to DBE formation and prosperity. Such discrimination inhibits the ability of DBEs to bid on prime contracts, thus allowing the discrimination to indirectly seep into the award of prime contracts, which are otherwise awarded on a race- and gender-neutral basis. This indirect discrimination is sufficient to establish a compelling governmental interest in a DBE program.... Having established the existence of such discrimination, a governmental entity has a compelling interest in assuring that public dollars, drawn from the tax contributions of all citizens, do not serve to finance the evil of private prejudice.⁹⁵

2. U.S. Department of Defense's Small Disadvantaged Business Program

In 2009, the Federal Circuit Court of Appeals struck down the Department of Defense (DOD) program for Small Disadvantaged Businesses (SDBs) in *Rothe Development Corporation v. U.S. Department of Defense*.⁹⁶ The program set an overall annual goal of five percent for DOD contracting with SDBs and authorized various race-conscious measures to meet the goal.

The court held that Section 1207,⁹⁷ which, among other remedies, provided a 10 percent bid preference to SDBs, violated strict constitutional scrutiny because Congress did not have a "strong basis in evidence" upon which to conclude that DOD was a passive participant in racial discrimination in relevant markets across the country. The six local disparity studies upon which DOD primarily relied for evidence of relevant discrimination did not meet the compelling interest requirement—and in any event were not "before" Congress when it reenacted the program in 2006—and other statistical and anecdotal evidence did not rise to the heavy constitutional burden.⁹⁸

The opinion discusses in detail the evidence that Congress considered in the 2006 reenactment. This consisted of:

- Six disparity studies of state or local contracting in the cities of Dallas,⁹⁹ Cincinnati,¹⁰⁰ and New York,¹⁰¹ in Cuyahoga County, Ohio,¹⁰² and Alameda County, California,¹⁰³ and in the Commonwealth of Virginia,¹⁰⁴

⁹⁵ *Northern Contracting II*, at *82 (internal citations omitted); see *Croson*, 488 U.S. at 492.

⁹⁶ 545 F.3d 1023 (*Fed. Cir.* 2008) ("*Rothe VII*").

⁹⁷ 10 U.S.C. § 2323.

⁹⁸ *Rothe VII* was the latest iteration of an 11-year-old challenge by a firm owned by a white female to DOD's award of a contract to an Asian American-owned business despite the fact that plaintiff was the lowest bidder. Since the case began in 1998, Congress has reenacted Section 1207 a number of times, the district court has rendered judgment three times, and the appellate court has remanded the case twice. *Rothe VII* ends this litigation, as DOD did not appeal the judgment. The statute would have expired on its terms at the end of federal fiscal year 2009.

⁹⁹ "City of Dallas Availability and Disparity Study," Mason Tillman Associates, Ltd. (2002).

¹⁰⁰ "City of Cincinnati Disparity Study," Griffin & Strong, PC (2002).

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- A September 2005 document issued by the United States Commission on Civil Rights (USCCR) titled “Federal Procurement After *Adarand*”;
- Letters from individual business owners describing incidents of perceived discrimination in state, local, and private contracting;
- Various anecdotes regarding discrimination recounted by members of Congress in floor statements or remarks;
- Testimony by small business owners before the House Small Business Committee in 2001 and 2004; and
- Three studies from the Small Business Administration regarding the ownership and success rates of small businesses.

The primary focus of the opinion is the six disparity studies. The court reaffirmed that such studies are relevant to the compelling interest analysis. It then turned to Rothe’s first argument and rejected the position that data more than five years old must be discarded. The court “decline[d] to adopt such a *per se* rule here.... [The government] should be able to rely on the most recently available data so long as that data is reasonably up-to-date.”¹⁰⁵

While the studies were sufficiently current, the court held that they were not sufficiently before Congress to be relied upon to meet strict scrutiny. “The six studies were not discussed at any congressional hearings. And because Congress made no findings concerning these studies, we cannot even broach the question of whether to defer to Congress in any respect regarding them.”¹⁰⁶

Despite finding that Congress did not rely upon the studies, the court chose to review them *de novo* anyway, and held that “we need not decide whether these six studies were put before Congress, because we will hold in any event that the studies do not provide a substantially probative and broad-based statistical foundation necessary for the ‘strong basis in evidence’ that must be the predicate for nationwide, race-conscious action.”¹⁰⁷

The district court held that Rothe’s failure to offer any expert reports to rebut the studies did not meet its burden of persuasion to demonstrate that Congress lacked compelling evidence because

¹⁰¹ “City of New York Disparity Study,” Mason Tillman Associates, Ltd. (2005).

¹⁰² “Ohio Multi-Jurisdictional Disparity Studies,” Mason Tillman Associates, Ltd. (2003).

¹⁰³ “Alameda County Availability Study,” Mason Tillman Associates, Ltd. (2004).

¹⁰⁴ “Procurement Disparity Study of the Commonwealth of Virginia,” MGT of America, Inc. (2004).

¹⁰⁵ 545 F.3d at 1038–1039.

¹⁰⁶ *Id.*

¹⁰⁷ *Id.* at 1040.

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the studies were irrelevant or flawed.¹⁰⁸ The appellate court disagreed, saying the validity of the studies should have been examined by the district court on its own because the type of general objections raised by Rothe was of the “same general character” as that voiced by Justice O’Connor in *Croson*. Without addressing later cases that have given substance to *Croson*’s broad comments in the context of actual studies by establishing that generalized objections are not sufficient, and despite the lack of expert reports or the testimony of the studies’ authors to guide its consideration of complex statistical issues, the Federal Circuit stated that “the potential pitfalls of race-conscious legislation are far too great for a court to dismiss such objections as incompetently offered, rather than to address them on their merits.”¹⁰⁹ Rather than remand the case to the district court for development of a factual record, the appeals court reached to consider the merits of the studies for the first time.

In the absence of expert testimony about accepted econometric models of discrimination, the court was troubled by the failure of five of the studies to account for size differences and “qualifications” of the minority firms in the denominator of the disparity analysis,¹¹⁰ or as the court terms it, “relative capacity.”¹¹¹ The court was concerned about the studies’ inclusion of possibly “unqualified” minority firms and the failure to account for whether a firm can perform more than one project at a time in two of the studies.¹¹² In the court’s view, the combination of these perceived deficits rendered the studies insufficiently probative to meet Congress’ burden.

The appellate court ignored the cases upholding the USDOT Disadvantaged Business Enterprise Program and the City of Denver’s local affirmative action contracting program where the fallacy of “capacity” was debunked, all of which were cited extensively by the district court. It relied instead on a report from the USCCR, which adopts the views of anti-affirmative action writers, including those of Rothe’s consultant.¹¹³

However, the court is careful to limit the reach of its review to the facts of the case:

To be clear, we do *not* hold that the defects in the availability and capacity analyses in these six disparity studies render the studies wholly unreliable for any purpose. Where the calculated disparity ratios are low enough, we do not foreclose the possibility that an inference of discrimination might still be permissible for *some* of the minority groups in

¹⁰⁸ *Rothe Development Corp. v. U.S. Department of Defense et al*, 499 F.Supp.2d 775, 847 (W.D. Tex. 2007) (“*Rothe VI*”): “Rothe did not submit an expert report attacking the data, methodology, or conclusions of the New York Study.... The Court rejects Rothe’s objections to the data or reliability of the six disparity studies, including the New York Study, because those objections are not supported by an expert report or other competent summary judgment evidence.... General criticism of disparity studies, as opposed to particular evidence undermining the reliability of the particular study, is of little persuasive value.”

¹⁰⁹ 545 F.3d at 1040.

¹¹⁰ There is no explanation why similar concerns should not be raised about non-minority-owned firms included in the denominator.

¹¹¹ 545 F.3d at 1042.

¹¹² *Ibid.*

¹¹³ U. S. Civil Rights Commission, *Disparity Studies as Evidence of Discrimination in Federal Contracting* (May 2006): 79.

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some of the studied industries in *some* of the jurisdictions. And we recognize that a minority owned firm’s capacity and qualifications may themselves be affected by discrimination. But we hold that the defects we have noted detract dramatically from the probative value of these six studies, and, in conjunction with their limited geographic coverage, render the studies insufficient to form the statistical core of the “strong basis in evidence” required to uphold the statute.¹¹⁴

Finally, the additional statistical evidence relied upon by the district court was held to be insufficiently current, or was not “before” Congress, or failed to account for “capacity”.¹¹⁵

The Federal Circuit concludes its analysis of compelling interest by “stress[ing] that our holding is grounded in the particular terms of evidence offered by DOD and relied on by the district court in this case, and should not be construed as stating blanket rules, for example, about the reliability of disparity studies.”¹¹⁶

Given the holding that Congress lacked a strong basis in evidence for Section 1207, the court did not rule on whether its provisions were narrowly tailored. The lack of “strongly probative statistical evidence makes it impossible” to determine whether the five percent goal reflects “the share of contracts minorities would receive in the absence of discrimination.”¹¹⁷ It did note, however, its prior rulings that the program is flexible, limited in duration, and not unduly burdensome to third parties, and that the program has tended to narrow the reach of its remedies over time.

The question of broad application in *Rothe VII* to local M/WBE programs is whether disparity studies must somehow control for “capacity” without reference to the impact of discrimination on the variables usually cited. First, the absence of expert testimony may have influenced the court’s analysis. Where reports have been proffered by highly qualified experts, judges have understood that variables such as firms’ size and experience are adversely affected by discrimination. In fact, the Federal Circuit alludes to this fact, noting “that a minority owned firm’s capacity and qualifications may themselves be affected by discrimination,” without seeming to understand the implications for econometric modeling of discrimination.¹¹⁸ Had DOD presented expert testimony, Section 1207 might have been upheld as has the USDOT DBE program.

Next, claims that the availability measure in the disparity statistic does not factor in “capacity” or, stated another way, that availability statistics may include firms that are not “qualified, willing, and able” to perform particular contracts are arguably unwarranted and unscientific. Adjusting statistical evidence in disparity studies for so-called “capacity” measures will prevent

¹¹⁴ 545 F.3d at 1045 (quoting from Justice Scalia’s dissent in *Concrete Works V*, 540 U.S. 1027, 1032 [2003]).

¹¹⁵ *Id.* at 1047–1048.

¹¹⁶ *Id.* at 1049.

¹¹⁷ *Id.* at 1049–1050.

¹¹⁸ 545 F.3d at 1045.

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accurate measurement of the existence of the “market failure” of discrimination.¹¹⁹ Many, if not all, “capacity” indicators are themselves impacted by discrimination. Therefore, it is not good social science to limit availability measures by factors such as firm age, revenues, or numbers of employees.

Further, the reality is that large, adverse statistical disparities between minority-owned or women-owned businesses and non-minority male-owned businesses have been documented in numerous research studies and reports since *Croson*.¹²⁰ Business outcomes, however, can be influenced by multiple factors, and it is important that disparity studies examine the likelihood of whether discrimination is an important contributing factor to observed disparities.

Moreover, terms such as “capacity,” “qualifications,” and “ability” are not well defined in any statistical sense. Does “capacity” mean revenue level, employment size, bonding limits, or number of contracts bid or awarded? Does “qualified” or “able” mean possession of a business license, certain amounts of training, types of work experience, or the number of contracts a firm can perform at a given moment? What mix of business attributes properly reflects “capacity”? Does the meaning of such terms differ from industry to industry, locality to locality, or through time? Where and how might such data be reliably gathered?

Even if capacity is well-defined and adequate data are gathered, when measuring the existence of discrimination, the statistical method used should not improperly limit the availability measure by incorporating factors that are themselves impacted by discrimination, such as firm age, revenues, bonding limits, or numbers of employees.

Suppose that racial discrimination was ingrained in a county’s construction market. As a result, few minority construction employees are given the opportunity to gain managerial experience in the business; minorities who do end up starting construction firms are denied the opportunity to work as subcontractors for non-minority prime contractors; and non-minority prime contractors place pressure on unions not to work with minority firms and on bonding companies and banks to prevent minority owned construction firms from securing bonding and capital. Discrimination will have prevented the emergence of a minority construction industry with “capacity.” Those MBEs that exist at all will be smaller and less experienced and have lower revenues, bonding limits, and employees— that is, “capacity”— because of discrimination than firms that have benefited from the exclusionary system.

Using revenue as the measure of qualifications illustrates the point. If M/WBEs are subject to marketplace discrimination, their revenues will be smaller than non-minority, male-owned businesses because they will be less successful at obtaining work. Revenue measures the extent to which a firm has succeeded in the marketplace, perhaps in spite of discrimination—it does not measure the ability to succeed in the absence of discrimination and should not be used to evaluate the effects of discrimination.

¹¹⁹ *Builders Association v. Chicago*, 298 F.Supp.2d at, 737.

¹²⁰ Enchautegui, et al. (1996).

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Therefore, focusing on the “capacity” of businesses in terms of employment, revenue, bonding limits, number of trucks, and so forth is simply wrong as a matter of economics because it can obscure the existence of discrimination. The capacity argument fails to acknowledge that discrimination has prevented the emergence of “qualified, willing, and able” minority firms. Without such firms, there can be no statistical disparity. A truly “effective” discriminatory system would lead to a finding of no “capacity,” and under the “capacity” approach, a finding of no discrimination. Excluding firms from an availability measure based on their “capacity” in a discriminatory market affirms the results and rewards the beneficiaries of discrimination. A capacity requirement would preclude the District from doing anything to rectify its passive participation through public dollars in a clearly discriminatory system. In fact, the more efficient and total the exclusion suffered by M/WBEs, the less the government could do about it.

Further, in dynamic business environments, and especially in the construction sector, such “qualifications” or “capacity” can be obtained relatively easily. It is well known that small construction companies can expand rapidly as needs arise by hiring workers and renting equipment, and many general contractors subcontract the majority of a project. Firms grow quickly when demand increases and shrink quickly when demand decreases. Subcontracting is one important source of this elasticity, as has been noted by several academic studies.¹²¹ Other industry sectors, especially in this era of Internet commerce and independent contractors, can also quickly grow or shrink in response to demand.

Finally, even where “capacity”-type factors have been controlled for in statistical analyses, results consistent with business discrimination are still typically observed. For example, large and statistically significant differences in commercial loan denial rates between minority and non-minority firms are evident throughout the country, even when detailed balance sheet and creditworthiness measures are held constant.¹²² Similarly, economists using decennial census data have demonstrated that statistically significant disparities in business formation and business owner earnings between minorities and non-minorities remain even after controlling for a host of additional relevant factors, including educational achievement, labor market experience, marital status, disability status, veteran status, interest and dividend income, labor market attachment, industry, geographic location, and local labor market variables such as the unemployment rate, population growth rate, government employment rate, or per capita income.¹²³

¹²¹ Clinton C. Bourdon and Raymond E. Levitt, *Union and Open-Shop Construction, Compensation, Work Practices, and Labor Markets* (Lexington, MA: Lexington Books, 1980); see also Robert G. Eccles, “Bureaucratic versus Craft Administration: The Relationship of Market Structure to the Construction Firm,” *Administrative Science Quarterly*, v.26, 1981; and Frederick Elliot Gould, “Investigation in Construction Entrepreneurship,” Masters Thesis, MIT, May 1980.

¹²² See “Discrimination Facing Small Minority Owned and Women-Owned Businesses in Commercial Credit Markets,” Testimony of Jon S. Wainwright before the Committee on Small Business and Entrepreneurship, U.S. Senate, September 11, 2008.

¹²³ Jon S. Wainwright, “Racial Discrimination and Minority Business Enterprise, Evidence from the 1990 Census,” *Studies in Entrepreneurship Series*, Edited by S. Bruchey, New York, NY: Garland Publishing, 2000.

C. Preferences for Women

Whether affirmative action procurement programs that benefit women are subject to the lesser constitutional standard of “intermediate scrutiny” has yet to be settled by the Supreme Court.¹²⁴ Most courts have applied intermediate scrutiny to preferences for women and then upheld or struck down the female preference under that standard.¹²⁵ However, the Sixth Circuit has applied strict scrutiny to gender preferences.¹²⁶ This is probably a distinction without meaningful difference, as only one post-*Croson* court has upheld WBE provisions while striking down MBE measures.¹²⁷ Further, as observed by the Seventh Circuit Court of Appeals, applying intermediate scrutiny to gender “creates the paradox that a public agency may provide stronger remedies for sex discrimination than for race discrimination; it is difficult to see what sense that makes.”¹²⁸ Therefore, the District would be wise to meet the rigors of strict scrutiny for gender preferences.

D. Burdens of Production and Proof

Unlike most legal challenges, the defendant has the initial burden of producing “strong evidence” in support of the program.¹²⁹ The plaintiff must then proffer evidence to rebut the government’s case, and bears the ultimate burden of production and persuasion that the affirmative action program is unconstitutional.¹³⁰ “As the Sixth Circuit and others have recognized, when the proponent of an affirmative action plan produces sufficient evidence to support an inference of discrimination, the plaintiff must rebut that inference in order to prevail.”¹³¹ A plaintiff “cannot meet its burden of proof through conjecture and unsupported criticism of [the government’s] evidence.”¹³² For example, in the challenge to the Minnesota and Nebraska DBE programs, “plaintiffs¹³³ presented evidence that the data was susceptible to multiple interpretations, but they

¹²⁴ Cf. *United States v. Virginia*, 518 U.S. 515 (1996) (applying standard of “exceedingly persuasive justification” in striking down Virginia Military Institute’s males only admissions policy).

¹²⁵ See, e.g., *Northern Contracting I*, at *44 (women’s status as presumptively socially disadvantaged passes intermediate scrutiny); *Scott*, 199 F.3d at 215 n.9; *Engineering Contractors II*, 122 F.3d at 907-910; *Concrete Works II*, 36 F.3d at 1519; *Philadelphia II*, 6 F.3d at 1009; *Coral Construction Co. v. King County*, 941 F.2d 910, 930-931 (9th Cir. 1991); *Baltimore I*, 83 F.Supp.2d at 613.

¹²⁶ *Brunet*, 1 F.3d at 404.

¹²⁷ *Coral Construction*, 941 F.2d at 932 (applying intermediate scrutiny); cf. *Western States Paving Co.*, 407 F.3d at 991 n.6 (no need to conduct a separate analysis of sex-based classifications under intermediate scrutiny because it would not yield a different result from strict scrutiny); *F. Buddie Contracting Ltd., v. Cuyahoga Community College District*, 31 F.Supp.2d. 571, 584 n.18 (N.D. Oh. 1998) (“If Plaintiff had made the requisite showing of imminent harm this Court is convinced that...CCC’s FBE program would likewise fail [as did the MBE program].”).

¹²⁸ *Builders Association of Greater Chicago v. Cook*, 256 F.3d at 644.

¹²⁹ *Aiken v. City of Memphis*, 37 F.3d 1155, 1162 (6th Cir. 1994).

¹³⁰ *Adarand VII*, 228 F.3d at 1166; *Scott*, 199 F.3d at 219.

¹³¹ *Engineering Contractors II*, 122 F3d at 916; see also *West Tennessee Chapter of Associated Builders and Contractors, Inc. v. City of Memphis*, 302 F.Supp.2d 860, 864 (W.D. Tenn. 2004).

¹³² *Concrete Works IV*, 321 F.3d at 989; see also *H.B. Rowe*, 2008 U.S. Dist. Lexis at *27.

¹³³ The plaintiffs in both cases were represented by the same counsel and attempted to rely upon the same consultant.

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failed to present affirmative evidence that no remedial action was necessary because minority-owned small businesses enjoy non-discriminatory access to and participation in highway contracts. Thus, they failed to meet their ultimate burden to prove that the DBE program is unconstitutional on this ground.”¹³⁴

There is no need of formal legislative findings,¹³⁵ nor “an ultimate judicial finding of discrimination before [a local government] can take affirmative steps to eradicate discrimination.”¹³⁶ When the statistical information is sufficient to support the inference of discrimination, the plaintiff must prove that the statistics are flawed.¹³⁷ A plaintiff cannot rest upon general criticisms of studies or other evidence; it must carry the case that the government’s proof is inadequate to meet strict scrutiny, rendering the legislation or governmental program illegal.¹³⁸

E. NEORSD’s Compelling Interest in Remediating Identified Discrimination in Its Contracting Marketplaces

Much of the discussion in the case law has revolved around what type of evidence is sufficiently “strong” to establish the continuing existence and effects of economic discrimination against minorities resulting in diminished opportunities to do business with the government. Proof of the disparate impacts of economic factors on M/WBEs and the disparate treatment of such firms by actors critical to success is necessary to meet strict scrutiny. Discrimination must be shown using statistics and economic models to examine the effects of systems or markets on different groups, as well as by evidence of personal experiences with discriminatory conduct, policies or systems.¹³⁹ Specific evidence of discrimination or its absence may be direct or circumstantial, and should include economic factors and opportunities in the private sector affecting the success of M/WBEs.¹⁴⁰

We first review cases applying strict scrutiny to a race- and gender-conscious program, and then turn to the specific elements of the evidentiary record NEORSD must consider to determine whether it has a strong basis in evidence to adopt a new M/WBE program and how it might narrowly tailor such an initiative.

¹³⁴ *Sherbrooke*, 345 F.3d at 970

¹³⁵ *Webster*, 51 F.Supp2d at 1364.

¹³⁶ *Concrete Works II*, 36 F.3d at 1522.

¹³⁷ *Engineering Contractors II*, 122 F.3d at 916; *Coral Construction*, 941 F.2d at 921.

¹³⁸ *Adarand VII*, 228 F.3d at 1166; *Engineering Contractors II*, 122 F.3d at 916; *Philadelphia III*, 91 F.3d at 597; *Concrete Works II*, 36 F.3d at 1522 1523; *Webster*, 51 F. Supp. 2d at 1364; *see also Wygant*, 476 U.S. at 277-278.

¹³⁹ *Adarand VII*, 228 F.3d at 1166 (“statistical and anecdotal evidence are appropriate”).

¹⁴⁰ *Id.*

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1. Definition of NEORSD's Marketplace

Croson counsels that a state or local government may only remedy discrimination within its own contracting marketplace. Richmond was specifically faulted for including minority contractors from across the country in its program.¹⁴¹ This Study empirically establishes the geographic and product dimensions of the District's contracting and procurement marketplace in order to ensure that the evidence is narrowly tailored.¹⁴²

2. Examining Disparities between M/WBE Availability and Utilization

Next, statistical examination of the availability of minorities and women to participate in the District's projects and the history of utilizing M/WBEs as prime contractors and as subcontractors by the government and its prime contractors is required as part of a disparity study.¹⁴³ Simple disparities between an area's overall minority population and its prime contractors' utilization of minority- and women-owned firms are not enough.¹⁴⁴ The primary inquiry is whether there are statistically significant disparities between the availability of M/WBEs and the utilization of such firms.

Where there is a significant statistical disparity between the number of qualified minority contractors willing and able to perform a particular service and the number of such contractors actually engaged by the locality or the locality's prime contractors, an inference of discriminatory exclusion could arise.... In the extreme case, some form of narrowly tailored racial preference might be necessary to break down patterns of deliberate exclusion.¹⁴⁵

This is known as the "disparity index" or "disparity ratio." A disparity index measures the participation of a group in NEORSD contracting dollars by dividing that group's contract dollar percentage by the related bidder or awardee percentage, and multiplying that result by 100%. Courts have looked to disparity indices in determining whether *Croson's* evidentiary foundation is satisfied.¹⁴⁶ An index less than 100 percent indicates that a given group is being utilized less than would be expected based on its availability, and courts have adopted the Equal Employment Opportunity Commission's "80 percent" rule, that is, that a ratio less than 80 percent presents a *prima facie* case of discrimination.¹⁴⁷

¹⁴¹ 488 U.S. at 508.

¹⁴² *Concrete Works II*, 36 F.3d at 1520 (to confine data to strict geographic boundaries would ignore "economic reality").

¹⁴³ An availability study is a subset of a disparity study, in that statistical evidence of disparities between the difference of availability of M/WBEs and their utilization as prime contractors and subcontractors is not included.

¹⁴⁴ *Croson*, 488 U.S. at 501-02; *Drabik II*, 214 F.3d at 736.

¹⁴⁵ *Croson*, 488 U.S. at 509; see *Webster*, 51 F.Supp.2d at 1363, 1375.

¹⁴⁶ *Id.*; *Scott*, 199 F.3d at 218; *Concrete Works II*, 36 F.3d at 1526-1527; *O'Donnell*, 963 F.2d at 426; *Cone Corp. v. Hillsborough County*, 908 F.2d 908, 916 (11th Cir. 1990), *cert. denied*, 498 U.S. 983 (1990).

¹⁴⁷ *Engineering Contractors II*, 122 F3d at 914.

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Calculations of the availability of minority- and women-owned firms are therefore the crucial foundation for examining the government's compelling interest in pursuing affirmative action in contracting.¹⁴⁸ In addition to creating the disparity index, correct measures of availability are necessary to determine whether discriminatory barriers depress the formation of firms by minorities and women, and the success of such firms in doing business in both the private and public sectors.¹⁴⁹

The agency need not prove that the statistical inferences of discrimination are "correct." In upholding Denver's M/WBE Program, the Tenth Circuit noted that strong evidence supporting Denver's determination that remedial action was necessary need not have been based upon "irrefutable or definitive" proof of discrimination. Statistical evidence creating inferences of discriminatory motivations was sufficient and therefore evidence of marketplace discrimination was properly used to meet strict scrutiny. It is the plaintiff who must prove by a preponderance of the evidence that such proof does not support those inferences.¹⁵⁰

It is also the case that if M/WBEs are "overutilized" because of the entity's program, that does not end the inquiry. Where the government has been implementing affirmative action remedies M/WBE utilization reflects those efforts; it does not signal the end of discrimination. For example, the Tenth Circuit held that Denver's overutilization of M/WBEs on City projects with goals went only to the weight of the evidence because it reflected the effects of a remedial program. Denver presented evidence that goals and non-goals projects were similar in purpose and scope and that the same pool of contractors worked on both types. "Particularly persuasive" was evidence that M/WBE participation declined significantly when the program was amended in 1989. "The utilization of M/WBEs on City projects has been affected by the affirmative action programs that have been in place in one form or another since 1977. Thus, the non-goals data is [sic] the better indicator of discrimination in public contracting" and supports the position that discrimination was present before the enactment of the ordinances."¹⁵¹

3. Unremediated Markets Data

It is also useful to measure M/WBE participation in the absence of affirmative action goals, if such evidence is available. Evidence of race and gender discrimination in relevant "unremediated"¹⁵² markets provides an important indicator of what level of actual M/WBE participation can be expected in the absence of government mandated affirmative efforts to

¹⁴⁸ *Philadelphia III*, 91 F.3d at 603; *Webster*, 51 F.Supp.2d at 1372 (no explanation for the source nor any indicia of the accuracy or reliability of availability figures).

¹⁴⁹ *Webster*, 51 F.Supp.2d at 1372; see *Northern Contracting II*, at *70 (IDOT's custom census approach was supportable because "discrimination in the credit and bonding markets may artificially reduce the number of" M/WBEs).

¹⁵⁰ *Concrete Works IV*, 321 F.3d at 971.

¹⁵¹ *Id.* at 987-988.

¹⁵² "Unremediated market" means "markets that do not have race- or gender-conscious subcontracting goals in place to remedy discrimination." *Northern Contracting II*, at *36.

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contract with M/WBEs.¹⁵³ As the Eleventh Circuit has acknowledged, “the program at issue may itself be masking discrimination that might otherwise be occurring in the relevant market.”¹⁵⁴ The courts are clear that the government has a compelling interest in not financing the evil of private prejudice with public dollars.¹⁵⁵ If M/WBE utilization is below availability in unremediated markets, an inference of discrimination may be supportable. The virtual disappearance of M/WBE participation after programs have been enjoined or abandoned strongly indicates substantial barriers to minority subcontractors, “raising the specter of racial discrimination.”¹⁵⁶ Unremediated markets analysis addresses whether the government has been and continues to be a “passive participant” in such discrimination, in the absence of affirmative action remedies.¹⁵⁷ The results of non-goals contracts can help to demonstrate that, but for the interposition of remedial affirmative action measures, discrimination would lead to disparities in government contracting. The “dramatic decline in the use of M/WBEs when an affirmative action program is terminated, and the paucity of use of such firms when no affirmative action program was ever initiated,” has been held to be proof of the government’s compelling interest in employing race- and gender-conscious measures.¹⁵⁸ Evidence of unremediated markets “sharpens the picture of local market conditions for MBEs and WBEs.”¹⁵⁹

4. Anecdotal Evidence

Anecdotal evidence of experiences with discrimination in contracting opportunities is relevant because it goes to the question of whether observed statistical disparities are due to discrimination and not to some other non-discriminatory cause or causes.¹⁶⁰ As observed by the Supreme Court, anecdotal evidence presented in a pattern or practice discrimination case can be persuasive because it “brought the cold [statistics] convincingly to life”.¹⁶¹ Testimony about discrimination by prime contractors, unions, bonding companies, suppliers, and lenders has been found relevant regarding barriers both to minority firms’ business formation and to their success on governmental projects.¹⁶² While anecdotal evidence is insufficient standing alone, “[p]ersonal accounts of actual discrimination or the effects of discriminatory practices may, however, vividly complement empirical evidence. Moreover, anecdotal evidence of a [government’s] institutional practices that exacerbate discriminatory market conditions are [sic] often particularly

¹⁵³ See, e.g., *Western States*, 407 F.3d at 992 (Congress properly considered evidence of the “significant drop in racial minorities’ participation in the construction industry” after state and local governments removed affirmative action provisions).

¹⁵⁴ *Engineering Contractors II*, 122 F.3d at 912.

¹⁵⁵ See, e.g., *Drabik II*, 214 F.3d at 734-735.

¹⁵⁶ *Adarand VII*, 228 F.3d at 1174.

¹⁵⁷ See also *Philadelphia III*, 91 F.3d at 599-601.

¹⁵⁸ *Builders Association v. Chicago*, 298 F. Supp.2d at 737; see also *Concrete Works IV*, 321 F.3d at 987-988.

¹⁵⁹ *Concrete Works II*, 36 F.3d at 1529.

¹⁶⁰ *Webster*, 51 F.Supp.2d at 1363, 1379.

¹⁶¹ *International Brotherhood of Teamsters v. United States*, 431 U.S. 324, 399 (1977).

¹⁶² *Adarand VII*, 228 F.3d at 1168-1172.

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probative.”¹⁶³ “[W]e do not set out a categorical rule that every case must rise or fall entirely on the sufficiency of the numbers. To the contrary, anecdotal evidence might make the pivotal difference in some cases; indeed, in an exceptional case, we do not rule out the possibility that evidence not reinforced by statistical evidence, as such, will be enough.”¹⁶⁴

There is no requirement that anecdotal testimony be verified or corroborated, as befits the role of evidence in legislative decision-making as opposed to judicial proceedings. “Denver was not required to present corroborating evidence and [plaintiff] was free to present its own witnesses to either refute the incidents described by Denver’s witnesses or to relate their own perceptions on discrimination in the Denver construction industry.”¹⁶⁵

F. Narrowly Tailoring a Minority-Owned and Women-Owned Business Enterprise Procurement Program for NEORSD

1. Race- and Gender-Neutral Remedies

Race- and gender-neutral approaches have become a necessary component of a defensible and effective M/WBE program.¹⁶⁶ The failure to seriously consider race- and gender-neutral remedies has been fatal to M/WBE programs.¹⁶⁷ Such measures include unbundling of contracts into smaller units, providing technical support, and addressing issues of financing, bonding, and insurance important to all small and emerging businesses.¹⁶⁸ Difficulty in accessing procurement opportunities, restrictive bid specifications, excessive experience requirements, and overly burdensome insurance and/or bonding requirements, for example, might be addressed by the District without resort to using race or gender in its decision-making. Further, governments have a duty to ferret out and punish discrimination against minorities and women by their contractors, staff, lenders, bonding companies or others.¹⁶⁹ At a minimum, entities must track the utilization of M/WBE firms as a measure of their success in the bidding process, including as subcontractors.¹⁷⁰

¹⁶³ *Concrete Works II*, 36 F.3d at 1520, 1530.

¹⁶⁴ *Engineering Contractors II*, 122 F.3d at 926.

¹⁶⁵ *Concrete Works IV*, 321 F.3d at 989.

¹⁶⁶ *Croson*, 488 U.S. at 507 (Richmond considered no alternatives to race-based quota); *Drabik II*, 214 F.3d at 738; *Philadelphia III*, 91 F.3d at 609 (City’s failure to consider race-neutral alternatives was particularly telling); *Webster*, 51 F.Supp.2d at 1380 (for over 20 years County never seriously considered race-neutral remedies); cf. *Aiken*, 37 F.3d at 1164 (failure to consider race-neutral method of promotions suggested a political rather than a remedial purpose).

¹⁶⁷ See, e.g., *Florida A.G.C. Council, Inc. v. State of Florida*, Case No.: 4:03-CV-59-SPM at 10 (N. Dist. Fla. 2004) (“There is absolutely no evidence in the record to suggest that the Defendants contemplated race-neutral means to accomplish the objectives” of the statute.); *Engineering Contractors II*, 122 F.3d at 928.

¹⁶⁸ See 49 CFR § 26.51.0

¹⁶⁹ *Croson*, 488 U.S. at 503 n.3; *Webster*, 51 F.Supp.2d at 1380.

¹⁷⁰ See, e.g., *Virdi*, at n.8.

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However, strict scrutiny does not require that every race-neutral approach must be implemented and then proven ineffective before race-conscious remedies may be utilized.¹⁷¹ While an entity must give good faith consideration to race-neutral alternatives, “strict scrutiny does not require exhaustion of every possible such alternative...however irrational, costly, unreasonable, and unlikely to succeed such alternative might be.... [S]ome degree of practicality is subsumed in the exhaustion requirement.”¹⁷²

2. Targeted Goal Setting

Numerical goals or benchmarks for M/WBE participation must be substantially related to their availability in the relevant market.¹⁷³ Goals can be set at various levels of particularity and participation. The entity may set an overall, aspirational goal for its annual, aggregate spending.

One unanswered question is whether goals or benchmarks for overall agency contracting may be set higher than estimates of actual current availability. To freeze the goals at current head counts would set the results of discrimination — depressed M/WBE availability — as the marker of the elimination of discrimination. It therefore should be reasonable for the government to seek to attempt to level the racial and gender playing field by setting targets somewhat higher than current headcount. In upholding the DBE regulations, the Tenth Circuit stated that

because Congress has evidence that the effects of past discrimination have excluded minorities from the construction industry and that the number of available minority subcontractors reflects that discrimination, the *existing* percentage of minority-owned businesses is not necessarily an absolute cap on the percentage that a remedial program might legitimately seek to achieve. Absolute proportionality to overall demographics is an unreasonable goal. However, *Croson* does not prohibit setting an aspirational goal above the current percentage of minority-owned businesses that is substantially below the percentage of minority persons in the population as a whole. This aspirational goal is reasonably construed as narrowly tailored to remedy past discrimination that has resulted in homogenous ownership within the industry. It is reasonable to conclude that allocating more than 95% of all federal contracts to enterprises owned by non-minority persons, or more than 90% of federal transportation contracts to enterprises owned by non-minority males, is in and of itself a form of passive participation in discrimination that Congress is entitled to seek to avoid. *See Croson*, 488 U.S. at 492 (Op. of O’Connor, J.).¹⁷⁴

At least one court has recognized that goal setting is not an absolute science. In holding the DBE regulations to be narrowly tailored, the Eighth Circuit noted that “[t]hrough the underlying estimates may be inexact, the exercise requires the States to focus on establishing realistic goals

¹⁷¹ *Grutter*, 529 U.S. at 339.

¹⁷² *Coral Construction*, 941 F.2d at 923.

¹⁷³ *Webster*, 51 F.Supp.2d at 1379, 1381 (statistically insignificant disparities are insufficient to support an unexplained goal of 35 percent M/WBE participation in County contracts); *see also Baltimore I*, 83 F.Supp.2d at 621.

¹⁷⁴ *Adarand VII*, 228 F.3d at 1181 (emphasis in the original).

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for DBE participation in the relevant contracting markets. This stands in stark contrast to the program struck down in *Croson*.¹⁷⁵ “On the other hand, sheer speculation cannot form the basis for an enforceable measure.”¹⁷⁶

It is settled case law that goals for a particular solicitation should reflect the particulars of the contract, not reiterate annual aggregate targets; goals must be contract specific. Contract goals must be based upon availability of M/WBEs to perform the anticipated scopes of subcontracting. Not only is this legally mandated,¹⁷⁷ but also this approach reduces the need to conduct good faith efforts reviews as well as the temptation to create “front” companies and sham participation to meet unreasonable contract goals. While this is more labor intensive than defaulting to the annual, overall goals, there is no option to avoid meeting narrow tailoring because to do so would be more burdensome. The detailed availability estimates in Chapter IV can form the starting point for the District’s development of contract goals.

3. Flexibility of Goals and Requirements

Quotas are not defensible. The District must provide a waiver procedure, and contracts must be awarded to firms that make good faith efforts to meet contract goals. Further, firms who meet the goals cannot be favored over those who made good faith efforts.¹⁷⁸

4. Program Beneficiaries

Based upon the Study, NEORSO must determine which groups to include, how to define those groups, and which persons will be eligible to be included within those groups.

First, the groups to include must be based upon the totality of the evidence.¹⁷⁹ However, at least one court has held some quantum of evidence of discrimination for each group is sufficient; *Croson* does not require that each group included in the ordinance suffer equally from discrimination.¹⁸⁰

The next question is the level of aggregation at which overall annual and contract goals will be set. Approaches ranging from a single M/WBE or DBE goal that includes all racial and ethnic minorities and non-minority women,¹⁸¹ to separate goals for each minority group and women

¹⁷⁵ *Sherbrooke*, 345 F.3d at 972.

¹⁷⁶ *Id.* (complete absence of evidence for 12-15 percent DBE goal); *see also BAGC v. Chicago*, 298 F.Supp.2d at 740 (City’s MBE and WBE goals were “formulistic” percentages not related to the availability of firms).

¹⁷⁷ *See Sherbrooke*, 345 F.3d at 972; *Coral Construction*, 941 F.2d at 924.

¹⁷⁸ 488 U.S. at 508; *see also Adarand VII*, 228 F.3d at 1181; *Sherbrooke*, 345 F.3d at 972.

¹⁷⁹ *Philadelphia II*, 6 F.3d at 1007 (strict scrutiny requires data for each minority group; data was insufficient to include Hispanics, Asians or Pacific Islanders or Native Americans); *cf. Jacksonville*, 508 U.S. at 660-661 (new ordinance narrowed to Blacks and women).

¹⁸⁰ *Concrete Work IV*, 321 F.3d at 9761.

¹⁸¹ *See* 49 CFR §26.45(h) (overall goal must not be subdivided into group-specific goals).

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have been upheld.¹⁸² While greater disaggregation arguably provides a closer “fit” between the goals and the evidence, it also is much more burdensome on prime bidders.

Third, the District should ensure that program eligibility is limited to small firms owned by socially and economically disadvantaged persons. This means that there must be some sort of ceiling on the personal net worth of the disadvantaged owner and a size limit on the firm seeking certification.

Finally, the rebuttable presumptions of social and economic disadvantage established by the Study must be subject to challenge by anyone.¹⁸³

5. Sharing of the Burden by Third Parties

Over-reliance on race- and gender-conscious contract goals may result in a finding that the program unduly burdens non-M/WBEs.¹⁸⁴ NEORSD should consider methods to increase opportunities for M/WBEs to perform as prime contractors, thereby shifting some of the achievement of the annual goals to prime awards and reducing the burden of the Program on non-M/WBE subcontractors through reduced contract goals. However, non-M/WBEs may share some of the burden of correcting the market failure of discrimination (from which they arguably have benefited). Effective remedies are not costless.

6. Duration and Review of the Program

As the Sixth Circuit has held, the District must provide for regular review of any new race- and gender-conscious Program and adopt a date by which the Program will sunset unless there is a strong basis in evidence to continue it.¹⁸⁵ The District must also review the efficacy of the remedies to ensure that they are targeted towards the current effects of discrimination and marketplace realities. As recently reiterated by the Eleventh Circuit, the “unlimited duration of the [District’s] racial goals also demonstrates a lack of narrow tailoring... While the District’s effort to avoid unintentional discrimination should certainly be ongoing, its reliance on racial classifications should not.”¹⁸⁶

G. Table of Authorities

1. Cases

Adarand Constructors, Inc. v. Peña, 515 U.S. 200 (1995) (“*Adarand III*”).

¹⁸² See *Engineering Contractors II*, 122 F.3d at 900 (separate goals for Blacks, Hispanics and women).

¹⁸³ 49 CFR §26.87.

¹⁸⁴ See *Engineering Contractors I*, 943 F.Supp. at 1581-1582 (County chose not to change its procurement system).

¹⁸⁵ *Buddie*, 31 F.Supp. 2d at 583 (program was not narrowly tailored in part because it had no time limit).

¹⁸⁶ *Virdi*, at *18.

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Adarand Constructors, Inc. v. Peña, 965 F.Supp. 1556 (D. Colo. 1997), *rev'd*, 228 F.3d 1147 (2000) (“*Adarand IV*”).

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Coalition for Economic Equity v. Wilson, 122 F.3d 692, 701 (9th Cir. 1997).

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Concrete Works of Colorado, Inc. v. City and County of Denver, 321 F.3d 950, *cert. denied*, 540 U.S. 1027 (2003) (10th Cir. 2003) (“*Concrete Works IV*”).

Cone Corporation v. Hillsborough County, 908 F.2d 909 (11th Cir. 1990).

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Contractors Association of Eastern Pennsylvania v. City of Philadelphia, 6 F.3d 990 (3rd Cir. 1993) (“*Philadelphia II*”).

Contractors Association of Eastern Pennsylvania v. City of Philadelphia, 91 F.3d 586 (3rd Cir. 1996) (“*Philadelphia III*”).

Coral Construction Co. v. King County, 941 F.2d 910 (9th Cir. 1991).

Engineering Contractors Assoc. of South Florida, Inc. v. Metropolitan Dade County, 943 F.Supp. 1546 (S.D. Fla. 1996) (“*Engineering Contractors I*”).

Engineering Contractors Association of South Florida, Inc. v. Metropolitan Dade County, 122 F.3d 895 (11th Cir. 1997) (“*Engineering Contractors II*”).

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III. Defining the Relevant Markets

A. Preparing the Master Contract/Subcontract Database

The U.S. Supreme Court in *Croson* indicated that the U.S. Congress' *national* findings of minority business discrimination in construction and related industries were not specific enough, standing alone, to support a MBE program in the City of Richmond. According to the Court, "[t]he probative value of these findings for demonstrating the existence of discrimination in Richmond is extremely limited."¹⁸⁷ To support its conclusion, the Court noted that the federal DBE program, by including waivers and other provisions whereby DBE affirmative action requirements could be relaxed under certain conditions, "explicitly recognized that the scope of the problem would vary from market area to market area."¹⁸⁸

The first step, therefore, in our evaluation of M/WBE availability and participation for NEORS D must be to define the relevant market area for its Construction, Construction-related Professional Services, Services, and Commodities procurement.¹⁸⁹ Markets have both a product and a geographic dimension, both of which are considered.¹⁹⁰ For this Study, we define the District's market area based on its own historical contracting and subcontracting records. We define the geographic market dimension by calculating from zip code data where the majority of the District's contractors and subcontractors are located, and we define the product market dimension by estimating which North American Industrial Classification System (NAICS) codes best describe each identifiable contractor, consultant, subcontractor, subconsultant, or supplier in those records.¹⁹¹ In both cases, the definitions are weighted according to how many dollars were spent with firms from each NAICS code so that industries receiving relatively more contracting dollars receive relatively more weight in the estimation of M/WBE availability. Once the geographic and industry parameters of the District's market area have been defined, we can restrict our subsequent analyses to business enterprises and other phenomena within this market area. Restricting our analyses in this manner narrowly tailors our findings to the District's specific market area and contracting circumstances.

¹⁸⁷ *Croson*, 488 U.S. at 504.

¹⁸⁸ *Id.* Since *Croson* concerned a challenge to local program while *Fullilove* concerned a challenge to a federal program, the *Croson* ruling did not directly affect the federal government's array of DBE programs. In the summer of 1995, a 5-4 Supreme Court majority in *Adarand* extended strict scrutiny to the federal government as well, thus formally overturning the *Fullilove* decision.

¹⁸⁹ Although Part 26 and Part 23 do not require that recipients establish the presence of discrimination in their individual markets, determining M/WBE availability and utilization are necessary to narrowly tailor their programs. See 49 CFR § 26.45(c).

¹⁹⁰ See, for example, Areeda, Phillip, and Louis Kaplow, *Antitrust Analysis: Problems, Text, Cases*, New York: Aspen Publishers, 6th Edition, 2004.

¹⁹¹ Executive Office of the President, Office of Management and Budget, *North American Industrial Classification system: United States, 2007I*, Lanham, MD: Bernan, 2007.

Defining the Relevant Markets

1. NEORSD Contracting and Procurement

With assistance from NEORSD, NERA collected contract and purchase order data for the District's Construction, Construction-related professional services ("CRS"),¹⁹² Other Professional and General Services ("Services"), and Commodities, Supplies, and Equipment contracts ("Commodities") that were active between January 2004 and December 2008.

For each contract or purchase order from the study period, we obtained available data from the District including the prime contractor name and address, contract or purchase description, contract or purchase order number, contractor gender and ethnicity, contract award or purchase date, and total contracted dollar amount.

During the five-year study period, there were 23,010 NEORSD contracts and purchase orders, as shown in Table 3.A:

Table 3.A. Distribution of District Contracts and Purchase Orders by Procurement Category and Subcontractable Opportunities, 2004-2008

Procurement Category	Frequency	Percent	Cumulative
CONSTRUCTION	313	1.36	1.36
CRS	120	0.52	1.88
SERVICES	4,943	21.48	23.36
COMMODITIES	17,634	76.64	100.00
Total	23,010	100.00	

Of these 23,010 contracts and purchase orders, 76.6 percent were for Commodities, which typically do not have subcontracting opportunities. The remaining 23.4 percent (*i.e.* purchases in Construction, CRS, and Services) do typically have subcontracting opportunities. As shown above, 1.4 percent of these were for Construction; 0.5 percent were for CRS; and 21.5 percent were for Services.

Although the vast majority of the *number* of contracts and purchase orders issued by NEORSD during the study period were for Commodities, such purchases accounted for only 11 percent of the *dollars* awarded during the study period. As shown in Table 3B, Construction contracts accounted for 53 percent of all NEORSD dollars awarded during the study period, followed by CRS contracts, at 22 percent, and Services, at 14 percent.

Table 3B also shows the average and median sizes of contracts and purchase orders during the study period in each of the major procurement categories.¹⁹³

¹⁹² Construction-related professional services includes engineering services, architectural services, construction management services, testing services, environmental consulting services, and other construction-related consulting services.

¹⁹³ The median is the middle value of a series of numbers. For example, the median value of Construction contracts of \$6,100 means that half of the contracts during the study period were larger than \$6,100, and half were smaller.

Table 3.B. Total Dollar Value, Average Size, and Median Size of District Contracts and Purchase Orders by Procurement Category, 2004–2008

Procurement Category	Total (\$)	Average Size (\$)	Median Size (\$)
CONSTRUCTION	200,591,730	640,868	6,100
CRS	82,296,429	685,804	235,578
SERVICES	51,741,285	10,468	987
COMMODITIES	40,146,392	2,277	615
Total	374,775,836	16,288	672

In the categories of Construction and CRS, the District has maintained records of subcontracting activity during the study period sufficient for the disparity study assessment, and including both M/WBE and non-M/WBE subcontractors, subconsultants, and suppliers (collectively, “subcontractors”).¹⁹⁴

In the category of Services, however, the District has not maintained records of subcontracting activity during the study period sufficient for the disparity study assessment, particularly for non-M/WBE subcontractors. It was therefore necessary to obtain this missing information directly from the relevant prime contractors.¹⁹⁵ There were 263 Services contracts and purchase orders in excess of \$25,000 for which we sought to obtain missing subcontract information.¹⁹⁶

After an intensive data collection effort and with the assistance of District personnel, we were ultimately able to obtain the associated subcontract information, or verify that subcontracting did not occur, for 251 of the 263 (95.4%) Services contracts and purchase orders for which we sought information. These 251 contracts accounted for \$38,658,340 (96.7%) of the total dollar value of these contracts of \$39,963,964.

The final database of contracts and subcontracts to be used for the study contains 23,010 prime contracts or purchase orders and 1,061 associated subcontracts with a total dollar value of \$374.78 million. Together, as shown below in Tables 3.1 and 3.2, these prime contracts and subcontracts comprise the Master Contract/Subcontract Database compiled for this Study. Table 3.1 shows total number of prime contracts, subcontracts, and contract dollars awarded, by major procurement category. Table 3.2 shows the total number of prime contracts awarded during each year of the study period and total dollar awards associated with those contracts, by major procurement category. Table 3.3 shows a similar distribution among the District Budget Centers included in the study.

¹⁹⁴ Most public entities fall short here. The District is one of a handful, among all our clients over the years, that has maintained adequate subcontract records for non-M/WBEs as well as M/WBEs.

¹⁹⁵ It was not necessary to do the same for Commodities contracts and purchase orders since these typically do not have any subcontracting opportunities.

¹⁹⁶ We did not seek this information for contracts under \$25,000, the District’s threshold for small contracts. Due to their small size such contracts rarely have subcontracting. We also excluded contracts with non-profit organizations or with other public sector organizations.

Defining the Relevant Markets

B. Geographic Market Definition for Contracting and Procurement

To determine the geographic dimension of the District's contracting and procurement markets, we used the Master Contract/Subcontract Database, as described in the previous section, to obtain the zip codes and thereby the county and state for each contractor and subcontractor identified in our sample. Using this location information, we then calculated the percentage of NEORS contract and subcontract dollars awarded to businesses by state, metropolitan area, and county during the study period.

As discussed above, the geographic market area is defined as that region which accounts for at least 75 percent of overall contracting and procurement spending by a given government entity.

There are five Core Based Statistical Areas (CBSA) that collectively and adjacently cover Northeast Ohio. They are the: (1) Cleveland-Elyria-Mentor, OH Metropolitan Statistical Area, (2) Akron, OH Metropolitan Statistical Area, (3) Canton-Massillon, OH Metropolitan Statistical Area, (4) Youngstown-Warren, OH Metropolitan Statistical Area, and (5) the Ashtabula, OH Micropolitan Statistical Area. Contractors located within these five Northeast Ohio CBSAs account for the vast majority of contracting and procurement expenditures by NEORS and its prime contractors during the study period.

As shown in Table 3.4, the overall share of expenditures inside this market area is 84.0 percent of dollars awarded and 84.1 percent of dollars paid. The share is highest in CRS (90.1 and 87.7 percent, respectively) and lowest in Commodities (64.9 and 65.8 percent, respectively). For purposes of this Study, we therefore define the primary geographic market area to be the five CBSAs identified above, and hereafter referred to as the "NEORS market area."

Outside the market area, regions with a significant amount of spending activity included Franklin County, Ohio in Construction and Hamilton County, Ohio in Services.¹⁹⁷

C. Product Market Definition for Contracting and Procurement

Using the major procurement categories for each prime contract and the primary NAICS codes assigned by NERA to each prime contractor and subcontractor in the Master Contract/Subcontract Database, we identified the most important Industry Sub-sectors within each contracting and procurement category, as measured by total dollars awarded.¹⁹⁸

The relevant NAICS codes and their associated dollar weights appear below in Tables 3.5 through 3.8, for Construction, CRS, Services, and Commodities, respectively. These four main procurement categories (Construction, CRS, Services, and Commodities) were assigned based on the District's own prime contract data for the study period. It is clear from these four tables that, although numerous Industry Sub-sectors play a role in the District's contracting activities, actual

¹⁹⁷ We define "significant" here, somewhat arbitrarily, as counties that accounted for more than approximately 0.25% of total spending among three or more vendors.

¹⁹⁸ Calculations were also made using dollars paid as the measure. The results, not shown here, were very similar.

contracting and subcontracting opportunities are not distributed evenly among them. The distribution of contract expenditures is, in fact, highly skewed.

In Construction, for example, we see from Table 3.5 that one Industry Sub-sector alone (NAICS 237) accounts for almost half of all contract spending spent and two Sub-sectors account for more than two-thirds percent, with the remaining amount distributed among 30 additional Industry Sub-sectors. In CRS (Table 3.6), we see an even more concentrated pattern—one Industry Sub-sector (NAICS 541) accounts for over 90 percent of all contract spending. In Services, four Sub-sectors (NAICS 541, 423, 484, and 561) account for two-thirds of all contract spending and 12 Sub-sectors together account over 90 percent. In Commodities, two Sub-sectors (NAICS 423 and 325) together account for more than half of all spending and five Sub-sectors together account for almost four-fifths.

Each Industry Sub-sector (three-digit NAICS) identified in Tables 3.5 through 3.8 consists of several more detailed Industry Groups (four-digit NAICS) and Industries (five-digit and six-digit NAICS). Overall, NEORSD contracting expenditures during the study period occur in 70 NAICS Industry Sub-sectors, 173 NAICS Industry Groups, and 342 NAICS Industries.

In Construction, NEORSD contract spending occurs across 32 NAICS Industry Sub-sectors, 61 NAICS Industry Groups, and 107 NAICS Industries. In CRS, NEORSD contract spending occurs across 13 NAICS Industry Sub-sectors, 20 NAICS Industry Groups, and 29 NAICS Industries. In Services, NEORSD contract spending occurs across 64 NAICS Industry Sub-sectors, 144 NAICS Industry Groups, and 263 NAICS Industries. In Commodities, NEORSD contract spending occurs across 48 NAICS Industry Sub-sectors, 110 NAICS Industry Groups, and 206 NAICS Industries.

The resulting percentage weights from these NAICS Industries are used below in Chapter IV to calculate average M/WBE availability figures for Construction, CRS, Services, and Commodities.¹⁹⁹

Now that the geographic and industry parameters of the District's contracting and procurement market area have been established, we will restrict our subsequent analyses, in Chapter IV and beyond, to business enterprises and other phenomena within this specific market area so as to narrowly tailor our findings to the District's specific contracting circumstances.

¹⁹⁹ The percentage weights are re-normalizing to sum to 100.

Defining the Relevant Markets

D. Tables

Table 3.1. Summary of Master Contract/Subcontract Database: Prime Contracts and Subcontracts by Procurement Category, 2004-2008

CONTRACT CATEGORY	NUMBER OF CONTRACTS	DOLLARS AWARDED	DOLLARS PAID
<i>CONSTRUCTION</i>		200,591,730	177,566,364
<i>Prime Contracts</i>	313	124,952,151	110,218,256
<i>Subcontracts</i>	586	75,639,579	67,348,108
<i>CRS</i>		82,296,429	59,129,273
<i>Prime Contracts</i>	120	53,501,849	35,816,088
<i>Subcontracts</i>	337	28,794,580	23,313,185
<i>SERVICES</i>		51,741,285	44,716,333
<i>Prime Contracts</i>	4,943	47,326,487	40,362,662
<i>Subcontracts</i>	138	4,414,798	4,353,671
<i>COMMODITIES</i>		40,146,392	24,417,972
<i>Prime Contracts</i>	17,634	40,146,392	24,417,972
<i>Subcontracts</i>	0	0	0
<i>GRAND TOTAL</i>		374,775,836	305,829,943
<i>Prime Contracts</i>	23,010	265,926,879	210,814,978
<i>Subcontracts</i>	1,061	108,848,957	95,014,965

Source: NERA calculations from Master Contract/Subcontract Database. Note: Prime Contract dollar amounts are net of subcontract amounts.

Table 3.2. Summary of Master Contract/Subcontract Database: Prime Contracts by Year of Award

PROCUREMENT CATEGORY & YEAR OF AWARD	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED	DOLLARS PAID
<i>CONSTRUCTION</i>			
2004	129	41,653,589	40,375,249
2005	44	56,239,839	56,482,505
2006	41	26,482,939	25,057,010
2007	60	34,632,183	31,827,481
2008	39	41,583,180	14,288,601
TOTAL	313	200,591,730	168,030,845
<i>CRS</i>			
2004	10	10,637,793	9,047,043
2005	22	19,051,851	17,585,069
2006	36	36,850,796	22,554,657
2007	23	8,457,157	6,392,446
2008	29	7,298,832	1,941,027
TOTAL	120	82,296,429	57,520,242
<i>SERVICES</i>			
2004	1268	4,102,391	3,680,544
2005	969	10,643,044	8,588,816
2006	898	6,810,424	6,184,647
2007	1030	15,945,452	13,495,216
2008	778	14,239,974	11,807,396
TOTAL	4943	51,741,285	43,756,619

Defining the Relevant Markets

PROCUREMENT CATEGORY & YEAR OF AWARD	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED	DOLLARS PAID
<i>COMMODITIES</i>			
2004	2883	4,266,444	3,102,192
2005	4567	11,090,089	7,297,527
2006	4278	8,112,547	5,235,762
2007	3785	8,791,441	5,259,841
2008	2121	7,885,871	3,522,649
TOTAL	17634	40,146,392	24,417,972
<i>ALL</i>			
2004	4290	60,660,218	56,205,028
2005	5602	97,024,823	89,953,918
2006	5253	78,256,707	59,032,075
2007	4898	67,826,232	56,974,984
2008	2967	71,007,856	31,559,673
TOTAL	23010	374,775,836	293,725,679

Source: See Table 3.1.

Table 3.3. Summary of Master Contract/Subcontract Database: Prime Contracts by Budget Center

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED	DOLLARS PAID
<i>CONSTRUCTION</i>	313	200,591,730	177,566,364
Administrative Services (6300)	5	1,066	910
Easterly WWTP (1300)	18	7,234	5,633
Engineering & Construction (9000)	60	189,434,772	168,674,091
Maintenance Services (1400)	38	48,843	39,981
Sewer Systems M & O (1500)	107	3,508,041	2,072,362
Southerly WWTP (1100)	31	33,451	31,627
Unspecified (0000)	39	7,534,101	6,721,154
Westerly WWTP (1200)	15	24,221	20,606
<i>CRS</i>	120	82,296,429	59,129,273
Engineering & Construction (9000)	120	82,296,429	59,129,273
<i>SERVICES</i>	4,493	51,741,285	44,716,333
Administration & External Affairs (5000)	467	1,037,890	935,030
Administrative Services (6300)	775	2,702,611	2,167,885
Analytical Services (1900)	239	599,025	372,723
Building Maintenance (1700)	5	5,180	4,429
District Administration (8000, 8100)	275	2,851,640	2,599,174
Easterly WWTP (1300)	221	5,311,007	4,877,854
Engineering & Construction (9000)	68	1,401,902	1,323,366
Environmental Services (1800)	126	456,730	271,718
Finance Admin. (6000, 6100, 6200, 6400)	132	2,453,455	2,341,894
Fleet Services (1600)	545	597,746	519,932
Human Resources (2000, 2100)	235	3,318,880	2,806,452
Information Technology (3000)	264	5,424,221	4,833,952
Legal (7000)	91	7,158,806	6,993,584
Maintenance Services (1400)	339	899,448	785,512
Operation Administration (1000)	12	83,949	50,150
Sewer Systems M & O (1500)	233	1,595,217	1,264,078
Southerly WWTP (1100)	666	13,803,646	11,067,674
Unspecified (0000)	21	232,723	193,165
Westerly WWTP (1200)	229	1,807,208	1,307,762

Defining the Relevant Markets

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED	DOLLARS PAID
<i>COMMODITIES</i>	17,634	40,146,392	24,417,972
Administration & External Affairs (5000)	14	23,692	22,020
Administrative Services (6300)	1,270	1,211,775	883,045
Analytical Services (1900)	662	797,567	509,206
Building Maintenance (1700)	36	38,563	17,600
District Administration (8000, 8100)	59	32,236	17,141
Easterly WWTP (1300)	1,720	7,518,562	3,564,734
Engineering & Construction (9000)	59	60,761	41,132
Environmental Services (1800)	130	302,261	264,107
Finance Admin. (6000, 6100, 6200, 6400)	39	27,319	23,553
Fleet Services (1600)	1,047	1,146,731	673,863
Human Resources (2000, 2100)	55	67,128	47,976
Information Technology (3000)	120	784,950	576,533
Maintenance Services (1400)	3,476	3,905,820	2,641,470
Operation Administration (1000)	79	239,528	102,570
Sewer Systems M & O (1500)	367	645,127	390,613
Southerly WWTP (1100)	5,925	16,325,901	9,978,023
Unspecified (0000)	19	2,870,084	2,432,166
Westerly WWTP (1200)	2,557	4,148,389	2,232,221
<i>OVERALL</i>	23,010	374,775,836	305,829,943
Administration & External Affairs (5000)	481	1,061,582	957,050
Administrative Services (6300)	2,050	3,915,452	3,051,841
Analytical Services (1900)	901	1,396,592	881,928
Building Maintenance (1700)	41	43,743	22,029
District Administration (8000, 8100)	334	2,883,876	2,616,315
Easterly WWTP (1300)	1,959	12,836,803	8,448,221
Engineering & Construction (9000)	307	273,193,864	229,167,861
Environmental Services (1800)	256	758,990	535,825
Finance Admin. (6000, 6100, 6200, 6400)	171	2,480,774	2,365,446
Fleet Services (1600)	1,592	1,744,477	1,193,795
Human Resources (2000, 2100)	290	3,386,008	2,854,428
Information Technology (3000)	384	6,209,171	5,410,485
Legal (7000)	91	7,158,806	6,993,584

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DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED	DOLLARS PAID
Maintenance Services (1400)	3,853	4,854,111	3,466,964
Operation Administration (1000)	91	323,477	152,720
Sewer Systems M & O (1500)	707	5,748,386	3,727,053
Southerly WWTP (1100)	6,622	30,162,999	21,077,325
Unspecified (0000)	79	10,636,907	9,346,485
Westerly WWTP (1200)	2,801	5,979,818	3,560,589

Source: See Table 3.1.

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Table 3.4. Distribution of District Contracting and Procurement Dollars by Geographic Location

Location	Construction (%)	CRS (%)	Services (%)	Commodities (%)	Overall (%)
	Award Dollars				
Inside NEORSD Market Area	87.3	90.1	76.6	64.9	84.0
Outside NEORSD Market Area	12.7	9.9	23.4	35.1	16.0
Inside Ohio	94.1	92.6	86.4	69.0	90.0
Outside Ohio	5.9	7.4	13.6	31.0	10.0
	Paid Dollars				
Inside NEORSD Market Area	87.6	87.7	75.5	65.8	84.1
Outside NEORSD Market Area	12.4	12.3	24.5	34.2	15.9
Inside Ohio	95.2	91.3	86.0	69.9	91.1
Outside Ohio	4.8	8.7	14.0	30.1	8.9

Source: See Table 3.1.

Table 3.5. Distribution of Contract and Subcontract Dollars Awarded by Industry Sub-sector: Construction

NAICS Sub-sector	NAICS Description	Percentage	Cumulative Percentage
237	Heavy and Civil Engineering Construction	45.23	45.23
238	Specialty Trade Contractors	24.03	69.25
236	Construction of Buildings	9.66	78.91
423	Merchant Wholesalers, Durable Goods	6.47	85.39
334	Computer and Electronic Product Manufacturing	2.85	88.24
561	Administrative and Support Services	2.84	91.08
562	Waste Management and Remediation Services	1.75	92.83
424	Merchant Wholesalers, Nondurable Goods	1.25	94.08
327	Nonmetallic Mineral Product Manufacturing	1.06	95.14
221	Utilities	0.94	96.08
484	Truck Transportation	0.94	97.02
541	Professional, Scientific, and Technical Services	0.72	97.74
326	Plastics and Rubber Products Manufacturing	0.61	98.34
532	Rental and Leasing Services	0.43	98.77
332	Fabricated Metal Product Manufacturing	0.42	99.19
	Remaining Balance (17 industry sub-sectors)	0.81	100.00
	<i>TOTAL - \$200,591,730</i>		

Source: See Table 3.1.

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Table 3.6. Distribution of Contract and Subcontract Dollars Awarded by Industry Sub-sector: CRS

NAICS Sub-sector	NAICS Description	Percentage	Cumulative Percentage
541	Professional, Scientific, and Technical Services	92.30	92.30
611	Educational Services	2.44	94.73
561	Administrative and Support Services	2.11	96.84
423	Merchant Wholesalers, Durable Goods	1.58	98.42
236	Construction of Buildings	0.88	99.30
	Remaining Balance (8 industry sub-sectors)	0.70	100.00
	<i>TOTAL - \$82,296,429</i>		

Source: See Table 3.1.

Table 3.7. Distribution of Contract and Subcontract Dollars Awarded by Industry Sub-sector: Services

NAICS Sub-sector	NAICS Description	Percentage	Cumulative Percentage
541	Professional, Scientific, and Technical Services	27.16	27.16
423	Merchant Wholesalers, Durable Goods	16.24	43.40
484	Truck Transportation	14.96	58.36
561	Administrative and Support Services	7.39	65.75
334	Computer and Electronic Product Manufacturing	5.79	71.53
236	Construction of Buildings	4.80	76.33
511	Publishing Industries (except Internet)	3.29	79.62
238	Specialty Trade Contractors	2.87	82.50
562	Waste Management and Remediation Services	2.59	85.08
333	Machinery Manufacturing	2.00	87.08
237	Heavy and Civil Engineering Construction	1.61	88.69
812	Personal and Laundry Services	1.34	90.03
811	Repair and Maintenance	1.33	91.37
532	Rental and Leasing Services	1.29	92.65
518	Data Processing, Hosting and Related Services	0.82	93.48
325	Chemical Manufacturing	0.59	94.07
323	Printing and Related Support Activities	0.59	94.66
531	Real Estate	0.59	95.25
525	Funds, Trusts, and Other Financial Vehicles	0.58	95.83
448	Clothing and Clothing Accessories Stores	0.58	96.41
524	Insurance Carriers and Related Activities	0.55	96.96
424	Merchant Wholesalers, Nondurable Goods	0.34	97.31
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	0.28	97.59
441	Motor Vehicle and Parts Dealers	0.27	97.86
512	Motion Picture and Sound Recording Industries	0.25	98.12
332	Fabricated Metal Product Manufacturing	0.23	98.34
611	Educational Services	0.18	98.53
335	Electrical Equipment, Appliance, and Component Manufacturing	0.15	98.68
444	Building Material and Garden Equipment and Supplies Dealers	0.14	98.82
493	Warehousing and Storage	0.13	98.95

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NAICS Sub-sector	NAICS Description	Percentage	Cumulative Percentage
442	Furniture and Home Furnishings Stores	0.11	99.06
	Remaining Balance (33 industry sub-sectors)	0.94	100.00
	<i>TOTAL - \$51,741,285</i>		

Source: See Table 3.1.

Table 3.8. Distribution of Contract and Subcontract Dollars Awarded by Industry Sub-sector: Commodities

NAICS Sub-sector	NAICS Description	Percentage	Cumulative Percentage
423	Merchant Wholesalers, Durable Goods	38.60	38.60
325	Chemical Manufacturing	14.10	52.70
424	Merchant Wholesalers, Nondurable Goods	11.02	63.72
238	Specialty Trade Contractors	8.91	72.63
333	Machinery Manufacturing	7.20	79.83
541	Professional, Scientific, and Technical Services	3.25	83.08
334	Computer and Electronic Product Manufacturing	2.99	86.07
562	Waste Management and Remediation Services	2.12	88.19
444	Building Material and Garden Equipment and Supplies Dealers	1.83	90.02
237	Heavy and Civil Engineering Construction	1.17	91.19
811	Repair and Maintenance	1.15	92.34
511	Publishing Industries (except Internet)	1.02	93.36
335	Electrical Equipment, Appliance, and Component Manufacturing	0.79	94.14
561	Administrative and Support Services	0.72	94.87
332	Fabricated Metal Product Manufacturing	0.71	95.57
488	Support Activities for Transportation	0.60	96.18
442	Furniture and Home Furnishings Stores	0.43	96.61
331	Primary Metal Manufacturing	0.43	97.04
441	Motor Vehicle and Parts Dealers	0.36	97.40
491	Postal Service	0.35	97.74
492	Couriers and Messengers	0.29	98.04
326	Plastics and Rubber Products Manufacturing	0.24	98.28
453	Miscellaneous Store Retailers	0.24	98.52
531	Real Estate	0.23	98.76
532	Rental and Leasing Services	0.19	98.95
443	Electronics and Appliance Stores	0.16	99.11
	Remaining Balance (22 industry sub-sectors)	0.82	100.00
	<i>TOTAL - \$40,146,392</i>		

Source: See Table 3.1.

IV. M/WBE Availability in the District's Marketplace

A. Identifying Businesses in the Relevant Markets

M/WBE availability (unweighted) is defined as the number of M/WBEs divided by the total number of businesses in the District's contracting market area—what we will refer to as the Baseline Business Universe.²⁰⁰ Determining the total number of businesses in the relevant markets, however, is more straightforward than determining the number of minority- or women-owned businesses in those markets. The latter task has three main parts: (1) identify all listed M/WBEs in the relevant market; (2) verify the ownership status of listed M/WBEs; and (3) estimate the number of unlisted M/WBEs in the relevant market. This section describes how these tasks were accomplished for NEORS.

It is important to note that NERA's availability analysis is free from variables tainted by discrimination. Our approach recognizes that discrimination may impact many of the variables that contribute to a firm's success in obtaining work as a prime or a subcontractor. Factors such as firm size, time in business, qualifications, and experience are all adversely affected by discrimination if it is present in the marketplace. Despite the obvious relationship, some commentators argue that disparities should only be assessed between firms with similar "capacities."²⁰¹ However, the courts in our view have properly refused to make the results of discrimination the benchmarks for non-discrimination.²⁰² They have acknowledged that M/WBEs may be smaller, newer, and otherwise less competitive than non-M/WBEs because of the very discrimination sought to be remedied by race-conscious contracting programs. Racial and gender differences in these "capacity" factors are the *outcomes* of discrimination and it is therefore inappropriate as a matter of economics and statistics to use them as "control" variables in a disparity study.²⁰³

1. Estimate the Total Number of Businesses in the Market

We used data supplied by Dun & Bradstreet's Hoovers subsidiary to determine the total number of businesses operating in the relevant geographic and product markets (these markets were discussed in the previous section). Dun & Bradstreet produces the most comprehensive publicly available database of businesses in the U.S. This database contains over 16 million records and is updated continuously. Each record in Dun & Bradstreet represents a business or business

²⁰⁰ To yield a percentage, the resulting figure is multiplied by 100.

²⁰¹ See Remarks of George LaNoue, U.S. Commission on Civil Rights, "Disparity Studies as Evidence of Discrimination in Federal Contracting," May 2006 (LaNoue was rejected as an expert witness by the court in *Gross Seed Company v. Nebraska Department of Roads*, No. 02-3016 (D. Neb. 2002)).

²⁰² *Concrete Works of Colorado, Inc. v. City and County of Denver*, 321 F.3d 950, 981, 983 (10th Cir. 2003), *cert. denied*, 124 S.Ct. 556 (2003) (emphasis in the originals) ("MWBE construction firms are generally smaller and less experienced *because* of discrimination.... Additionally, we do not read *Croscon* to require disparity studies that measure whether construction firms are able to perform a *particular contract*.")

²⁰³ *Concrete Works*, 321 F.3d at 981 (emphasis in the original). See also, Wainwright and Holt (2010), Appendix B "Understanding Capacity."

establishment and includes the business name, address, telephone number, NAICS code, SIC code, business type, DUNS Number (a unique number assigned to each establishment by Dun & Bradstreet) and other descriptive information. Dun & Bradstreet gathers and verifies information from many different sources. These sources include among others annual management interviews, payment experiences, bank account information, filings for suits, liens, judgments and bankruptcies, news items, the U. S. Postal Service, utility and telephone service, business registrations, corporate charters, Uniform Commercial Code filings, and records of the Small Business Administration and other governmental agencies.

We used the Dun & Bradstreet database to identify the total number of businesses in each six-digit NAICS code to which we had anticipated assigning a product market weight. Table 4.1 shows the number of businesses identified in each NAICS sub-sector within the Construction category, along with the associated industry weight according to dollars expended. Comparable data for CRS, Services, and Commodities appears in Tables 4.2-4.4, respectively. These four main procurement categories (Construction, CRS, Services, and Commodities) were assigned based on the District's own prime contract data for the study period.

Although numerous industries play a role in the District's Baseline Business Universe, contracting and subcontracting opportunities are not distributed evenly among them. The distribution of contract expenditures is, in fact, highly skewed, as documented above in Chapter III.

2. Identify Listed M/WBEs

While extensive, Dun & Bradstreet does not sufficiently identify all businesses owned by minorities or women. Although many such businesses *are* correctly identified in Dun & Bradstreet, experience has demonstrated that many are also missed. For this reason, several additional steps were required to identify the appropriate percentage of M/WBEs in the relevant market.

First, NERA completed an intensive regional search for information on minority-owned and woman-owned businesses in Ohio and surrounding states. Beyond the information already in Dun & Bradstreet/Hoover's, NERA collected lists of M/WBEs from the Northeast Ohio Regional Sewer District (NEORS) as well as other public and private entities. Specifically, directories were included from: City of Canton, City of Cincinnati, City of Cleveland, City of Columbus, Dayton Airport, Greene County, City of Fort Wayne, Ohio Department of Administrative Services, Ohio DBE Unified Certification Program, Ohio Department of Development, African American Business Directory, American Indian Search, Business Research Services, Diversity Information Resources, DiversityBusiness.com, Indiana Department of Administration, Michigan Department of Transportation, Native American Business Alliance, New York State Department of Economic Development, New York State Unified Certification Program, Pennsylvania Department of General Services, Pennsylvania Unified Certification Program, Small Business Administration, The National Center for

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American Indian Enterprise Development, U.S. Department of Commerce, United States Women’s Chamber of Commerce and Women Business Enterprise National Council.²⁰⁴

The M/WBEs identified in this manner are referred to as “listed” M/WBEs. Table 4.5 shows the number of listed M/WBEs identified in each NAICS sub-sector within the Construction category, along with the associated industry weight according to dollars expended—the same industry weight as used in corresponding Table 4.1. Comparable data for CRS, Services, and Commodities appears in Tables 4.6-4.8, respectively.

If the listed M/WBEs identified in the Tables 4.5-4.8 are in fact *all* M/WBEs and are the *only* M/WBEs among all the businesses identified in Tables 4.1-4.4, then an estimate of “listed” M/WBE availability is simply the number of listed M/WBEs (taken from Tables 4.5–4.8, respectively) divided by the total number of businesses in the relevant market (taken from Tables 4.1-4.4, respectively). However, as we shall see below, neither of these two conditions holds true in practice and this is therefore *not* an appropriate method for measuring M/WBE availability.

There are two reasons for this. First, it is likely that some of the M/WBEs listed in the tables 4.5-4.8 are not actually minority-owned or woman-owned. Second, it is likely that there are additional “unlisted” M/WBEs among all the businesses included in Tables 4.1-4.4. Such businesses may not appear in any of the directories we gathered and are therefore not included as M/WBEs in Tables 4.5-4.8. Additional steps are required to test these two conditions and to arrive at a more accurate representation of M/WBE availability within the Baseline Business Universe. We discuss these steps in Sections 3.A and 3.B below.

3. Verify Listed M/WBEs and Estimate Unlisted M/WBEs

It is likely that information on M/WBEs from Dun & Bradstreet and other M/WBE directories is not correct in all instances. Phenomena such as ownership changes, associate or mentor status, recording errors, or even outright misrepresentation will lead to businesses being listed as M/WBEs in a particular directory even though they may actually be owned by non-minority males. Other things equal, this type of error would cause our availability estimate to be biased upward from the actual availability number.

The second likelihood that must be addressed is that not all M/WBE businesses are necessarily listed—either in Dun & Bradstreet or in any of the other directories we collected. Such phenomena as geographic relocation, ownership changes, directory compilation errors, and limitations in M/WBE outreach could all lead to M/WBEs being unlisted. Other things equal, this type of error would cause our availability estimate to be biased downward from the actual availability number.

²⁰⁴ We also obtained information from certain entities that was duplicative of either Dun & Bradstreet or one or more of the other sources listed above. These entities are listed below in Appendix A. We were unable to obtain relevant lists or directories from a number of entities. The reasons for this include: (1) the entity did not have a list or the entity’s list did not include race and sex information; (2) the entity was unresponsive to repeated attempts at contacts; or, (3) the entity simply declined to provide us the list. These entities, as well, are listed in Appendix A.

In our experience, we have found that both types of bias are not uncommon. For this Study, we corrected for the effect of these biases using statistical sampling procedures. We surveyed a large, stratified random sample of approximately 5,000 establishments drawn from the Baseline Business Universe and measured how often they were misclassified (or unclassified) by race and/or sex.²⁰⁵

Strata were defined according to NAICS sub-sectors code and listed M/WBE status.²⁰⁶ In the phone survey, up to 10 attempts were made to reach each business and speak with an appropriate respondent. Attempts were scheduled for a mix of day and evening, weekdays and weekends, and appointments were scheduled for callbacks when necessary. Of the 5,000 firms in our sample, 2,573 (51.5%) were listed M/WBEs and 2,427 (48.5%) were unclassified by race or sex. However, 600 establishments were excluded as “unable to contact.” Exclusions resulted primarily from establishments that were no longer in business.²⁰⁷ Of the remaining 4,400 firms, 2,310 (52.5%) were listed M/WBEs and the remaining 2,090 establishments (47.5%) were unclassified.

The first part of the survey tested whether our sample of listed M/WBEs was correctly classified by race and/or sex. The second part of the survey tested whether the unclassified firms could all be properly classified as non-M/WBEs. Both elements of the survey are described in more detail below.

a. Survey of Listed M/WBEs

We selected a stratified random sample of 2,573 listed M/WBEs to verify the race and gender status of their owner(s). Of these, 263 (10.2%) were excluded as “unable to contact.” Of the 2,310 remaining establishments, we obtained complete interviews from 1,191, for a response rate of 51.6 percent.²⁰⁸

²⁰⁵ A similar methodology has also been employed by the Federal Reserve Board to deal with similar problems in designing and implementing the National Surveys of Small Business Finances for 1993 and 1998. *See* Catherine Haggerty, Karen Grigorian, Rachel Harter and John D. Wolken. “The 1998 Survey of Small Business Finances: Sampling and Level of Effort Associated with Gaining Cooperation from Minority-Owned Business,” *Proceedings of the Second International Conference on Establishment Surveys*, Buffalo, NY, June 17-21, 2000.

²⁰⁶ Eighteen separate industry strata were created based on NAICS code and on whether a particular NAICS code was among those NAICS codes accounting for the top 95 percent of NEORS D contract and subcontract spending or not. All 18 strata were then split according to listed M/WBE status to create a total of 38 strata. Generally, listed M/WBEs were sampled at a higher rate than unclassified establishments.

²⁰⁷ A Fisher’s Exact Test to check if putative M/WBEs were more likely to be affected by this than non-M/WBEs was not statistically significant.

²⁰⁸ For this study, “Black” or “African American” refers to a person having origins in any of the Black African racial groups; “Hispanic” refers to a person of Mexican, Puerto Rican, Dominican, Cuban, Central or South American, of either Indian or Hispanic origin, regardless of race; “Asian and Pacific Islander” or “Asian” refers to a person having origins in any of the Far East countries, South East Asia, the Indian Subcontinent, or the Pacific Islands; “Native American” refers to a person having origins in any of the original peoples of North America; and “White” or “non-minority” means a non-Hispanic person having origins in Europe, North Africa, or the Middle East.

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Of the 1,191 establishments interviewed, 234 (19.6 percent) were owned by non-minority males. The amount of misclassification was substantial in every NAICS stratum. It was highest in NAICS 237 (Heavy Construction) and lowest in NAICS 54 (Professional Services) as shown in Table 4.9. Misclassification varied by putative race and sex, as shown in Table 4.10, and was highest among putative Native American firms, followed by Hispanics, Asians, Non-minority females, MBEs of unknown putative race, and finally African Americans.²⁰⁹

The race and gender status of the listed M/WBEs responding to the survey was changed, if necessary, according to the survey results. For example, if a business originally listed as a non-minority female-owned was actually non-minority male-owned, then that business was counted as non-minority male-owned for purposes of calculating M/WBE availability. But what about the remaining putatively non-minority female-owned establishments that we did not interview? For these businesses, we estimated the race and sex of their ownership based on the amount of misclassification we observed among the non-minority female-owned firms that we did interview. In this example, our interviews show that 72.5 percent of these firms are indeed actually non-minority female-owned, 20.2 percent are actually non-minority male-owned, and 7.3 percent are actually minority-owned (see Table 4.10). Therefore, we assign each of the remaining putative non-minority female firms a 72.5 percent probability of actually being non-minority female-owned, a 20.2 percent probability of actually being non-minority male-owned, and a 7.3 percent probability of being minority-owned. We repeated this procedure within each sample stratum and for all putative race and sex categories.

b. Survey of Unclassified Businesses

In a manner exactly analogous to our survey of listed M/WBEs, in the second part of our survey we examined unclassified businesses, *i.e.* any business that was not originally identified as a M/WBE, either in *MarketPlace* or in one or more of the other directories.

We selected a stratified random sample of 2,427 unclassified businesses from the Baseline Business Universe to verify the race and gender status of their owner(s). Of these, 337 (13.9%) were excluded as “unable to contact.” Of the 2,090 remaining establishments, we obtained 874 complete interviews, for a response rate of 41.8 percent.

Of the 874 establishments interviewed, 710 (81.2%) were owned by non-minority males, 123 (14.1%) by non-minority females, and 41 (4.7%) by minorities, as shown in Table 4.12. A similar phenomenon was observed within each industry stratum, as shown in Table 4.11.

As with the survey of listed M/WBEs, the race and gender status of unclassified businesses was changed, if necessary, according to the survey results. For example, if an interviewed business that was originally unclassified indicated that it was actually non-minority male-owned, then that business was counted as non-minority male-owned for purposes of the M/WBE availability calculation. If it indicated it was non-minority female-owned, it was counted as non-minority female, and so on. For unclassified businesses that were not interviewed, we assigned probability

²⁰⁹ By “putative,” we mean the race and gender that we initially assigned to each firm based on the information provided by the District, by Dun & Bradstreet, by our master M/WBE directory, or identified from other sources.

values (probability actually non-minority male-owned, probability actually non-minority female-owned, probability actually African American-owned, etc.) based on the interview responses. We again carried out the probability assignment procedure within each stratum.

Clearly, a large majority of unclassified businesses in the Baseline Business Universe (more than 80 percent overall) are non-minority male-owned. Nevertheless, this means that almost 20.0 percent were *not* non-minority male-owned. Among the latter, the largest group was non-minority female-owned, with descending size shares accounted for by African American-owned, Native American-owned, Hispanic-owned, and finally Asian-owned. Table 4.12 shows the actual survey results by race and sex.

B. Estimates of M/WBE Availability by Detailed Race, Sex, and Industry

Tables 4.13-4.16 present detailed estimates of M/WBE availability by race, sex, M/WBE status, and detailed NAICS industry. These estimates have been statistically corrected to adjust for misclassification and non-classification bias in the Baseline Business Universe as described in the previous section. Summary level estimates are weighted averages with weights based on industry-level contracting and procurement award dollars, as described in Chapter III, Section C.

Table 4.13 provides estimated M/WBE availability for all industries in the Construction procurement category during the study period. Overall, M/WBE availability in Construction is estimated at 22.31 percent.

Table 4.14 provides estimated M/WBE availability for all industries in the CRS procurement category during the study period. Overall, M/WBE availability in CRS is estimated at 22.03 percent.

Table 4.15 provides estimated M/WBE availability for all industries in the Services procurement category during the study period. Overall, M/WBE availability in Services is estimated at 22.76 percent.

Table 4.16 provides estimated M/WBE availability for all industries in the Commodities procurement category during the study period. Overall, M/WBE availability in Commodities is estimated at 25.73 percent.

Next, Table 4.17 shows that overall M/WBE availability in the District's relevant marketplace is 22.54 percent. Non-M/WBE availability is 77.46 percent. Overall, among M/WBEs, availability of African American-owned businesses is 3.81 percent, availability of Hispanic-owned businesses is 0.70 percent, availability of Asian-owned businesses is 0.75 percent, availability of Native American-owned businesses is 0.50 percent, and availability of non-minority female-owned businesses is 16.78 percent.

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C. Tables

Table 4.1. Construction—Number of Businesses and Industry Weight, by NAICS Code, 2010

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
2371	Utility System Construction	172	31.34	31.34
2382	Building Equipment Contractors	3,147	10.48	41.82
2373	Highway, Street, and Bridge Construction	274	8.30	50.12
2362	Nonresidential Building Construction	896	7.56	57.68
2389	Other Specialty Trade Contractors	1,843	7.46	65.13
2379	Other Heavy and Civil Engineering Construction	35	5.59	70.72
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	1,661	3.55	74.27
2383	Building Finishing Contractors	1,878	3.14	77.41
2381	Foundation, Structure, and Building Exterior Contractors	2,131	2.95	80.36
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	89	2.86	83.22
5617	Services to Buildings and Dwellings	3,210	2.84	86.06
2361	Residential Building Construction	3,612	2.10	88.16
5622	Waste Treatment and Disposal	124	1.63	89.79
4233	Lumber and Other Construction Materials Merchant Wholesalers	235	1.63	91.42
3273	Cement and Concrete Product Manufacturing	125	1.06	92.48
4246	Chemical and Allied Products Merchant Wholesalers	287	0.96	93.44
2213	Water, Sewage and Other Systems	48	0.94	94.38
4841	General Freight Trucking	1,728	0.94	95.31
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	416	0.77	96.08
5413	Architectural, Engineering, and Related Services	2,514	0.51	96.60
3261	Plastics Product Manufacturing	314	0.46	97.06
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	360	0.43	97.49
3329	Other Fabricated Metal Product Manufacturing	64	0.37	97.85
4236	Electrical and Electronic Goods Merchant Wholesalers	372	0.32	98.17
4441	Building Material and Supplies Dealers	849	0.29	98.46
4244	Grocery and Related Product Merchant Wholesalers	221	0.29	98.75
4239	Miscellaneous Durable Goods Merchant Wholesalers	429	0.17	98.93
3262	Rubber Product Manufacturing	117	0.15	99.07
5629	Remediation and Other Waste Management Services	143	0.11	99.18
5415	Computer Systems Design and Related Services	1,283	0.11	99.30
3331	Agriculture, Construction, and Mining Machinery Manufacturing	48	0.10	99.39
5416	Management, Scientific, and Technical Consulting Services	4,450	0.08	99.47
8114	Personal and Household Goods Repair and Maintenance	605	0.07	99.54
8112	Electronic & Precision Eqpmt Repair and Maintenance	412	0.06	99.60

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
3353	Electrical Equipment Manufacturing	23	0.06	99.66
3323	Architectural and Structural Metals Manufacturing	169	0.05	99.71
3259	Other Chemical Product and Preparation Manufacturing	4	0.05	99.76
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	434	0.03	99.79
3339	Other General Purpose Machinery Manufacturing	39	0.03	99.81
3315	Foundries	10	0.02	99.84
3312	Steel Product Manufacturing from Purchased Steel	38	0.02	99.86
1111	Oilseed and Grain Farming	28	0.02	99.87
4442	Lawn and Garden Equipment and Supplies Stores	234	0.02	99.89
5419	Other Professional, Scientific, and Technical Services	181	0.01	99.91
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	213	0.01	99.92
2123	Nonmetallic Mineral Mining and Quarrying	38	0.01	99.93
3149	Other Textile Product Mills	31	0.01	99.94
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	182	0.01	99.95
5121	Motion Picture and Video Industries	317	0.01	99.96
5311	Lessors of Real Estate	1,617	0.01	99.97
3399	Other Miscellaneous Manufacturing	257	0.01	99.97
4241	Paper and Paper Product Merchant Wholesalers	165	0.00	99.98
6117	Educational Support Services	98	0.00	99.98
3333	Commercial and Service Industry Machinery Manufacturing	58	0.00	99.99
3241	Petroleum and Coal Products Manufacturing	26	0.00	99.99
4242	Drugs and Druggists' Sundries Merchant Wholesalers	104	0.00	100.00
3335	Metalworking Machinery Manufacturing	215	0.00	100.00
3379	Other Furniture Related Product Manufacturing	13	0.00	100.00
5322	Consumer Goods Rental	147	0.00	100.00
3219	Other Wood Product Manufacturing	96	0.00	100.00
	<i>CONSTRUCTION</i>	38,829		

Source: Dun & Bradstreet's *MarketPlace*; M/WBE business directory information compiled by NERA; Master Contract/Subcontract Database.

M/WBE Availability in the District's Marketplace

Table 4.2. CRS—Number of Businesses and Industry Weight, by NAICS Code, 2010

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
5413	Architectural, Engineering, and Related Services	2,454	76.55	76.55
5416	Management, Scientific, and Technical Consulting Services	4,480	15.21	91.76
6117	Educational Support Services	98	2.44	94.20
5617	Services to Buildings and Dwellings	1,726	2.07	96.26
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	925	1.53	97.79
2362	Nonresidential Building Construction	729	0.82	98.61
3231	Printing and Related Support Activities	512	0.42	99.04
5419	Other Professional, Scientific, and Technical Services	894	0.30	99.34
5415	Computer Systems Design and Related Services	1,283	0.23	99.57
7111	Performing Arts Companies	25	0.09	99.66
2361	Residential Building Construction	3,598	0.06	99.72
3353	Electrical Equipment Manufacturing	60	0.05	99.77
4236	Electrical and Electronic Goods Merchant Wholesalers	372	0.05	99.83
2382	Building Equipment Contractors	2,013	0.05	99.88
4853	Taxi and Limousine Service	68	0.05	99.93
5619	Other Support Services	456	0.04	99.97
2371	Utility System Construction	151	0.02	99.98
2381	Foundation, Structure, and Building Exterior Contractors	496	0.01	99.99
3251	Basic Chemical Manufacturing	11	0.01	100.00
5239	Other Financial Investment Activities	451	0.00	100.00
	<i>CRS</i>	<i>20,802</i>		

Source: See Table 4.1.

M/WBE Availability in the District's Marketplace

Table 4.3. Services—Number of Businesses and Industry Weight, by NAICS Code, 2010

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
4841	General Freight Trucking	1,728	14.84	14.84
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	1,958	12.41	27.25
5411	Legal Services	4,135	10.09	37.35
5416	Management, Scientific, and Technical Consulting Services	5,306	6.79	44.13
5413	Architectural, Engineering, and Related Services	2,514	5.82	49.96
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	151	5.17	55.13
5617	Services to Buildings and Dwellings	3,712	4.33	59.46
2362	Nonresidential Building Construction	896	4.11	63.57
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	576	2.74	66.31
2382	Building Equipment Contractors	3,178	2.40	68.71
5622	Waste Treatment and Disposal	145	2.29	71.00
5112	Software Publishers	167	1.83	72.83
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	1,627	1.70	74.52
3339	Other General Purpose Machinery Manufacturing	233	1.67	76.19
2371	Utility System Construction	172	1.50	77.69
5111	Newspaper, Periodical, Book, and Directory Publishers	213	1.47	79.16
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	370	1.29	80.45
8123	Drycleaning and Laundry Services	208	1.28	81.73
5415	Computer Systems Design and Related Services	1,283	1.23	82.96
5419	Other Professional, Scientific, and Technical Services	1,722	1.03	83.99
5619	Other Support Services	495	1.03	85.02
5613	Employment Services	418	0.93	85.95
5182	Data Processing, Hosting, and Related Services	252	0.82	86.78
5614	Business Support Services	4,183	0.79	87.57
2361	Residential Building Construction	1,432	0.70	88.26
3231	Printing and Related Support Activities	847	0.59	88.86
3259	Other Chemical Product and Preparation Manufacturing	83	0.58	89.44
5259	Other Investment Pools and Funds	29	0.58	90.02
8112	Electronic and Precision Equipment Repair and Maintenance	597	0.58	90.60
4481	Clothing Stores	302	0.58	91.18
8111	Automotive Repair and Maintenance	2,949	0.53	91.71
3342	Communications Equipment Manufacturing	31	0.43	92.14
5312	Offices of Real Estate Agents and Brokers	2,563	0.39	92.53
4236	Electrical and Electronic Goods Merchant Wholesalers	658	0.39	92.92
5242	Agencies, Brokerages, and Other Insurance Related Activities	2,668	0.39	93.30
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	416	0.36	93.67
2389	Other Specialty Trade Contractors	1,843	0.34	94.01

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
5418	Advertising, Public Relations, and Related Services	478	0.27	94.28
5417	Scientific Research and Development Services	470	0.26	94.54
8134	Civic and Social Organizations	1,308	0.25	94.78
5616	Investigation and Security Services	427	0.24	95.02
5621	Waste Collection	55	0.23	95.25
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	523	0.21	95.46
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	23	0.21	95.67
3341	Computer and Peripheral Equipment Manufacturing	37	0.20	95.87
5313	Activities Related to Real Estate	301	0.19	96.06
5121	Motion Picture and Video Industries	368	0.19	96.25
5241	Insurance Carriers	324	0.17	96.42
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	45	0.17	96.59
4842	Specialized Freight Trucking	107	0.15	96.74
8114	Personal and Household Goods Repair and Maintenance	1,314	0.14	96.88
4931	Warehousing and Storage	134	0.13	97.01
3353	Electrical Equipment Manufacturing	108	0.13	97.14
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	739	0.12	97.26
4441	Building Material and Supplies Dealers	758	0.12	97.38
2373	Highway, Street, and Bridge Construction	274	0.12	97.49
4411	Automobile Dealers	669	0.11	97.60
4853	Taxi and Limousine Service	68	0.10	97.70
4431	Electronics and Appliance Stores	813	0.10	97.80
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	103	0.10	97.89
4422	Home Furnishings Stores	81	0.09	97.99
4412	Other Motor Vehicle Dealers	127	0.09	98.08
2381	Foundation, Structure, and Building Exterior Contractors	1,182	0.09	98.17
6116	Other Schools and Instruction	574	0.08	98.25
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	213	0.08	98.33
5629	Remediation and Other Waste Management Services	298	0.08	98.40
5151	Radio and Television Broadcasting	32	0.07	98.48
4413	Automotive Parts, Accessories, and Tire Stores	529	0.07	98.55
8129	Other Personal Services	2,050	0.07	98.62
6241	Individual and Family Services	1,649	0.07	98.70
3331	Agriculture, Construction, and Mining Machinery Manufacturing	54	0.07	98.76
3311	Iron and Steel Mills and Ferroalloy Manufacturing	116	0.06	98.82
4233	Lumber and Other Construction Materials Merchant Wholesalers	676	0.06	98.88
2383	Building Finishing Contractors	1,220	0.06	98.94
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	434	0.06	98.99

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
4539	Other Miscellaneous Store Retailers	1,528	0.06	99.05
7115	Independent Artists, Writers, and Performers	213	0.05	99.10
4244	Grocery and Related Product Merchant Wholesalers	221	0.05	99.16
7121	Museums, Historical Sites, and Similar Institutions	241	0.05	99.21
3328	Coating, Engraving, Heat Treating, and Allied Activities	245	0.05	99.26
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	125	0.05	99.31
5239	Other Financial Investment Activities	451	0.04	99.34
4239	Miscellaneous Durable Goods Merchant Wholesalers	560	0.03	99.38
3399	Other Miscellaneous Manufacturing	292	0.03	99.41
6114	Business Schools and Computer and Management Training	34	0.03	99.44
6117	Educational Support Services	98	0.03	99.48
7223	Special Food Services	349	0.03	99.51
3323	Architectural and Structural Metals Manufacturing	278	0.03	99.54
5414	Specialized Design Services	1,045	0.03	99.56
3359	Other Electrical Equipment and Component Manufacturing	46	0.02	99.59
3333	Commercial and Service Industry Machinery Manufacturing	58	0.02	99.61
4246	Chemical and Allied Products Merchant Wholesalers	222	0.02	99.63
4543	Direct Selling Establishments	186	0.02	99.65
4442	Lawn and Garden Equipment and Supplies Stores	320	0.02	99.68
6113	Colleges, Universities, and Professional Schools	286	0.02	99.70
3329	Other Fabricated Metal Product Manufacturing	38	0.02	99.72
4421	Furniture Stores	432	0.02	99.74
8139	Business, Professional, Labor, Political, and Similar Organizations	575	0.02	99.75
6211	Offices of Physicians	4,137	0.02	99.77
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	64	0.02	99.79
3332	Industrial Machinery Manufacturing	81	0.02	99.80
5222	Nondepository Credit Intermediation	105	0.01	99.82
8133	Social Advocacy Organizations	148	0.01	99.83
4232	Furniture and Home Furnishing Merchant Wholesalers	171	0.01	99.84
3322	Cutlery and Handtool Manufacturing	56	0.01	99.85
7139	Other Amusement and Recreation Industries	164	0.01	99.87
3251	Basic Chemical Manufacturing	32	0.01	99.88
6111	Elementary and Secondary Schools	1,915	0.01	99.89
4511	Sporting Goods, Hobby, and Musical Instrument Stores	605	0.01	99.90
4921	Couriers and Express Delivery Services	60	0.01	99.91
7222	Limited-Service Eating Places	3,318	0.01	99.91
5611	Office Administrative Services	304	0.01	99.92
3363	Motor Vehicle Parts Manufacturing	74	0.01	99.93
5311	Lessors of Real Estate	1,617	0.01	99.93
8131	Religious Organizations	5,264	0.01	99.94
4812	Nonscheduled Air Transportation	30	0.01	99.95

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
6219	Other Ambulatory Health Care Services	653	0.01	99.95
4884	Support Activities for Road Transportation	230	0.01	99.96
4241	Paper and Paper Product Merchant Wholesalers	284	0.01	99.96
3279	Other Nonmetallic Mineral Product Manufacturing	5	0.01	99.97
1119	Other Crop Farming	899	0.00	99.97
4871	Scenic and Sightseeing Transportation, Land	10	0.00	99.97
5615	Travel Arrangement and Reservation Services	54	0.00	99.98
4855	Charter Bus Industry	31	0.00	99.98
7114	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	273	0.00	99.98
6115	Technical and Trade Schools	95	0.00	99.99
3133	Textile and Fabric Finishing and Fabric Coating Mills	154	0.00	99.99
4247	Petroleum and Petroleum Products Merchant Wholesalers	19	0.00	99.99
6214	Outpatient Care Centers	317	0.00	99.99
6231	Nursing Care Facilities	440	0.00	99.99
3261	Plastics Product Manufacturing	305	0.00	100.00
8132	Grantmaking and Giving Services	6	0.00	100.00
4512	Book, Periodical, and Music Stores	154	0.00	100.00
3335	Metalworking Machinery Manufacturing	87	0.00	100.00
4542	Vending Machine Operators	194	0.00	100.00
6239	Other Residential Care Facilities	169	0.00	100.00
3149	Other Textile Product Mills	31	0.00	100.00
3346	Manufacturing and Reproducing Magnetic and Optical Media	21	0.00	100.00
	<i>SERVICES</i>	<i>99,160</i>		

Source: See Table 4.1.

M/WBE Availability in the District's Marketplace

Table 4.4. Commodities—Number of Businesses and Industry Weight, by NAICS Code, 2010

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	1,958	26.35	26.35
3251	Basic Chemical Manufacturing	115	13.02	39.37
4236	Electrical and Electronic Goods Merchant Wholesalers	658	5.41	44.78
4246	Chemical and Allied Products Merchant Wholesalers	287	5.15	49.93
4247	Petroleum and Petroleum Products Merchant Wholesalers	155	4.83	54.76
2382	Building Equipment Contractors	3,178	4.11	58.87
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	416	3.73	62.60
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	64	3.51	66.11
2389	Other Specialty Trade Contractors	1,843	3.19	69.30
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	161	2.99	72.29
3332	Industrial Machinery Manufacturing	81	2.10	74.39
5416	Management, Scientific, and Technical Consulting Services	2,620	2.00	76.39
5622	Waste Treatment and Disposal	58	1.57	77.96
4441	Building Material and Supplies Dealers	1,043	1.42	79.37
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	863	1.26	80.63
3339	Other General Purpose Machinery Manufacturing	200	1.03	81.66
5112	Software Publishers	167	1.02	82.68
4241	Paper and Paper Product Merchant Wholesalers	284	0.94	83.62
2383	Building Finishing Contractors	1,761	0.82	84.44
2381	Foundation, Structure, and Building Exterior Contractors	1,667	0.80	85.23
3259	Other Chemical Product and Preparation Manufacturing	83	0.80	86.03
5414	Specialized Design Services	511	0.77	86.80
2371	Utility System Construction	151	0.76	87.56
4233	Lumber and Other Construction Materials Merchant Wholesalers	735	0.67	88.24
4889	Other Support Activities for Transportation	16	0.60	88.84
5629	Remediation and Other Waste Management Services	311	0.55	89.39
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	523	0.53	89.91
8114	Personal and Household Goods Repair and Maintenance	1,314	0.51	90.42
5617	Services to Buildings and Dwellings	3,428	0.47	90.90
3353	Electrical Equipment Manufacturing	98	0.43	91.32
4442	Lawn and Garden Equipment and Supplies Stores	320	0.41	91.73
2373	Highway, Street, and Bridge Construction	274	0.40	92.13
3333	Commercial and Service Industry Machinery Manufacturing	58	0.36	92.50
4413	Automotive Parts, Accessories, and Tire Stores	864	0.35	92.85
4911	Postal Service	210	0.35	93.20
8111	Automotive Repair and Maintenance	892	0.34	93.54
3311	Iron and Steel Mills and Ferroalloy Manufacturing	116	0.33	93.87

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
4232	Furniture and Home Furnishing Merchant Wholesalers	171	0.31	94.18
4421	Furniture Stores	432	0.29	94.47
8112	Electronic and Precision Equipment Repair and Maintenance	597	0.28	94.76
3256	Soap, Cleaning Compound, and Toilet Preparation Manufacturing	42	0.28	95.04
3329	Other Fabricated Metal Product Manufacturing	84	0.27	95.30
3261	Plastics Product Manufacturing	332	0.24	95.55
3359	Other Electrical Equipment and Component Manufacturing	58	0.23	95.78
5311	Lessors of Real Estate	1,617	0.23	96.02
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	434	0.22	96.24
5413	Architectural, Engineering, and Related Services	2,514	0.20	96.44
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	360	0.19	96.63
4921	Couriers and Express Delivery Services	60	0.19	96.82
3331	Agriculture, Construction, and Mining Machinery Manufacturing	59	0.18	96.99
4431	Electronics and Appliance Stores	1,087	0.16	97.16
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	801	0.16	97.32
5415	Computer Systems Design and Related Services	1,283	0.16	97.47
5616	Investigation and Security Services	343	0.14	97.61
4422	Home Furnishings Stores	81	0.14	97.75
4239	Miscellaneous Durable Goods Merchant Wholesalers	429	0.14	97.89
3322	Cutlery and Handtool Manufacturing	56	0.13	98.02
3351	Electric Lighting Equipment Manufacturing	18	0.13	98.15
3323	Architectural and Structural Metals Manufacturing	180	0.13	98.28
4539	Other Miscellaneous Store Retailers	1,528	0.12	98.40
4532	Office Supplies, Stationery, and Gift Stores	126	0.12	98.52
3231	Printing and Related Support Activities	731	0.12	98.64
5419	Other Professional, Scientific, and Technical Services	894	0.11	98.75
4922	Local Messengers and Local Delivery	23	0.10	98.85
4244	Grocery and Related Product Merchant Wholesalers	221	0.10	98.96
8123	Drycleaning and Laundry Services	29	0.09	99.05
2362	Nonresidential Building Construction	729	0.09	99.14
5611	Office Administrative Services	304	0.09	99.23
3365	Railroad Rolling Stock Manufacturing	8	0.07	99.30
4543	Direct Selling Establishments	186	0.07	99.37
4841	General Freight Trucking	1,122	0.07	99.44
4481	Clothing Stores	158	0.07	99.50
3315	Foundries	10	0.05	99.55
3149	Other Textile Product Mills	31	0.05	99.60
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	125	0.05	99.65
3314	Nonferrous Metal (except Aluminum) Production and Processing	10	0.04	99.69

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
8133	Social Advocacy Organizations	148	0.04	99.73
3363	Motor Vehicle Parts Manufacturing	105	0.03	99.76
3399	Other Miscellaneous Manufacturing	571	0.02	99.78
3326	Spring and Wire Product Manufacturing	57	0.02	99.80
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	23	0.02	99.82
8129	Other Personal Services	2,050	0.02	99.84
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	213	0.02	99.86
1114	Greenhouse, Nursery, and Floriculture Production	123	0.01	99.87
5613	Employment Services	418	0.01	99.88
3255	Paint, Coating, and Adhesive Manufacturing	65	0.01	99.89
5418	Advertising, Public Relations, and Related Services	200	0.01	99.90
6116	Other Schools and Instruction	85	0.01	99.91
5621	Waste Collection	50	0.01	99.92
5619	Other Support Services	456	0.01	99.93
5241	Insurance Carriers	107	0.01	99.94
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	94	0.01	99.94
4461	Health and Personal Care Stores	289	0.01	99.95
4411	Automobile Dealers	669	0.01	99.96
2372	Land Subdivision	358	0.01	99.96
3241	Petroleum and Coal Products Manufacturing	32	0.01	99.97
3273	Cement and Concrete Product Manufacturing	68	0.00	99.97
5417	Scientific Research and Development Services	318	0.00	99.98
7222	Limited-Service Eating Places	3,318	0.00	99.98
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	103	0.00	99.99
6219	Other Ambulatory Health Care Services	653	0.00	99.99
7114	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	273	0.00	99.99
3344	Semiconductor and Other Electronic Component Manufacturing	2	0.00	99.99
3364	Aerospace Product and Parts Manufacturing	34	0.00	100.00
5111	Newspaper, Periodical, Book, and Directory Publishers	117	0.00	100.00
8134	Civic and Social Organizations	1,308	0.00	100.00
3328	Coating, Engraving, Heat Treating, and Allied Activities	91	0.00	100.00
7121	Museums, Historical Sites, and Similar Institutions	198	0.00	100.00
4884	Support Activities for Road Transportation	230	0.00	100.00
	<i>COMMODITIES</i>	57,582		

Source: See Table 4.1.

M/WBE Availability in the District's Marketplace

Table 4.5. Construction—Number of Listed M/WBEs and Industry Weight, by NAICS Code, 2010

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumulative)
2371	Utility System Construction	12	31.34	31.34
2382	Building Equipment Contractors	214	10.48	41.82
2373	Highway, Street, and Bridge Construction	26	8.30	50.12
2362	Nonresidential Building Construction	99	7.56	57.68
2389	Other Specialty Trade Contractors	143	7.46	65.13
2379	Other Heavy and Civil Engineering Construction	3	5.59	70.72
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	109	3.55	74.27
2383	Building Finishing Contractors	159	3.14	77.41
2381	Foundation, Structure, and Building Exterior Contractors	146	2.95	80.36
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	7	2.86	83.22
5617	Services to Buildings and Dwellings	330	2.84	86.06
2361	Residential Building Construction	147	2.10	88.16
5622	Waste Treatment and Disposal	4	1.63	89.79
4233	Lumber and Other Construction Materials Merchant Wholesalers	13	1.63	91.42
3273	Cement and Concrete Product Manufacturing	11	1.06	92.48
4246	Chemical and Allied Products Merchant Wholesalers	30	0.96	93.44
2213	Water, Sewage and Other Systems	2	0.94	94.38
4841	General Freight Trucking	136	0.94	95.31
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	22	0.77	96.08
5413	Architectural, Engineering, and Related Services	199	0.51	96.60
3261	Plastics Product Manufacturing	22	0.46	97.06
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	11	0.43	97.49
3329	Other Fabricated Metal Product Manufacturing	6	0.37	97.85
4236	Electrical and Electronic Goods Merchant Wholesalers	23	0.32	98.17
4441	Building Material and Supplies Dealers	45	0.29	98.46
4244	Grocery and Related Product Merchant Wholesalers	33	0.29	98.75
4239	Miscellaneous Durable Goods Merchant Wholesalers	39	0.17	98.93
3262	Rubber Product Manufacturing	6	0.15	99.07
5629	Remediation and Other Waste Management Services	9	0.11	99.18
5415	Computer Systems Design and Related Services	176	0.11	99.30
3331	Agriculture, Construction, and Mining Machinery Manufacturing	3	0.10	99.39
5416	Management, Scientific, and Technical Consulting Services	593	0.08	99.47
8114	Personal and Household Goods Repair and Maintenance	93	0.07	99.54
8112	Electronic and Precision Equipment Repair and Maintenance	23	0.06	99.60
3353	Electrical Equipment Manufacturing	0	0.06	99.66
3323	Architectural and Structural Metals Manufacturing	22	0.05	99.71

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumulative)
3259	Other Chemical Product and Preparation Manufacturing	0	0.05	99.76
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	35	0.03	99.79
3339	Other General Purpose Machinery Manufacturing	1	0.03	99.81
3315	Foundries	0	0.02	99.84
3312	Steel Product Manufacturing from Purchased Steel	6	0.02	99.86
1111	Oilseed and Grain Farming	2	0.02	99.87
4442	Lawn and Garden Equipment and Supplies Stores	25	0.02	99.89
5419	Other Professional, Scientific, and Technical Services	23	0.01	99.91
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	13	0.01	99.92
2123	Nonmetallic Mineral Mining and Quarrying	4	0.01	99.93
3149	Other Textile Product Mills	2	0.01	99.94
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	14	0.01	99.95
5121	Motion Picture and Video Industries	27	0.01	99.96
5311	Lessors of Real Estate	62	0.01	99.97
3399	Other Miscellaneous Manufacturing	32	0.01	99.97
4241	Paper and Paper Product Merchant Wholesalers	28	0.00	99.98
6117	Educational Support Services	21	0.00	99.98
3333	Commercial and Service Industry Machinery Manufacturing	3	0.00	99.99
3241	Petroleum and Coal Products Manufacturing	1	0.00	99.99
4242	Drugs and Druggists' Sundries Merchant Wholesalers	20	0.00	100.00
3335	Metalworking Machinery Manufacturing	16	0.00	100.00
3379	Other Furniture Related Product Manufacturing	3	0.00	100.00
5322	Consumer Goods Rental	10	0.00	100.00
3219	Other Wood Product Manufacturing	4	0.00	100.00
	<i>CONSTRUCTION</i>	3,268		

Source: Dun & Bradstreet's *MarketPlace*; M/WBE business directory information compiled by NERA; Master Contract/Subcontract Database.

M/WBE Availability in the District's Marketplace

Table 4.6. CRS—Number of Listed M/WBEs and Industry Weight, by NAICS Code, 2010

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumulative)
5413	Architectural, Engineering, and Related Services	194	76.55	76.55
5416	Management, Scientific, and Technical Consulting Services	594	15.21	91.76
6117	Educational Support Services	21	2.44	94.20
5617	Services to Buildings and Dwellings	101	2.07	96.26
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	52	1.53	97.79
2362	Nonresidential Building Construction	82	0.82	98.61
3231	Printing and Related Support Activities	52	0.42	99.04
5419	Other Professional, Scientific, and Technical Services	72	0.30	99.34
5415	Computer Systems Design and Related Services	176	0.23	99.57
7111	Performing Arts Companies	3	0.09	99.66
2361	Residential Building Construction	147	0.06	99.72
3353	Electrical Equipment Manufacturing	4	0.05	99.77
4236	Electrical and Electronic Goods Merchant Wholesalers	23	0.05	99.83
2382	Building Equipment Contractors	103	0.05	99.88
4853	Taxi and Limousine Service	4	0.05	99.93
5619	Other Support Services	89	0.04	99.97
2371	Utility System Construction	11	0.02	99.98
2381	Foundation, Structure, and Building Exterior Contractors	43	0.01	99.99
3251	Basic Chemical Manufacturing	0	0.01	100.00
5239	Other Financial Investment Activities	16	0.00	100.00
	<i>CRS</i>	<i>1,787</i>		

Source: See Table 4.1.

M/WBE Availability in the District's Marketplace

Table 4.7. Services—Number of Listed M/WBEs and Industry Weight, by NAICS Code, 2010

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumulative)
4841	General Freight Trucking	136	14.84	14.84
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	152	12.41	27.25
5411	Legal Services	290	10.09	37.35
5416	Management, Scientific, and Technical Consulting Services	726	6.79	44.13
5413	Architectural, Engineering, and Related Services	199	5.82	49.96
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	13	5.17	55.13
5617	Services to Buildings and Dwellings	353	4.33	59.46
2362	Nonresidential Building Construction	99	4.11	63.57
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	62	2.74	66.31
2382	Building Equipment Contractors	215	2.40	68.71
5622	Waste Treatment and Disposal	4	2.29	71.00
5112	Software Publishers	9	1.83	72.83
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	176	1.70	74.52
3339	Other General Purpose Machinery Manufacturing	11	1.67	76.19
2371	Utility System Construction	12	1.50	77.69
5111	Newspaper, Periodical, Book, and Directory Publishers	23	1.47	79.16
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	11	1.29	80.45
8123	Drycleaning and Laundry Services	23	1.28	81.73
5415	Computer Systems Design and Related Services	176	1.23	82.96
5419	Other Professional, Scientific, and Technical Services	171	1.03	83.99
5619	Other Support Services	91	1.03	85.02
5613	Employment Services	57	0.93	85.95
5182	Data Processing, Hosting, and Related Services	43	0.82	86.78
5614	Business Support Services	253	0.79	87.57
2361	Residential Building Construction	71	0.70	88.26
3231	Printing and Related Support Activities	100	0.59	88.86
3259	Other Chemical Product and Preparation Manufacturing	6	0.58	89.44
5259	Other Investment Pools and Funds	2	0.58	90.02
8112	Electronic and Precision Equipment Repair and Maintenance	41	0.58	90.60
4481	Clothing Stores	77	0.58	91.18
8111	Automotive Repair and Maintenance	81	0.53	91.71
3342	Communications Equipment Manufacturing	3	0.43	92.14
5312	Offices of Real Estate Agents and Brokers	265	0.39	92.53
4236	Electrical and Electronic Goods Merchant Wholesalers	46	0.39	92.92
5242	Agencies, Brokerages, and Other Insurance Related Activities	207	0.39	93.30
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	22	0.36	93.67
2389	Other Specialty Trade Contractors	143	0.34	94.01

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumulative)
5418	Advertising, Public Relations, and Related Services	91	0.27	94.28
5417	Scientific Research and Development Services	52	0.26	94.54
8134	Civic and Social Organizations	1	0.25	94.78
5616	Investigation and Security Services	32	0.24	95.02
5621	Waste Collection	5	0.23	95.25
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	25	0.21	95.46
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	0	0.21	95.67
3341	Computer and Peripheral Equipment Manufacturing	3	0.20	95.87
5313	Activities Related to Real Estate	35	0.19	96.06
5121	Motion Picture and Video Industries	28	0.19	96.25
5241	Insurance Carriers	23	0.17	96.42
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	8	0.17	96.59
4842	Specialized Freight Trucking	18	0.15	96.74
8114	Personal and Household Goods Repair and Maintenance	138	0.14	96.88
4931	Warehousing and Storage	6	0.13	97.01
3353	Electrical Equipment Manufacturing	5	0.13	97.14
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	60	0.12	97.26
4441	Building Material and Supplies Dealers	35	0.12	97.38
2373	Highway, Street, and Bridge Construction	26	0.12	97.49
4411	Automobile Dealers	12	0.11	97.60
4853	Taxi and Limousine Service	4	0.10	97.70
4431	Electronics and Appliance Stores	63	0.10	97.80
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	14	0.10	97.89
4422	Home Furnishings Stores	20	0.09	97.99
4412	Other Motor Vehicle Dealers	2	0.09	98.08
2381	Foundation, Structure, and Building Exterior Contractors	61	0.09	98.17
6116	Other Schools and Instruction	63	0.08	98.25
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	13	0.08	98.33
5629	Remediation and Other Waste Management Services	16	0.08	98.40
5151	Radio and Television Broadcasting	2	0.07	98.48
4413	Automotive Parts, Accessories, and Tire Stores	22	0.07	98.55
8129	Other Personal Services	188	0.07	98.62
6241	Individual and Family Services	13	0.07	98.70
3331	Agriculture, Construction, and Mining Machinery Manufacturing	3	0.07	98.76
3311	Iron and Steel Mills and Ferroalloy Manufacturing	4	0.06	98.82
4233	Lumber and Other Construction Materials Merchant Wholesalers	27	0.06	98.88
2383	Building Finishing Contractors	112	0.06	98.94
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	35	0.06	98.99

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumulative)
4539	Other Miscellaneous Store Retailers	147	0.06	99.05
7115	Independent Artists, Writers, and Performers	66	0.05	99.10
4244	Grocery and Related Product Merchant Wholesalers	33	0.05	99.16
7121	Museums, Historical Sites, and Similar Institutions	3	0.05	99.21
3328	Coating, Engraving, Heat Treating, and Allied Activities	15	0.05	99.26
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	4	0.05	99.31
5239	Other Financial Investment Activities	16	0.04	99.34
4239	Miscellaneous Durable Goods Merchant Wholesalers	69	0.03	99.38
3399	Other Miscellaneous Manufacturing	36	0.03	99.41
6114	Business Schools and Computer and Management Training	6	0.03	99.44
6117	Educational Support Services	21	0.03	99.48
7223	Special Food Services	56	0.03	99.51
3323	Architectural and Structural Metals Manufacturing	31	0.03	99.54
5414	Specialized Design Services	366	0.03	99.56
3359	Other Electrical Equipment and Component Manufacturing	1	0.02	99.59
3333	Commercial and Service Industry Machinery Manufacturing	3	0.02	99.61
4246	Chemical and Allied Products Merchant Wholesalers	27	0.02	99.63
4543	Direct Selling Establishments	41	0.02	99.65
4442	Lawn and Garden Equipment and Supplies Stores	29	0.02	99.68
6113	Colleges, Universities, and Professional Schools	0	0.02	99.70
3329	Other Fabricated Metal Product Manufacturing	1	0.02	99.72
4421	Furniture Stores	47	0.02	99.74
8139	Business, Professional, Labor, Political, and Similar Organizations	1	0.02	99.75
6211	Offices of Physicians	307	0.02	99.77
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	5	0.02	99.79
3332	Industrial Machinery Manufacturing	7	0.02	99.80
5222	Nondepository Credit Intermediation	4	0.01	99.82
8133	Social Advocacy Organizations	0	0.01	99.83
4232	Furniture and Home Furnishing Merchant Wholesalers	29	0.01	99.84
3322	Cutlery and Handtool Manufacturing	3	0.01	99.85
7139	Other Amusement and Recreation Industries	17	0.01	99.87
3251	Basic Chemical Manufacturing	0	0.01	99.88
6111	Elementary and Secondary Schools	0	0.01	99.89
4511	Sporting Goods, Hobby, and Musical Instrument Stores	31	0.01	99.90
4921	Couriers and Express Delivery Services	3	0.01	99.91
7222	Limited-Service Eating Places	241	0.01	99.91
5611	Office Administrative Services	14	0.01	99.92
3363	Motor Vehicle Parts Manufacturing	6	0.01	99.93
5311	Lessors of Real Estate	62	0.01	99.93
8131	Religious Organizations	4	0.01	99.94
4812	Nonscheduled Air Transportation	4	0.01	99.95

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumulative)
6219	Other Ambulatory Health Care Services	30	0.01	99.95
4884	Support Activities for Road Transportation	20	0.01	99.96
4241	Paper and Paper Product Merchant Wholesalers	38	0.01	99.96
3279	Other Nonmetallic Mineral Product Manufacturing	1	0.01	99.97
1119	Other Crop Farming	35	0.00	99.97
4871	Scenic and Sightseeing Transportation, Land	0	0.00	99.97
5615	Travel Arrangement and Reservation Services	12	0.00	99.98
4855	Charter Bus Industry	3	0.00	99.98
7114	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	31	0.00	99.98
6115	Technical and Trade Schools	13	0.00	99.99
3133	Textile and Fabric Finishing and Fabric Coating Mills	58	0.00	99.99
4247	Petroleum and Petroleum Products Merchant Wholesalers	0	0.00	99.99
6214	Outpatient Care Centers	19	0.00	99.99
6231	Nursing Care Facilities	29	0.00	99.99
3261	Plastics Product Manufacturing	22	0.00	100.00
8132	Grantmaking and Giving Services	0	0.00	100.00
4512	Book, Periodical, and Music Stores	12	0.00	100.00
3335	Metalworking Machinery Manufacturing	7	0.00	100.00
4542	Vending Machine Operators	18	0.00	100.00
6239	Other Residential Care Facilities	1	0.00	100.00
3149	Other Textile Product Mills	2	0.00	100.00
3346	Manufacturing and Reproducing Magnetic and Optical Media	3	0.00	100.00
	<i>SERVICES</i>	<i>7,744</i>		

Source: See Table 4.1.

M/WBE Availability in the District's Marketplace

Table 4.8. Commodities—Number of Listed M/WBEs and Industry Weight, by NAICS Code, 2010

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumulative)
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	152	26.35	26.35
3251	Basic Chemical Manufacturing	8	13.02	39.37
4236	Electrical and Electronic Goods Merchant Wholesalers	46	5.41	44.78
4246	Chemical and Allied Products Merchant Wholesalers	30	5.15	49.93
4247	Petroleum and Petroleum Products Merchant Wholesalers	12	4.83	54.76
2382	Building Equipment Contractors	215	4.11	58.87
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	22	3.73	62.60
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	5	3.51	66.11
2389	Other Specialty Trade Contractors	143	3.19	69.30
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	16	2.99	72.29
3332	Industrial Machinery Manufacturing	7	2.10	74.39
5416	Management, Scientific, and Technical Consulting Services	351	2.00	76.39
5622	Waste Treatment and Disposal	1	1.57	77.96
4441	Building Material and Supplies Dealers	56	1.42	79.37
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	95	1.26	80.63
3339	Other General Purpose Machinery Manufacturing	9	1.03	81.66
5112	Software Publishers	9	1.02	82.68
4241	Paper and Paper Product Merchant Wholesalers	38	0.94	83.62
2383	Building Finishing Contractors	137	0.82	84.44
2381	Foundation, Structure, and Building Exterior Contractors	112	0.80	85.23
3259	Other Chemical Product and Preparation Manufacturing	6	0.80	86.03
5414	Specialized Design Services	222	0.77	86.80
2371	Utility System Construction	11	0.76	87.56
4233	Lumber and Other Construction Materials Merchant Wholesalers	28	0.67	88.24
4889	Other Support Activities for Transportation	3	0.60	88.84
5629	Remediation and Other Waste Management Services	17	0.55	89.39
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	25	0.53	89.91
8114	Personal and Household Goods Repair and Maintenance	138	0.51	90.42
5617	Services to Buildings and Dwellings	341	0.47	90.90
3353	Electrical Equipment Manufacturing	6	0.43	91.32
4442	Lawn and Garden Equipment and Supplies Stores	29	0.41	91.73
2373	Highway, Street, and Bridge Construction	26	0.40	92.13
3333	Commercial and Service Industry Machinery Manufacturing	3	0.36	92.50
4413	Automotive Parts, Accessories, and Tire Stores	34	0.35	92.85
4911	Postal Service	0	0.35	93.20
8111	Automotive Repair and Maintenance	28	0.34	93.54
3311	Iron and Steel Mills and Ferroalloy Manufacturing	4	0.33	93.87

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumulative)
4232	Furniture and Home Furnishing Merchant Wholesalers	29	0.31	94.18
4421	Furniture Stores	47	0.29	94.47
8112	Electronic and Precision Equipment Repair and Maintenance	41	0.28	94.76
3256	Soap, Cleaning Compound, and Toilet Preparation Manufacturing	5	0.28	95.04
3329	Other Fabricated Metal Product Manufacturing	6	0.27	95.30
3261	Plastics Product Manufacturing	24	0.24	95.55
3359	Other Electrical Equipment and Component Manufacturing	1	0.23	95.78
5311	Lessors of Real Estate	62	0.23	96.02
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	35	0.22	96.24
5413	Architectural, Engineering, and Related Services	199	0.20	96.44
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	11	0.19	96.63
4921	Couriers and Express Delivery Services	3	0.19	96.82
3331	Agriculture, Construction, and Mining Machinery Manufacturing	4	0.18	96.99
4431	Electronics and Appliance Stores	84	0.16	97.16
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	64	0.16	97.32
5415	Computer Systems Design and Related Services	176	0.16	97.47
5616	Investigation and Security Services	28	0.14	97.61
4422	Home Furnishings Stores	20	0.14	97.75
4239	Miscellaneous Durable Goods Merchant Wholesalers	39	0.14	97.89
3322	Cutlery and Handtool Manufacturing	3	0.13	98.02
3351	Electric Lighting Equipment Manufacturing	3	0.13	98.15
3323	Architectural and Structural Metals Manufacturing	17	0.13	98.28
4539	Other Miscellaneous Store Retailers	147	0.12	98.40
4532	Office Supplies, Stationery, and Gift Stores	18	0.12	98.52
3231	Printing and Related Support Activities	82	0.12	98.64
5419	Other Professional, Scientific, and Technical Services	72	0.11	98.75
4922	Local Messengers and Local Delivery	3	0.10	98.85
4244	Grocery and Related Product Merchant Wholesalers	33	0.10	98.96
8123	Drycleaning and Laundry Services	4	0.09	99.05
2362	Nonresidential Building Construction	82	0.09	99.14
5611	Office Administrative Services	14	0.09	99.23
3365	Railroad Rolling Stock Manufacturing	1	0.07	99.30
4543	Direct Selling Establishments	41	0.07	99.37
4841	General Freight Trucking	80	0.07	99.44
4481	Clothing Stores	20	0.07	99.50
3315	Foundries	0	0.05	99.55
3149	Other Textile Product Mills	2	0.05	99.60
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	4	0.05	99.65
3314	Nonferrous Metal (except Aluminum) Production and Processing	0	0.04	99.69

M/WBE Availability in the District's Marketplace

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumulative)
8133	Social Advocacy Organizations	0	0.04	99.73
3363	Motor Vehicle Parts Manufacturing	6	0.03	99.76
3399	Other Miscellaneous Manufacturing	60	0.02	99.78
3326	Spring and Wire Product Manufacturing	7	0.02	99.80
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	0	0.02	99.82
8129	Other Personal Services	188	0.02	99.84
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	13	0.02	99.86
1114	Greenhouse, Nursery, and Floriculture Production	14	0.01	99.87
5613	Employment Services	57	0.01	99.88
3255	Paint, Coating, and Adhesive Manufacturing	3	0.01	99.89
5418	Advertising, Public Relations, and Related Services	45	0.01	99.90
6116	Other Schools and Instruction	6	0.01	99.91
5621	Waste Collection	5	0.01	99.92
5619	Other Support Services	89	0.01	99.93
5241	Insurance Carriers	9	0.01	99.94
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	18	0.01	99.94
4461	Health and Personal Care Stores	18	0.01	99.95
4411	Automobile Dealers	12	0.01	99.96
2372	Land Subdivision	15	0.01	99.96
3241	Petroleum and Coal Products Manufacturing	4	0.01	99.97
3273	Cement and Concrete Product Manufacturing	4	0.00	99.97
5417	Scientific Research and Development Services	29	0.00	99.98
7222	Limited-Service Eating Places	241	0.00	99.98
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	14	0.00	99.99
6219	Other Ambulatory Health Care Services	30	0.00	99.99
7114	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	31	0.00	99.99
3344	Semiconductor and Other Electronic Component Manufacturing	0	0.00	99.99
3364	Aerospace Product and Parts Manufacturing	1	0.00	100.00
5111	Newspaper, Periodical, Book, and Directory Publishers	11	0.00	100.00
8134	Civic and Social Organizations	1	0.00	100.00
3328	Coating, Engraving, Heat Treating, and Allied Activities	6	0.00	100.00
7121	Museums, Historical Sites, and Similar Institutions	3	0.00	100.00
4884	Support Activities for Road Transportation	20	0.00	100.00
	<i>COMMODITIES</i>	<i>4,849</i>		

Source: See Table 4.1.

M/WBE Availability in the District's Marketplace

Table 4.9. Listed M/WBE Survey—Amount of Misclassification, by NAICS Code Grouping

Listed M/WBE By NAICS Code Grouping	Misclassification (Percentage non-minority male)	Percentage Actually M/WBE-owned	Number of Businesses Interviewed
NAICS 236-A	26.5%	73.5%	113
NAICS 237-A	35.1%	64.9%	37
NAICS 238-A	25.2%	74.8%	155
NAICS 3 OR 42-A	23.6%	76.4%	89
NAICS 48 OR 49-A	14.5%	85.5%	69
NAICS 44 OR 45-A	20.3%	79.7%	79
NAICS 54-A	12.2%	87.8%	148
NAICS 5 BUT NOT NAICS 54-A	18.2%	81.8%	66
NAICS 6 OR 7-A	12.8%	87.2%	39
NAICS 8-A	24.7%	75.3%	77
NAICS 11 OR 22-A	100.0%	0.0%	1
NAICS 1 OR 2-B	22.7%	77.3%	44
NAICS 3 OR 42-B	21.3%	78.7%	47
NAICS 44 OR 45-B	15.2%	84.8%	46
NAICS 48 OR 49-B	21.7%	78.3%	46
NAICS 5-B	8.1%	91.9%	37
NAICS 6 OR 7-B	10.2%	89.8%	49
NAICS 8-B	10.2%	89.8%	49
All NAICS Codes	19.6%	80.4%	1,191

Source: NERA/Abt SRBI telephone surveys, 2010.

Note: Two groupings of strata, A and B, were created. NAICS codes reflecting approximately 90 percent of all contract and subcontract spending were stratified into group A with the balance stratified into group B.

M/WBE Availability in the District's Marketplace

Table 4.10. Listed M/WBE Survey—Amount of Misclassification, by Putative M/WBE Type

Putative Race/Sex	Misclassification (Percentage Non-minority Male)	Misclassification (Percentage Other M/WBE Type)	Percentage Correctly Classified	Number of Businesses Interviewed
African American (either sex)	8.5	1.4	90.1	142
Hispanic (either sex)	38.5	23.0	38.5	65
Asian (either sex)	23.4	9.4	67.2	64
Native American (either sex)	40.0	20.0	40.0	15
Non-minority Female	20.2	7.3	72.5	615
Unknown	17.9	82.1	0.0	290
All M/WBE Types	19.6	25.9	54.5	1,191

Source and Notes: See Table 4.9. Similar calculations, not shown here, were performed for each stratum.

M/WBE Availability in the District's Marketplace

Table 4.11. Unclassified Businesses Survey —By NAICS Code Grouping

Listed M/WBE By NAICS Code Grouping	Percentage Actually non-minority male-owned	Percentage M/WBE	Number of Businesses Interviewed
NAICS 236-A	88.8%	11.2%	89
NAICS 237-A	86.7%	13.3%	105
NAICS 238-A	80.7%	19.3%	119
NAICS 3 OR 42-A	76.0%	24.0%	50
NAICS 48 OR 49-A	81.3%	18.8%	32
NAICS 44 OR 45-A	87.3%	12.7%	55
NAICS 54-A	85.6%	14.4%	118
NAICS 5 BUT NOT NAICS 54-A	76.7%	23.3%	30
NAICS 6 OR 7-A	73.1%	26.9%	26
NAICS 8-A	77.3%	22.7%	44
NAICS 11 OR 22-A	78.9%	21.1%	19
NAICS 1 OR 2-B	79.3%	20.7%	29
NAICS 3 OR 42-B	80.0%	20.0%	35
NAICS 44 OR 45-B	88.0%	12.0%	25
NAICS 48 OR 49-B	76.7%	23.3%	30
NAICS 5-B	74.1%	25.9%	27
NAICS 6 OR 7-B	62.5%	37.5%	24
NAICS 8-B	52.9%	47.1%	17
All NAICS Codes	81.2%	18.8%	874

Source and Notes: See Table 4.9.

M/WBE Availability in the District's Marketplace

Table 4.12. Unclassified Businesses Survey—By Race and Sex

Verified Race/Sex	Number of Businesses Interviewed	Percentage of Total
Non-minority male	710	81.2
Non-minority Female	123	14.1
African American (either sex)	26	3.0
Hispanic (either sex)	5	0.6
Asian (either sex)	4	0.5
Native American (either sex)	6	0.7
TOTAL	874	100.0

Source and Notes: See Table 4.9. Percentages may not sum to total due to rounding. Similar calculations, not shown here, were performed for each stratum.

M/WBE Availability in the District's Marketplace

Table 4.13. Detailed M/WBE Availability—Construction, 2010

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Utility System Construction (NAICS 2371)	1.54	0.00	0.00	0.00	13.06	14.59	85.41
Building Equipment Contractors (NAICS 2382)	4.75	0.21	0.12	1.75	17.54	24.38	75.62
Highway, Street, and Bridge Construction (NAICS 2373)	5.09	0.73	0.00	0.00	12.76	18.58	81.42
Nonresidential Building Construction (NAICS 2362)	3.84	1.64	0.56	1.16	11.81	19.01	80.99
Other Specialty Trade Contractors (NAICS 2389)	4.20	0.24	0.13	1.82	17.66	24.06	75.94
Other Heavy and Civil Engineering Construction (NAICS 2379)	3.77	0.00	0.00	0.00	13.19	16.96	83.04
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	4.41	0.01	0.10	0.10	21.46	26.08	73.92
Building Finishing Contractors (NAICS 2383)	4.73	0.06	0.09	1.67	18.94	25.47	74.53
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	4.72	0.17	0.00	1.54	18.28	24.70	75.30
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	5.10	0.04	0.03	0.00	23.42	28.60	71.40
Services to Buildings and Dwellings (NAICS 5617)	4.20	0.15	0.09	0.51	23.26	28.21	71.79
Residential Building Construction (NAICS 2361)	2.81	1.28	0.03	1.25	7.81	13.19	86.81
Waste Treatment and Disposal (NAICS 5622)	5.03	0.00	0.00	0.17	22.09	27.29	72.71
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	4.58	0.00	1.20	0.00	20.87	26.65	73.35
Cement and Concrete Product Manufacturing (NAICS 3273)	5.15	0.45	0.06	0.00	21.17	26.83	73.17
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)	6.24	0.00	0.87	0.00	23.17	30.28	69.72
Water, Sewage and Other Systems (NAICS 2213)	5.88	0.00	7.97	0.00	11.76	25.61	74.39
General Freight Trucking (NAICS 4841)	8.30	0.19	0.73	0.58	12.41	22.20	77.80
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	4.02	0.00	0.62	0.00	21.33	25.97	74.03
Architectural, Engineering, and Related Services (NAICS 5413)	2.94	1.33	1.70	0.04	13.79	19.81	80.19

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Plastics Product Manufacturing (NAICS 3261)	4.26	0.00	0.00	0.00	19.19	23.45	76.55
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)	3.54	0.15	0.00	0.17	22.69	26.55	73.45
Other Fabricated Metal Product Manufacturing (NAICS 3329)	3.48	2.90	0.00	0.00	19.27	25.65	74.35
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	4.80	0.00	0.30	0.00	20.86	25.96	74.04
Building Material and Supplies Dealers (NAICS 4441)	0.44	0.00	0.25	0.04	17.57	18.30	81.70
Grocery and Related Product Merchant Wholesalers (NAICS 4244)	5.03	2.69	0.45	0.00	20.11	28.29	71.71
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)	4.64	0.23	1.31	0.00	22.51	28.69	71.31
Rubber Product Manufacturing (NAICS 3262)	2.87	2.85	0.00	0.00	14.57	20.29	79.71
Remediation and Other Waste Management Services (NAICS 5629)	8.53	0.00	0.00	2.99	21.79	33.31	66.69
Computer Systems Design and Related Services (NAICS 5415)	4.03	1.41	1.34	0.32	17.30	24.40	75.60
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)	6.07	0.00	2.08	0.00	19.58	27.74	72.26
Management, Scientific, and Technical Consulting Services (NAICS 5416)	3.94	1.29	0.53	0.11	17.70	23.56	76.44
Personal and Household Goods Repair and Maintenance (NAICS 8114)	5.45	3.28	0.08	2.27	20.94	32.03	67.97
Electronic and Precision Equipment Repair and Maintenance (NAICS 8112)	5.45	3.26	0.12	2.54	15.86	27.23	72.77
Electrical Equipment Manufacturing (NAICS 3353)	4.26	0.00	0.00	0.00	19.15	23.40	76.60
Architectural and Structural Metals Manufacturing (NAICS 3323)	3.80	0.02	0.46	0.00	24.09	28.37	71.63
Other Chemical Product and Preparation Manufacturing (NAICS 3259)	2.86	2.86	0.00	0.00	14.29	20.00	80.00
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)	4.10	0.23	1.48	0.00	21.42	27.24	72.76
Other General Purpose Machinery Manufacturing	2.76	6.05	0.00	0.00	13.82	22.63	77.37

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
(NAICS 3339)							
Foundries (NAICS 3315)	2.86	2.86	0.00	0.00	14.29	20.00	80.00
Steel Product Manufacturing from Purchased Steel (NAICS 3312)	5.34	3.02	0.00	0.00	24.80	33.17	66.83
Oilseed and Grain Farming (NAICS 1111)	3.57	0.00	0.00	0.32	24.03	27.92	72.08
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)	0.61	0.00	0.80	0.02	19.68	21.11	78.89
Other Professional, Scientific, and Technical Services (NAICS 5419)	2.44	1.39	0.00	0.07	18.87	22.76	77.24
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Main	5.65	2.73	0.23	2.53	15.88	27.02	72.98
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)	10.53	0.00	5.26	0.00	10.53	26.32	73.68
Other Textile Product Mills (NAICS 3149)	2.98	2.72	0.00	0.00	17.07	22.77	77.23
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	3.45	2.71	0.00	0.55	17.05	23.75	76.25
Motion Picture and Video Industries (NAICS 5121)	5.08	0.16	0.00	0.42	24.00	29.65	70.35
Lessors of Real Estate (NAICS 5311)	4.03	0.29	0.09	0.16	22.55	27.13	72.87
Other Miscellaneous Manufacturing (NAICS 3399)	3.73	0.39	0.61	0.00	25.60	30.32	69.68
Paper and Paper Product Merchant Wholesalers (NAICS 4241)	5.91	0.00	0.23	0.00	26.25	32.39	67.61
Educational Support Services (NAICS 6117)	4.93	0.00	0.00	0.00	35.65	40.58	59.42
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	4.31	0.00	1.12	0.00	20.30	25.73	74.27
Petroleum and Coal Products Manufacturing (NAICS 3241)	3.93	0.00	0.10	0.00	20.44	24.46	75.54
Drugs and Druggists' Sundries Merchant Wholesalers (NAICS 4242)	4.35	2.99	0.00	0.00	26.40	33.74	66.26
Metalworking Machinery Manufacturing (NAICS 3335)	3.08	2.77	0.00	0.00	18.13	23.98	76.02
Other Furniture Related Product Manufacturing (NAICS 3379)	5.08	3.16	0.00	0.00	29.26	37.50	62.50
Consumer Goods Rental (NAICS 5322)	3.62	0.00	0.00	0.42	24.66	28.70	71.30
Other Wood Product	2.97	2.80	0.00	0.00	15.71	21.48	78.52

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Manufacturing (NAICS 3219)							
<i>CONSTRUCTION</i>	<i>4.06</i>	<i>0.31</i>	<i>0.15</i>	<i>1.03</i>	<i>16.77</i>	<i>22.31</i>	<i>77.69</i>

Source: See Table 4.1.

M/WBE Availability in the District's Marketplace

Table 4.14. Detailed M/WBE Availability—CRS, 2010

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Architectural, Engineering, and Related Services (NAICS 5413)	3.07	1.38	2.14	0.04	13.88	20.52	79.48
Management, Scientific, and Technical Consulting Services (NAICS 5416)	3.34	1.37	0.55	0.11	17.50	22.87	77.13
Educational Support Services (NAICS 6117)	4.93	0.00	0.00	0.00	35.65	40.58	59.42
Services to Buildings and Dwellings (NAICS 5617)	4.18	0.14	0.09	0.51	23.19	28.11	71.89
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	4.34	0.00	0.04	0.11	21.50	25.99	74.01
Nonresidential Building Construction (NAICS 2362)	5.43	1.74	0.41	1.48	10.60	19.66	80.34
Printing and Related Support Activities (NAICS 3231)	4.28	0.00	0.85	0.00	23.42	28.54	71.46
Other Professional, Scientific, and Technical Services (NAICS 5419)	2.52	1.10	0.25	0.05	15.90	19.81	80.19
Computer Systems Design and Related Services (NAICS 5415)	3.81	1.27	1.50	0.31	16.96	23.85	76.15
Performing Arts Companies (NAICS 7111)	4.64	0.00	4.96	4.00	29.76	43.36	56.64
Residential Building Construction (NAICS 2361)	3.48	1.37	0.08	1.28	8.61	14.83	85.17
Electrical Equipment Manufacturing (NAICS 3353)	3.08	2.81	0.00	0.00	15.97	21.86	78.14
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	4.80	0.00	0.30	0.00	20.86	25.96	74.04
Building Equipment Contractors (NAICS 2382)	4.41	0.13	0.05	1.79	16.81	23.18	76.82
Taxi and Limousine Service (NAICS 4853)	7.70	0.23	5.09	3.62	6.17	22.82	77.18
Other Support Services (NAICS 5619)	4.14	0.22	0.00	1.11	29.99	35.45	64.55
Utility System Construction (NAICS 2371)	1.54	0.00	0.00	0.00	13.06	14.59	85.41
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	5.04	0.21	0.00	1.67	17.50	24.42	75.58
Basic Chemical Manufacturing (NAICS 3251)	3.87	0.00	0.00	0.00	17.41	21.28	78.72
Other Financial Investment Activities (NAICS 5239)	3.56	0.00	0.00	0.40	23.08	27.04	72.96
<i>CRS</i>	<i>3.12</i>	<i>1.27</i>	<i>1.81</i>	<i>0.08</i>	<i>15.75</i>	<i>22.03</i>	<i>77.97</i>

Source: See Table 4.1.

M/WBE Availability in the District's Marketplace

Table 4.15. Detailed M/WBE Availability—Services, 2010

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
General Freight Trucking (NAICS 4841)	8.34	0.09	0.20	0.02	13.08	21.73	78.27
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	4.68	0.01	0.31	0.09	21.19	26.27	73.73
Legal Services (NAICS 5411)	2.08	1.06	0.13	0.04	14.99	18.31	81.69
Management, Scientific, and Technical Consulting Services (NAICS 5416)	4.01	1.34	0.43	0.11	17.50	23.40	76.60
Architectural, Engineering, and Related Services (NAICS 5413)	3.09	1.34	2.00	0.04	13.90	20.38	79.62
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	3.96	0.00	0.03	0.00	25.10	29.09	70.91
Services to Buildings and Dwellings (NAICS 5617)	6.14	0.41	0.08	0.66	25.45	32.73	67.27
Nonresidential Building Construction (NAICS 2362)	3.46	1.61	0.60	1.08	12.10	18.85	81.15
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	4.98	0.49	1.92	0.02	23.02	30.43	69.57
Building Equipment Contractors (NAICS 2382)	5.20	0.12	0.07	1.75	16.21	23.36	76.64
Waste Treatment and Disposal (NAICS 5622)	5.23	0.00	0.00	0.00	21.07	26.30	73.70
Software Publishers (NAICS 5112)	3.55	0.00	0.30	0.26	23.15	27.26	72.74
Accounting, Tax Preparation, Bookkeeping, and Payroll Services (NAICS 5412)	2.41	1.04	0.11	0.07	16.91	20.52	79.48
Other General Purpose Machinery Manufacturing (NAICS 3339)	4.01	0.03	0.10	0.00	22.09	26.23	73.77
Utility System Construction (NAICS 2371)	1.48	0.00	0.00	0.00	13.06	14.54	85.46
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)	5.27	0.04	0.00	0.48	24.65	30.44	69.56
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)	3.54	0.01	0.00	0.01	22.21	25.76	74.24
Drycleaning and Laundry Services (NAICS 8123)	12.26	2.28	0.00	2.28	19.15	35.99	64.01
Computer Systems Design and Related Services (NAICS 5415)	3.54	1.10	1.69	0.30	16.54	23.17	76.83
Other Professional, Scientific,	2.37	0.96	0.56	0.07	19.60	23.57	76.43

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
and Technical Services (NAICS 5419)							
Other Support Services (NAICS 5619)	4.13	0.21	0.00	1.09	29.83	35.26	64.74
Employment Services (NAICS 5613)	5.33	0.24	0.24	0.68	26.39	32.88	67.12
Data Processing, Hosting, and Related Services (NAICS 5182)	4.92	0.60	0.99	0.86	27.11	34.47	65.53
Business Support Services (NAICS 5614)	6.55	0.04	0.02	0.50	24.67	31.79	68.21
Residential Building Construction (NAICS 2361)	3.62	1.27	0.33	1.16	8.96	15.33	84.67
Printing and Related Support Activities (NAICS 3231)	4.41	0.00	0.74	0.00	23.65	28.80	71.20
Other Chemical Product and Preparation Manufacturing (NAICS 3259)	3.95	0.00	1.30	0.00	22.25	27.49	72.51
Other Investment Pools and Funds (NAICS 5259)	6.31	0.00	0.00	0.22	22.86	29.39	70.61
Electronic and Precision Equipment Repair and Maintenance (NAICS 8112)	6.25	2.96	0.12	2.34	17.95	29.61	70.39
Clothing Stores (NAICS 4481)	0.75	0.99	2.33	0.07	28.41	32.56	67.44
Automotive Repair and Maintenance (NAICS 8111)	6.89	2.20	0.03	2.03	20.26	31.41	68.59
Communications Equipment Manufacturing (NAICS 3342)	7.07	0.00	0.17	0.00	21.93	29.16	70.84
Offices of Real Estate Agents and Brokers (NAICS 5312)	4.43	0.06	0.06	0.56	25.67	30.78	69.22
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	4.66	0.00	0.41	0.10	21.16	26.33	73.67
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)	3.76	0.21	0.06	0.44	24.57	29.03	70.97
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	4.09	0.00	0.32	0.00	20.81	25.21	74.79
Other Specialty Trade Contractors (NAICS 2389)	4.56	0.13	0.09	1.76	18.47	25.01	74.99
Advertising, Public Relations, and Related Services (NAICS 5418)	5.55	2.04	0.42	0.36	24.44	32.82	67.18
Scientific Research and Development Services (NAICS 5417)	3.17	0.92	0.46	0.06	15.97	20.59	79.41
Civic and Social Organizations (NAICS 8134)	7.50	1.89	0.00	1.89	20.65	31.93	68.07
Investigation and Security Services (NAICS 5616)	6.13	0.42	0.00	0.70	22.77	30.02	69.98

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Waste Collection (NAICS 5621)	5.33	0.00	0.00	0.12	26.68	32.12	67.88
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)	4.12	0.00	0.07	0.01	20.89	25.08	74.92
Engine, Turbine, and Power Transmission Equipment Manufacturing (NAICS 3336)	4.26	0.00	0.00	0.00	19.15	23.40	76.60
Computer and Peripheral Equipment Manufacturing (NAICS 3341)	6.61	0.00	0.14	0.00	21.48	28.23	71.77
Activities Related to Real Estate (NAICS 5313)	3.80	0.17	0.00	0.63	26.12	30.72	69.28
Motion Picture and Video Industries (NAICS 5121)	5.08	0.17	0.00	0.42	23.99	29.65	70.35
Insurance Carriers (NAICS 5241)	4.46	4.19	0.00	0.00	20.04	28.69	71.31
Apparel, Piece Goods, and Notions Merchant Wholesalers (NAICS 4243)	3.50	0.00	0.34	0.00	28.80	32.64	67.36
Specialized Freight Trucking (NAICS 4842)	8.63	0.00	0.00	0.00	21.13	29.76	70.24
Personal and Household Goods Repair and Maintenance (NAICS 8114)	5.52	2.98	0.06	2.33	19.76	30.65	69.35
Warehousing and Storage (NAICS 4931)	7.58	0.12	3.67	3.67	7.21	22.26	77.74
Electrical Equipment Manufacturing (NAICS 3353)	4.17	0.92	1.15	0.00	17.74	23.98	76.02
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)	4.32	0.27	1.13	0.14	22.07	27.92	72.08
Building Material and Supplies Dealers (NAICS 4441)	0.33	0.28	2.02	0.21	13.69	16.53	83.47
Highway, Street, and Bridge Construction (NAICS 2373)	5.09	0.73	0.00	0.00	12.76	18.58	81.42
Automobile Dealers (NAICS 4411)	0.19	0.16	4.07	0.15	9.12	13.70	86.30
Taxi and Limousine Service (NAICS 4853)	7.70	0.23	5.09	3.62	6.17	22.82	77.18
Electronics and Appliance Stores (NAICS 4431)	0.23	0.43	1.42	0.26	16.97	19.31	80.69
Miscellaneous Nondurable Goods Merchant Wholesalers (NAICS 4249)	3.56	2.83	0.00	0.00	21.69	28.08	71.92
Home Furnishings Stores (NAICS 4422)	2.43	2.10	3.14	0.15	23.90	31.72	68.28
Other Motor Vehicle Dealers (NAICS 4412)	0.09	0.08	4.10	0.05	9.39	13.71	86.29
Foundation, Structure, and Building Exterior Contractors	4.16	0.14	0.00	1.49	17.64	23.43	76.57

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
(NAICS 2381)							
Other Schools and Instruction (NAICS 6116)	2.00	0.06	4.84	4.16	30.10	41.16	58.84
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Main	5.65	2.73	0.23	2.53	15.88	27.02	72.98
Remediation and Other Waste Management Services (NAICS 5629)	4.12	0.17	0.00	0.24	23.25	27.78	72.22
Radio and Television Broadcasting (NAICS 5151)	3.91	3.91	0.00	0.00	21.71	29.52	70.48
Automotive Parts, Accessories, and Tire Stores (NAICS 4413)	0.26	0.00	0.61	0.20	15.89	16.95	83.05
Other Personal Services (NAICS 8129)	8.73	1.44	0.12	1.58	29.52	41.39	58.61
Individual and Family Services (NAICS 6241)	0.59	0.00	4.41	4.35	27.15	36.50	63.50
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)	3.97	1.87	0.72	0.00	16.12	22.68	77.32
Iron and Steel Mills and Ferroalloy Manufacturing (NAICS 3311)	2.17	0.13	0.00	0.00	47.23	49.53	50.47
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	4.98	0.00	0.68	0.00	20.46	26.12	73.88
Building Finishing Contractors (NAICS 2383)	4.70	0.06	0.09	1.67	18.92	25.43	74.57
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)	4.10	0.23	1.48	0.00	21.42	27.24	72.76
Other Miscellaneous Store Retailers (NAICS 4539)	1.09	0.84	3.88	0.07	14.18	20.06	79.94
Independent Artists, Writers, and Performers (NAICS 7115)	4.75	0.47	0.00	0.00	40.99	46.21	53.79
Grocery and Related Product Merchant Wholesalers (NAICS 4244)	5.03	2.69	0.45	0.00	20.11	28.29	71.71
Museums, Historical Sites, and Similar Institutions (NAICS 7121)	0.11	0.00	4.64	4.49	27.86	37.09	62.91
Coating, Engraving, Heat Treating, and Allied Activities (NAICS 3328)	3.80	2.83	0.00	0.00	17.41	24.05	75.95
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)	4.67	2.15	0.02	0.00	15.85	22.69	77.31
Other Financial Investment Activities (NAICS 5239)	3.56	0.00	0.00	0.40	23.08	27.04	72.96
Miscellaneous Durable Goods	4.49	1.17	0.98	0.00	24.01	30.65	69.35

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Merchant Wholesalers (NAICS 4239)							
Other Miscellaneous Manufacturing (NAICS 3399)	3.63	0.68	0.54	0.00	24.29	29.13	70.87
Business Schools and Computer and Management Training (NAICS 6114)	1.60	0.00	5.51	3.74	35.36	46.21	53.79
Educational Support Services (NAICS 6117)	4.93	0.00	0.00	0.00	35.65	40.58	59.42
Special Food Services (NAICS 7223)	3.01	0.57	5.24	3.82	32.92	45.55	54.45
Architectural and Structural Metals Manufacturing (NAICS 3323)	3.42	1.73	0.71	0.00	20.15	26.00	74.00
Specialized Design Services (NAICS 5414)	4.03	1.57	0.13	0.51	39.63	45.88	54.12
Other Electrical Equipment and Component Manufacturing (NAICS 3359)	4.16	0.00	0.00	0.00	20.43	24.60	75.40
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	4.31	0.00	1.12	0.00	20.30	25.73	74.27
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)	6.26	0.00	0.88	0.00	23.19	30.33	69.67
Direct Selling Establishments (NAICS 4543)	1.14	1.45	3.25	0.41	23.27	29.51	70.49
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)	0.12	0.00	0.18	0.00	17.82	18.12	81.88
Colleges, Universities, and Professional Schools (NAICS 6113)	0.00	0.00	4.55	4.55	27.27	36.36	63.64
Other Fabricated Metal Product Manufacturing (NAICS 3329)	3.40	2.93	0.00	0.00	17.95	24.28	75.72
Furniture Stores (NAICS 4421)	0.21	0.23	0.43	0.07	20.44	21.38	78.62
Business, Professional, Labor, Political, and Similar Organizations (NAICS 8139)	11.90	0.22	0.00	0.23	35.55	47.90	52.10
Offices of Physicians (NAICS 6211)	0.63	0.41	5.50	4.23	29.58	40.34	59.66
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing (NAICS 3334)	3.93	0.66	0.13	0.00	22.10	26.82	73.18
Industrial Machinery Manufacturing (NAICS 3332)	3.89	0.00	0.19	0.00	23.78	27.86	72.14
Nondepository Credit Intermediation (NAICS 5222)	4.01	4.01	0.00	0.00	19.69	27.71	72.29
Social Advocacy Organizations (NAICS 8133)	13.09	0.00	0.00	0.00	37.25	50.34	49.66

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)	4.07	0.00	0.28	0.00	27.70	32.05	67.95
Cutlery and Handtool Manufacturing (NAICS 3322)	3.12	4.54	0.00	0.00	16.18	23.84	76.16
Other Amusement and Recreation Industries (NAICS 7139)	1.43	0.00	5.17	4.07	31.51	42.18	57.82
Basic Chemical Manufacturing (NAICS 3251)	4.26	0.00	0.00	0.00	19.15	23.40	76.60
Elementary and Secondary Schools (NAICS 6111)	0.00	0.00	4.55	4.55	27.27	36.36	63.64
Sporting Goods, Hobby, and Musical Instrument Stores (NAICS 4511)	0.27	0.40	3.93	0.07	11.73	16.39	83.61
Couriers and Express Delivery Services (NAICS 4921)	6.05	0.00	0.00	0.00	12.77	18.81	81.19
Limited-Service Eating Places (NAICS 7222)	0.64	0.18	5.10	4.22	30.17	40.30	59.70
Office Administrative Services (NAICS 5611)	4.18	0.00	0.33	0.19	22.79	27.49	72.51
Motor Vehicle Parts Manufacturing (NAICS 3363)	3.32	2.81	0.68	0.00	18.15	24.96	75.04
Lessors of Real Estate (NAICS 5311)	4.03	0.29	0.09	0.16	22.55	27.13	72.87
Religious Organizations (NAICS 8131)	12.51	0.00	0.00	0.00	37.53	50.04	49.96
Nonscheduled Air Transportation (NAICS 4812)	8.56	0.18	2.44	2.44	9.37	22.97	77.03
Other Ambulatory Health Care Services (NAICS 6219)	0.89	0.00	4.64	4.33	29.21	39.07	60.93
Support Activities for Road Transportation (NAICS 4884)	7.96	1.56	3.51	3.51	8.45	25.00	75.00
Paper and Paper Product Merchant Wholesalers (NAICS 4241)	4.04	0.00	0.14	0.00	29.01	33.19	66.81
Other Nonmetallic Mineral Product Manufacturing (NAICS 3279)	2.29	2.29	0.00	0.00	21.43	26.00	74.00
Other Crop Farming (NAICS 1119)	3.83	0.00	0.00	0.13	22.56	26.51	73.49
Scenic and Sightseeing Transportation, Land (NAICS 4871)	7.69	0.00	3.85	3.85	3.85	19.23	80.77
Travel Arrangement and Reservation Services (NAICS 5615)	5.09	3.24	0.00	0.00	32.55	40.89	59.11
Charter Bus Industry (NAICS 4855)	10.51	0.17	3.47	3.47	5.34	22.97	77.03
Agents and Managers for Artists, Athletes, Entertainers, and Other	3.74	0.00	1.11	0.98	28.88	34.71	65.29

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Public Figures (NAICS 7114)							
Technical and Trade Schools (NAICS 6115)	4.13	0.00	4.93	3.92	31.26	44.25	55.75
Textile and Fabric Finishing and Fabric Coating Mills (NAICS 3133)	5.15	2.88	0.00	0.00	37.13	45.16	54.84
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	4.26	0.00	0.00	0.00	19.15	23.40	76.60
Outpatient Care Centers (NAICS 6214)	0.84	0.00	4.85	4.27	29.83	39.80	60.20
Nursing Care Facilities (NAICS 6231)	1.11	0.00	4.97	4.24	29.87	40.20	59.80
Plastics Product Manufacturing (NAICS 3261)	4.26	0.00	0.42	0.00	22.67	27.36	72.64
Grantmaking and Giving Services (NAICS 8132)	12.50	0.00	0.00	0.00	37.50	50.00	50.00
Book, Periodical, and Music Stores (NAICS 4512)	1.60	0.78	3.84	0.08	12.09	18.39	81.61
Metalworking Machinery Manufacturing (NAICS 3335)	3.06	2.77	0.57	1.15	17.02	24.57	75.43
Vending Machine Operators (NAICS 4542)	0.45	0.72	4.02	0.09	14.11	19.39	80.61
Other Residential Care Facilities (NAICS 6239)	0.05	0.00	4.59	4.52	27.54	36.69	63.31
Other Textile Product Mills (NAICS 3149)	2.98	2.72	0.00	0.00	17.07	22.77	77.23
Manufacturing and Reproducing Magnetic and Optical Media (NAICS 3346)	7.81	2.65	0.00	0.00	18.40	28.85	71.15
<i>SERVICES</i>	<i>4.35</i>	<i>0.70</i>	<i>0.32</i>	<i>0.19</i>	<i>17.19</i>	<i>22.76</i>	<i>77.24</i>

Source: See Table 4.1.

M/WBE Availability in the District's Marketplace

Table 4.16. Detailed M/WBE Availability—Commodities, 2010

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	4.59	0.04	0.25	0.08	21.52	26.48	73.52
Basic Chemical Manufacturing (NAICS 3251)	6.27	0.00	0.07	0.00	19.89	26.24	73.76
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	4.78	0.00	0.31	0.02	20.91	26.02	73.98
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)	6.17	0.00	0.85	0.00	23.12	30.15	69.85
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	4.83	0.00	0.06	0.00	21.20	26.08	73.92
Building Equipment Contractors (NAICS 2382)	4.49	0.15	0.07	1.78	16.97	23.45	76.55
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	4.11	0.00	0.41	0.00	20.95	25.46	74.54
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing (NAICS 3334)	3.97	0.01	0.17	0.00	22.65	26.80	73.20
Other Specialty Trade Contractors (NAICS 2389)	4.55	0.13	0.09	1.76	18.46	25.00	75.00
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	4.20	0.00	0.41	0.00	24.11	28.72	71.28
Industrial Machinery Manufacturing (NAICS 3332)	3.89	0.00	0.19	0.00	23.78	27.86	72.14
Management, Scientific, and Technical Consulting Services (NAICS 5416)	1.71	3.46	0.01	0.00	15.39	20.57	79.43
Waste Treatment and Disposal (NAICS 5622)	5.23	0.00	0.00	0.00	21.06	26.29	73.71
Building Material and Supplies Dealers (NAICS 4441)	0.12	0.18	0.51	0.06	15.13	16.00	84.00
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	5.80	1.30	0.80	0.01	22.04	29.96	70.04
Other General Purpose Machinery Manufacturing (NAICS 3339)	3.99	0.42	0.02	0.00	19.17	23.61	76.39
Software Publishers (NAICS 5112)	3.55	0.00	0.30	0.26	23.15	27.26	72.74
Paper and Paper Product	5.03	0.00	0.19	0.00	27.57	32.79	67.21

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Merchant Wholesalers (NAICS 4241)							
Building Finishing Contractors (NAICS 2383)	4.50	0.15	0.04	1.49	18.95	25.13	74.87
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	4.25	0.12	0.00	1.39	18.55	24.31	75.69
Other Chemical Product and Preparation Manufacturing (NAICS 3259)	3.95	0.00	1.30	0.00	22.25	27.49	72.51
Specialized Design Services (NAICS 5414)	3.73	1.16	0.17	0.66	40.66	46.38	53.62
Utility System Construction (NAICS 2371)	1.54	0.00	0.00	0.00	13.06	14.59	85.41
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	4.45	0.04	0.06	0.00	20.27	24.82	75.18
Other Support Activities for Transportation (NAICS 4889)	5.00	0.00	6.25	0.00	20.00	31.25	68.75
Remediation and Other Waste Management Services (NAICS 5629)	3.56	0.01	0.00	0.49	24.94	29.00	71.00
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)	4.08	0.00	0.17	0.09	21.05	25.40	74.60
Personal and Household Goods Repair and Maintenance (NAICS 8114)	5.76	2.98	0.18	2.39	17.95	29.26	70.74
Services to Buildings and Dwellings (NAICS 5617)	5.44	0.31	0.09	0.59	24.44	30.87	69.13
Electrical Equipment Manufacturing (NAICS 3353)	4.40	0.49	0.00	0.00	18.69	23.57	76.43
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)	0.04	0.00	0.08	0.00	17.53	17.66	82.34
Highway, Street, and Bridge Construction (NAICS 2373)	5.09	0.73	0.00	0.00	12.76	18.58	81.42
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	4.31	0.00	1.12	0.00	20.30	25.73	74.27
Automotive Parts, Accessories, and Tire Stores (NAICS 4413)	0.26	0.00	0.60	0.19	15.88	16.93	83.07
Postal Service (NAICS 4911)	6.67	0.00	0.00	0.00	10.00	16.67	83.33
Automotive Repair and Maintenance (NAICS 8111)	5.12	2.58	0.00	2.45	17.01	27.16	72.84
Iron and Steel Mills and Ferroalloy Manufacturing (NAICS 3311)	2.46	0.96	0.00	0.00	37.79	41.21	58.79
Furniture and Home Furnishing Merchant Wholesalers (NAICS	4.07	0.00	0.28	0.00	27.70	32.05	67.95

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
4232)							
Furniture Stores (NAICS 4421)	0.21	0.23	0.43	0.07	20.44	21.38	78.62
Electronic and Precision Equipment Repair and Maintenance (NAICS 8112)	5.45	3.26	0.12	2.54	15.87	27.24	72.76
Soap, Cleaning Compound, and Toilet Preparation Manufacturing (NAICS 3256)	6.13	0.00	0.18	0.00	23.86	30.17	69.83
Other Fabricated Metal Product Manufacturing (NAICS 3329)	3.21	2.90	0.00	0.00	16.75	22.86	77.14
Plastics Product Manufacturing (NAICS 3261)	4.03	0.51	0.33	0.00	21.87	26.74	73.26
Other Electrical Equipment and Component Manufacturing (NAICS 3359)	4.10	0.14	0.00	0.00	20.14	24.38	75.62
Lessors of Real Estate (NAICS 5311)	4.03	0.29	0.09	0.16	22.55	27.13	72.87
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)	4.10	0.23	1.48	0.00	21.42	27.24	72.76
Architectural, Engineering, and Related Services (NAICS 5413)	2.99	1.34	1.87	0.04	13.82	20.07	79.93
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)	3.54	0.12	0.00	0.13	22.70	26.48	73.52
Couriers and Express Delivery Services (NAICS 4921)	6.05	0.00	0.00	0.00	12.77	18.81	81.19
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)	6.03	0.03	2.06	0.00	19.56	27.67	72.33
Electronics and Appliance Stores (NAICS 4431)	0.44	0.51	2.35	0.20	15.45	18.95	81.05
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)	4.11	0.91	0.85	0.10	21.14	27.11	72.89
Computer Systems Design and Related Services (NAICS 5415)	3.97	1.37	1.38	0.32	17.21	24.26	75.74
Investigation and Security Services (NAICS 5616)	6.21	0.00	0.00	0.79	22.97	29.97	70.03
Home Furnishings Stores (NAICS 4422)	2.43	2.10	3.14	0.15	23.90	31.72	68.28
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)	4.64	0.23	1.31	0.00	22.51	28.69	71.31
Cutlery and Handtool Manufacturing (NAICS 3322)	3.12	4.54	0.00	0.00	16.18	23.84	76.16
Electric Lighting Equipment Manufacturing (NAICS 3351)	3.77	2.84	0.00	0.00	23.48	30.09	69.91
Architectural and Structural Metals Manufacturing (NAICS	3.74	0.69	0.37	0.00	22.58	27.38	72.62

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
3323)							
Other Miscellaneous Store Retailers (NAICS 4539)	1.09	0.78	3.85	0.07	13.71	19.50	80.50
Office Supplies, Stationery, and Gift Stores (NAICS 4532)	2.22	0.79	4.37	0.23	16.13	23.74	76.26
Printing and Related Support Activities (NAICS 3231)	4.66	0.00	0.59	0.00	24.40	29.66	70.34
Other Professional, Scientific, and Technical Services (NAICS 5419)	2.52	1.10	0.25	0.05	15.90	19.81	80.19
Local Messengers and Local Delivery (NAICS 4922)	6.15	0.00	0.00	0.00	20.13	26.28	73.72
Grocery and Related Product Merchant Wholesalers (NAICS 4244)	5.03	2.69	0.45	0.00	20.11	28.29	71.71
Drycleaning and Laundry Services (NAICS 8123)	12.22	2.17	0.02	2.19	20.33	36.93	63.07
Nonresidential Building Construction (NAICS 2362)	5.43	1.74	0.41	1.48	10.60	19.66	80.34
Office Administrative Services (NAICS 5611)	4.18	0.00	0.33	0.19	22.79	27.49	72.51
Railroad Rolling Stock Manufacturing (NAICS 3365)	3.72	0.00	0.32	0.00	25.73	29.77	70.23
Direct Selling Establishments (NAICS 4543)	1.14	1.45	3.25	0.41	23.27	29.51	70.49
General Freight Trucking (NAICS 4841)	8.34	0.09	0.18	0.00	13.11	21.71	78.29
Clothing Stores (NAICS 4481)	1.24	1.14	4.25	0.04	16.25	22.92	77.08
Foundries (NAICS 3315)	2.86	2.86	0.00	0.00	14.29	20.00	80.00
Other Textile Product Mills (NAICS 3149)	2.98	2.72	0.00	0.00	17.07	22.77	77.23
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)	4.67	2.15	0.02	0.00	15.85	22.69	77.31
Nonferrous Metal (except Aluminum) Production and Processing (NAICS 3314)	2.86	2.86	0.00	0.00	14.29	20.00	80.00
Social Advocacy Organizations (NAICS 8133)	13.09	0.00	0.00	0.00	37.25	50.34	49.66
Motor Vehicle Parts Manufacturing (NAICS 3363)	3.00	2.84	0.21	0.00	15.51	21.56	78.44
Other Miscellaneous Manufacturing (NAICS 3399)	3.70	2.74	0.11	0.11	22.60	29.27	70.73
Spring and Wire Product Manufacturing (NAICS 3326)	3.38	6.31	0.00	0.00	18.96	28.65	71.35
Engine, Turbine, and Power Transmission Equipment Manufacturing (NAICS 3336)	4.26	0.00	0.00	0.00	19.15	23.40	76.60
Other Personal Services (NAICS 8129)	8.36	1.66	0.12	1.75	27.43	39.32	60.68
Commercial and Industrial	5.65	2.73	0.23	2.53	15.88	27.02	72.98

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Machinery and Equipment (except Automotive and Electronic) Repair and Main							
Greenhouse, Nursery, and Floriculture Production (NAICS 1114)	3.54	0.00	0.00	0.37	27.18	31.10	68.90
Employment Services (NAICS 5613)	5.33	0.24	0.24	0.68	26.39	32.88	67.12
Paint, Coating, and Adhesive Manufacturing (NAICS 3255)	3.17	2.72	0.00	0.00	17.06	22.95	77.05
Advertising, Public Relations, and Related Services (NAICS 5418)	4.64	3.40	0.43	0.03	31.06	39.55	60.45
Other Schools and Instruction (NAICS 6116)	1.72	0.00	4.79	4.22	29.66	40.40	59.60
Waste Collection (NAICS 5621)	5.33	0.00	0.00	0.12	26.70	32.15	67.85
Other Support Services (NAICS 5619)	4.14	0.22	0.00	1.11	29.99	35.45	64.55
Insurance Carriers (NAICS 5241)	4.71	4.24	0.00	0.00	21.97	30.93	69.07
Apparel, Piece Goods, and Notions Merchant Wholesalers (NAICS 4243)	3.56	0.62	0.50	0.00	27.90	32.57	67.43
Health and Personal Care Stores (NAICS 4461)	0.31	0.42	3.91	0.10	12.60	17.33	82.67
Automobile Dealers (NAICS 4411)	0.19	0.16	4.07	0.15	9.12	13.70	86.30
Land Subdivision (NAICS 2372)	2.18	0.21	0.00	0.00	12.19	14.58	85.42
Petroleum and Coal Products Manufacturing (NAICS 3241)	3.72	0.00	0.08	0.00	21.44	25.25	74.75
Cement and Concrete Product Manufacturing (NAICS 3273)	5.48	0.00	0.08	0.00	21.60	27.16	72.84
Scientific Research and Development Services (NAICS 5417)	3.16	0.88	0.46	0.06	15.79	20.34	79.66
Limited-Service Eating Places (NAICS 7222)	0.64	0.18	5.10	4.22	30.17	40.30	59.70
Miscellaneous Nondurable Goods Merchant Wholesalers (NAICS 4249)	3.56	2.83	0.00	0.00	21.69	28.08	71.92
Other Ambulatory Health Care Services (NAICS 6219)	0.89	0.00	4.64	4.33	29.21	39.07	60.93
Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures (NAICS 7114)	3.74	0.00	1.11	0.98	28.88	34.71	65.29
Semiconductor and Other Electronic Component Manufacturing (NAICS 3344)	2.86	2.86	0.00	0.00	14.29	20.00	80.00
Aerospace Product and Parts Manufacturing (NAICS 3364)	3.14	2.90	0.00	0.00	16.19	22.23	77.77
Newspaper, Periodical, Book,	5.24	0.00	0.00	0.49	24.67	30.40	69.60

M/WBE Availability in the District's Marketplace

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
and Directory Publishers (NAICS 5111)							
Civic and Social Organizations (NAICS 8134)	7.50	1.89	0.00	1.89	20.65	31.93	68.07
Coating, Engraving, Heat Treating, and Allied Activities (NAICS 3328)	3.08	2.81	0.00	0.00	17.05	22.94	77.06
Museums, Historical Sites, and Similar Institutions (NAICS 7121)	0.12	0.00	4.66	4.48	27.95	37.21	62.79
Support Activities for Road Transportation (NAICS 4884)	7.96	1.56	3.51	3.51	8.45	25.00	75.00
<i>COMMODITIES</i>	<i>4.20</i>	<i>0.13</i>	<i>0.19</i>	<i>0.55</i>	<i>20.66</i>	<i>25.73</i>	<i>74.27</i>

Source: See Table 4.1.

M/WBE Availability in the District's Marketplace

Table 4.17. Estimated Availability—Overall and By Procurement Category

Detailed Industry	African American	Hispanic	Asian	Native American	MBE	Non-minority Female	M/WBE	Non-M/WBE
CONSTRUCTION	4.06	0.31	0.15	1.03	5.54	16.77	22.31	77.69
CRS	3.12	1.27	1.81	0.08	6.28	15.75	22.03	77.97
SERVICES	4.35	0.70	0.32	0.19	5.57	17.19	22.76	77.24
COMMODITIES	4.20	0.13	0.19	0.55	5.07	20.66	25.73	74.27
TOTAL	3.81	0.70	0.75	0.50	5.76	16.78	22.54	77.46

Source: See Table 4.1.

V. Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

A. Review of Relevant Literature

In this chapter we examine disparities in business formation and earnings principally in the private sector, where contracting activities are generally *not* subject to M/WBE or other affirmative action requirements. Statistical examination of disparities in the private sector of the relevant geographic marketplace is important for several reasons. First, to the extent that discriminatory practices by contractors, suppliers, insurers, lenders, customers, and others limit the ability of M/WBEs to compete, those practices will impact the larger private sector as well as the public sector. Second, examining the utilization of M/WBEs in the private sector provides an indicator of the extent to which M/WBEs are used in the absence of race- and gender-conscious efforts, since few firms in the private sector make such efforts. Third, the Supreme Court in *Croson* and other courts acknowledged that state and local governments have a constitutional duty not to contribute to the perpetuation of discrimination in the private sector of their relevant geographic and product markets.

After years of comparative neglect, research on the economics of entrepreneurship—especially upon self-employment—has expanded in the last twenty years.²¹⁰ There is a good deal of agreement in the literature on the micro-economic correlates of self-employment.²¹¹ In the U.S., it appears that self-employment rises with age, is higher among men than women and higher among non-minorities than African Americans. The least educated have the highest probability of being self-employed. However, evidence is also found in the U.S. that the most highly educated also have relatively high probabilities. On average, however, increases in educational attainment are generally found to lead to increases in the probability of being self-employed. A higher number of children in the family increases the likelihood of (male) self-employment. Workers in agriculture and construction are also especially likely to be self-employed.

There has been relatively less work on how institutional factors influence self-employment. Such work that has been conducted includes examining the role of minimum wage legislation (Blau,

²¹⁰ Microeconomic work includes Fuchs (1982), Borjas and Bronars (1989), Evans and Jovanovic (1989), Evans and Leighton (1989), Fairlie and Meyer (1996, 1998), Reardon (1998), Fairlie (1999), Wainwright (2000), Blanchflower and Wainwright (2005), and Blanchflower (2009) for the United States, Rees and Shah (1986), Pickles and O'Farrell (1987), Blanchflower and Oswald (1990, 1998), Meager (1992), Blanchflower and Freeman (1994), Taylor (1996), Robson (1998a, 1998b), and Blanchflower and Shadforth (2007) for the UK, DeWit and van Winden (1990) for the Netherlands, Alba-Ramirez (1994) for Spain, Bernhardt (1994), Schuetze (1998), Arai (1997), Lentz and Laband (1990), and Kuhn and Schuetze (1998) for Canada, Laferrere and McEntee (1995) for France, Blanchflower and Meyer (1994) and Kidd (1993) for Australia, and Foti and Vivarelli (1994) for Italy. There are also several theoretical papers including Kihlstrom and Laffonte (1979), Kanbur (1982), Holmes and Schmitz (1990), Croate and Tennyson (1992), and Cagetti and DeNardi (2006), plus a few papers that draw comparisons across countries *i.e.* Schuetze (1998) for Canada and the U.S., Blanchflower and Meyer (1994) for Australia and the U.S., Alba-Ramirez (1994) for Spain and the United States, and Acs and Evans (1994), Blanchflower (2000), Blanchflower, Oswald, and Stutzer (2001), and Blanchflower and Oswald (2008) for many countries.

²¹¹ Parker (2004) and Aronson (1991) provide good overviews.

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1987), immigration (Fairlie and Meyer, 1998; 2003; Olson, Zuiker and Montalto, 2000; Mora and Davila 2006, Robles and Cordero-Gúzman, 2007),²¹² immigration policy (Borjas and Bronars, 1989), and retirement policies (Quinn, 1980). Studies by Long (1982), and Blau (1987), and more recently by Schuetze (1998), have considered the role of taxes.²¹³ A number of other studies have also considered the cyclical aspects of self-employment and in particular how movements of self-employment are correlated with movements in unemployment. Meager (1992), provides a useful summary of much of this work.²¹⁴

Blanchflower, Oswald and Stutzer (2001) found that there is a strikingly large latent desire to own a business. There exists frustrated entrepreneurship on a huge scale in the U.S. and other Organization for Economic Co-operation and Development (OECD) countries.²¹⁵ In the U.S., 7 out of 10 people say they would prefer to be self-employed. This compares to an actual proportion of self-employed people in 2001 of 7.3 percent of the civilian labor force, which also shows that the proportion of the labor force that is self-employed has declined steadily since 1990 following a small increase in the rate from 1980 to 1990. This raises an important question. Why do so few individuals in the U.S. and OECD countries manage to translate their preferences into action? Lack of start-up capital is one likely explanation. This factor is commonly cited by

²¹² Fairlie and Meyer (1998) found that immigration had no statistically significant impact at all on African American self-employment. In a subsequent paper Fairlie and Meyer (2004), found that self-employed immigrants did displace self-employed native non-African Americans. They found that immigration has a large negative effect on the probability of self-employment among native non-African Americans, although, surprisingly, they found that immigrants increase native self-employment earnings.

²¹³ In an interesting study pooling individual level data for the U.S. and Canada from the CPS and the Survey of Consumer Finances, respectively, Schuetze (1998), finds that increases in income taxes have large and positive effects on the male self-employment rate. He found that a 30 percent increase in taxes generated a rise of 0.9 to 2.0 percentage points in the male self-employment rate in Canada compared with a rise of 0.8 to 1.4 percentage points in the U.S. over 1994 levels.

²¹⁴ Evans and Leighton (1989) found that non-minority men who are unemployed are nearly twice as likely as wage workers to enter self-employment. Bogenhold and Staber (1991) also find evidence that unemployment and self-employment are positively correlated. Blanchflower and Oswald (1990) found a strong negative relationship between regional unemployment and self-employment for the period 1983-1989 in the U.K. using a pooled cross-section time-series data set. Blanchflower and Oswald (1998) confirmed this result, finding that the log of the county unemployment rate entered negatively in a cross-section self-employment model for young people age 23 in 1981 and for the same people aged 33 in 1991. Taylor (1996) confirmed this result using data from the British Household Panel Study of 1991, showing that the probability of being self-employed rises when expected self-employment earnings increase relative to employee earnings, *i.e.*, when unemployment is low. Acs and Evans (1994) found evidence from an analysis of a panel of countries that the unemployment rate entered negatively in a fixed effect and random effects formulation. However, Schuetze (1998) found that for the U.S. and Canada the elasticity of the male self-employment rate with respect to the unemployment rate was considerably smaller than found for the effect from taxes discussed above. The elasticity of self-employment associated with the unemployment rate is about 0.1 in both countries using 1994 figures. A decrease of 5 percentage points in the unemployment rate in the U.S. (about the same decline occurred from 1983-1989) leads to about a 1 percentage point decrease in self-employment. Blanchflower (2000) found that there is generally a negative relationship between the self-employment rate and the unemployment rate. It does seem then that there is some disagreement in the literature on whether high unemployment acts to discourage self-employment because of the lack of available opportunities or encourage it because of the lack of viable alternatives.

²¹⁵ The OECD is an international organization of those developed countries that accept the principles of representative democracy and a free market economy. There are currently 30 full members.

small-business managers themselves (Blanchflower and Oswald, 1998). There is also econometric evidence that confirms this barrier. Holding other influences constant, people who inherit cash, who win the lottery, or who have large family assets, are all more likely both to set up and sustain a lasting small business. By contrast, childhood personality test-scores turn out to have almost no predictive power about which persons will be running their own businesses as adults (Blanchflower and Oswald, 1998).

One primary impediment to entrepreneurship among minorities is lack of capital. In work based on U.S. micro data at the level of the individual, Evans and Leighton (1989), and Evans and Jovanovic (1989), have argued formally that entrepreneurs face liquidity constraints. The authors use the National Longitudinal Survey of Young Men for 1966-1981, and the Current Population Surveys for 1968-1987. The key test shows that, all else remaining equal, people with greater family assets are more likely to switch to self-employment from employment. This asset variable enters econometric equations significantly and with a quadratic form. Although Evans and his collaborators draw the conclusion that capital and liquidity constraints bind, this claim is open to the objection that other interpretations of their correlation are feasible. One possibility, for example, is that inherently acquisitive individuals both start their own businesses and forego leisure to build up family assets. In this case, there would be a correlation between family assets and movement into self-employment even if capital constraints did not exist. A second possibility is that the correlation between family assets and the movement to self-employment arises because children tend to inherit family firms. Blanchflower and Oswald (1998), however, find that the probability of self-employment depends positively upon whether the individual ever received an inheritance or gift.²¹⁶ Moreover, when directly questioned in interview surveys, potential entrepreneurs say that raising capital is their principal problem. Work by Holtz-Eakin, Joulfaian and Harvey (1994a, 1994b), drew similar conclusions using different methods on U.S. data, examining flows into and out of self-employment and finding that inheritances both raise entry and slow exit. In contrast, Hurst and Lusardi (2004), citing evidence from the U.S. *Panel Study of Income Dynamics*, claim to show that wealth is not a significant determinant of entry into self-employment. In response, however, Fairlie and Krashinsky (2006) have demonstrated that when the sample is split into two segments—those who enter self-employment after job loss and those who do not—the strong correlation between assets and rate of entry business formation is evident in both segments.

The work of Black *et al.* (1996) for the United Kingdom discovers an apparently powerful role for house prices (through its impact on equity withdrawal) in affecting the supply of small new firms. Cowling and Mitchell (1997), find a similar result. Again this is suggestive of capital constraints. Finally, Lindh and Ohlsson (1996) adopt the Blanchflower-Oswald procedure and provide complementary evidence for Sweden. Bernhardt (1994), in a study for Canada, using data from the 1981 Social Change in Canada Project also found evidence that capital constraints appear to bind. Using the 1991 French Household Survey of Financial Assets, Laferrere and McEntee (1995), examined the determinants of self-employment using data on intergenerational transfers of wealth, education, informal human capital and a range of demographic variables.

²¹⁶ This emerges from British data, the National Child Development Study; a birth cohort of children born in March 1958 who have been followed for the whole of their lives.

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They also find evidence of the importance played by the family in the decision to enter self-employment. Intergenerational transfers of wealth, familial transfers of human capital and the structure of the family were found to be determining factors in the decision to move from wage work into entrepreneurship. Broussard et al. (2003) found that the self-employed have between 0.2 and 0.4 more children compared to the non-self-employed. The authors argue that having more children can increase the likelihood that an inside family member will be a good match at running the business. One might also think that the existence of family businesses, which are particularly prevalent in construction and in agriculture, is a further way to overcome the existence of capital constraints. Transfers of firms within families will help to preserve the status quo and will work against the interests of African Americans in particular who do not have as strong a history of business ownership as indigenous non-minorities. Analogously, Hout and Rosen (2000) and Fairlie and Robb (2007a) found that the offspring of self-employed parents are more likely than others to become self-employed and argued that the historically low rates of self-employment among African Americans and Latinos may contribute to their low contemporary rates. Fairlie and Robb (2007b), using data from the U.S. *Characteristics of Business Owners* survey, and Dunn and Holtz-Eakin (2000), using data from the U.S. *National Longitudinal Surveys*, show that the transmission of positive effects of family on self-employment operates through two channels, intergenerational transmission of entrepreneurial preferences and wealth, and the acquisition of general and specific human capital.

A continuing puzzle in the literature has been why, nationally, the self-employment rate of African American males is one third of that of non-minority males and has remained roughly constant since 1910. Fairlie and Meyer (2000) rule out a number of explanations for the difference. They found that trends in demographic factors, including the Great Migration and the racial convergence in education levels “did not have large effects on the trend in the racial gap in self-employment” (p. 662). They also found that an initial lack of business experience “cannot explain the current low levels of black self-employment.” Further they found that “the lack of traditions in business enterprise among blacks that resulted from slavery cannot explain a substantial part of the current racial gap in self-employment” (p. 664).

Fairlie (1999) and Wainwright (2000) have shown that a considerable part of the explanation of the differences between the African American and non-minority self-employment rate can be attributed to discrimination. Using PUMS data from the 1990 Census, Wainwright (2000) demonstrated that these disparities tend to persist even when factors such as geography, industry, occupation, age, education and assets are held constant.

Bates (1989) finds strong supporting evidence that racial differences in levels of financial capital have significant effects upon racial patterns in business failure rates. Fairlie (1999, 2006) demonstrates, for example, that the African American exit rate from self-employment is twice as high as that of non-minorities. An example will help to make the point. Two baths are being filled with water. In the first scenario, both have the plug in. Water flows into bath A at the same rate as it does into bath B -- that is, the inflow rate is the same. When we return after ten minutes the amount of water (the stock) will be the same in the two baths as the inflow rates were the same. In the second scenario, we take out the plugs and allow for the possibility that the outflow rates from the two baths are different. Bath A (the African American firms) has a much larger drain and hence the water flows out more quickly than it does from bath B (the non-minority firms). When we return after 10 minutes, even though the inflow rates are the same there is much

less water in bath A than there is in bath B. A lower exit rate for non-minority-owned firms than is found for minority-owned firms is perfectly consistent with the observed fact that minority-owned firms are younger and smaller than non-minority-owned firms. The extent to which that will be true is a function of the relative sizes of the inflow and the outflow rates.

B. Race and Sex Disparities in Earnings

In this section, we examine earnings to determine whether minority and female entrepreneurs earn less from their businesses than do their non-minority male counterparts. Other things equal, if minority and female business owners as a group cannot achieve comparable earnings from their businesses as similarly-situated non-minorities because of discrimination, then failure rates for M/WBEs will be higher and M/WBE formation rates will be lower than would be observed in a race- and gender-neutral marketplace. Both phenomena would contribute directly to lower levels of minority and female business ownership.

Below, we first examine earnings disparities among wage and salary employees, that is, non-business owners. It is helpful to examine this segment of the labor force since a key source of new entrepreneurs in any given industry is the pool of experienced wage and salary workers in similar or related industries (Blanchflower, 2000; 2004). Employment discrimination that adversely impacts the ability of minorities or women to succeed in the labor force directly shrinks the available pool of potential M/WBEs. In almost every instance examined, a statistically significant adverse impact on wage and salary earnings is observed—both in the economy at large and also in the construction and construction-related professional services sector.²¹⁷

We then turn to an examination of differences in earnings among the self-employed, that is, among business owners. Here too, among the pool of minorities and women who have formed businesses despite discrimination in both employment opportunities and business opportunities, statistically significant adverse impacts are observed in the vast majority of cases in Construction and Construction-Related Professional Services (hereafter, “Construction”), and other sectors of the economy.

In the remainder of this Chapter we discuss the methods and data we employed and present the specific findings.

1. Methods

We used the statistical technique of linear regression analysis to estimate the effect of each of a set of observable characteristics, such as education and age, on an outcome variable of interest. In this case, the outcome variable of interest is earnings and we used regression to compare

²¹⁷ There is a growing body of evidence that discriminatory constraints in the capital market prevent minority-owned businesses from obtaining business loans. Furthermore, even when they are able to obtain them there is evidence that these loans are not obtained on equal terms: minority-owned firms have to pay higher interest rates, other things being equal. This is another form of discrimination with an obvious and direct impact on the ability of racial minorities to form businesses and to expand or grow previously formed businesses. See Chapter VI, *infra*.

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earnings among individuals in similar geographic and product markets at similar points in time and with similar years of education and potential labor market experience and see if any adverse race or sex differences remain. In a discrimination free marketplace, one would not expect to observe significant differences in earnings by race or sex among such similarly situated observations.

Regression also allows us to narrowly tailor our statistical tests to the District's relevant geographic market, and assess whether disparities in that market are statistically significantly different from those observed elsewhere in the nation. Starting from an economy-wide data set, we first estimated the basic model of earnings differences just described and also included an indicator variable for the NEORS D Market Area (NEORS DMA), which encompasses five CBSAs that collectively and adjacently cover Northeast Ohio, including the: (1) Cleveland-Elyria-Mentor, OH MSA, (2) Akron, OH MSA, (3) Canton-Massillon, OH MSA, (4) Youngstown-Warren, OH MSA, and (5) the Ashtabula, OH Micropolitan Statistical Area. This model appears as Specification (1) in Tables 5.1 through 5.12. Next, we estimated Specification (2), which is the same model as (1) but with the addition of indicator variables that interact race and sex with the NEORS DMA indicator. Specification (3) represents our ultimate specification, which includes all the variables from the basic model as well as any of the interaction terms from Specification (2) that were statistically significant.²¹⁸

Any negative and statistically significant differences by race or sex that remain in Specification (3) after holding all of these other factors constant—time, age, education, geography, and industry—are consistent with what would be observed in a market suffering from business-related discrimination.²¹⁹

2. Data

The analyses undertaken in this Study require individual-level data (*i.e.* “microdata”) with relevant information on business ownership status and other key socioeconomic characteristics. Two primary data sources are used.

The first is the American Community Survey (ACS) Public Use Microdata Sample (PUMS) for 2006–2008. The Census Bureau's ACS is an ongoing survey covering the same type of information collected in the decennial census. The ACS is sent to approximately 3 million addresses annually, including housing units in all counties in the 50 states and the District of Columbia. The PUMS files from the ACS contain records for a subsample of the full ACS. The data used here are the multi-year estimates combining the 2006, 2007, and 2008 ACS PUMS records. The combined file contains over 3.6 million person-level records. Released in early 2010, the ACS PUMS provides the full range of population and housing information collected in the annual ACS and in the decennial census. Business ownership status is identified in the ACS

²¹⁸If none of these terms is significant then Specification (3) reduces to Specification (1).

²¹⁹Typically, a given test statistic is considered to be statistically significant if there is a reasonably low probability that the value of the statistic is due to random chance alone. In this and the two following chapters we typically indicate three levels of statistical significance, corresponding to 10 percent, 5 percent, and 1 percent probabilities that results were the result of random chance.

PUMS through the “class of worker” variable, which distinguishes the unincorporated and incorporated self-employed from others in the labor force. The presence of the class of worker variable allows us to construct a detailed cross-sectional sample of individual business owners and their associated earnings.

The second source of data is the Annual Demographic File from the Current Population Survey (CPS).²²⁰ The CPS has been conducted monthly by the Census Bureau and the Bureau of Labor Statistics for over 40 years, and is a primary source of official government statistics on employment and unemployment. Currently, about 56,500 households are scientifically selected for the CPS on the basis of area of residence in order to represent the nation as a whole, individual states and the largest metropolitan areas. In addition to information on employment status, the CPS collects information on age, sex, race, marital status, educational attainment, earnings, occupation, industry, and other characteristics. These statistics serve to update the information collected every 10 years through the decennial census.

3. Findings: Race and Sex Disparities in Wage and Salary Earnings

Tables 5.1 through 5.6 report results from our regression analyses of annual earnings among wage and salary workers. Tables 5.1 through 5.3 focus on the economy as a whole and Tables 5.4 through 5.6 on Construction and CRS. Tables 5.1 and 5.4 are derived from the 2006–2008 ACS PUMS, Tables 5.2 and 5.5 are derived from the 1980–1991 March CPS files, and Tables 5.3 and 5.6 are derived from the 1992–2008 March CPS files. The numbers shown in each of these six tables indicate the percentage difference between the average wages of a given race/sex group and comparable non-minority males.

a. Specification (1) - the Basic Model

For example, in Table 5.1 Specification (1) the estimated percentage difference in annual wages between African Americans (both sexes) and non-minority males in 2006–2008 was -32.6 percent. That is, average annual wages among African Americans were 32.6 percent lower than for non-minority males who were otherwise similar in terms of geographic location, industry, age, and education. The number in parentheses below each percentage difference is the t-statistic, which indicates whether the estimated percentage difference is statistically significant or not. In Tables 5.1 through 5.6, a t-statistic of 1.99 or larger indicates statistical significance at a 95 percent confidence level or better.²²¹ In the example just used, the t-statistic of 172.05 indicates that the result is statistically significant.

Specification (1) in Tables 5.1-5.3 shows adverse and statistically significant wage disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting in multiple race categories, and non-minority women consistent with the presence of discrimination in these

²²⁰ The Annual Demographic Survey of the CPS is conducted each March. It contains all the monthly CPS data plus additional data on work experience, income and earnings, noncash benefits, and migration. *See* King, Ruggles, et al. (2009).

²²¹ From a two-tailed test.

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markets. Observed disparities are large as well, ranging from a low of -12.6 percent for the “other race” category (primarily Asians and Native Americans) in Table 5.2 to a high of -32.6 percent for African Americans in Table 5.1.

Specification (1) in Tables 5.4 through 5.6 shows similar results when the basic analysis is restricted to the Construction industries and the Architecture and Engineering (CRS) industries. In this sector, large, adverse, and statistically significant wage disparities are once again observed for African Americans, Hispanics, Asians, Native Americans, persons reporting in multiple race categories, and non-minority women. A comparison of Tables 5.1 and 5.4 shows that for Hispanics and Asians, the disparities in the Construction and CRS sector are somewhat smaller than those observed in the economy as a whole. For African Americans and non-minority women, they are somewhat larger, and for Native Americans they are about the same.

A comparison of Tables 5.2 and 5.3 shows changes in observed wage disparities over time for the economy as a whole. Tables 5.5 and 5.6 do the same for Construction and CRS.

For African Americans between 1980 and 1991, the wage disparity in the economy as a whole was 30.2 percent, shrinking slightly to 28.0 percent in the 1992-2008 period. In Construction and CRS, the disparity was 35.2 percent in the earlier period. Although diminishing significantly in recent years, to 24.2 percent, the disparity remains substantial.

For Hispanics between 1980 and 1991, the wage disparity in the economy as a whole was 20.4 percent, shrinking only slightly to 19.7 percent in the 1992-2008 period. In Construction and CRS, the disparity was 15.7 percent in the earlier period, actually increasing slightly to 16.7 percent in more recent years.

For Asians and Native Americans, tracking time trends is more difficult since in the earlier period these two groups were combined together in the CPS into the category “Other race.” In the economy as a whole, the wage disparity for the “Other race” category in the 1980-1991 period was 12.6 percent. In the 1992-2008 period, the wage disparities worsened significantly: to 21.7 percent for Asians and 23.4 percent for Native Americans. In Construction and CRS, the “Other race” disparity in the earlier period was 12.8 percent, growing to 18.3 percent for Asians and 15.6 percent for Native Americans during the 1992-2008 period.

For non-minority women between 1980 and 1991, the wage disparity in the economy as a whole was 28.3 percent, shrinking to 21.7 percent in the 1992-2008 period. In Construction and CRS, the disparity was 30.2 percent in the earlier period. Though diminishing significantly in recent years to 20.7 percent, the disparity for this group also remains large.

b. Specifications (2) and (3) - the Full Model Including NEORSDMA-Specific Interaction Terms

Next, we turn to Specifications (2) and (3) in Tables 5.1 through 5.6. In each of these Tables, Specification (2) is the basic regression model with a set of interaction terms added that test whether minorities and women in the NEORSDMA differ significantly from those elsewhere in the U.S. economy. Specification (2) in Table 5.1, for example, shows a -32.6 percent wage difference that estimates the direct effect of being African American in 2006–2008, as well as a

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statistically significant 4.4 percent wage deficit in those years that captures the indirect effect of residing in the NEORS DMA and being African American. That is, wages for African Americans in the NEORS DMA, on average, were 4.4 percent lower than for African Americans in the nation as a whole and 37.0 percent (-32.6 percent minus 4.4 percent) lower than for non-minority males in the NEORS DMA.

Specification (3) simply repeats Specification (2), dropping any NEORS DMA interactions that are not statistically significant. In Table 5.1, for example, the only interaction terms included in the final specification are for African Americans and Hispanics. The net result of Specification (3) in Tables 5.1, 5.2 and 5.3 is evidence of large, adverse, and statistically significant wage disparities for all minority groups and for non-minority women. In Tables 5.4, 5.5 and 5.6, for Construction and CRS, there is evidence of large, adverse, and statistically significant wage disparities for all minority groups and for non-minority women as well.

c. Conclusions

Clearly, minorities and women earn substantially and significantly less from their labor than do their non-minority male counterparts—in the NEORS DMA market area just as in the nation as a whole. Such disparities are symptoms of discrimination in the labor force that, in addition to its direct effect on workers, reduces the future availability of M/WBEs by stifling opportunities for minorities and women to progress through precisely those internal labor markets and occupational hierarchies that are most likely to lead to entrepreneurial opportunities. These disparities reflect more than mere “societal discrimination” because they demonstrate the nexus between discrimination in the job market and reduced entrepreneurial opportunities for minorities and women. Other things equal, these reduced entrepreneurial opportunities in turn lead to lower M/WBE availability levels than would be observed in a race- and gender-neutral marketplace.

4. Findings: Race and Sex Disparities in Business Owner Earnings

The patterns of discrimination that affect minority and female wage earners affect minority and female entrepreneurs as well. We turn next to the analysis of race and sex disparities in business owner earnings. Tables 5.7 through 5.9 focus on the economy as a whole and Tables 5.10 through 5.12 on Construction and CRS. Tables 5.7 and 5.10 are derived from the 2006–2008 ACS PUMS, Tables 5.8 and 5.11 are derived from the 1980–1991 CPS, and Tables 5.9 and 5.12 are derived from the 1992–2008 CPS. The numbers shown in each of these six tables indicate the percentage difference between the average annual self-employment earnings of a given race/sex group and comparable non-minority males.

a. Specification (1) - the Basic Model

Specification (1) in Tables 5.7 through 5.9 shows large, adverse, and statistically significant business owner earnings disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting multiple races, and non-minority women consistent with the presence of discrimination in these markets. The measured difference for African Americans ranges between 28 percent and 40 percent lower than for comparable non-minority males; for Hispanics, from 20 percent to 25 percent; for Asians, from 9 percent to 21 percent; for Native

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Americans, from 28 percent to 36 percent; and for non-minority women from 38 percent to 46 percent.

Turning to the Construction and CRS sector, Specification (1) in Tables 5.10 through 5.12 shows large, adverse, and, with one exception, statistically significant business owner earnings disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting multiple races, and non-minority women consistent with the presence of discrimination in these markets.²²² The measured difference for African Americans ranges between 23 percent and 43 percent lower than for comparable non-minority males; for Hispanics, 16 percent; for Asians, from 13 percent to 17 percent; for Native Americans, from 13 percent to 31 percent; and for non-minority women from 22 percent to 46 percent.

A comparison of Tables 5.8 and 5.9 shows changes in observed business owner earnings disparities over time for the economy as a whole. Tables 5.11 and 5.12 do the same for Construction and CRS.

For African Americans between 1980 and 1991, the business owner earnings disparity in the economy as a whole was 33.7 percent, shrinking to 28.0 percent in the 1992-2008 period. In Construction and CRS, the disparity was 39.6 percent in the earlier period. Although diminishing significantly in recent years, to 23.3 percent, the disparity remains quite large.

For Hispanics between 1980 and 1991, the business owner earnings disparity in the economy as a whole was 19.9 percent, increasing to 24.8 percent in the 1992-2008 period. In Construction and CRS, the disparity has remained constant at 16.0 percent.

For Asians and Native Americans, in the economy as a whole, the business owner earnings disparity for the “Other race” category in the 1980-1991 period was 9.0 percent. In the 1992-2008 period, the business owner earnings disparities worsened significantly: to 21.4 percent for Asians and 28.2 percent for Native Americans. In Construction and CRS, the “Other race” disparity in the earlier period was only 0.4 percent, but grew to 12.9 percent for Asians and 12.8 percent for Native Americans during the 1992-2008 period.

For non-minority women between 1980 and 1991, the business owner earnings disparity in the economy as a whole was 45.7 percent, shrinking to 37.8 percent in the 1992-2008 period. In Construction and CRS, the disparity was 38.2 percent in the earlier period and, although diminishing significantly in recent years to 22.4 percent, the disparity remains large.

b. Specifications (2) and (3) - the Full Model Including NEORSDMA-Specific Interaction Terms

Next, we turn to Specifications (2) and (3) in Tables 5.7 through 5.12. Specification (2) is the basic regression model enhanced by a set of interaction terms to test whether minorities and women in the NEORSDMA differ significantly from those elsewhere in the U.S. economy. Specification (3) drops any NEORSDMA interaction terms that are not statistically significant.

²²² The adverse disparity for “Other races” in Table 5.11 is not statistically significant.

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For the economy as a whole in 2006-2008, Table 5.7 shows that only the NEORSDMA interaction term for non-minority females is statistically significant, indicating that disparities for minorities in NEORSDMA are no better or worse than in the nation as a whole, while disparities for non-minority women are significantly worse in the NEORSDMA than in the nation as a whole. Table 5.8 for the 1980-1991 period, and Table 5.9 for the 1992-2008 period, shows that minorities and non-minority women face disparities in the NEORSDMA that are similar to those observed in the nation as a whole.

For the Construction and CRS sector in 2006–2008, Tables 5.10, 5.11, and 5.12 show that the estimates for the NEORSDMA are in agreement with results for the nation as a whole, with only two exceptions.²²³

c. Conclusions

As was the case for wage and salary earners, minority and female entrepreneurs earn substantially and significantly less from their efforts than similarly situated non-minority male entrepreneurs. The situation is, in general, little different in the NEORSMA market area than in the nation as a whole. These disparities are a symptom of discrimination in commercial markets that directly and adversely affect M/WBEs. Other things equal, if minorities and women are prevented by discrimination from earning remuneration from their entrepreneurial efforts comparable to that of similarly situated non-minority males, then growth rates may slow, business failure rates may increase, and as demonstrated in the next section, business formation rates may decrease. Combined, these phenomena result in lower M/WBE availability levels than would be observed in a race- and gender-neutral marketplace.

C. Race and Sex Disparities in Business Formation

As discussed in the two previous sections, discrimination that affects the wages and entrepreneurial earnings of minorities and women will ultimately affect the number of businesses formed by these groups as well. In the final section of this chapter, we turn to the analysis of race and sex disparities in business formation.²²⁴ We compare self-employment rates by race and sex to determine whether minorities or women are as likely to enter the ranks of entrepreneurs as similarly-situated non-minority males. We find that they are not as likely to do so and that minority and female business formation rates would likely be substantially and significantly higher if markets operated in a race- and gender-neutral manner.

Discrimination in the labor market, symptoms of which are evidenced in Section B.3 above, might cause wage and salary workers to turn to self-employment in hopes of encountering less discrimination from customers and suppliers than from employers and co-workers. Other things equal, and assuming minority and female workers did not believe that discrimination pervaded

²²³ The interaction terms for Native Americans in the NEORSMA Market Area in Table 5.10 indicates smaller disparities than in the nation as a whole, though the numeric value of the coefficient indicates that the number of observations driving this result is quite small. A similar result appears for the interaction term for African Americans in Table 5.11.

²²⁴ We use the phrases “business formation rates” and “self-employment rates” interchangeably in this Study.

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commercial markets as well, this would lead minority and female business formation rates to be higher than would otherwise be expected.

On the other hand, discrimination in the labor market prevents minorities and women from acquiring the very skills, experience, and positions that are often observed among those who leave the ranks of the wage and salary earners to start their own businesses. Many construction contracting concerns have been formed by those who were once employed as foremen for other contractors, fewer by those who were employed instead as laborers. Similarly, discrimination in commercial capital and credit markets, as well as asset and wealth distribution, prevents minorities and women from acquiring the financial credit and capital that are so often prerequisite to starting or expanding a business. Other things equal, these phenomena would lead minority and female business formation rates to be lower than otherwise would be expected.

Further, discrimination by commercial customers and suppliers against M/WBEs, symptoms of which are evidenced in Section B.4 above and elsewhere, operates to increase input prices and lower output prices for M/WBEs. This discrimination leads to higher rates of failure for some minority and women firms, lower rates of profitability and growth for others, and prevents some minorities and women from ever starting businesses at all.²²⁵ All of these phenomena, other things equal, would contribute directly to relatively lower observed rates of minority and female self-employment.

1. Methods and Data

To see if minorities or non-minority women are as likely to be business owners as are comparable non-minority males, we use a statistical technique known as Probit regression. Probit regression is used to determine the relationship between a categorical variable—one that can be characterized in terms of a “yes” or a “no” response as opposed to a continuous number—and a set of characteristics that are related to the outcome of the categorical variable. Probit regression produces estimates of the extent to which each characteristic is positively or negatively related to the likelihood that the categorical variable will be a yes or no. For example, Probit regression is used by statisticians to estimate the likelihood that an individual participates in the labor force, retires this year, or contracts a particular disease—these are all variables that can be categorized by a response of “yes” (for example, she is in the labor force) or “no” (for example, she is not in the labor force)—and the extent to which certain factors are positively or negatively related to the likelihood (for example, the more education she has, the more likely that she is in the labor force). Probit regression is one of several techniques that can be used to examine qualitative outcomes. Generally, other techniques such as Logit regression yield similar results.²²⁶ In the present case, Probit regression is used to examine the relationship between the choice to own a business (yes or no) and the other demographic and socioeconomic characteristics in our basic

²²⁵ See also the materials cited at fn. 217 *supra*.

²²⁶ For a detailed discussion, see G.S. Maddala, *Limited Dependent and Qualitative Variables in Econometrics*, Cambridge University Press, 1983. Probit analysis is performed here using the “dprobit” command in the statistical program STATA.

model. The underlying data for this section is once again the 2006–2008 ACS PUMS, the 1980–1991 CPS, and the 1992–2008 CPS.

2. Findings: Race and Sex Disparities in Business Formation

As a point of reference for what follows, Tables 5.13 and 5.14 provide a summary of business ownership rates in 2006–2008 by race and sex. A striking feature of both tables is how much higher in general business ownership rates are for non-minority males than for other groups.

Table 5.13, for example, shows a 6.62 percentage point difference between the overall self-employment rate of African Americans and non-minority Males in the NEORSDMA ($11.26 - 4.64 = 6.62$). In the top panel of Table 5.14, for Construction and CRS, a 5.6 percentage point difference is observed for African Americans compared to non-minority males in the NEORSDMA. As shown in the final column, this 5.6 percentage point gap translates into a African American business formation rate in the NEORSDMA Construction and CRS sector that is 21.1 percent lower than the non-minority male business formation rate (*i.e.*, $(20.98 - 26.58) \div 26.58 \approx -21.1\%$). In the NEORSDMA Services and Commodities sector, similarly large business formation rate disparities are observed for all minority groups and non-minority women, as shown in the bottom panel of Table 5.14.²²⁷

For African Americans nationally, the overall business formation rate is 62.2 percent lower than the non-minority male rate. In the NEORSDMA, it is 58.8 percent lower. In the NEORSDMA Construction and CRS sector, the African American rate is 21.4 percent lower, compared to 36.5 percent lower in the U.S. as a whole. In the NEORSDMA Services and Commodities sector, the African American rate is 55.7 percent lower, compared to 59.9 percent lower for the nation as a whole.

For Hispanics nationally, the overall business formation rate is 39.2 percent lower than the non-minority male rate. In the NEORSDMA, it is 41.7 percent lower. In the NEORSDMA Construction and CRS sector, the Hispanic rate is 47.6 percent higher, compared to 44.2 lower percent for the nation as a whole. In the NEORSDMA Services and Commodities sector, the Hispanic rate is 45.5 percent lower, compared to 36.2 lower percent for the nation as a whole.

For Asians nationally, the overall business formation rate is 25.6 percent lower than the non-minority male rate. In the NEORSDMA, it is 12.6 percent lower. In the NEORSDMA Construction and CRS sector, the Asian rate is 62.2 percent lower, compared to 32.4 percent lower for the nation as a whole. In the NEORSDMA Services and Commodities sector, the Asian rate is 9.5 percent higher than the non-minority male rate, compared to 14.4 percent lower for the nation as a whole.

For Native Americans nationally, the overall business formation rate is 39.2 percent lower than the non-minority male rate. In the NEORSDMA, it is 29.1 percent lower. In the NEORSDMA Construction and CRS sector, the Native American rate is 90.8 percent higher, compared to 31.0

²²⁷ The result in the top panel of Table 5.14 for Native Americans may result from the small number of observations available for that group in this category.

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percent lower in the U.S. as a whole.²²⁸ In the NEORSDMA Services and Commodities sector, the Native American rate is 27.1 percent lower, compared to 38.5 percent lower for the nation as a whole.

For minorities as a group, nationally, the overall business formation rate is 44.1 percent lower than the non-minority male rate. In the NEORSDMA, it is 50.3 percent lower. In the NEORSDMA Construction and CRS sector, the minority rate is 16 percent lower, compared to 41.2 percent lower for the nation as a whole. In the NEORSDMA Services and Commodities sector, the minority rate is 45.4 percent lower than the non-minority male rate, compared to 40.5 percent for the nation as a whole.

For non-minority women nationally, the overall business formation rate is 38.4 percent lower than the non-minority male rate. In the NEORSDMA, it is 47.8 percent lower. In the NEORSDMA Construction and CRS sector, the non-minority female rate is 50.9 percent lower, compared to 41.4 percent lower for the nation as a whole. In the NEORSDMA Services and Commodities sector, the non-minority female rate is 36.3 percent lower than the non-minority male rate, compared to 28.6 percent for the nation as a whole.

There is no doubt that part of the group differences expressed in Tables 5.13 and 5.14 are associated with differences in the distribution of individual characteristics and preferences between minorities, women, and non-minority males. It is well known, for example, that earnings tend to increase with age (i.e. labor market experience). It is also true that the propensity toward self-employment increases with experience.²²⁹ Since most minority populations in the United States have a lower median age than the non-Hispanic non-minority population, we must examine whether the disparities in business ownership evidenced in Tables 5.13 and 5.14 are largely—or even entirely—due to differences in the age distribution or other factors such as education, geographic location, or industry preferences of minorities and non-minority women compared to non-minority males.

To do this, the remainder of this section presents a series of regression analyses that test whether large, adverse, and statistically significant race and sex disparities for minorities and women remain when these other factors are held constant. Tables 5.15 through 5.17 focus on the economy as a whole and Tables 5.18 through 5.20 focus on the Construction and CRS sector. As in previous sections, the first in each triad of tables is derived from the 2006–2008 ACS PUMS, the second from the 1980–1991 CPS, and the third from the 1992–2008 CPS. The numbers shown in each of these tables indicate the percentage point difference between the probability of self-employment for a given race/sex group compared to similarly-situated non-minority males.

a. Specification (1) - the Basic Model

Specification (1) in Tables 5.15 through 5.17 shows large, adverse, and statistically significant business formation disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting multiple races, and non-minority women consistent with the presence of

²²⁸ See fn. 227, *supra*.

²²⁹ Wainwright (2000), p. 86.

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discrimination in these markets. Specification (1) in Tables 5.18a through 5.20 shows large, negative, and statistically significant business formation disparities for every group in the Construction and CRS sectors as well as in the Goods and Services sectors.

Tables 5.16 and 5.17 for the economy as a whole, and Tables 5.19 and 5.20 for the Construction and CRS sector, show changes in observed business formation disparities over time.

For African Americans between 1980 and 1991, the business formation rate disparity in the economy as a whole was 3.7 percentage points, remaining essentially unchanged at 3.6 percentage points in the 1992-2008 period. In Construction and CRS, the disparity was 12.2 percentage points in the earlier period, decreasing to 9.9 percentage points in the 1992-2008 period.

For Hispanics between 1980 and 1991, the business formation rate disparity in the economy as a whole was 2.2 percentage points, rising to 2.8 percentage points in the 1992-2008 period. In Construction and CRS, the disparity was 7.4 percentage points during 1980-1991, rising to 8.5 percentage points in the 1992-2008 period.

For Asians and Native Americans, in the economy as a whole, the business formation rate disparity for the “Other race” category in the 1980-1991 period was only 0.3 percentage points. In the 1992-2008 period, the business formation rate disparities worsened significantly: to 1.0 percentage points for Asians and 2.1 percentage points for Native Americans. In Construction and CRS, the “Other race” disparity in the earlier period was 7.9 percentage points, falling to 4.2 percentage points for Asians and 6.0 percentage points for Native Americans during the 1992-2008 period.

For non-minority women between 1980 and 1991, the business formation rate disparity in the economy as a whole was 3.3 percentage points, falling to 2.5 percentage points in the 1992-2008 period. In Construction and CRS, the disparity was 12.1 percent in the earlier period, falling to 8.7 percentage points in more recent years.

b. Specifications (2) and (3) - the Full Model Including NEORSDMA-Specific Interaction Terms

Several of the NEORSDMA interaction terms included in Specification (2) were significant. The final results are in Specification (3) for Tables 5.15-5.20.

To summarize for the economy-wide results (Tables 5.15, 5.16 and 5.17):

- For African Americans, business formation rates are between 3.6 and 4.2 percentage points lower than what would be expected in a race- and gender-neutral marketplace.
- For Hispanics, business formation rates are between 0.5 percentage points and 2.8 percentage points lower than what would be expected in a race- and gender-neutral marketplace.

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- For Asians, business formation rates are between 1.0 percentage points lower and 1.2 percentage points higher than what would be expected in a race- and gender-neutral marketplace.
- For Native Americans, business formation rates are between 2.1 and 2.7 percentage points lower than what would be expected in a race- and gender-neutral marketplace.
- For non-minority women, business formation rates are between 2.5 and 3.8 percentage points lower than what would be expected in a race- and gender-neutral marketplace.

To summarize for the Construction and CRS sector results (Tables 5.18a, 5.19 and 5.20):

- For African Americans, business formation rates are between 9.2 and 12.2 percentage points lower than what would be expected in a race- and gender-neutral marketplace.
- For Hispanics, business formation rates are between 8.5 percentage points lower and 21.4 percentage points higher than what would be expected in a race- and gender-neutral marketplace.
- For Asians, business formation rates are between 4.0 and 6.2 percentage points lower than what would be expected in a race- and gender-neutral marketplace.
- For Native Americans, business formation rates are between 6.0 and 7.9 percentage points lower than what would be expected in a race- and gender-neutral marketplace.
- For non-minority women, business formation rates are between 12.1 and 18.6 percentage points lower than what would be expected in a race- and gender-neutral marketplace.

c. Conclusions

This section has demonstrated that observed M/WBE availability levels in the NEORS market area are substantially and statistically significantly lower in almost every case examined than those that would be expected to be observed if commercial markets operated in a race- and gender-neutral manner. Discrimination results in minorities and women being substantially and significantly less likely to own their own businesses than would be expected based upon their observable characteristics including age, education, geographic location, industry, and trends over time. As demonstrated in previous sections, these groups also suffer substantial and significant earnings disadvantages relative to comparable non-minority males whether they work as employees or as entrepreneurs.

D. Expected Business Formation Rates—Implications for Current M/WBE Availability²³⁰

In Table 5.21, the Probit regression results from Tables 5.15, 5.18a, and 5.18b for the overall NEORSMDA market area economy, the NEORSMDA Construction and CRS sector, and the NEORSMDA Services and Commodities sector, respectively, are combined with weighted average self-employment rates by race and sex from the 2006–2008 ACS PUMS (Tables 5.13 and 5.14) to determine the expected difference between baseline availability and expected availability in a race- and gender-neutral marketplace. These figures appear in column (2) of each panel in Table 5.21.

The business formation rate in the NEORSMDA for minorities and women in the Construction and CRS sector is 17.2 percent (see middle panel of Table 5.21, last row). According to the regression specification underlying Table 5.18a, however, that rate would be 26.2 percent, or 52.5 percent higher, in a race- and gender-neutral marketplace. Put differently, the disparity index of the actual business formation rate to the expected business formation rate is 65.6. Disparity indices are adverse and statistically significant for all groups examined.²³¹

In Construction and CRS, the largest disparity observed is for non-minority females (46.0), followed in descending order by Asians (61.9), African Americans (69.5), Native Americans (86.5), and persons reporting multiple races (96.2). For minority-owned businesses as a group in the NEORSMDA Construction and CRS sectors, the disparity index is 73.6. For M/WBEs as a group the disparity index is 65.6.

In the Goods and Services sector, the largest disparity observed is for African Americans (53.9), followed by Hispanics (62.0), non-minority women (68.0), Native Americans (70.1), and persons reporting multiple races (75.8). For minority-owned businesses as a group in the NEORSMDA Goods and Services sectors, the disparity index is 62.1. For M/WBEs as a group the disparity index is 65.5.

Given the large disparities observed throughout Table 5.21, goal-setters may consider adjusting baseline estimates of M/WBE availability upward to account for the continuing effects of discrimination. The business formation rate disparities documented in Table 5.21 can be combined with the estimates of current M/WBE availability documented in Tables 4.17 and elsewhere to provide estimates of expected availability. These estimates appear below in Table 7.30. Expected availability exceeds current availability in the NEORSMD market area in 30 of 35 cases examined.

²³⁰ This exercise addresses the requirements of 49 CFR 26.45 (“Step 2”) for the USDOT DBE Program.

²³¹ The disparity indices for Hispanics, Native Americans, and persons reporting multiple rates are, however, higher than 80.0 percent in the middle panel of Table 5.21 and the disparity indices for Asians is higher than 80.0 percent in the bottom panel of Table 5.21.

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E. Evidence from the Survey of Business Owners

As a final check on the statistical findings in this Chapter, we present evidence from a Census Bureau data collection effort dedicated to M/WBEs. The Census Bureau's *Survey of Business Owners and Self-Employed Persons* (SBO), formerly known as the *Survey of Minority- and Women-Owned Business Enterprises* (SMWOBE), collects and disseminates data on the number, sales, employment, and payrolls of businesses owned by women and members of racial and ethnic minority groups. This survey has been conducted every five years since 1972 as part of the *Economic Censuses* program. Data from the 2002 SBO were released in 2007.²³²

The SBO estimates are created by matching data collected from income tax returns by the Internal Revenue Service with Social Security Administration data on race and ethnicity, and supplementing this information using statistical sampling methods. The unique field for conducting this matching is the Social Security Number (SSN) or the Employer Identification Number (EIN), as reported on the tax return.²³³

The SBO covers women and five groups of minorities—(1) African Americans, (2) Hispanics, (3) Asians, (4) Native Hawaiians and Pacific Islanders, and (5) American Indians and Alaskan Natives. The 2002 SBO also includes comparative information for non-minority-owned, non-women-owned firms.²³⁴

The SBO provides aggregate estimates of the number of minority-owned and women-owned firms and their annual sales and receipts. The SBO distinguishes employer firms from nonemployer firms, and for the former also includes estimates of aggregate annual employment and payroll.

Although compared to the ACS PUMS or the CPS the SBO is more limited in the scope of industrial and geographic detail it provides, it nonetheless contains a wealth of information on the character of minority and female business enterprise in the U.S as a whole as well as in the State of Ohio. In the remainder of this section we present 2002 SBO statistics for the United States as a whole and the State of Ohio and calculate disparity indices from them. We find that results in the SBO regarding disparities are consistent with our findings above using the ACS PUMS and the CPS.

²³² Preliminary data from the 2007 SBO was released in July 2010. The full data release is scheduled to occur in phases throughout the remainder of 2010 and 2011. See <http://www.census.gov/econ/sbo/> (retrieved 30 Jul. 2010) for preliminary findings and the data release schedule.

²³³ Prior to 2002, "C" corporations were not included in the SMWOBE universe due to technical difficulties. This has been rectified in the 2002 SBO. For more information, consult the discussion of SBO survey methodology at <http://www.census.gov/econ/sbo/>.

²³⁴ In the ACS PUMS and CPS data, discussed above, the unit of analysis is the business owner, or self-employed person. In the SBO data the unit of analysis is the business rather than the business owner. Furthermore, unlike most other business statistics, including the other components of the *Economic Censuses*, the unit of analysis in the SBO is the firm, rather than the establishment.

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Tables 5.22 and 5.23 contain data for all industries combined. Table 5.22 is for the U.S. as a whole, Table 5.23 is for the State of Ohio.²³⁵ Panel A in these three tables summarizes the 2002 SBO results for each grouping. Panel A of Table 5.22, for example, shows that there were 22.48 million firms in the U.S. in 2002 (column 1) with overall sales and receipts of \$8.784 trillion (column 2). Of these 22.48 million firms, 5.17 million had one or more employees (column 3) and these 5.17 million firms had overall sales and receipts of \$8.039 trillion (column 4). Column (5) shows a total of 55.37 million employees on the payroll of these 5.17 million firms and a total annual payroll expense of \$1.627 trillion (column 6).

The remaining rows in Panel A provide comparable statistics for women-owned and minority-owned firms. For example, Table 5.22 shows that there were 1.2 million African American-owned firms counted in 2002, and that these 1.2 million firms registered \$88.6 billion in sales and receipts. It also shows that 94,518 of these African American-owned firms had one or more employees, and that they employed a total of 753,978 workers in 2002 with an annual payroll total of \$17.55 billion.

Panel A of Table 5.23 provides comparable information for the State of Ohio. In 2002 the Census Bureau counted 229,972 female-owned firms in the state,²³⁶ 35,658 African American-owned firms, 7,109 Hispanic-owned firms, 13,740 Asian- or Pacific Islander-owned firms, and 3,123 Native American-owned firms.

Panel B in each Table converts the figures in Panel A to percentage distributions within each column. For example, Column (1) in Panel B of Table 5.23 shows that African American-owned firms were 4.47 percent of all firms in the state in 2002, and that female-owned firms were 28.86 percent of all firms in the state. Additionally, 0.89 percent of firms were Hispanic-owned, 1.72 percent were Asian- or Pacific Islander-owned and 0.39 percent were Native American-owned.

Column (2) in Panel B provides the same percentage distribution for overall sales and receipts. Table 5.23, for example, shows that although African American-owned firms were 4.47 percent of all firms in the state, they accounted for only 1.09 percent of all sales and receipts. Similar results are obtained when the sample is restricted to firms with one or more paid employees. Column (3) in Table 5.23 shows that African American-owned employer firms accounted for 1.70 percent of all firms but only 0.98 percent of all sales and receipts.

Non-minority female-owned firms were 28.86 percent of all firms in the state, but they accounted for only 9.82 percent of all sales and receipts. When the sample is restricted to firms with one or more paid employees, non-minority female-owned employer firms accounted for 16.43 percent of all firms but only 9.2 percent of all sales and receipts.

Hispanic-owned firms were 0.89 percent of all firms in the state, but they accounted for only 0.38 percent of all sales and receipts. When the sample is restricted to firms with one or more

²³⁵ It is not possible with the SBO data to replicate the NEORS Market Area. The numbers for Ohio presented in this section therefore also include portions of the state that are not part of the NEORS Market Area.

²³⁶ Additionally 81,102 equally male/female-owned firms were counted.

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paid employees, Hispanic-owned employer firms accounted for 0.73 percent of all firms but only 0.36 percent of all sales and receipts.

Asian-owned firms were 1.72 percent of all firms in the state, but they accounted for only 1.55 percent of all sales and receipts. When the sample is restricted to firms with one or more paid employees, Asian-owned employer firms accounted for 2.94 percent of all firms but only 1.53 percent of all sales and receipts.

Native American-owned firms were 0.39 percent of all firms in the state, but they accounted for only 0.15 percent of all sales and receipts. When the sample is restricted to firms with one or more paid employees, Native American-owned employer firms accounted for 0.22 percent of all firms but only 0.13 percent of all sales and receipts.

The disparity indices are presented in Panel C of each Table. Disparity indices of 80 percent or less indicate disparate impact consistent with business discrimination against minority-owned and female-owned firms (0 percent being complete disparity and 100 percent being full parity). In Ohio, these disparity indices fall beneath the 80 percent threshold in all but a single case.

Large and statistically significant disparities in Ohio are observed not only for African Americans, but also for female-owned firms, Hispanic-owned firms, Asian-owned firms, and Native American-owned firms.

Tables 5.25 shows comparable SBO data for Construction and CRS (NAICS 23 and 54) in Ohio, while Table 5.27 shows data for Goods and Services (balance of NAICS codes). Disparity indices in Ohio are again large and statistically significant in most cases.²³⁷

²³⁷ Exceptions are Asians in Construction/CRS, African American employer firms in Construction/CRS, and Asian non-employer firms in Goods & Services.

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Tables

Table 5.1. Annual Wage Earnings Regressions, All Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.326 (172.05)	-0.326 (170.40)	-0.326 (170.47)
Hispanic	-0.226 (122.57)	-0.226 (122.18)	-0.226 (122.24)
Asian	-0.266 (110.28)	-0.266 (109.93)	-0.266 (110.25)
Native American	-0.308 (47.69)	-0.308 (47.55)	-0.308 (47.68)
Other Race	-0.262 (62.73)	-0.262 (62.43)	-0.262 (62.72)
Non-minority Female	-0.325 (293.68)	-0.325 (291.84)	-0.325 (293.68)
Age	0.182 (572.67)	0.182 (572.66)	0.182 (572.67)
Age ²	-0.002 (498.88)	-0.002 (498.88)	-0.002 (498.88)
NEORSDMA	-0.005 (0.76)	-0.001 (0.15)	0.000 (0.07)
NEORSDMA*African American		-0.044 (2.57)	-0.046 (2.76)
NEORSDMA*Hispanic		-0.072 (2.23)	-0.073 (2.30)
NEORSDMA* Asian/Pacific Islanders		-0.011 (0.30)	
NEORSDMA* Native American		-0.083 (0.70)	
NEORSDMA*Other Race		-0.018 (0.35)	
NEORSDMA*non-minority Female		0.005 (0.48)	
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	2548959	2548959	2548959
Adj. R ²	.4592	.4592	.4592

Source: NERA calculations from the 2006-2008 ACS Public Use Microdata Samples.

Notes: (1) Universe is all private sector wage and salary workers between age 16 and 64; observations with imputed values to the dependent variable and all independent variables are excluded; (2) Reported number is the percentage difference in annual wages between a given group and non-minority men; (3) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.67 (1.99) (2.64) are statistically significant at a 90 (95) (99) percent confidence level; (4) “Other Race” includes persons identifying themselves as belonging in more than one racial category; (5) Geography is defined based on place of residence; (6) “NEORSDMA” is shorthand for “NEORS Market Area,” which is the Cleveland-Elyria-Mentor, OH MSA, Akron, OH MSA, Canton-Massillon, OH MSA, Youngstown-Warren, OH MSA, and the Ashtabula, OH Micropolitan Statistical Area.

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Table 5.2. Annual Wage Earnings Regressions, All Industries, 1980-1991

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.302 (82.24)	-0.302 (81.61)	-0.302 (82.24)
Hispanic	-0.204 (57.55)	-0.203 (57.33)	-0.203 (57.46)
Other Race	-0.126 (15.59)	-0.126 (15.57)	-0.126 (15.60)
Non-minority Female	-0.283 (127.00)	-0.283 (125.87)	-0.283 (125.90)
Age	0.099 (150.28)	0.099 (150.28)	0.099 (150.28)
Age ²	-0.001 (124.41)	-0.001 (124.42)	-0.001 (124.42)
NEORSDMA	0.038 (3.62)	0.062 (5.08)	0.061 (5.18)
NEORSDMA*African American		0.005 (0.15)	
NEORSDMA*Hispanic		-0.066 (1.05)	
NEORSDMA*Other Race		0.009 (0.07)	
NEORSDMA*non-minority Female		-0.057 (3.11)	-0.056 (3.12)
Time (13 categories)	Yes	Yes	Yes
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	689172	689172	689172
Adj. R ²	.6349	.6349	.6349

Source: NERA calculations from the Annual Demographic File of the 1980-1991 Current Population Survey microdata samples.

Notes: (1) Universe is all private sector wage and salary workers between age 16 and 64; (2) Reported number is the percentage difference in annual wages between a given group and non-minority men; (3) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.67 (1.99) (2.64) are statistically significant at a 90 (95) (99) percent confidence level; (4) "Other Race" includes Asian/Pacific Islanders and American Indians/Alaska Natives; (5) Geography is defined based on place of residence.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.3. Annual Wage Earnings Regressions, All Industries, 1992-2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.280 (94.00)	-0.279 (92.60)	-0.279 (92.64)
Hispanic	-0.197 (70.57)	-0.197 (70.30)	-0.197 (70.48)
Asian	-0.217 (48.90)	-0.216 (48.60)	-0.216 (48.61)
Native American	-0.234 (27.83)	-0.234 (27.71)	-0.234 (27.81)
Non-minority Female	-0.217 (104.90)	-0.217 (104.09)	-0.217 (104.90)
Age	0.095 (165.20)	0.095 (165.19)	0.095 (165.19)
Age ²	-0.001 (139.36)	-0.001 (139.35)	-0.001 (139.35)
NEORSDMA	0.008 (0.91)	0.017 (1.57)	0.020 (2.28)
NEORSDMA*African American		-0.084 (3.74)	-0.087 (4.02)
NEORSDMA*Hispanic		0.030 (0.83)	
NEORSDMA*Asian		-0.114 (2.03)	-0.117 (2.10)
NEORSDMA*Native American		-0.058 (0.45)	
NEORSDMA*non-minority Female		0.006 (0.43)	
Time (11 categories)	Yes	Yes	Yes
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	1054627	1054627	1054627
Adj. R ²	.5953	.5954	.5954

Source: NERA calculations from the Annual Demographic File of the 1992-2008 Current Population Survey microdata samples.

Notes: (1) Universe is all private sector wage and salary workers between age 16 and 64; (2) Reported number is the percentage difference in annual wages between a given group and non-minority men; (3) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.67 (1.99) (2.64) are statistically significant at a 90 (95) (99) percent confidence level; (4) "Other Race" includes Asian/Pacific Islanders and American Indians/Alaska Natives; (5) Geography is defined based on place of residence; (6) "NEORSDMA" is shorthand for "NEORS Market Area," which is the Cleveland-Elyria-Mentor, OH MSA, Akron, OH MSA, Canton-Massillon, OH MSA, Youngstown-Warren, OH MSA, and the Ashtabula, OH Micropolitan Statistical Area.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.4. Annual Wage Earnings Regressions, Construction and Related Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.350 (44.18)	-0.349 (43.81)	-0.350 (44.18)
Hispanic	-0.196 (36.86)	-0.196 (36.85)	-0.196 (36.86)
Asian	-0.219 (19.37)	-0.220 (19.42)	-0.219 (19.37)
Native American	-0.309 (17.15)	-0.309 (17.15)	-0.309 (17.15)
Other Race	-0.227 (15.87)	-0.227 (15.81)	-0.227 (15.87)
Non-minority Female	-0.360 (81.47)	-0.360 (80.91)	-0.360 (81.47)
Age	0.149 (139.48)	0.149 (139.48)	0.149 (139.48)
Age ²	-0.001 (119.52)	-0.001 (119.52)	-0.001 (119.52)
NEORSDMA	0.014 (0.60)	0.019 (0.78)	0.014 (0.60)
NEORSDMA*African American		-0.095 (1.09)	
NEORSDMA*Hispanic		0.145 (0.90)	
NEORSDMA* Asian/Pacific Islanders		0.465 (1.57)	
NEORSDMA* Native American		0.165 (0.19)	
NEORSDMA*Other Race		-0.022 (0.11)	
NEORSDMA*non-minority Female		-0.036 (0.73)	
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	221546	221546	221546
Adj. R ²	.2761	.2761	.2761

Source and Notes: See Table 5.1.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.5. Annual Wage Earnings Regressions, Construction and Related Industries, 1980-1991

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.352 (21.85)	-0.354 (21.88)	-0.352 (21.85)
Hispanic	-0.157 (12.23)	-0.157 (12.15)	-0.157 (12.23)
Other Race	-0.128 (3.82)	-0.129 (3.84)	-0.129 (3.84)
Non-minority Female	-0.302 (25.16)	-0.301 (24.86)	-0.302 (25.16)
Age	0.122 (48.56)	0.122 (48.56)	0.122 (48.56)
Age ²	-0.001 (40.03)	-0.001 (40.03)	-0.001 (40.03)
NEORSDMA	0.115 (2.48)	0.116 (2.36)	0.114 (2.45)
NEORSDMA*African American		0.344 (1.64)	
NEORSDMA*Hispanic		-0.404 (1.83)	
NEORSDMA*Other Race		0.423 (6.42)	0.426 (6.69)
NEORSDMA*non-minority Female		-0.099 (0.98)	
Time (13 categories)	Yes	Yes	Yes
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	49976	49976	49976
Adj. R ²	.5524	.5525	.5524

Source and Notes: See Table 5.2.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.6. Annual Wage Earnings Regressions, Construction and Related Industries, 1992-2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.242 (18.56)	-0.242 (18.42)	-0.242 (18.56)
Hispanic	-0.167 (19.39)	-0.168 (19.39)	-0.167 (19.39)
Asian	-0.183 (9.19)	-0.183 (9.17)	-0.183 (9.19)
Native American	-0.156 (6.78)	-0.156 (6.77)	-0.156 (6.78)
Non-minority Female	-0.207 (20.51)	-0.207 (20.27)	-0.207 (20.51)
Age	0.098 (49.00)	0.098 (49.00)	0.098 (49.00)
Age ²	-0.001 (40.85)	-0.001 (40.85)	-0.001 (40.85)
NEORSDMA	0.038 (1.12)	0.037 (1.04)	0.038 (1.12)
NEORSDMA*African American		0.013 (0.10)	
NEORSDMA*Hispanic		0.088 (0.38)	
NEORSDMA*Asian		-0.045 (0.12)	
NEORSDMA*Native American		-0.042 (0.25)	
NEORSDMA*non-minority Female		-0.013 (0.20)	
Time (11 categories)	Yes	Yes	Yes
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	83316	83316	83316
Adj. R ²	.4948	.4948	.4948

Source and Notes: See Table 5.3.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.7. Annual Business Owner Earnings Regressions, All Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.400 (32.06)	-0.401 (31.93)	-0.400 (32.07)
Hispanic	-0.231 (20.70)	-0.230 (20.63)	-0.230 (20.65)
Asian	-0.093 (5.77)	-0.093 (5.72)	-0.093 (5.74)
Native American	-0.358 (10.16)	-0.359 (10.19)	-0.358 (10.15)
Other Race	-0.363 (16.19)	-0.362 (16.10)	-0.362 (16.18)
Non-minority Female	-0.407 (67.41)	-0.405 (66.82)	-0.405 (66.83)
Age	0.163 (79.12)	0.163 (79.12)	0.163 (79.13)
Age ²	-0.002 (69.62)	-0.002 (69.62)	-0.002 (69.63)
NEORSDMA	-0.176 (4.89)	-0.124 (2.81)	-0.118 (2.81)
NEORSDMA*African American		0.092 (0.65)	
NEORSDMA*Hispanic		-0.003 (0.01)	
NEORSDMA* Asian/Pacific Islanders		-0.030 (0.13)	
NEORSDMA* Native American		1.234 (1.01)	
NEORSDMA*Other Race		-0.106 (0.34)	
NEORSDMA*non-minority Female		-0.176 (3.01)	-0.182 (3.19)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	284365	284365	284365
Adj. R ²	.1673	.1673	.1673

Source: NERA calculations from the 2006-2008 ACS Public Use Microdata Samples.

Notes: (1) Universe is all persons in the private sector with positive business earnings between age 16 and 64; observations with imputed values to the dependent variable and all independent variables are excluded; (2) Reported number is the percentage difference in annual business earnings between a given group and non-minority men; (3) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.67 (1.99) (2.64) are statistically significant at a 90 (95) (99) percent confidence level; (4) “Other Race” includes persons identifying themselves as belonging in more than one racial category; (5) Geography is defined based on place of residence; (6) “NEORSDMA” is shorthand for “NEORS Market Area,” which is the Cleveland-Elyria-Mentor, OH MSA, Akron, OH MSA, Canton-Massillon, OH MSA, Youngstown-Warren, OH MSA, and the Ashtabula, OH Micropolitan Statistical Area.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.8. Annual Business Owner Earnings Regressions, All Industries, 1980-1991

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.337 (15.34)	-0.338 (15.33)	-0.337 (15.35)
Hispanic	-0.199 (13.02)	-0.200 (13.03)	-0.199 (13.03)
Other Race	-0.090 (3.06)	-0.097 (3.28)	-0.097 (3.28)
Non-minority Female	-0.457 (48.63)	-0.456 (48.36)	-0.457 (48.64)
Age	0.101 (32.82)	0.101 (32.82)	0.100 (32.81)
Age ²	-0.001 (29.46)	-0.001 (29.45)	-0.001 (29.45)
NEORSDMA	0.041 (0.87)	0.053 (1.03)	0.030 (0.64)
NEORSDMA*African American		0.206 (0.85)	
NEORSDMA*Hispanic		0.179 (0.79)	
NEORSDMA*Other Race		1.295 (2.81)	1.190 (2.75)
NEORSDMA*non-minority Female		-0.130 (1.26)	
Time (13 categories)	Yes	Yes	Yes
Education (continuous)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (49 categories)	Yes	Yes	Yes
N	74895	74895	74895
Adj. R ²	.5172	.5173	.5172

Source: NERA calculations from the Annual Demographic File of the 1980-1991 Current Population Survey microdata samples.

Notes: (1) Universe is all private sector incorporated and unincorporated self-employed with positive business earnings between age 16 and 64; (2) Reported number is the percentage difference in annual business earnings between a given group and non-minority men; (3) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.67 (1.99) (2.64) are statistically significant at a 90 (95) (99) percent confidence level; (4) "Other Race" includes Asian/Pacific Islanders and American Indians/Alaska Natives; (5) Geography is defined based on place of residence; (6) "NEORSDMA" is shorthand for "NEORS Market Area," which is the Cleveland-Elyria-Mentor, OH MSA, Akron, OH MSA, Canton-Massillon, OH MSA, Youngstown-Warren, OH MSA, and the Ashtabula, OH Micropolitan Statistical Area.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.9. Annual Business Owner Earnings Regressions, All Industries, 1992-2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.280 (16.32)	-0.279 (16.10)	-0.280 (16.32)
Hispanic	-0.248 (19.18)	-0.246 (19.04)	-0.246 (19.05)
Asian	-0.214 (12.80)	-0.213 (12.74)	-0.213 (12.79)
Native American	-0.282 (8.14)	-0.282 (8.08)	-0.282 (8.14)
Non-minority Female	-0.378 (43.13)	-0.378 (42.91)	-0.378 (43.13)
Age	0.097 (30.49)	0.097 (30.49)	0.097 (30.49)
Age ²	-0.001 (28.48)	-0.001 (28.48)	-0.001 (28.48)
NEORSDMA	0.057 (1.30)	0.073 (1.48)	0.067 (1.52)
NEORSDMA*African American		-0.106 (0.76)	
NEORSDMA*Hispanic		-0.421 (2.07)	-0.418 (2.06)
NEORSDMA*Asian		-0.091 (0.56)	
NEORSDMA*Native American		-0.128 (0.50)	
NEORSDMA*non-minority Female		0.012 (0.16)	
Time (11 categories)	Yes	Yes	Yes
Education (continuous)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (49 categories)	Yes	Yes	Yes
N	115869	115869	115869
Adj. R ²	.3823	.3824	.3823

Source: NERA calculations from the Annual Demographic File of the 1992-2002 Current Population Survey microdata samples.

Notes: (1) Universe is all private sector incorporated and unincorporated self-employed with positive business earnings between age 16 and 64; (2) Reported number is the percentage difference in annual business earnings between a given group and non-minority men; (3) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.67 (1.99) (2.64) are statistically significant at a 90 (95) (99) percent confidence level; (4) "Other Race" includes Asian/Pacific Islanders and American Indians/Alaska Natives; (5) Geography is defined based on place of residence; (6) "NEORSDMA" is shorthand for "NEORS Market Area," which is the Cleveland-Elyria-Mentor, OH MSA, Akron, OH MSA, Canton-Massillon, OH MSA, Youngstown-Warren, OH MSA, and the Ashtabula, OH Micropolitan Statistical Area.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.10. Business Owner Earnings Regressions, Construction and Related Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.433 (14.08)	-0.432 (13.97)	-0.433 (14.08)
Hispanic	-0.159 (6.96)	-0.160 (6.99)	-0.159 (6.97)
Asian/Pacific Islanders	-0.173 (3.53)	-0.174 (3.55)	-0.173 (3.53)
Native American	-0.312 (4.48)	-0.319 (4.59)	-0.319 (4.59)
Other Race	-0.280 (5.41)	-0.276 (5.31)	-0.280 (5.41)
Non-minority Female	-0.459 (22.95)	-0.459 (22.88)	-0.459 (22.95)
Age	0.126 (27.41)	0.126 (27.40)	0.126 (27.41)
Age ²	-0.001 (24.68)	-0.001 (24.68)	-0.001 (24.69)
NEORSDMA	-0.148 (1.99)	-0.160 (2.07)	-0.153 (2.06)
NEORSDMA*African American		-0.118 (0.32)	
NEORSDMA*Hispanic		0.242 (0.49)	
NEORSDMA* Asian/Pacific Islanders		1.872 (0.76)	
NEORSDMA* Native American		16.119 (2.03)	15.967 (2.03)
NEORSDMA*Other Race		-0.497 (0.98)	
NEORSDMA*non-minority Female		0.170 (0.62)	
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	47414	47414	47414
Adj. R ²	.0525	.0525	.0525

Source and Notes: See Table 5.7.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.11. Business Owner Earnings Regressions, Construction and Related Industries, 1980-1991

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.396 (8.75)	-0.400 (8.79)	-0.400 (8.79)
Hispanic	-0.160 (4.61)	-0.160 (4.60)	-0.160 (4.62)
Other Race	-0.004 (0.06)	-0.004 (0.06)	-0.004 (0.06)
Non-minority Female	-0.382 (9.16)	-0.381 (9.06)	-0.382 (9.16)
Age	0.106 (15.86)	0.106 (15.84)	0.106 (15.84)
Age ²	-0.001 (14.26)	-0.001 (14.25)	-0.001 (14.25)
NEORSDMA	0.093 (0.79)	0.081 (0.65)	0.070 (0.60)
NEORSDMA*African American		1.000 (2.92)	1.020 (3.00)
NEORSDMA*Hispanic		-0.207 (1.91)	
NEORSDMA*Other Race		0.000 (0.00)	
NEORSDMA*non-minority Female		-0.081 (0.23)	
Time (13 categories)	Yes	Yes	Yes
Education (continuous)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (49 categories)	Yes	Yes	Yes
N	13171	13171	13171
Adj. R ²	.3323	.3324	.3324

Source and Notes: See Table 5.8.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.12. Business Owner Earnings Regressions, Construction and Related Industries, 1992-2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.233 (5.58)	-0.234 (5.52)	-0.233 (5.58)
Hispanic	-0.160 (6.06)	-0.159 (6.05)	-0.160 (6.06)
Asian	-0.129 (2.24)	-0.129 (2.23)	-0.129 (2.24)
Native American	-0.128 (1.89)	-0.128 (1.89)	-0.128 (1.89)
Non-minority Female	-0.224 (6.99)	-0.223 (6.87)	-0.224 (6.99)
Age	0.073 (11.29)	0.073 (11.28)	0.073 (11.29)
Age ²	-0.001 (10.22)	-0.001 (10.22)	-0.001 (10.22)
NEORSDMA	0.144 (1.54)	0.158 (1.58)	0.144 (1.54)
NEORSDMA*African American		0.038 (0.14)	
NEORSDMA*Hispanic		-0.211 (0.52)	
NEORSDMA*Asian		0.000 (0.00)	
NEORSDMA*Native American		0.000 (0.00)	
NEORSDMA*non-minority Female		-0.119 (0.60)	
Time (11 categories)	Yes	Yes	Yes
Education (continuous)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (49 categories)	Yes	Yes	Yes
N	22992	22992	22992
Adj. R ²	.2525	.2525	.2525

Source and Notes: See Table 5.9.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.13. Self-Employment Rates in 2006–2008 for Selected Race and Sex Groups: United States and the NEORS Market Area, All Industries

Race/Sex	U.S. (%)	NEORS Market Area (%)	Percent Difference from Non-minority male (NEORS DMA)
African American	5.38	4.64	-58.8%
Hispanic	8.65	6.56	-41.7%
Asian	10.58	9.84	-12.6%
Native American	8.65	7.98	-29.1%
Multiple Races	8.96	6.38	-43.3%
MBE	7.95	5.60	-50.3%
Non-minority female	8.76	5.88	-47.8%
M/WBE	8.38	5.80	-48.5%
Non-minority male	14.22	11.26	

Source: NERA calculations from the 2006-2008 ACS Public Use Microdata Samples.

Table 5.14. Self-Employment Rates in 2006–2008 for Selected Race and Sex Groups: United States and the NEORS Market Area, Construction and CRS Sectors and Goods and Services Sectors

Race/Sex	U.S. (%)	NEORS Market Area (%)	Percent Difference from Non-minority male (NEORS DMA)
<i>Construction and CRS Sectors</i>			
African American	16.61	20.98	-21.1%
Hispanic	14.60	39.22	47.6%
Asian	17.68	10.06	-62.2%
Native American	18.06	50.72	90.8%
Multiple Races	18.93	0.00	-100.0%
MBE	15.40	22.34	-16.0%
Non-minority female	15.34	13.04	-50.9%
M/WBE	15.39	17.18	-35.4%
Non-minority male	26.17	26.58	
<i>Goods and Services Sectors</i>			
African American	4.81	3.98	-55.7%
Hispanic	7.65	4.90	-45.5%
Asian	10.26	9.84	9.5%
Native American	7.37	6.55	-27.1%
Multiple Races	8.01	6.88	-23.5%
MBE	7.17	4.91	-45.4%
Non-minority female	8.56	5.73	-36.3%
M/WBE	7.93	5.50	-38.8%
Non-minority male	11.99	8.99	

Source: NERA calculations from the 2006-2008 ACS Public Use Microdata Samples.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.15. Business Formation Regressions, All Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.042 (74.43)	-0.042 (74.06)	-0.042 (74.44)
Hispanic	-0.032 (64.75)	-0.032 (64.73)	-0.032 (64.71)
Asian/Pacific Islanders	-0.018 (27.06)	-0.018 (27.13)	-0.018 (27.12)
Native American	-0.027 (15.05)	-0.027 (15.11)	-0.027 (15.04)
Other Race	-0.020 (16.42)	-0.020 (16.44)	-0.020 (16.41)
Non-minority Female	-0.028 (80.33)	-0.028 (79.58)	-0.028 (79.56)
Age	0.010 (115.65)	0.010 (115.66)	0.010 (115.66)
Age ²	-0.000 (80.53)	-0.000 (80.54)	-0.000 (80.53)
NEORSDMA	-0.014 (7.82)	-0.012 (5.63)	-0.011 (5.41)
NEORSDMA*African American		0.007 (1.04)	
NEORSDMA*Hispanic		0.028 (2.27)	0.027 (2.19)
NEORSDMA* Asian/Pacific Islanders		0.031 (2.56)	0.030 (2.48)
NEORSDMA* Native American		0.088 (1.83)	
NEORSDMA*Other Race		0.020 (1.10)	
NEORSDMA*non-minority Female		-0.010 (3.34)	-0.010 (3.70)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (25 categories)	Yes	Yes	Yes
N	2695435	2695435	2695435
Pseudo R ²	.2194	.2195	.2195

Source: NERA calculations from the 2006-2008 ACS Public Use Microdata Samples.

Notes: (1) Universe is all private sector labor force participants between age 16 and 64; observations with imputed values to the dependent variable and all independent variables are excluded; (2) Reported number represents the percentage point probability difference in business ownership rates between a given group and non-minority men, evaluated at the mean business ownership rate for the estimation sample; (3) Number in parentheses is the absolute value of the associated z-statistic. Using a two-tailed test, z-statistics greater than 1.67 (1.99) (2.64) are statistically significant at a 90 (95) (99) percent confidence level; (4) “Other Race” includes persons identifying themselves as belonging in more than one racial category; (5) Geography is defined based on place of residence; (6) “NEORSDMA” is shorthand for “NEORS Market Area,” which is the Cleveland-Elyria-Mentor, OH MSA, Akron, OH MSA, Canton-Massillon, OH MSA, Youngstown-Warren, OH MSA, and the Ashtabula, OH Metropolitan Statistical Area.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.16. Business Formation Regressions, All Industries, 1980-1991

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.037 (50.55)	-0.037 (50.17)	-0.037 (50.55)
Hispanic	-0.022 (31.36)	-0.022 (31.37)	-0.022 (31.41)
Other Race	-0.003 (1.75)	-0.003 (1.83)	-0.003 (1.76)
Non-minority Female	-0.033 (62.15)	-0.033 (61.74)	-0.033 (62.15)
Age	0.012 (90.99)	0.012 (90.99)	0.012 (90.99)
Age ²	-0.000 (71.53)	-0.000 (71.53)	-0.000 (71.52)
NEORSDMA	-0.004 (1.94)	-0.003 (0.93)	-0.005 (2.11)
NEORSDMA*African American		-0.004 (0.45)	
NEORSDMA*Hispanic		0.037 (2.00)	0.041 (2.18)
NEORSDMA*Other Race		0.027 (0.98)	
NEORSDMA*non-minority Female		-0.007 (1.63)	
Time (6 categories)	Yes	Yes	Yes
Education (continuous)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (49 categories)	Yes	Yes	Yes
N	770337	770377	770377
Pseudo R ²	.2530	.2530	.2530

Source: NERA calculations from the Merged Outgoing Rotation Groups of the 1980-1991 Current Population Survey microdata samples.

Notes: (1) Universe is all private sector labor force participants between age 16 and 64; (2) Reported number represents the percentage point probability difference in business ownership rates between a given group and non-minority men, evaluated at the mean business ownership rate for the estimation sample; (3) Number in parentheses is the absolute value of the associated z-statistic. Using a two-tailed test, z-statistics greater than 1.67 (1.99) (2.64) are statistically significant at a 90 (95) (99) percent confidence level; (4) "Other Race" includes Asian/Pacific Islanders and American Indians/Alaska Natives; (5) Geography is defined based on place of residence; (6) "NEORSDMA" is shorthand for "NEORS Market Area," which is the Cleveland-Elyria-Mentor, OH MSA, Akron, OH MSA, Canton-Massillon, OH MSA, Youngstown-Warren, OH MSA, and the Ashtabula, OH Micropolitan Statistical Area.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.17. Business Formation Regressions, All Industries, 1992-2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.036 (48.24)	-0.036 (48.01)	-0.036 (48.24)
Hispanic	-0.028 (41.22)	-0.028 (41.15)	-0.028 (41.22)
Asian	-0.010 (9.22)	-0.010 (9.10)	-0.010 (9.22)
Native American	-0.021 (10.95)	-0.021 (10.95)	-0.021 (10.95)
Non-minority Female	-0.025 (46.26)	-0.024 (45.84)	-0.025 (46.26)
Age	0.012 (85.75)	0.012 (85.76)	0.012 (85.75)
Age ²	-0.000 (64.31)	-0.000 (64.32)	-0.000 (64.31)
NEORSDMA	-0.007 (3.04)	-0.006 (2.05)	-0.007 (3.04)
NEORSDMA*African American		0.013 (1.61)	
NEORSDMA*Hispanic		0.014 (1.15)	
NEORSDMA*Asian		-0.022 (1.64)	
NEORSDMA*Native American		0.017 (0.46)	
NEORSDMA*non-minority Female		-0.006 (1.43)	
Time (11 categories)	Yes	Yes	Yes
Education (continuous)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (49 categories)	Yes	Yes	Yes
N	1177892	1177892	1177892
Pseudo R ²	.2089	.2089	.2089

Source: NERA calculations from the Merged Outgoing Rotation Groups of the 1992-2002 Current Population.

Notes: (1) Universe is all private sector labor force participants between age 16 and 64; (2) Reported number represents the percentage point probability difference in business ownership rates between a given group and non-minority men, evaluated at the mean business ownership rate for the estimation sample; (3) Number in parentheses is the absolute value of the associated z-statistic. Using a two-tailed test, z-statistics greater than 1.67 (1.99) (2.64) are statistically significant at a 90 (95) (99) percent confidence level; (4) "Other Race" includes Asian/Pacific Islanders and American Indians/Alaska Natives; (5) Geography is defined based on place of residence; (6) "NEORSDMA" is shorthand for "NEORS Market Area," which is the Cleveland-Elyria-Mentor, OH MSA, Akron, OH MSA, Canton-Massillon, OH MSA, Youngstown-Warren, OH MSA, and the Ashtabula, OH Micropolitan Statistical Area.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.18a. Business Formation Regressions, Construction and Related Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.092 (21.64)	-0.093 (21.64)	-0.092 (21.64)
Hispanic	-0.078 (27.93)	-0.078 (28.02)	-0.078 (28.01)
Asian/Pacific Islanders	-0.062 (10.16)	-0.062 (10.11)	-0.062 (10.15)
Native American	-0.079 (8.26)	-0.079 (8.28)	-0.079 (8.26)
Other Race	-0.041 (5.45)	-0.040 (5.30)	-0.040 (5.30)
Non-minority Female	-0.096 (37.28)	-0.095 (36.86)	-0.095 (36.85)
Age	0.025 (46.80)	0.025 (46.81)	0.025 (46.82)
Age ²	-0.000 (32.55)	-0.000 (32.56)	-0.000 (32.56)
NEORSDMA	-0.015 (1.44)	-0.013 (1.23)	-0.011 (1.05)
NEORSDMA*African American		0.063 (1.37)	
NEORSDMA*Hispanic		0.295 (3.74)	0.292 (3.71)
NEORSDMA* Asian/Pacific Islanders		-0.112 (0.80)	
NEORSDMA* Native American		0.310 (0.88)	
NEORSDMA*Other Race		0.000 (0.00)	
NEORSDMA*non-minority Female		-0.056 (2.14)	-0.058 (2.23)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (25 categories)	Yes	Yes	Yes
N	259606	259606	259606
Pseudo R ²	.0815	.0816	.0816

Source and Notes: See Table 5.15.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.18b. Business Formation Regressions, Goods and Services Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.053 (78.17)	-0.053 (77.89)	-0.053 (77.92)
Hispanic	-0.030 (46.86)	-0.031 (46.83)	-0.030 (46.89)
Asian/Pacific Islanders	-0.027 (33.62)	-0.027 (33.71)	-0.027 (33.72)
Native American	-0.028 (12.02)	-0.028 (12.07)	-0.028 (12.03)
Other Race	-0.022 (14.61)	-0.023 (14.70)	-0.022 (14.62)
Non-minority Female	-0.027 (68.11)	-0.027 (67.63)	-0.027 (68.11)
Age	0.010 (92.14)	0.010 (92.15)	0.010 (92.15)
Age ²	-0.000 (61.64)	-0.000 (61.65)	-0.000 (61.65)
NEORSDMA	-0.023 (10.94)	-0.024 (9.25)	-0.024 (11.38)
NEORSDMA*African American		0.018 (2.37)	0.019 (2.49)
NEORSDMA*Hispanic		0.003 (0.21)	
NEORSDMA* Asian/Pacific Islanders		0.037 (2.61)	0.037 (2.67)
NEORSDMA* Native American		0.060 (1.24)	
NEORSDMA*Other Race		0.036 (1.68)	
NEORSDMA*non-minority Female		-0.002 (0.52)	
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (25 categories)	Yes	Yes	Yes
N	2504250	2504250	2504250
Pseudo R ²	.0663	.0663	.0663

Source and Notes: See Table 5.15.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.19. Business Formation Regressions, Construction and Related Industries, 1980-1991

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.122 (16.93)	-0.122 (16.80)	-0.122 (16.93)
Hispanic	-0.074 (12.18)	-0.074 (12.15)	-0.074 (12.18)
Other Race	-0.079 (5.10)	-0.078 (5.05)	-0.078 (5.05)
Non-minority Female	-0.121 (21.32)	-0.122 (21.18)	-0.121 (21.32)
Age	0.037 (36.25)	0.037 (36.25)	0.037 (36.25)
Age ²	-0.000 (28.96)	-0.000 (28.97)	-0.000 (28.96)
NEORSDMA	-0.020 (1.03)	-0.018 (0.89)	-0.019 (0.99)
NEORSDMA*African American		-0.038 (0.50)	
NEORSDMA*Hispanic		-0.043 (0.40)	
NEORSDMA*Other Race		0.000 (0.00)	
NEORSDMA*non-minority Female		0.018 (0.32)	
Time (6 categories)	Yes	Yes	Yes
Education (continuous)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (49 categories)	Yes	Yes	Yes
N	63877	63876	63876
Pseudo R ²	.1078	.1078	.1078

Source and Notes: See Table 5.16.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.20. Business Formation Regressions, Construction and Related Industries, 1992-2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.099 (16.22)	-0.100 (16.30)	-0.099 (16.22)
Hispanic	-0.085 (19.54)	-0.085 (19.51)	-0.085 (19.53)
Asian	-0.042 (3.98)	-0.041 (3.93)	-0.041 (3.92)
Native American	-0.060 (4.97)	-0.060 (4.96)	-0.060 (4.95)
Non-minority Female	-0.087 (18.62)	-0.087 (18.55)	-0.087 (18.62)
Age	0.032 (35.03)	0.032 (35.08)	0.032 (35.03)
Age ²	-0.000 (26.86)	-0.000 (26.89)	-0.000 (26.86)
NEORSDMA	-0.023 (1.41)	-0.027 (1.62)	-0.022 (1.35)
NEORSDMA*African American		0.086 (1.21)	
NEORSDMA*Hispanic		-0.031 (0.35)	
NEORSDMA*Asian		0.000 (0.00)	
NEORSDMA*Native American		0.000 (0.00)	
NEORSDMA*non-minority Female		0.008 (0.16)	-0.099 (16.22)
Time (11 categories)	Yes	Yes	Yes
Education (continuous)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (49 categories)	Yes	Yes	Yes
N	107440	107430	107430
Pseudo R ²	.0955	.0955	.0955

Source and Notes: See Table 5.17.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.21. Actual and Potential Business Formation Rates in the NEORS Market Area

Race/Sex	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
<i>All Industries</i>			
	(1)	(2)	(3)
African American	4.64	8.8	52.5
Hispanic	6.56	7.1	92.9
Asian	9.84	8.6	113.9
Native American	7.98	10.7	74.7
Multiple races reported	6.38	8.4	76.1
MBE	5.60	9.0	62.2
Non-minority female	5.88	9.7	60.7
All M/WBE	5.80	9.2	63.0
<i>Construction and CRS Sectors</i>			
	(1)	(2)	(3)
African American	20.98	30.2	69.5
Hispanic	39.22	17.8	220.1
Asian	10.06	16.3	61.9
Native American	50.72	58.6	86.5
Multiple races reported	100.00	104.0	96.2
MBE	22.34	30.3	73.6
Non-minority female	13.04	28.3	46.0
All M/WBE	17.18	26.2	65.6
<i>Goods and Services Sectors</i>			
	(1)	(2)	(3)
African American	3.98	7.4	53.9
Hispanic	4.90	7.9	62.0
Asian	9.84	8.8	111.3
Native American	6.55	9.4	70.1
Multiple races reported	6.88	9.1	75.8
MBE	4.91	7.9	62.1
Non-minority female	5.73	8.4	68.0
All M/WBE	5.50	8.4	65.5

Source: 2006–2008 ACS Public Use Microdata Sample. See Tables 5.15, 5.18a, 5.18b.

Notes: Figures in column (1) are average self-employment rates weighted using ACS population-based person weights. Figures in column (2), top, middle, and bottom panels, are derived by combining the figure in column (1) with the corresponding result from the regression reported in Table 5.15, 5.18a, or 5.18b, respectively. Column (3) is the figure in column (1) divided by the figure in column (2), with the result multiplied by 100.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.22. Disparity Indices from the 2002 Survey of Business Owners: United States, All Industries

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
United States	22,480,256	8,783,541,146	5,172,064	8,039,252,709	55,368,216	1,626,785,430
Female	6,489,259	939,538,208	916,657	802,851,495	7,141,369	173,528,707
Equally male-/female-owned	2,693,360	731,678,703	717,961	627,202,424	5,664,948	129,700,997
African American	1,197,567	88,641,608	94,518	65,799,425	753,978	17,550,064
Hispanic	1,573,464	221,927,425	199,542	179,507,959	1,536,795	36,711,718
Asian	1,103,587	326,663,445	319,468	291,162,771	2,213,948	56,044,960
Native Hawaiian/Pac. Islander	28,948	4,279,591	3,693	3,502,157	29,319	826,217
Am. Indian & Alaska Native	201,387	26,872,947	24,498	21,986,696	191,270	5,135,273
Panel B. Column Percentages						
United States	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Female	28.87%	10.70%	17.72%	9.99%	12.90%	10.67%
Equally male-/female-owned	11.98%	8.33%	13.88%	7.80%	10.23%	7.97%
African American	5.33%	1.01%	1.83%	0.82%	1.36%	1.08%
Hispanic	7.00%	2.53%	3.86%	2.23%	2.78%	2.26%
Asian	4.91%	3.72%	6.18%	3.62%	4.00%	3.45%
Native Hawaiian/Pac. Islander	0.13%	0.05%	0.07%	0.04%	0.05%	0.05%
Am. Indian & Alaska Native	0.90%	0.31%	0.47%	0.27%	0.35%	0.32%
Panel C. Disparity Indices						
		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Female		37.06%		56.35%	72.77%	60.19%
Equally male-/female-owned		69.53%		56.20%	73.71%	57.43%
African American		18.94%		44.79%	74.52%	59.03%
Hispanic		36.10%		57.88%	71.94%	58.49%
Asian		75.76%		58.63%	64.74%	55.78%
Native Hawaiian/Pac. Islander		37.84%		61.01%	74.16%	71.13%
Am. Indian & Alaska Native		34.15%		57.74%	72.93%	66.64%

Source: NERA calculations using 2002 SBO. Excludes publicly-owned, foreign-owned, and not-for-profit firms.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.23. Disparity Indices from the 2002 Survey of Business Owners: Ohio, All Industries

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
OHIO	796,858	329,202,760	185,347	305,721,000	2,247,906	63,287,759
Female	229,972	32,314,892	30,454	28,137,379	264,038	6,278,071
Equally male-/female-owned	81,102	19,887,166	20,431	17,005,277	172,361	3,620,263
African American	35,658	3,600,434	3,143	2,981,788	29,996	671,173
Hispanic	7,109	1,263,422	1,345	1,089,911	11,348	270,941
Asian	13,740	5,106,036	5,452	4,667,865	42,955	1,201,652
Native Hawaiian/Pac. Islander	-	-	-	-	-	-
Am. Indian & Alaska Native	3,123	477,973	400	398,360	4,013	94,825
Panel B. Column Percentages						
OHIO	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Female	28.86%	9.82%	16.43%	9.20%	11.75%	9.92%
Equally male-/female-owned	10.18%	6.04%	11.02%	5.56%	7.67%	5.72%
African American	4.47%	1.09%	1.70%	0.98%	1.33%	1.06%
Hispanic	0.89%	0.38%	0.73%	0.36%	0.50%	0.43%
Asian	1.72%	1.55%	2.94%	1.53%	1.91%	1.90%
Native Hawaiian/Pac. Islander	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Am. Indian & Alaska Native	0.39%	0.15%	0.22%	0.13%	0.18%	0.15%
Panel C. Disparity Indices						
		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Female		34.01%		56.01%	71.49%	60.37%
Equally male-/female-owned		59.36%		50.46%	69.56%	51.89%
African American		24.44%		57.52%	78.69%	62.54%
Hispanic		43.02%		49.13%	69.57%	59.00%
Asian		89.95%		51.91%	64.96%	64.55%
Native Hawaiian/Pac. Islander		-		-	-	-
Am. Indian & Alaska Native		37.05%		60.38%	82.72%	69.43%

Source: See Table 5.22.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.24. Disparity Indices from the 2002 Survey of Business Owners: United States, Construction and CRS Industries

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
United States	5,996,428	1,685,502,784	1,406,037	1,476,285,725	10,446,834	410,330,833
Female	1,136,584	147,556,354	185,072	119,542,082	1,028,439	37,265,214
Equally male-/female-owned	566,062	132,088,134	154,135	108,702,609	871,950	28,975,443
African American	190,840	19,026,591	19,743	14,600,451	125,988	4,596,509
Hispanic	350,845	46,462,089	44,506	34,190,411	288,520	9,446,399
Asian	193,007	36,948,648	37,390	31,489,180	242,907	11,627,079
Native Hawaiian/Pac. Islander	6,092	1,173,615	321	172,732	1,351	53,364
Am. Indian & Alaska Native	54,758	8,145,166	8,103	6,435,409	46,650	1,712,542
Panel B. Column Percentages						
United States	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Female	18.95%	8.75%	13.16%	8.10%	9.84%	9.08%
Equally male-/female-owned	9.44%	7.84%	10.96%	7.36%	8.35%	7.06%
African American	3.18%	1.13%	1.40%	0.99%	1.21%	1.12%
Hispanic	5.85%	2.76%	3.17%	2.32%	2.76%	2.30%
Asian	3.22%	2.19%	2.66%	2.13%	2.33%	2.83%
Native Hawaiian/Pac. Islander	0.10%	0.07%	0.02%	0.01%	0.01%	0.01%
Am. Indian & Alaska Native	0.91%	0.48%	0.58%	0.44%	0.45%	0.42%
Panel C. Disparity Indices						
		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Female		46.19%		61.52%	74.79%	69.00%
Equally male-/female-owned		83.02%		67.17%	76.14%	64.42%
African American		35.47%		70.43%	85.89%	79.78%
Hispanic		47.11%		73.17%	87.25%	72.73%
Asian		68.11%		80.21%	87.44%	106.56%
Native Hawaiian/Pac. Islander		68.54%		51.25%	56.65%	56.96%
Am. Indian & Alaska Native		52.92%		75.64%	77.49%	72.42%

Source: See Table 5.22.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.25. Disparity Indices from the 2002 Survey of Business Owners: Ohio, Construction and CRS Industries

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
OHIO	210,664	53,868,181	48,734	47,407,813	361,807	13,587,107
Female	35,379	4,166,190	5,837	3,450,894	30,749	1,026,404
Equally male-/female-owned	15,264	3,292,618	3,912	2,764,381	20,967	678,298
African American	5,428	913,014	704	823,274	5,475	205,958
Hispanic	1,555	230,198	267	187,939	1,813	63,896
Asian	2,466	773,992	502	549,729	4,551	254,327
Native Hawaiian/Pac. Islander	-	-	-	-	-	-
Am. Indian & Alaska Native	927	96,851	82	23,682	246	6,471
Panel B. Column Percentages						
OHIO	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Female	16.79%	7.73%	11.98%	7.28%	8.50%	7.55%
Equally male-/female-owned	7.25%	6.11%	8.03%	5.83%	5.80%	4.99%
African American	2.58%	1.69%	1.44%	1.74%	1.51%	1.52%
Hispanic	0.74%	0.43%	0.55%	0.40%	0.50%	0.47%
Asian	1.17%	1.44%	1.03%	1.16%	1.26%	1.87%
Native Hawaiian/Pac. Islander	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Am. Indian & Alaska Native	0.44%	0.18%	0.17%	0.05%	0.07%	0.05%
Panel C. Disparity Indices		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Female		46.05%		60.77%	70.96%	63.07%
Equally male-/female-owned		84.36%		72.64%	72.19%	62.19%
African American		65.78%		120.21%	104.75%	104.93%
Hispanic		57.89%		72.36%	91.46%	85.84%
Asian		122.74%		112.57%	122.11%	181.72%
Native Hawaiian/Pac. Islander		-		-	-	-
Am. Indian & Alaska Native		40.86%		29.69%	40.41%	28.30%

Source: See Table 5.22.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.26. Disparity Indices from the 2002 Survey of Business Owners: United States, Goods and Services Industries

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
United States	16,483,828	7,098,038,362	3,766,027	6,562,966,984	44,921,382	1,216,454,597
Female	5,352,675	791,981,854	731,585	683,309,413	6,112,930	136,263,493
Equally male-/female-owned	2,127,298	599,590,569	563,826	518,499,815	4,792,998	100,725,554
African American	1,006,727	69,615,017	74,775	51,198,974	627,990	12,953,555
Hispanic	1,222,619	175,465,336	155,036	145,317,548	1,248,275	27,265,319
Asian	910,580	289,714,797	282,078	259,673,591	1,971,041	44,417,881
Native Hawaiian/Pac. Islander	22,856	3,105,976	3,372	3,329,425	27,968	772,853
Am. Indian & Alaska Native	146,629	18,727,781	16,395	15,551,287	144,620	3,422,731
Panel B. Column Percentages						
United States	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Female	32.47%	11.16%	19.43%	10.41%	13.61%	11.20%
Equally male-/female-owned	12.91%	8.45%	14.97%	7.90%	10.67%	8.28%
African American	6.11%	0.98%	1.99%	0.78%	1.40%	1.06%
Hispanic	7.42%	2.47%	4.12%	2.21%	2.78%	2.24%
Asian	5.52%	4.08%	7.49%	3.96%	4.39%	3.65%
Native Hawaiian/Pac. Islander	0.14%	0.04%	0.09%	0.05%	0.06%	0.06%
Am. Indian & Alaska Native	0.89%	0.26%	0.44%	0.24%	0.32%	0.28%
Panel C. Disparity Indices						
		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Female		34.36%		53.60%	70.05%	57.66%
Equally male-/female-owned		65.46%		52.77%	71.27%	55.31%
African American		16.06%		39.29%	70.41%	53.63%
Hispanic		33.33%		53.79%	67.50%	54.45%
Asian		73.89%		52.83%	58.58%	48.75%
Native Hawaiian/Pac. Islander		31.56%		56.66%	69.54%	70.96%
Am. Indian & Alaska Native		29.66%		54.43%	73.95%	64.63%

Source: See Table 5.22.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

Table 5.27. Disparity Indices from the 2002 Survey of Business Owners: OHIO, Goods and Services Industries

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
OHIO	586,194	275,334,579	136,613	258,313,187	1,886,099	49,700,652
Female	194,593	28,148,702	24,617	24,686,485	233,289	5,251,667
Equally male-/female-owned	65,838	16,594,548	16,519	14,240,896	151,394	2,941,965
African American	30,230	2,687,420	2,439	2,158,514	24,521	465,215
Hispanic	5,554	1,033,224	1,078	901,972	9,535	207,045
Asian	11,274	4,332,044	4,950	4,118,136	38,404	947,325
Native Hawaiian/Pac. Islander	-	-	-	-	-	-
Am. Indian & Alaska Native	2,196	381,122	318	374,678	3,767	88,354
Panel B. Column Percentages						
OHIO	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Female	33.20%	10.22%	18.02%	9.56%	12.37%	10.57%
Equally male-/female-owned	11.23%	6.03%	12.09%	5.51%	8.03%	5.92%
African American	5.16%	0.98%	1.79%	0.84%	1.30%	0.94%
Hispanic	0.95%	0.38%	0.79%	0.35%	0.51%	0.42%
Asian	1.92%	1.57%	3.62%	1.59%	2.04%	1.91%
Native Hawaiian/Pac. Islander	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Am. Indian & Alaska Native	0.37%	0.14%	0.23%	0.15%	0.20%	0.18%
Panel C. Disparity Indices		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Female		30.80%		53.04%	68.64%	58.64%
Equally male-/female-owned		53.66%		45.59%	66.38%	48.95%
African American		18.93%		46.80%	72.82%	52.43%
Hispanic		39.61%		44.25%	64.07%	52.79%
Asian		81.81%		44.00%	56.20%	52.60%
Native Hawaiian/Pac. Islander		-		-	-	-
Am. Indian & Alaska Native		36.95%		62.31%	85.80%	76.37%

Source: See Table 5.22.

Statistical Disparities in Minority and Female Business Formation and Business Owner Earnings

VI. Statistical Disparities in Capital Markets

Discrimination occurs whenever the terms of a transaction are affected by personal characteristics of the participants that are not relevant to the transaction. Among such characteristics, the most commonly considered are race, ethnicity and gender. In labor markets, this might translate into equally productive workers in similar jobs being paid different salaries because of their race, ethnicity or gender. In credit markets, it might translate into loan approvals differing across racial or gender groups with otherwise similar financial backgrounds.

In this Chapter, we examine whether there is evidence consistent with the presence of discrimination in the small business credit market against minority-owned or women-owned small businesses. Discrimination in the credit market against such businesses can have an important effect on the likelihood that they will succeed. Moreover, discrimination in the credit market might even prevent businesses from opening in the first place.

In our analysis, we use data from the Federal Reserve Board to examine the existence or otherwise of discrimination in the small business credit market for 1993, 1998 and 2003.²³⁸ These surveys are based on a large representative sample of firms with fewer than 500 employees and are administered by the Federal Reserve Board and the U.S. Small Business Administration. The 1993 and 1998 surveys deliberately oversampled minority-owned firms but the 2003 survey did not.²³⁹

These data provide qualitative and quantitative evidence consistent with the presence of discrimination against minorities in the credit market for small businesses. For example, we find that African American-owned firms are much more likely to report being seriously concerned with credit market problems and report being less likely to apply for credit because they fear the loan would be denied. Moreover, after controlling for a large number of characteristics of the firms, we find that African American-owned firms, Hispanic-owned firms, and to a lesser extent other minority-owned firms are substantially and statistically significantly more likely to be denied credit than are non-minority-owned firms. We find some evidence that women are discriminated against in this market as well. The principal results are as follows:

- Minority-owned firms were more likely to report that they did not apply for a loan over the preceding three years because they feared the loan would be denied.
- When minority-owned firms applied for a loan their loan requests were substantially more likely to be denied than non-minorities, even after accounting for differences like firm size and credit history.
- When minority-owned firms *did* receive a loan they were obligated to pay higher interest rates on the loans than comparable non-minority-owned firms.

²³⁸ The most recent data available from this survey is for 2003. Due to budget limitations, the Federal Reserve Board cancelled the 2008 survey.

²³⁹ The 2003 survey took other steps, however, to increase the likelihood that minority-owned and women-owned firms were captured in the sampling frame. For more details, see NORC (2005), p. 11.

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- A larger proportion of minority-owned firms than non-minority-owned firms report that credit market conditions are a serious concern.
- A larger share of minority-owned firms than non-minority-owned firms believes that the availability of credit is the most important issue likely to confront them in the upcoming year.
- There is no evidence that discrimination in the market for credit is significantly different in the East North Central census division or in the construction and construction-related professional services industries than it is in the nation or the economy as a whole.
- There is no evidence that the level of discrimination in the market for credit has diminished between 1993 and 2003.

The structure of this Chapter is as follows. First, we outline the main theories of discrimination and discuss how they might be tested. Second, we examine the evidence on the existence of capital/liquidity constraints facing individuals in the mortgage market, households in the non-mortgage loan market, and for small businesses in the commercial credit market. Third, we describe the data files used in the remainder of the Chapter and then examine in more detail problems faced by minority-owned firms in obtaining credit. Fourth, we provide a series of answers to criticisms. Finally, we present our conclusions.

A. Theoretical Framework and Review of the Literature

Most recent economic studies of discrimination draw on the analyses contained in Gary Becker's (1957) *The Economics of Discrimination*. Becker's main contribution was to translate the notion of discrimination into financial terms. Discrimination, in this view, results from the desire of owners, workers, or customers to avoid contact with certain groups. This being the case, transactions with the undesired groups would require more favorable terms than those that occur with a desired group. Assume that the primary objective of a financial institution is to maximize their expected profits. The expected return on a loan will depend on the interest rate charged and the likelihood that a borrower defaults. The financial institution would approve any loan for which the expected return on the loan exceeded the cost of the funds to the institution. Discrimination would then result in either (a) higher interest rates being charged to undesired groups having otherwise similar characteristics to the desired group or (b) requiring better characteristics (*i.e.* a lower expected default rate) from the undesired group at any given interest rate. In other words, applicants from the disadvantaged group might either be appraised more rigorously or be given less favorable terms on the loan.

A similar connection between the likelihood of loan approval and the race, ethnicity or gender of the applicant might also be found if lenders employ statistical discrimination—meaning that lenders use personal characteristics such as race, ethnicity or gender to infer the likelihood of default on the loan. If experience has suggested that certain groups of individuals are on average more or less likely to default, then the lender may use this information to economize on the costs of gathering more directly relevant information. Hence, discrimination would not reflect the preferences of the owner but would rather reflect an attempt to minimize costs. Empirically, the

racial, ethnic or gender characteristics of the applicant could proxy for unobserved characteristics of their creditworthiness.

There has been an active debate about whether banks discriminate against minority applicants for mortgages. In particular, banks were often accused of “redlining”—that is, not granting loans for properties located in certain areas. To analyze that issue, the Home Mortgage Disclosure Act was passed to require lenders to disclose information on the geographic location of their home mortgage loans. These data, however, were not sufficient to assess whether or not there was discrimination in the market for mortgage loans.

In 1992, researchers at the Federal Reserve Bank of Boston collected additional information from mortgage lenders (Munnell et al., 1996). In particular, they tried to collect any information that might be deemed economically relevant to whether a loan would be approved. In the raw data, non-minorities had 10 percent of their loans rejected whereas rejection rates were 28 percent for both African Americans and Hispanics. Even after the creditworthiness of the borrowers (including the amount of the debt, debt-to-income ratio, credit history, loan characteristics, etc.) were controlled for, African Americans were still found to be 7 percentage points less likely to be granted the loan. A variety of criticisms have been launched at this study (see, for example, Horne, 1994; Day and Liebowitz, 1998; Harrison, 1998). Responses to these criticisms are found in Browne and Tootell (1995).

In addition to the type of statistical analysis done in the Munnell et al. (1996) study, two other approaches have been used to measure discrimination in mortgage markets. First, Federal Reserve regulators can examine a lending institution’s files to try to identify any cases where a loan rejection looks suspicious. Second, audit studies have been used with paired “identical” applicants. Such studies have also found evidence of discrimination (*c.f.* Cloud and Galster, 1993) although the audit approach is not without its critics (Heckman, 1998).

Another relevant literature is concerned with the severity of liquidity constraints affecting consumers in non-mortgage credit markets. A consumer is said to be liquidity-constrained when lenders refuse to make the household a loan or offer the household less than they wished to borrow (Ferri and Simon, 1997). Many studies have suggested that roughly twenty percent of U.S. families are liquidity-constrained (*cf.* Hall and Mishkin, 1982; and Jappelli, 1990). As might be expected, liquidity-constrained households are typically younger, with less wealth and accumulated savings (Hayashi, 1985; and Jappelli, 1990). The research shows non-minority households to be substantially more likely to be liquidity-constrained even when a variety of financial characteristics of households are controlled for (Jappelli, 1990; and Ferri and Simon, 1997).

We now turn to the more directly relevant evidence on liquidity constraints facing small businesses. Just like individuals and households, businesses can also face liquidity constraints.²⁴⁰

²⁴⁰ Evans and Leighton (1989) and Evans and Jovanovic (1989) have argued formally that entrepreneurs face difficulties borrowing money. As in the discussion above, such individuals are labeled liquidity constrained by economists. Using data from the National Longitudinal Survey of Youth from 1966-1981 and the Current Population Surveys from 1968-1987, these authors found that, all else equal, people with greater family assets are more likely to switch to self-employment from employment. Blanchflower and Oswald (1998) studied the

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Liquidity constraints can be a problem in starting a business as well as in running it. Discrimination in the credit market against minority-owned small businesses can have a devastating effect on the success of such businesses, and even prevent them from opening in the first place. Evidence of the latter effect is provided in the economics literature on self-employment.²⁴¹

In his 2003 report for *Builders Association of Greater Chicago v. the City of Chicago*,²⁴² Bates argued that “from its origins, the black-business community has been constrained by limited access to credit, limited opportunities for education and training, and non-minority stereotypes about suitable roles for minorities in society” (Bates, 1989; Bates, 1993; Bates, 1973). Indeed, as Bates points out, Gunnar Myrdal observed,

“The Negro businessman ... encounters greater difficulties than whites in securing credit. This is partly due to the marginal position of Negro business. It is also partly due to prejudicial opinions among whites concerning business ability and personal reliability of Negroes. In either case a vicious circle is in operation keeping Negro business down” (Myrdal, 1944, 308).

Bates goes on to argue that commercial banks lend most easily to non-minority males who possess significant amounts of equity capital to invest in their businesses (Bates, 1991a). Apart from banks, an important source of debt capital for small business is likely to be family and friends, but the low wealth of African American households reduces the availability of debt capital that family and friends could invest in small business operations (Bates, 1993; Bates, 1991b).

Additional evidence indicates that capital constraints for African American-owned businesses are particularly large. For instance, Bates (1989) finds that racial differences in levels of financial capital do have a significant effect upon racial patterns in business failure rates. Fairlie and Meyer (1996) find that racial groups with higher levels of unearned income have higher levels of self-employment. In an important paper Fairlie (1999) uses data from the 1968-1989 Panel Study of Income Dynamics to examine why African American men are one-third as likely to be self-employed as non-minority men. The author finds that the large discrepancy is due to a African American transition rate into self-employment that is approximately one half the non-minority rate and a African American transition rate out of self-employment that is twice the non-minority rate. He finds that capital constraints—measured by interest income and lump-sum cash

probability that an individual reports him or herself as self-employed. Consistent with the existence of capital constraints on potential entrepreneurs, their econometric estimates imply that the probability of being self-employed depends positively upon whether the individual ever received an inheritance or gift. Second, when directly questioned in interview surveys, potential entrepreneurs say that raising capital is their principal problem. Holtz-Eakin et al. (1994a, 1994b) examine flows in and out of self-employment and find that inheritances both raise entry and slow exit. Black, de Meza and Jeffreys (1996) find that housing equity plays an important role in shaping the supply of entrepreneurs. Lindh and Ohlsson (1996) suggest that the probability of being self-employed increases when people receive windfall gains in the form of lottery winnings and inheritances.

²⁴¹ See Chapter V, above.

²⁴² 298 F.Supp.2d 725 (N.D. Ill. 2003).

payments—significantly reduce the flow into self-employment from wage/salary work, with this effect being nearly seven times larger for African American self-employed than for non-minority self-employed persons. Fairlie then attempts to decompose the racial gap in the transition rate into self-employment into a part due to differences in the distributions of individual characteristics and a part due to differences in the processes generating the transitions. He finds that differences in the distributions of characteristics between African Americans and non-minorities explain only a part of the racial gap in the transition rate into self-employment. In addition, racial differences in specific variables, such as levels of assets and the likelihood of having a self-employed father provide important contributions to the gap. He concludes, however, that “the remaining part of the gap is large and is due to racial differences in the coefficients. Unfortunately, we know much less about the causes of these differences. They may be partly caused by lending or consumer discrimination against blacks” (1998, p.14).

There is also research into racial differences in access to credit among small businesses. Cavalluzzo and Cavalluzzo (1998) use data from the 1988-1989 National Survey of Small Business Finances (NSSBF), conducted by the Board of Governors of the Federal Reserve System, to analyze differences in application rates, denial rates, and other outcomes by race, ethnicity and gender in a manner similar to the econometric models reported in this study. This paper documents that a large discrepancy exists in credit access between non-minorities and minority-owned firms that cannot be explained by a handful of firm characteristics. Unfortunately, the earlier NSSBF data did not over-sample minority-owned firms and included limited information on a firm’s credit history and that of its owner, reducing the ability to provide a powerful test of the causal impact of race, ethnicity or gender on loan decisions. In an unpublished paper, Cole (1998) uses the 1993 NSSBF and estimates models of loan denials similar in nature to those discussed in this Study.

The present analysis takes advantage of the 1993 NSSBF data, the 1998 Survey of Small Business Finances (SSBF) data, and the 2003 SSBF data. All three datasets have better information on creditworthiness than did the earlier NSSBF data, and the 1993 and 1998 surveys have larger sample of minority-owned firms than did the earlier NSSBF data. These datasets are also used to conduct an extensive set of specification checks designed to weigh the possibility that our results are subject to alternative interpretations.

B. Empirical Framework and Description of the Data

1. Introduction

Disputes about discrimination typically originate in differences in the average outcomes for two groups. To determine whether a difference in the loan denial rate for African American-owned firms compared to non-minority-owned firms is consistent with discrimination, it is necessary to compare African American- and non-minority-owned firms that have similar risks of default, that is, the fraction of the African American firms’ loans that would be approved if they had the same creditworthiness as the non-minority-owned firms. A standard approach to this problem is to statistically control for firms’ characteristics relevant to the loan decision. If African American-owned firms with the same likelihood of default as non-minority-owned firms are less likely to be approved, then it is appropriate to attribute such a difference to discrimination.

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Following Munnell et al. (1996) we estimated the following loan denial equation:

$$(1) \quad \text{Prob}(D_i = 1) = \Phi(\beta_0 + \beta_1 CW_i + \beta_2 X_i + \beta_3 R_i),$$

where D_i represents an indicator variable for loan denial for firm i (that is, 1 if the loan is denied and 0 if accepted), CW represents measures of creditworthiness, X represents other firm characteristics, R represents the race, ethnicity or gender of the firm's ownership, and Φ is the cumulative normal probability distribution.²⁴³ This econometric model can be thought of as a reduced form version of a structural model that incorporates firms' demand for and financial institutions' supply of loan funds as a function of the interest rate and other factors.²⁴⁴ Within the framework of this model, a positive estimate of β_3 is consistent with the presence of discrimination.²⁴⁵

2. 1993 NSSBF Data

The 1993 NSSBF data contain substantial information regarding credit availability on a nationally representative target sample of for-profit, non-farm, non-financial business enterprises with fewer than 500 employees. The survey was conducted during 1994 and 1995 for the Board of Governors of the Federal Reserve System and the U.S. Small Business Administration; the data relate to the years 1992 and 1993. The data file used here contains 4,637 firms.²⁴⁶ In this NSSBF file, minority-owned firms were over-sampled, but sampling weights are provided to generate nationally representative estimates. Of the firms surveyed, 9.5 percent were owned by African Americans, 6.4 percent were owned by Hispanics, and 7.4 percent were owned by individuals of other races (*i.e.* Asians, Pacific Islanders, American Indians, and Alaska Natives).²⁴⁷

Table 6.1 presents population-weighted sample means from these data for all firms in the sample that applied for credit. The estimates indicate that African American-owned firms are almost 2.5

²⁴³ Additional discussion of Probit regression appears in Chapter V, Section C.1.

²⁴⁴ Maddala and Trost (1994) describe two variants of such a model, one in which the interest rate is exogenous and another in which the interest rate is endogenously determined, but is capped so that some firms' loan applications are approved and others are rejected. If the interest rate is exogenous, they show that a reduced form model which controls for the loan amount, such as we report below, uniquely identifies supply-side differences in the treatment of African American-owned firms. If the interest rate is endogenous, a reduced form approach requires an assumption that the determinants of demand for non-minority and African American-owned firms are identical, other things being equal. The main alternative empirical strategy is to estimate a structural supply and demand model, in which proper identification generally is not feasible. Any characteristic of the borrower that affects his/her expected rate of return on the investment will affect his/her ability to repay and should be taken into consideration by the lender as well. For instance, in their structural model of mortgage decisions, Maddala and Trost (1994) impose questionable exclusion restrictions, like omitting marital status from the loan supply equation.

²⁴⁵ The Equal Credit Opportunity Act prohibits discrimination in access to credit by race and would apply to both Becker-type and statistical discrimination.

²⁴⁶ The median size of firms in the sample was 5.5 and mean size was 31.6 full-time equivalent employees; 440 firms out of 4,637 had 100 or more full-time equivalent employees.

²⁴⁷ There were also two firms in the "Other race" category in 1993 that reported multiple or mixed race.

times more likely to have a loan application rejected as are non-Hispanic White-owned firms (hereafter “non-minority”) (65.9 percent versus 26.9 percent).²⁴⁸ Other minority groups are denied at rates higher than non-minorities as well, but the magnitude of the African American-non-minority differential is especially striking.

Minority-owned firms, however, do have characteristics that are different from those of non-minority-owned firms, and such differences may contribute to the gap in loan denial rates. For instance, minority-owned firms were younger, smaller (whether measured in terms of sales or employment), more likely to be located in urban areas, and more likely to have an owner with fewer years of experience than their non-minority counterparts. Minority firms were also less creditworthy, on average, than their non-minority counterparts, as measured by whether (a) the owner had legal judgments against him or her over the previous three years, (b) the firm had been delinquent for more than 60 days on business obligations over the preceding three years, or (c) the owner had been delinquent for more than 60 days on personal obligations over the prior three years. Additionally, compared to non-minority-owned firms, African American-owned firms were also more likely, on average to have owners who had declared bankruptcy over the preceding seven years.

Minority-owned firms also sought smaller amounts of credit than non-minority-owned firms. This was particularly true for African American-owned firms, who requested loans that were, on average, about 60 percent smaller than those requested by non-minority-owned firms; and for Hispanic-owned firms, who requested loans about 42 percent smaller than those requested by non-minority-owned firms.

The NSSBF database does not identify the specific city or state where a respondent firm is located; instead, data are reported for four census regions, nine census divisions, and urban or rural location. Table 6.2 presents evidence for the East North Central Census division (hereafter ENC).²⁴⁹ The 1993 ENC sample includes the owners of 748 firms, of which 359 firms (48.0%) said that they had applied for a loan over the preceding three-year period.

The overall denial rate in the ENC is lower than the national rate reported in Table 6.1. The difference in the denial rates between African American-owned and non-minority-owned firms, however, is no different (39.0 percentage points nationally and 40.1 percentage points in the ENC). Indeed, in many cases, the weighted sample means are not statistically significantly different in the ENC than in the nation as a whole—either overall or by race, ethnicity or gender.

²⁴⁸ Cavalluzzo and Cavalluzzo (1998) examined these outcomes using the 1987 NSSBF and similarly found that denial rates (weighted) are considerably higher for minorities. non-minority-owned firms had a denial rate for loans of 22 percent compared with 56 percent for African Americans, 36 percent for Hispanics, and 24 percent for other races, which are broadly similar to the differences reported here. These estimates for minority groups are estimated with less precision, however, because of the smaller number of minority-owned firms in the 1987 sample.

²⁴⁹ The East North Central division includes the state of Ohio, Illinois, Indiana, Michigan, and Wisconsin.

C. Qualitative Evidence

Before moving on to the results of our multivariate analysis, we first report on what business owners themselves say are their main problems. While this evidence is not conclusive in determining whether discrimination exists, it highlights firms' perceptions regarding discrimination in obtaining credit. That African American-owned firms and other minorities report greater difficulty in obtaining credit than do non-minority-owned firms, but report other types of problems no more frequently, suggests either that discrimination takes place or that perceptions of discrimination exist that are unwarranted. It therefore complements the econometric analysis provided subsequently, which can distinguish between these two hypotheses.

Table 6.3 summarizes, for the U.S. as a whole, responses to specific questions about problems that firms confronted over the 12-month period before the date of response. In the top panel, respondents were asked to what extent credit market conditions had been a problem. African Americans and Hispanics were much more likely to say that it had been a “serious” problem (31.3 percent and 22.9 percent, respectively) than non-minorities (12.7 percent). The bottom panel of the table reports the results for eight other designated problem areas—(1) training costs; (2) worker's compensation costs; (3) health insurance costs; (4) IRS regulation or penalties; (5) environmental regulations; (6) the Americans with Disabilities Act; (7) the Occupational Safety and Health Act; and (8) the Family and Medical Leave Act. Differences by race, ethnicity or gender are much less pronounced in these eight areas than they are in relation to credit market conditions.²⁵⁰ The finding that African American-owned and Hispanic-owned firms are largely indistinguishable from non-minority-owned firms in reporting a variety of problems, except for the case of credit, indicates that minority-owned firms perceive credit availability to be a particular problem for them.

Results are broadly similar in Table 6.4 for the ENC division—with African American and Hispanic firms being more likely than non-minority-owned firms to say that credit market conditions had been a serious problem in the preceding 12 months.

Table 6.5 reports the views of NSSBF respondents for the U.S. as a whole and Table 6.6 reports views for the ENC on the most important issue businesses expected to face over the next 12 months. Nationally, credit availability and cash flow again appear to be more important issues for African American-owned firms than for non-minority-owned firms. Non-minority-owned firms were especially worried about health care costs. Hispanic and Other minority-owned firms were especially worried about general business conditions.

In the ENC, credit availability and cash flow are far more important issues for African American-owned firms than for non-minority-owned firms. Four times as many African American-owned firms reported credit availability as the most important issue than non-

²⁵⁰ We also estimated a series of ordered Logit equations (not reported) to control for differences across firms in their creditworthiness, location, industry, size, and the like. It is apparent from these regressions that African American-owned firms were more likely to report that credit market conditions were especially serious.

minority-owned firms, and almost twice as many reported cash flow. Almost three times as many Asian-owned and Native American-owned firms reported credit availability as the most important issue than non-minority-owned firms.²⁵¹

Acute credit availability problems for minorities have been reported in surveys other than the NSSBF. In the 1992 Characteristics of Business Owners (CBO) Survey, conducted by the Census Bureau, for example, when owners were asked to identify the impact of various issues on their firm's profitability, 27.0 percent of African American-owned firms reporting an answer indicated that lack of financial capital had a strong adverse impact—compared to only 17.3 percent among non-minority male-owned firms. Hispanic-owned firms and other minority-owned firms also reported higher percentages than non-minority male-owned firms—21.3 percent and 19.7 percent, respectively. Further, owners who had recently discontinued their business because it was unsuccessful were asked in the CBO survey to identify the reasons why. African American-owned firms, and to a lesser degree Hispanic-owned firms, other minority-owned firms, and women-owned firms, were much more likely than non-minority male-owned firms to report that the reason was due to lack of access to business or personal loans or credit. For unsuccessful firms that were discontinued, 7.3 percent of firms owned by non-minority males reported it was due to lack of access to business loans or credit compared to 15.5 percent for firms owned by African Americans, 8.8 percent for Hispanics, 6.1 percent for other minorities, and 9.3 percent for women. Another 2.7 percent of non-minority males said it was due to lack of personal loans or credit compared to 8.4 percent for firms owned by African Americans, 5.8 percent for Hispanics, 6.4 percent of Other minorities, and 3.3 percent for women.²⁵²

A more recent study published by the U.S. Chamber of Commerce (2005) is consistent with these findings from the 1993 NSSBF and the 1992 CBO.²⁵³ The Chamber of Commerce survey was conducted in March and April 2005 and detailed the financing problems experienced by small business owners, 95 percent of whom had less than 100 employees. Over 1,000 business owners were interviewed. As detailed in Table 6.7, minority-owned businesses report that availability of credit is their top problem. The biggest difference in responses between minorities and non-minority men and women was availability of credit: 19 percent of non-minority males report credit as their top problem compared with 54 percent for minority males. There was a 15 percentage point difference between minority women and non-minority women. In no other category is there more than a 10 percentage point difference for men or women.

In summary, African American-owned and to a lesser extent other minority-owned firms and women-owned firms report that they had problems with the availability of credit in the past and expected that such difficulties would continue into the future. Whether or not these perceptions

²⁵¹ These two groups are combined together in the "Other Races" category.

²⁵² Bureau of the Census (1997), Table 5a, p. 46, Table 1, p. 21.

²⁵³ Unfortunately, although the CBO is part of the Economic Census, it was not published in 1997. In 2002, the name was changed to the Survey of Business Owners (SBO). Unfortunately, questions relating to the importance of access to financial loans and credit to business success were not included in the 2002 survey.

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are consistent with the presence of discrimination can be discerned from the econometric analyses to follow.

D. Differences in Loan Denial Rates by Race, Ethnicity or Gender

Evidence presented to this point indicates that minority-owned firms are more likely to be denied loans and report that their lack of access to credit significantly impairs their business. Can these differences be explained by such things as differences in size, creditworthiness, location, or other factors as some have suggested in the literature on discrimination in mortgage lending (Horne, 1994; Bauer and Cromwell, 1994; and Yezer, Phillips, and Trost, 1994)? To address this question we turn to an econometric examination of whether the loan requests made by minority-owned firms are more likely to be denied, holding constant important differences among firms.

In Table 6.8 and Table 6.9, we report the results from a series of loan denial Probit regressions of the form specified in Equation (1) using data from the 1993 NSSBF for the U.S. and the ENC region.²⁵⁴ As indicated earlier, the 1993-2003 datasets have the particular advantage that they include information that can be used to proxy an applicant's creditworthiness. We report estimates from these models that can be interpreted as changes or differences in loan denial probabilities depending on the type of variables considered. For indicator variables, such as race, ethnicity and gender indicators, estimates show differences in loan denial probabilities between the indicated group and the base group.²⁵⁵ In Column (1) of Table 6.8 (in which the regression model contains only race and gender indicators), the estimated coefficient of 0.443 on the African American indicator can be interpreted as indicating that the denial rate for African American-owned businesses is 44.3 percentage points higher than that for non-minority male-owned firms.²⁵⁶

The remainder of Table 6.8 includes additional explanatory variables to hold constant differences in the characteristics of firms that may vary by race, ethnicity or gender.²⁵⁷ In Column (2) a

²⁵⁴ Firms owned 50-50 by minorities and non-minorities are excluded from this and all subsequent analyses, as are non-minority firms owned 50-50 by women and men.

²⁵⁵ For "continuous" variables, such as profits and sales, estimates can be thought of as changes in loan denial probability when the continuous variable changes by one unit. For example, in Column (2) of Table 6.8, the estimated coefficient of -0.003 on owner's years of experience indicates that one additional year of owner's experience is related to -0.3 percentage point reduction in loan denial rate.

²⁵⁶ This estimate largely replicates the raw difference in denial rates between African American- and non-minority-owned businesses reported in Table 6.1. The raw differential observed there ($0.659 - 0.269 = 0.39$) differs slightly from the 0.443 differential reported here because this specification also controls for whether the business is owned by a non-minority female and because the regressions are unweighted whereas the descriptive statistics are weighted using the sample weights. When a full set of explanatory control variables are included the unweighted estimates are insignificantly different from the weighted estimates, hence in Table 6.8 and subsequent tables we report only unweighted estimates.

²⁵⁷ In preliminary analyses, these models were also estimated separately, focusing specifically on the differences in coefficient estimates between non-minorities and African Americans. The F-Test conducted to determine whether parameter estimates were the same for African Americans and non-minorities rejected this null hypothesis. Next, the estimates obtained by estimating the model separately by race were used to conduct an Oaxaca (1973) decomposition. The results from this analysis were similar to those obtained by restricting the coefficients to be

number of controls are included that distinguish the creditworthiness of the firm and the owner. Many are statistically significant on a two-tailed test at conventional levels of significance with the expected signs. For instance, having been bankrupt or had legal judgments against the firm or owner raises the probability of denial; stronger sales lower this probability. **Even after controlling for these differences in creditworthiness, however, African American-owned firms remain 29 percentage points more likely than non-minority-owned firms to have their loan request denied.**

The models reported in Columns (3) through (5) of Table 6.8 control for an array of additional characteristics of firms. Column (3) adds 39 additional characteristics of the firm and the loan application, including such factors as level of employment, change in employment, the size of the loan request, and the use of the loan. Column (4) includes variables to control for differences across regions of the country and major industry group. Column (5) adds variables indicating the month and year in which the loan was requested and the type of financial institution to which the firm applied.²⁵⁸ In total these three columns add 176 variables to the more parsimonious specification reported in Column (2).²⁵⁹ Nevertheless, the estimated disadvantage experienced by African American-owned firms in obtaining credit remains large and statistically significant. The estimate from each of the three additional columns indicates that African American-owned firms are 24 percentage points more likely than non-minority male-owned firms to have their loan application denied even after controlling for the multitude of factors we have taken into consideration.

The results also indicate that Asians/Pacific Islanders had significantly higher denial rates than non-minority males—12 percentage points. There is little evidence in the 1993 national data, however, that denial rates for firms owned by Native Americans or Hispanics were significantly different from the denial rates of firms owned by non-minorities; or that denial rates for firms owned by non-minority women were significantly different from those for firms owned by non-minority men.

In Table 6.9, we see results for the ENC region similar to those reported in Table 6.8 for the nation as a whole. The table shows that the results of our loan denial model in the ENC, which includes the District's market area, are not substantially different from the nationwide results

the same between African Americans and non-minorities and using the coefficient on the African American indicator variable to measure the gap between groups. In this Chapter, all the results are reported in this simpler format for ease of exposition and interpretation.

²⁵⁸ Approximately four out of five (80.5%) of the firms who required a loan applied to a commercial bank. Overall seventeen different types of financial institution were tabulated, although only the following accounted for more than 1% of the (weighted) total— Finance Companies (4.9%); Savings Banks (2.5%); Savings & Loans (2.3%); Leasing Companies (2.1%); and Credit Unions (2.0%).

²⁵⁹ One piece of information to which we did not have access in the 1993 NSSBF or the 1998 SSBF because of confidentiality concerns was each firm's credit rating. A working paper by Cavalluzzo, Cavalluzzo, and Wolken (1999) was able to incorporate Dun & Bradstreet credit ratings for each firm because the authors' connection to the Federal Reserve Board enabled them to access the confidential firm identifiers. They added these credit rating variables in a model comparable to that reported here and found the results insensitive to the inclusion. The 2003 SSBF includes Dun & Bradstreet credit ratings for each firm. Below, we discuss the impact of incorporating them into a model similar to that presented in Table 6.8 (see Tables 6.27 and 6.28).

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reported in Table 6.8. The indicator variable for the ENC region is insignificantly different from zero; as are the interaction terms between race/ethnicity/gender and the ENC region.

Although the results provided so far strongly indicate that financial institutions treat African American-owned and non-minority male-owned small businesses differently in lending, other considerations may limit our ability to interpret this finding as discrimination. Of perhaps greatest concern is the possibility that we may not have adequately controlled for differences in the creditworthiness of firms. If African American-owned firms are less creditworthy and we have failed to sufficiently capture those differences then we would be inadvertently attributing the racial difference in loan denial rates to discrimination. On the other hand, however, if financial institutions discriminate against African American-owned firms, then the greater likelihood of denial for African Americans in earlier years is likely to hurt the performance of these firms and appear to make them look less creditworthy. Therefore, controlling for creditworthiness will likely understate the presence of discrimination.

As a check on the foregoing results, therefore, our first approach was to identify the types of information that financial institutions collect in order to evaluate a loan application and compare that with the information available to us in the NSSBF. First, a selection of small business loan applications was collected from various banks. An Internet search of web sites that provide general business advice to small firms was also conducted. Such sites typically include descriptions of the loan application process and list the kinds of information typically requested of applicants.²⁶⁰

Bank loan applications typically request detailed information about both the firm and its owner(s). Regarding the firm, banks typically request information on: (a) type of business, (b) years in business, (c) number of full-time employees, (d) annual sales, (e) organization type (corporation or proprietorship), (f) owner share(s), (g) assets and liabilities, (h) whether the business is a party to any lawsuit, and (i) whether any back taxes are owed. Regarding the owner's personal finances, banks typically ask for: (a) assets and liabilities, (b) sources and levels of income, and (c) whether the owner has any contingent liabilities. Some applications ask explicitly if the firm qualifies as a minority-owned enterprise for the purposes of certain government loan guarantee programs. The race of the applicant, however, would be readily identifiable even in the absence of such a question since most of these loans would be originated through face-to-face contact with a representative of the financial institution.

These criteria seem to match reasonably closely the information available in the 1993 NSSBF. The particular strength of the NSSBF is the detail available on the firm, which covers much of the information typically requested on loan application forms. The main shortcoming that we have identified in these data is that less detail is available on the finances of the owner of the firm.²⁶¹ Although the creditworthiness measures enable us to identify those owners who have had serious financial problems (like being delinquent on personal obligations), we have no direct

²⁶⁰ An example of a typical application form is presented as Appendix B in Blanchflower, Levine, and Zimmerman (2003).

²⁶¹ This deficiency is remedied in the 1998 SSBF and the 2003 SSBF, discussed below, both of which contain information on the owner's home equity, and personal net worth excluding home equity and business equity.

information regarding the owner's assets, liabilities, and income. These factors would be necessary to identify whether the business owner has sufficient personal resources to draw upon should the business encounter difficulties and to determine the personal collateral available should the firm default on its obligation. We do have measures of the owner's human capital in the form of education and experience, which likely capture at least some of the differential in available personal wealth across firm owners. Nevertheless, our potentially incomplete characterization of the business owner's personal financial condition may introduce a bias into our analysis if African American business owners have fewer resources than non-minority business owners.

To assess the potential impact of this problem on our results, we separately examined groups of firms who differ in the degree to which personal finances should influence the loan decision and compare the estimated disadvantage experienced by African American-owned firms in different groups. First, we examine proprietorships and partnerships separately from corporations since owners of incorporated businesses are at least somewhat shielded from incurring the costs of a failed business. Second, we divide firms according to size.²⁶² Both larger small businesses and those that have been in existence for some time are more likely to rely on the business's funds, rather than the owner's, to repay its obligations. Third, we consider firms that have applied for loans to obtain working capital separately from those firms that seek funds for other purposes (mainly to purchase vehicles, machinery and equipment, and buildings or land). Loans made for any of these other purposes are at least partially collateralized because the financial institution could sell them, albeit at a potentially somewhat reduced rate, should the small business default.²⁶³

In order to determine whether the findings for the ENC region were different from those for the nation, in the second column of Table 6.10 we also report the coefficient and t-statistics on an interaction term between the ENC region and African American ownership. In no case was the estimated coefficient on this interaction significant, implying that the national results also apply in general to the ENC.

Results from these analyses provide no indication that omitting the owner's personal wealth substantially biases the results presented above in Tables 6.8 or 6.9. Estimates presented in row numbers 1 through 8 of Table 6.10 indicate that African American-owned small businesses are significantly more likely to have their loan applications rejected regardless of the category of firm considered. In particular, when samples are restricted to corporations, larger firms, and

²⁶² As reported earlier, the mean and median size of firms is 5.5 and 31.6 full-time equivalent workers, respectively. 14 percent of firms have one or fewer employees and 27 percent have two or fewer employees. In the ENC, the figures are 5.5, 31.7, 16 percent, and 28 percent, respectively.

²⁶³ As indicated earlier, greater personal wealth may improve a small business's chances of obtaining credit because it provides collateral should the loan go bad and because wealthy owners can use their own resources to weather bad times, improving the likelihood of repayment. Our separate analysis of corporations and proprietorships and of large and small firms does not account for this second reason because corporations and large businesses may still need to draw on the owner's personal wealth to help it survive short-term shocks. Businesses that have been in existence for several years, however, are less likely to experience these shocks, making them less likely to require infusions from the owner's personal wealth. A loan used to purchase equipment that can be sold if the firm defaults similarly insulates the bank from the need to seek repayment directly from the owner.

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firms seeking credit for uses other than working capital, African American-owned firms are 21, 20, and 15 percentage points more likely, respectively, to have their loan application rejected even though personal resources should be less important in these categories. Moreover, in each group where there are two types of firms (large and small, etc.), the estimates for the two types of firms are not significantly different from each other.

Another issue is whether the racial differences in loan denial rates among firms with similar characteristics can be attributed to differences in the geographic location of African American- and non-minority-owned firms. If, for example, African American-owned firms are more likely to be located in the central city, and a central city location is inversely correlated with profitability and the ability to repay debt, then financial institutions may be acting optimally in rejecting the loan applications of African American-owned firms at a higher rate. As indicated earlier, this type of behavior is labeled “statistical discrimination.” In the subsequent text and tables, we present a limited analysis to address whether or not this type of behavior takes place.²⁶⁴

To identify whether lenders’ behavior is consistent with this hypothesis we distinguish those firms that self-classified their sales market as being local rather than regional, national, or international. A central city location should have a greater impact on future profit expectations for those firms that operate on a local level. If minority-owned firms are more likely to locate in the central city, racial differences in loan denial rates should be greater in the firms that sell in the local marketplace. The results of this test, reported in row numbers 9 and 10 of Table 6.10, reject the hypothesis that differences in loan denial rates are attributable to different propensities to locate in the center of a city. Estimates for the nation as a whole indicate that African American-owned firms that sell to the local market are 21 percentage points more likely to have their loan applications denied compared to a 19 percent excess denial rate for firms selling primarily to regional, national, or international markets. In the ENC, the figures are statistically indistinguishable from those in the nation as a whole.

We also estimate models that address a potential weakness in the specific functional form with which we control for differences in credit history across firms. As shown in Tables 6.1 and 6.2, African American-owned firms are considerably more likely to have had troubles in the past in the form of judgments against them, late payments by the firm or its owner, or past bankruptcies. The model specifications reported in Tables 6.8 and 6.9 implicitly assume that these past problems are additive in their effect on loan denials and one might suspect the marginal impact would rise as past problems rise. Therefore, in the final three rows of Table 6.10, we separated firms by the number of past problems experienced. In Rows 11 through 13, we restricted the sample to those firms that have never had any past credit problems, those firms that reported one problem only, and those firms that reported more than one of these problems, respectively. The results indicate that even African American-owned firms with clean credit histories are at a significant disadvantage in getting their loans approved, holding constant their other

²⁶⁴ A strong test to distinguish between statistical discrimination and “Becker-Type” discrimination would require a tremendous amount of detail about the specific location of the firm, characteristics of its surrounding area, characteristics of neighboring firms, and the like, which were unavailable to us. As indicated earlier, both forms of discrimination are illegal and this Chapter applies a definition that incorporates both.

characteristics. Asian-owned firms and non-minority female-owned firms with clean credit histories as well are also at a significant disadvantage relative to non-minority-male owned firms.

Finally, we considered whether African American-owned firms are treated differently from non-minority-owned firms when requesting credit from other sources. The source of credit we examined is credit cards. Such an analysis provides a unique advantage because credit card applications are more likely to be filled out and mailed in, so it is less likely that the race of the applicant is known to the financial institution, at least in the case of African American-owned firms and Native American-owned firms, where surname is unlikely to provide any signal about minority status. On the other hand, for Asian and Hispanic applicants, it is possible that surname does provide such a signal, although an imperfect one. The 1993 NSSBF asked respondents whether they used either a business or personal credit card for business purposes. Although our analysis of use of credit cards does not condition on application, a finding that African American- and non-minority-owned small businesses are equally likely to use credit cards may still provide evidence supporting discrimination in small-business lending. In fact, if financial institutions discriminate against African Americans in providing small business loans, we may even expect to see African Americans use credit cards more often than non-minorities since they have fewer alternatives. Even though many institutions may offer both types of credit, they may only be aware of the race of the applicant in a small business loan.²⁶⁵

In Tables 6.11 and 6.12, we examine the probability that a firm uses either a business credit card (Row 1) or a personal credit card (Row 2) to finance business expenses holding constant other differences across firms.²⁶⁶ There is no evidence, either for the U.S. as a whole or for the ENC, that African American-owned firms are less likely to access either business or personal credit cards for business expenses. On the other hand, there is evidence in the ENC and in the nation as a whole that Asian-owned firms are less likely to access business credit cards. Credit card use for financing business expenses may be an area where further research is warranted. Unfortunately, available data on this subject is quite limited.

E. Differences in Interest Rates Charged on Approved Loans

Although most of our analysis has addressed whether minority- and non-minority-owned firms are treated equally in terms of their probability of loan denial, another way that differential treatment may emerge is through the interest rate charged for approved loans. Discrimination may be apparent if banks approve loans to equally creditworthy minority- and non-minority-

²⁶⁵ It appears that race may also rarely be known to those institutions that issue credit ratings. As we mentioned above, Cavalluzzo, Cavalluzzo, and Wolken (1999) show that Dun & Bradstreet Credit Ratings are not helpful in explaining racial disparities in loan denials. Although we are not privy to Dun & Bradstreet's method for establishing its credit ratings, we do know from long experience that the comprehensive indicators of ownership by race are lacking in the Dun & Bradstreet's data. Indeed, this is the reason why NERA's availability estimation method requires creating a master directory of disadvantaged, minority, and women-owned businesses for merging with Dun & Bradstreet's data.

²⁶⁶ On average, 29 percent of all firms use business credit cards and 41 percent use personal credit cards for business use; these levels vary only modestly by race and ethnicity. In the ENC the figures are 27 percent and 38 percent, respectively.

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owned firms, but charge the minority-owned firms a higher interest rate. Therefore, we estimated model specifications analogous to those reported previously for loan denials, but now the dependent variable represents the interest rate charged for firms whose loans were approved and the set of explanatory variables includes characteristics of the loan. More formally, the model we estimated takes the form:

$$(2) \quad I_i = \beta_0 + \beta_1 CW_i + \beta_2 X_i + \beta_3 R_i + \beta_4 LC_i + \varepsilon_i,$$

where I represents the interest rate charged on the loan, LC represents characteristics of the loan (see the notes to Table 6.8 for a full list of the variables included in this set), ε_i is a term capturing random factors, and all other notations are the same as in equation (1).

An important consideration is whether the interest rate may be treated as exogenous, as our reduced form model assumes. In the context of small business loans, in which it is possible that the loan terms may be negotiated in the determination process, this assumption may not be valid. As such, a model that simultaneously estimates the interest rate and the loan decision might be appropriate, except that the interest rate that would be charged to firms whose loans were denied is not available in our data. Alternatively, one could estimate an interest rate model alone for those firms whose loan was approved, adjusting for the potential bias brought about by sample selection. To properly identify such a model, however, a variable is required that is linked to the loan denial decision, but unrelated to the level of interest charged on approved loans; no such variable exists in the data.

Nevertheless, one would expect these considerations to impose a downward bias on the estimated differential in interest rates charged on loans to African American-owned firms. Those firms whose loans were rejected would have been charged higher interest rates than those approved. Since African American-owned businesses were considerably more likely to be rejected holding constant differences in creditworthiness, one would expect any differential in interest rate to be even greater if those firms were included in the sample. We overlook this implication in the results reported below, but its impact should be kept in mind.

The results obtained from estimating equation (2) are reported in Row 1 of Table 6.13, which includes the complete set of control variables comparable to those in Column (5) of Table 6.8. Estimates indicated that African American-owned firms pay rates of interest that are roughly 1 full percentage point higher than similarly situated non-minority-owned firms. Row 2 shows that even African American-owned firms with good credit histories are charged higher interest rates relative to non-minority-owned firms.²⁶⁷

The remainder of the table presents similar specification checks to those reported in Table 6.10. Recall that most of these models identify firms for which the firm's own history is likely to be a more important contributor to its creditworthiness. The specifications by sales market are designed to distinguish the impact of central city location. Unfortunately, sample sizes are

²⁶⁷ Estimates from firms that have had past credit problems are not presented since the higher likelihood of their being denied credit restricts the size of the sample and limits the ability to provide a powerful test of the interest rates charged if they are approved.

smaller in these specifications and reduce the power of the analysis. Nevertheless, we still find that regardless of organization type and firm age, African American-owned firms face statistically significantly higher interest rates. Overall, the evidence presented indicates that African Americans, and to a lesser extent Hispanics and Asians, do face disadvantages in the market for small business credit that does not appear to be attributable to differences in geography or creditworthiness.

Table 6.14 shows results for the ENC. Findings are comparable to those for the nation as a whole.

F. Loan Approval Rates and Access to Credit

The results presented so far may be biased toward finding too small a disparity between non-minority- and African American-owned firms because those minority-owned firms that actually apply for credit may represent a selected sample of the most creditworthy. More marginal minority-owned firms whose loans may have been accepted had they been owned by non-minorities may not even be among the pool of loan applicants. First, these firms may have gone out of business or may not have had the opportunity to commence operations because of their inability to obtain capital. Second, some existing firms may have chosen not to apply for credit because they were afraid their application would be rejected due to prejudice.

Although we have no direct evidence regarding the first proposition, data from the 1993 NSSBF provide some evidence for the second: African American- and Hispanic-owned firms are much more likely to report that they did not apply for a loan, even though they needed credit, because they thought they would be rejected. Table 6.15 reports estimates from Probit models in which the dependent variable is an indicator variable representing failure to apply for a loan fearing denial for all firms. The first row presents racial differences without controlling for any other characteristics of firms, and the results indicate that African American- and Hispanic-owned firms are 41 and 24 percentage points more likely than non-minority-owned firms to withhold an application fearing denial.

Of course, some of this difference may be attributable to differences in creditworthiness across firms since firms that are bad credit risks should be afraid that their loan would be denied. To adjust for this, the second row of Table 6.15 reports comparable models that control for differences in creditworthiness and other characteristics of firms. The results from this specification show that the greater fear of rejection among African American- and Hispanic-owned firms can partially be explained by these differences. Nevertheless, a gap of 26 and 16 percentage points still exists for African American- and Hispanic-owned firms relative to non-minority-owned firms with similar characteristics. In fact, when asked directly why they were afraid to apply for loans, minority-owned firms were far more likely to report prejudice as the reason (19 percent for African American-owned firms, 8 percent for Hispanic-owned firms, and 3 percent for non-minority-owned firms).²⁶⁸ Results obtained in section (b) of Table 6.15 for the

²⁶⁸ Other reasons given, including “too little collateral,” “poor credit history,” and “poor balance sheet,” are comparable across groups. Firms could report more than one reason.

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ENC region are very similar to those found for the nation as a whole. Further, as section (c) of Table 6.15 shows, African American-owned firms in construction also appear to be fearful of applying because of the possibility of their application being turned down.²⁶⁹

If these minority-owned firms had applied for credit and were rejected because of discrimination, estimates of racial disparities based only upon loan applicants (as in Tables 6.8 and 6.9) would be understated. The perception of prejudice among these firms, however, does not necessarily imply that selection bias is present. Those firms that failed to apply because they feared rejection may have had similar loan denial rates as other minority-owned firms with comparable levels of creditworthiness that did apply. If those firms chose to apply for a loan, differences by race in the combined denial rate of the actual and potential applicants would be the same as what we have estimated for the observed sample of applicants.

More formally, suppose that loan denial rates for equally creditworthy non-minority- and minority-owned firms that applied for credit are θ^W and θ^m , respectively; the measure of discrimination employed in the previous analysis is $\theta^m - \theta^W$. Now suppose that firms that are equally creditworthy, but chose not to apply for a loan because they feared rejection, would have been denied at the rates θ^W and ψ^m for non-minority- and minority-owned firms, respectively. Among the non-minority-owned firms, the denial rate is identical regardless of whether the firm chose to apply or not, conditional upon creditworthiness. Among minority-owned firms, however, those who were afraid to apply may have been denied at a higher rate (perhaps because of their greater propensity to locate in the central city or other factors that are related to their race, but unrelated to creditworthiness) compared with other minority-owned firms. Then the correct representation of the disadvantage faced by minority-owned firms is $[\eta\theta^m + (1-\eta)\psi^m] - \theta^W$, where η represents the share of minority-owned firms desiring credit that submitted an application. Our earlier findings are biased if θ^m is not equal to ψ^m .

One approach that is frequently employed to address such a problem is to estimate a “Heckman-correction” that would formally model the application process in conjunction with the loan outcome for those who applied. The difficulty with this methodology in the present context is that it is only correctly implemented when some variable is present that is correlated with a firm’s decision to apply for a loan, but is independent of the financial institution’s decision to approve or deny the request. Unfortunately, the NSSBF data do not appear to contain any variables that would satisfy these conditions, so we are unable to implement this methodology.²⁷⁰

²⁶⁹ It was not possible to report separate construction results in earlier tables because of small sample sizes.

²⁷⁰ The only variable that potentially could meet these conditions in the NSSBF data is the distance between a firm and the nearest financial institution. If greater distance reduced a firm’s information regarding the availability of funds, it might be related to the decision to apply for a loan. On the other hand, the creditworthiness of the firm should be independent of its location and should be unlikely to enter into the approval process. Unfortunately, we did not find a direct relationship between distance to the nearest financial institution and the probability of applying for a loan. This may be due to the fact that few firms are located more than a very short distance from the nearest financial institution.

As an alternative that answers a different, but related, question we consider the ability of firms to get credit among those who desired it, regardless of whether or not they applied. This amounts to analyzing access to credit rather than loan approval and includes in the denominator those firms that needed credit but did not apply because they feared rejection. If differences by race in this rate among all firms who needed credit are greater than differences by race in the rate of denial among loan applicants, then this would indicate that African American- and other minority-owned firms have even less access to credit than an analysis of loan applicants would indicate.

To test this proposition, we estimate a regression model comparable to the one reported in Table 6.10 for the sample of firms that applied for a loan, except that this analysis considers all firms seeking credit and treats those who did not apply for fear of rejection as denials. The sample excludes firms that did not need additional credit in the preceding three years. The results, reported in Table 6.16, are consistent with the previous analysis; we find that selection is not much of an issue for African American-owned firms nationally, in the ENC region, or in construction sub-samples, or for Asian-owned firms nationally or in the ENC. Regardless of whether we consider denial rates among applicants or denial rates among firms that desired additional credit, African American-owned firms are 20-30 percentage points less likely to obtain credit once control variables are included and even higher than that when they are not. For Hispanic-owned firms, however, some selection bias is evident. Among the pool of loan applicants, Hispanic-owned firms are not statistically significantly more likely to be denied than other firms with the same characteristics (see *e.g.* Table 6.8, Column 5). Among the pool of firms seeking additional credit, however, Hispanic-owned firms are 17 percentage points more likely to be denied access to credit, and this difference is statistically significant.

G. Analysis of Credit Market Discrimination in the U.S. in 1998

We turn next to an examination of the extent to which discrimination in the credit market changed after 1993 using data from the 1998 SSBF conducted by the Board of Governors of the Federal Reserve System.²⁷¹ This section updates the several estimates obtained above using the 1998 NSSBF. Two complications are that the overall sample size is smaller and a number of the questions have been changed. However, the result is still clear – African American-owned firms face discrimination in the credit market. In addition, there is evidence of discrimination in the credit market against other minority-owned firms as well. We present four sections of evidence, all of which are consistent with our findings from the 1993 survey.

²⁷¹ The target population of the survey was for-profit businesses with fewer than 500 employees that were either a single establishment or the headquarters of a multiple establishment company, and were not agricultural firms, financial institutions, or government entities. These firms also had to be in business during December 1998. Data were collected for fiscal year-end 1998. Like its 1993 counterpart, the purpose of this survey was to gather information about small business financial behavior and the use of financial services and financial service providers by these firms. The objectives of the survey were to collect information that can inform researchers and policy makers on the availability of credit to small businesses; the location of the sources of financial services; the types of financial services used, including checking accounts, savings accounts, various types of credit, credit cards, trade credit, and equity injections; as well as the firm's recent credit acquisition experiences. The survey also investigated the level of debt held by these firms and their accessibility to credit. Additionally, the survey collected information on firm and owner demographics, as well as the firm's recent income statement and balance sheet.

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1. Qualitative Evidence

Consistent with the 1993 survey, Table 6.17 shows that African American-owned firms in the 1998 survey report that the biggest problem their firm currently faces is “financing and interest rates.” In the 1993 survey, respondents were asked to report problems in the preceding 12 months (Tables 6.3 and 6.4) and over the next 12 months (Tables 6.5 and 6.6). Interestingly, even though credit availability was by far the most important category for African Americans (21 percent in Table 6.5), interest rates were relatively unimportant (2 percent). The 1998 SSBF, however, did not report separate categories.

2. Differences in Loan Denial Rates by Race/Ethnicity

In 1998 as in 1993, in comparison with firms owned by non-minority males, minority and female-owned firms were less creditworthy, more likely to have their loan applications turned down, more likely not to apply for a loan for fear of being denied, and consistently smaller and younger. Moreover, their owners had lower amounts of both home and non-home equity. Minority-owned firms in general, and African American-owned firms in particular, were much less likely to be classified as having a “low risk” credit rating by Dun & Bradstreet.²⁷²

In the 1993 survey, respondents were asked “During the last three years has the firm applied for credit or asked for the renewal of terms on an existing loan?” In 1998, a narrower question limited to new loans was asked – “Did the firm apply for new loans in the last three years?” In 1993, 43 percent answered the question in the affirmative compared with 27 percent in 1998. Despite the fact that in 1993 the question was broader, the pattern of denials by race and sex is similar across the years. As can be seen below, minority-owned firms were especially likely to have their loan applications denied.

²⁷² Information on home and non-home equity or on the Dun & Bradstreet credit rating was not available in the 1993 survey.

Percentage of Loan Applications Denied		
	1993	1998
Non-minority males	26.2%	24.4%
African Americans	65.9%	62.3%
Asians, Native Americans, etc.	39.9%	47.0%
Hispanics	35.9%	49.9%
Non-minority females	30.1%	23.5%
Overall	28.8%	28.6%

Similarly, the proportion of firms reporting that they did not apply for fear of being denied is similar by race, ethnicity and gender across the two years. More than half of African American owners did not apply for a loan for fear of being denied compared with only one out of five non-minority males.

Percentage Not Applying for Fear of Denial		
	1993	1998
Non-minority males	22.5%	20.2%
African Americans	60.7%	53.9%
Asians, Native Americans, etc.	27.5%	23.1%
Hispanics	41.5%	34.3%
Non-minority females	22.7%	24.2%
Overall	24.7%	23.3%

In the 1998 SSBF survey, respondents who were denied loans were asked if they believed there were reasons other than the official ones provided by their financial institution as to why their loan applications were turned down. Among numerous options provided were the following:

- a) Prejudice on a racial/ethnic basis.
- b) Prejudice against women.
- c) Prejudice against the business location.
- d) Prejudice against the business type.
- e) Prejudice or discrimination (not-specified or other).

Among firm owners who had applied for credit within the last three years and were denied, 34.1 percent believed there were reasons for their denial beyond the official explanation provided by the financial institution. Among non-minorities, 7.7 percent suspected some sort of prejudice. By contrast, the figure among minorities was 25.8 percent. Among owners who needed credit but did not apply for fear of denial, a similar pattern was observed. Only 1.7 percent of non-minorities believed prejudice was the reason, whereas among minorities the figure was 6.8 percent.

In Tables 6.8 and 6.9 the determinants of loan denial rates were estimated using data from the 1993 NSSBF. It was found that African American-owned firms were almost twice as likely to have their loans denied than non-minority male-owned firms, even after controlling for a host of

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variables included primarily to control for the possibility that minority-owned firms are smaller and less creditworthy than those owned by non-minority men.

A similar exercise is performed below in Tables 6.18 and 6.19 using data from the 1998 SSBF. Column (1) in Table 6.18 shows that African American-owned firms in 1998 had a 42.2 percentage point higher probability of denial than non-minority male-owned firms before taking account of creditworthiness of the firm or any other characteristics. For 1993 the comparable figure was 44.3 percentage points. The addition of a large number of controls reduces the percentage point differential for African Americans to 21.8 in Column (5) as the full set of controls is added. For 1993 the comparable figure was 24.1 percentage points.

The main difference between 1993 and 1998 is that now we find evidence that the probability of denial is significantly higher for Hispanic-owned firms as well. In Table 6.18 Column (5), Hispanic-owned firms have a 17.1 percentage point higher probability of being denied than non-minority male-owned firms. In Table 6.8, by contrast, denial probabilities for Hispanic-owned firms were *not* significantly different from those of non-minority male-owned firms. If anything, discrimination in the small business credit market appears to have expanded during the late 1990s.

Table 6.19 focusing on the ENC region yields similar results—showing significantly larger denial probabilities for African American- and Hispanic-owned firms (21.4 and 18.1 percentage points, respectively) than for non-minority male-owned firms, even after all controls are included. The ENC indicator was not significant in Table 6.19, nor were the interaction terms between ENC and race, ethnicity or gender, with the exception of Asians, indicating that the 1998 loan denial results for the ENC are not significantly different than for the nation as a whole.

Although tempered by the smaller sample size available, the quality of the experiment is somewhat better using the 1998 data than it was using the 1993 data due to the availability of an improved set of controls for the creditworthiness of the firm and its owner. In 1998, three new variables are included regarding the financial viability of the firm:

- a) The value of the equity, if any, in the owner's home.
- b) The owner's net worth excluding home equity and equity in the firm.
- c) The firm's 1999 Dun & Bradstreet credit rating in five categories (low, moderate, average, significant and high) indicating the likelihood of loan default.²⁷³

Despite the fact that these new variables do help to predict loan denials,²⁷⁴ the estimated race differences including these variables are unchanged from those reported above.²⁷⁵ This suggests

²⁷³ The D&B Commercial Credit Score Report predicts the likelihood of a company paying in a delinquent manner (90+ days past terms) during the next 12 months based on the information in D&B's file. The score is intended to help firms decide quickly whether to accept or reject accounts, adjust terms or credit limits, or conduct a more extensive review based on the report D&B provides. Firms can also determine the company's relative ranking among other businesses in the D&B database.

²⁷⁴ The coefficients and t-statistics on the credit score variables when they were included alone in a U.S. loan denial model was as follows: moderate risk .228 (2.45), average risk= .295 (3.25); significant risk=.319 (3.28); high

that the large estimated differences in the denial probabilities that were estimated in 1993 were not biased significantly upwards by the fact that these variables were unavailable.

3. Effect of 1998 Survey Design Changes on Differences in Loan Denial Rates

The question we used to examine the 1998 data was somewhat narrower than the question used in the 1993 survey because it was changed by the survey designers. The 1998 question asked about new loans over the preceding three years, whereas the 1993 question covered all loans including renewals. Responses in 1998 were as follows:

Applied for New Loans Last Three Years	Number	Percent
Did not apply	2,599	73.0%
Always approved	713	20.0%
Always denied	166	4.7%
Sometimes approved/sometimes denied	83	2.3%
Total	3,561	100.0%

The dependent variable used in Tables 6.18 and 6.19 was set to one if the loan application was always denied and was set to zero if the application was always approved or sometimes approved/sometimes denied. An alternative dependent variable – *denylast* – is set to one if the application is always denied, set to zero if always approved. Those responding “sometimes approved/sometimes denied” are excluded from the analysis. Column (1) of Table 6.20 replicates Column (1) of Table 6.18 using *denylast* as the dependent variable with the smaller sub-sample. African Americans, Hispanics, Asians and non-minority females are all confirmed to face higher denial rates than non-minority males using this specification. For African Americans and Hispanics, the difference is 46 and 36 percentage points, respectively. For Asians, the difference is 19 percentage points, and for non-minority females, 8 percentage points.

Results consistent with discrimination are confirmed for African Americans and Hispanics in Column (2) of Table 6.20 when a host of demographic and financial characteristics and geographic and industry indicators are included. When interaction terms for the ENC region are added to the model as in Column (3), results for African Americans and Hispanics remain statistically significant and results for Asians and non-minority females *become* statistically significant. Neither the ENC indicator nor any of the interactions between ENC and race, ethnicity or gender is significant.

4. Differences in Interest Rates, Credit Card Use, and Failure to Apply for Fear of Denial

Tables 6.21 through 6.23 provide confirmation from the 1998 survey of a number of other results from the 1993 survey reported above.

risk= .391 (3.53), n=924 pseudo r^2 =.0253. Excluded category ‘low risk’. Results were essentially unchanged when a control for ENC was included.

²⁷⁵ This confirms the findings of Cavalluzzo, Cavalluzzo and Wolken (1999) who performed a similar exercise with the 1993 data.

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First, Table 6.21, which is similar to Tables 6.13 and 6.14, finds that conditional on obtaining a loan, African Americans are charged a higher price for their credit—on average 1.06 percentage points nationally. These results are not significantly different in construction and construction-related industries either.²⁷⁶

Table 6.22, which is similar to Table 6.15, shows that African American owners are much more likely not to apply for a loan fearing they will be denied. Based on all of the foregoing evidence this is perhaps a sensible decision—if and when they do apply they are almost twice as likely as non-minority male-owned firms to have their application rejected. This is evident in the construction and construction-related industries as well though.²⁷⁷

Finally, Table 6.23, which is comparable to Tables 6.11 and 6.12, suggests that when the financial institution does not know the race or ethnicity of the applicant – as is often the case in an application for a credit card – there are no differences nationally by race or ethnicity in the usage for business purposes of either business or personal credit cards. There was also no evidence of any race effects in the use of business credit cards in the ENC region (row 3) or in construction (results not reported here).

Our confidence in the strength of our findings from the 1993 NSSBF survey is elevated by these findings from the 1998 SSBF survey, which strongly confirm the original results. Unfortunately, the evidence here is consistent with a conclusion that African Americans continue to be discriminated against in the market for small business credit. By 1998, this discrimination appears to be on the increase for African Americans and to be expanding to impact other minority groups as well. This is an important market failure, and one which governments such as NEORSB cannot ignore if they are to avoid passive participation in a discriminatory marketplace.

H. Analysis of Credit Market Discrimination in the U.S. in 2003

Most recently a new wave of the Survey of Small Business Finances was made available by the Board of Governors of the Federal Reserve System.²⁷⁸ This is the fourth survey of U.S. small businesses conducted by the Board of Governors since 1987. The survey gathered data from 4,072 firms selected to be representative of small businesses operating in the U.S. at the end of 2003. The survey covered a nationally representative sample of U.S. for profit, non-financial, non-subsidary, nonagricultural, and nongovernmental businesses with fewer than 500 employees that were in operation at year end 2003 and at the time of interview. Most interviews took place between June 2004 and January 2005. The sample was drawn from the Dun & Bradstreet *Market Identifier* file. The numbers of employees varied from zero to 486 with a weighted median of 3.0 and weighted mean of 8.6.

²⁷⁶ There is some indication that non-minority females nationally pay slightly less for their loans, but this difference is not quite statistically significant.

²⁷⁷ There is some evidence of this phenomenon for Hispanics nationally as well. However the coefficient of 0.052 in Row (2) of Table 6.22 is not quite statistically significant.

²⁷⁸ See www.federalreserve.gov/pubs/oss/oss3/ssbf03/ssbf03home.html (viewed 17 June 2010).

Unfortunately, the 2003 SSBF did not over-sample minority-owned firms, as in the first three survey waves. According to survey staff, this was due to concerns that doing so would delay the survey timeline and reduce the overall response rate.²⁷⁹

In 1998 almost 8 percent of survey respondents were African American, compared to slightly more than 3 percent in 2003. Hispanics were almost 7 percent in 1998 but less than 4 percent in 2003. Other minorities were 6.5 percent in 1998 but only 5.4 percent in 2003.²⁸⁰ Although the population weights were adjusted to accommodate these changes, even these weighted percentages are significantly smaller for minorities in 2003 than in 1998.²⁸¹

Mach and Wolken (2006) reported using these data that 13.1% of firms were owned by non-White or Hispanic individuals; the share is statistically lower than in 1998 (14.6 percent). The shares for African Americans and Asians each held roughly constant at 4%; the share of American Indians and Alaska natives held at roughly 1 percent. However the share of Hispanics fell a statistically significant amount from 5.6 percent to 4.2 percent which is somewhat surprising given the evidence that Hispanics are a growing share of the U.S. population – up from 12.5 percent in 2000 to 14.5 percent in 2005. The percentage of firms owned by females also declined from 72.0 percent to 64.8 percent.

Despite these drawbacks, our analysis of the 2003 SSBF yields results that are strongly consistent with those obtained from the 1993 and 1998 survey waves. The next section presents our findings from this analysis.²⁸²

1. Qualitative Evidence

Table 6.24 reports the results of asking business owners for the most important problem currently facing their firm. Consistent with the 1993 and 1998 surveys, firms owned by minority and women-owned firms were more likely to say that their most important problem was “financing and interest rates.” Once again the African American/non-minority difference was most pronounced—only slightly more than 5 percent of non-minority male business owners reported this as their major problem compared to almost 21 percent of African American business owners.

²⁷⁹ See footnote 239, above.

²⁸⁰ The impact on women was not as pronounced. Females were 23.3 percent in 1998 and 20.9 percent in 2003. For non-minority females, the figures are 17.8 percent in 1998 and 18.2 percent in 2003.

²⁸¹ Mach and Wolken (2006, Table 2) report that weighted figures for African Americans were 4.1 percent in 1998 and 3.7 percent in 2003. Hispanics were 5.6 and 4.2 percent, respectively. Asians and Pacific Islanders were 4.4 and 4.2 percent, respectively. Native Americans were 0.8 and 1.3 percent, respectively, and women were 24.3 and 22.4 percent, respectively.

²⁸² The data file provided by the Board of Governors includes five separate observations per firm. That is to say there are $4240 \times 5 = 21,200$ observations. These so-called multiple imputations are done via a randomized regression model, and are included because where there are missing observations several alternative estimates are provided. Where values are not missing the values for each of the five imputations are identical. We make use of the data from the first imputation: the results presented here are essentially identical whichever imputation is used. Overall only 1.8 percent of observations in the data file were missing.

2. Differences in Loan Denial Rates by Race/Ethnicity

Tables 6.25 and 6.26 present estimates of loan denial probabilities for the nation as a whole and for the ENC using a regression model comparable to that which was used with the 1993 and 1998 survey waves.²⁸³

Column (1) in Table 6.25 (comparable to Table 6.8 for 1993 and 6.18 for 1998) shows that African American-owned firms in 2003 had a 45.9 percentage point higher probability of denial than non-minority male-owned firms before taking account of creditworthiness of the firm or any other characteristics. The addition of a large number of controls reduces the percentage point differential for African Americans to 9.4 in Column (5) as the full set of controls is added. The coefficients in Column (5) for non-minority females and other minority groups are not significant however.

Table 6.26 (comparable to Table 6.9 for 1993 and 6.19 for 1998) focuses on the ENC division yields similar results—showing significantly larger denial probabilities for African American-owned firms than for non-minority male-owned firms. The ENC indicator as well as the race and gender interaction terms with the ENC are also insignificant.

3. Differences in Interest Rates, Credit Card Use, and Failure to Apply for Fear of Denial

Table 6.27 models the interest rate charged for those minority-owned and non-minority female-owned firms that were able to successfully obtain a loan (comparable to Tables 6.13 and 6.14 for 1993 and Table 6.21 for 1998). As was found in earlier surveys, African American business owners are hurt here as well since they have to pay, nationally on average, 1.05 percentage points more for their loans than non-minority male business owners with identical characteristics. Hispanic business owners, as well, pay 0.99 percentage points more, nationally on average, than their non-minority male counterparts have to pay.

The loan price differential is present for African American and Hispanic business owners in the ENC as well. According to the results in Table 6.27, Hispanic business owners in the ENC may pay 1.44 percentage points more for their loans, on average, than comparable non-minority males. For African Americans, the differential is 0.83 percentage points but is not strongly significant.

Table 6.28 reports the results of estimating a model where the dependent variable is whether a business or personal credit card is used to pay business expenses (comparable to Tables 6.11 and 6.12 for 1993 and Table 6.23 for 1998). As noted above, the application procedure for business and personal credit cards is usually automated and not conducted face-to-face. If there were missing variables such as creditworthiness or some such characteristic unobserved to the econometrician, then the race and ethnicity indicator variables should enter significantly in these equations. There is some evidence nationally in 2003 that African Americans are less likely to

²⁸³ In 2003, the credit application question was changed from 1998 to once again include requests for renewals as well as new loans, making it comparable to the 1993 version.

use personal credit cards for business expenses. However, this result is not observed for business credit cards.

Finally, consistent with earlier results, Table 6.29 (comparable to Tables 6.15 for 1993 and 6.22 for 1998), shows that African American owners are much more likely not to apply for a loan fearing they will be denied. Even after controlling for a host of demographic, financial, geographic, and industry factors, African American business owners are still almost 17 percentage points more likely to fail to apply for loans for fear of denial—even though they need the credit.

In the ENC division the phenomenon is evident as well—African American business owners are 17 percentage points more likely to fail to apply for fear of denial. In construction and related industries, the trend is even more pronounced at 30 percentage points. There is evidence of this phenomenon for non-minority female business owners as well in the nation as a whole and to a lesser extent in the ENC.

I. Further Analysis of Credit Market Discrimination: NERA Surveys 1999-2007

NERA has conducted local credit market surveys at nine times and places across the country since 1999. These include the Chicago metropolitan area in 1999, the State of Maryland²⁸⁴ in 2000, the Jacksonville, Florida metropolitan area in 2002, the Baltimore-Washington, DC metropolitan area in 2003, the St. Louis metropolitan area in 2004, the Denver metropolitan area in 2005, the State of Maryland (again) in 2005,²⁸⁵ the State of Massachusetts in 2005, and the Memphis, TN-MS-AR metropolitan area in 2007. The Chicago, Jacksonville, Baltimore, St. Louis, and Denver surveys focused on construction and construction-related industries, while the two Maryland surveys, the Massachusetts surveys and the Memphis surveys included other goods and services as well.

Our Chicago, Maryland I, and Jacksonville survey questionnaires followed the format of the 1993 NSSBF while our Baltimore, St. Louis, Denver, Maryland II, Massachusetts, and Memphis surveys followed the format of the 1998 SSBF questionnaire.

As a final check on our findings in this chapter, we combined the results of these nine NERA surveys together in a consistent format and re-estimated the basic loan denial model on this larger file. These results appear below in Table 6.30, and are remarkably similar to results seen in Tables 6.8-6.9, 6.18-6.19, and 6.25-6.26. Denial probabilities for African American-owned firms compared to non-minority male-owned firms are 29 percentage points higher—even when creditworthiness controls, other firm and owner characteristics, and interaction terms are included.

²⁸⁴ Including the District of Columbia, the State of Delaware, and the portion of Virginia within the Baltimore-Washington Metropolitan Area.

²⁸⁵ Including (again) the District of Columbia, the State of Delaware, and the portion of Virginia within the Baltimore-Washington Metropolitan Area.

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Moreover, the NERA surveys found statistically significant loan denial disparities for Hispanic-owned firms and non-minority female-owned firms as well. Denial rates were 18-24 percentage points higher for Hispanic-owned firms and 5-9 percentage points higher for non-minority female-owned firms than for their non-minority male-owned counterparts. Significant loan denial disparities were also observed for Native American-owned firms in some cases (18 percentage points higher).

Finally, as shown in Table 6.31, we modeled the rate of interest charged, conditional upon receiving loan approval, using our nine-jurisdiction dataset. Results are very similar to that observed in Tables 6.13-6.14, 6.21 and 6.27. African Americans pay almost 1.7 percentage points more, on average, for their business credit than do non-minority males, declining to 1.5 percentage points when creditworthiness and other firm and owner controls are accounted for.

On the basis of the foregoing, we conclude that the evidence of credit discrimination from NERA's nine local credit market surveys conducted throughout the nation between 1999-2007 is entirely consistent with the results obtained using data from the 1993 NSSBF, the 1998 SSBF, and the 2003 SSBF.

J. Conclusions

The results presented in this chapter indicate that African American-owned firms face serious obstacles in obtaining credit that are unrelated to their creditworthiness, industry, or geographic location. In a number of cases this is true as well for Hispanic-owned firms, Asian-owned firms, Native American-owned firms, and non-minority female-owned firms.

As in any regression-based study, our analysis hinges upon the proposition that all the factors that are related to loan denial rates have been included in our statistical model. If, for example, African American business owners possess some unobservable characteristic that makes them less creditworthy, then our statistical finding would overstate the difference in loan denial rates. To check on this possibility, the models we have estimated include an extensive array of factors that could conceivably affect loan decisions. Moreover, we have also estimated several alternative specifications that could potentially identify the impact of such a bias. Moreover, we have conducted our own surveys on numerous occasions and in numerous places across the U.S. Throughout, we have consistently found that African Americans and often other minorities as well are disadvantaged in the small business credit market and that our specification tests support the interpretation of discrimination.

Another potential criticism is that this study has examined loan denial rates rather than loan default rates; some have claimed that the latter provides a more appropriate strategy for identifying discrimination. For example, if banks only approve loans for relatively good African American firms then African American firms should exhibit relatively low default rates. Such an approach has several significant shortcomings that are detailed in Browne and Tootell (1995) and Ladd (1998). For instance, one problem is that it relies on the distribution of default probabilities being similar for African American and non-minority applicants meeting the acceptance standard used for non-minority firms. A further problem is that it assumes that the loan originators know with a high degree of precision what determines defaults, however little hard information exists

on what causes default. Additionally, it would be hard to disentangle the factors associated with differences in default rates between non-minority- and African American-owned firms given the fact that the African American-owned firms which obtain credit are typically charged higher interest rates, as we have demonstrated. Finally, such an analysis would require longitudinal data, tracking firms for several years following loan origination. Such data does not exist. While we have highlighted the potential limitations of such an analysis, we believe that it would be fruitful for this sort of longitudinal data collection to take place and for future research to investigate this question more fully.

In addition, many of the criticisms levied against the home mortgage loan discrimination study of Munnell et al. (1996) could perhaps be used here as well. Yet these criticisms appear to have been effectively countered by, for example, Browne and Tootell (1995) and Tootell (1996). What is important to keep in mind in reference to this work compared with Munnell et al. (1996) is the magnitude of the estimated racial disparity. The absolute size of the raw racial differences found in the mortgage study is considerably smaller than those observed in this study regarding business credit.²⁸⁶

The magnitude of the racial difference in small business loan approval rates is substantial, even after controlling for observed differences in creditworthiness, and considerably larger than that found in the analysis of discrimination in mortgage markets. Why do the results for small business loans differ so markedly from those obtained from mortgage loans? First, many mortgages are sold in the secondary market and a substantial fraction of mortgage lenders have little intention of keeping the loans they make. This added “distance” in the transaction might reduce the likelihood of discrimination. As Day and Liebowitz (1998, p.6) point out, “economic self-interest, therefore, should reduce racial discrimination in this market more completely than in many others.” A highly sophisticated secondary market for loans to small firms does not exist. Second, the presence of special programs and regulatory incentives to encourage banks and others to increase their mortgage lending to minorities gives these groups some advantages in obtaining a mortgage.

Clearly, a portion of the difference in denial rates between non-minority males and other groups in both types of studies appears to be due to differences in the characteristics of the applicants. Even after controlling for these differences, however, the gap in denial rates in the small business credit market is considerably larger than that found in the mortgage market.²⁸⁷

Our analysis finds significant evidence that African American-owned businesses face impediments to obtaining credit that go beyond observable differences in their creditworthiness. These firms are more likely to report that credit availability was a problem in the past and expect

²⁸⁶ In the Boston Fed study 10 percent of non-minority mortgage applications were rejected compared with 28 percent for African Americans. Loan denial rates (weighted) for business credit in this study ranged from 8.3 to 26.2 percent for non-minority males and between 50.0 and 65.9 percent for African American-owned firms (depending on which NSSBF or SSBF survey is used).

²⁸⁷ The gap in denial rates between African Americans and non-minorities with similar characteristics is between 34-46 percentage points in the small business credit market compared with 7 percentage points in the mortgage market.

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it to be a problem in the future. In fact, these concerns prevented more African American-owned firms from applying for loans because they feared being turned down due to prejudice or discrimination. We also found that loan denial rates are significantly higher for African American-owned firms than for non-minority male-owned firms even after taking into account differences in an extensive array of measures of creditworthiness and other characteristics. This result appears to be largely insensitive to geographic location or to changes in econometric specification. Comparable findings are observed for other minority business owners and for non-minority women as well, although not with as much consistency as the findings for African Americans.

Overall, the evidence is strong that African American-owned firms and often other M/WBE firms as well face large and statistically significant disadvantages in the market for small business credit. The larger size and significance of the effects found in our analyses (compared to mortgage market analyses) significantly reduces the possibility that the observed differences can be explained away by some quirk of the econometric estimation procedure and, instead, strongly suggests that the observed differences are due to discrimination.

K. Tables

Table 6.1. Selected Population-Weighted Sample Means of Loan Applicants – USA, 1993

	All	Non-minority	African American	Hispanic	Other Races
% of Firms Denied in the Last Three Years	28.8	26.9	65.9	35.9	39.9
<i>Credit History of Firm/Owners</i>					
% Owners with Judgments Against Them	4.8	4.1	16.9	5.2	15.2
% Firms Delinquent in Business Obligations	24.2	23.1	49.0	25.1	31.6
% Owners Delinquent on Personal Obligations	14.0	12.6	43.4	14.8	24.5
% Owners Declared Bankruptcy in Past 7yrs	2.4	2.4	5.3	2.0	0.8
<i>Other Firm Characteristics</i>					
% Female-Owned	17.9	18.1	18.2	9.7	23.1
Sales (in 1,000s of 1992 \$)	1795.0	1870.6	588.6	1361.3	1309.1
Profits (in 1,000s of 1992 \$)	86.7	84.5	59.9	189.5	54.0
Assets (in 1,000s of 1992 \$)	889.4	922.5	230.3	745.6	747.3
Liabilities (in 1,000s of 1992 \$)	547.4	572.8	146.2	308.6	486.0
Owner's Years of Experience	18.3	18.7	15.3	15.9	14.9
Owner's Share of Business	77.1	76.5	86.4	83.9	77.1
% ≤ 8 th Grade Education	0.8	0.7	0.0	3.4	1.0
% 9 th -11 th Grade Education	2.2	2.2	3.7	1.8	1.2
% High School Graduate	19.6	19.7	12.8	27.7	14.9
% Some College	28.0	28.3	36.0	20.6	19.8
% College Graduate	29.2	29.2	28.0	24.1	36.5
% Postgraduate Education	20.2	19.9	19.5	22.3	26.6
% Line of credit	48.7	49.1	35.8	52.8	43.7
Total Full-time Employment in 1990	11.4	11.8	6.8	9.3	8.8
Total Full-time Employment in 1992	13.6	13.9	8.3	10.8	12.3
Firm age, in years	13.4	13.6	11.5	13.3	9.3
% New Firm Since 1990	9.4	9.4	13.0	6.4	9.5
% Firms Located in MSA	76.5	75.1	91.2	90.7	85.7
% Sole Proprietorship	32.8	32.3	48.6	38.2	24.2
% Partnership	7.8	7.8	7.7	6.7	7.9
% S Corporation	26.1	27.1	11.7	13.7	27.1
% C Corporation	33.4	32.8	32.1	41.4	40.8
% Existing Relationship with Lender	24.6	24.7	12.8	29.6	25.7
% Firms with Local Sales Market	54.1	54.7	42.9	55.0	47.4
<i>Characteristics of Loan Application</i>					
Amount Requested (in 1,000s of 1992\$)	300.4	310.8	126.5	179.1	310.5
% Loans to be Used for Working Capital	8.4	8.8	4.9	4.6	5.5
% Loans to be Used for Equipment/Machinery	2.3	2.4	1.7	0.2	0.6
% Loans to be Used for Land/Buildings	0.4	0.4	0.9	0.0	0.0
% Loan to be Backed by Real Estate	28.3	28.6	24.7	26.2	24.7
Sample Size (unweighted)	2,007	1,648	170	96	93

Source: NERA calculations from 1993 NSSBF.

Notes: Sample weights are used to provide statistics that are nationally representative of all small businesses. Sample restricted to firms that applied for a loan over the preceding three years.

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Table 6.2. Selected Sample Means of Loan Applicants – ENC, 1993

	All	Non-minority	African American	Hispanic	Other Races
% of Firms Denied in the Last Three Years	19.8	18.6	58.7	0.0	23.0
<i>Credit History of Firm/Owners</i>					
% Owners with Judgments Against Them	4.5	4.5	6.7	0.0	0.0
% Firms Delinquent in Business Obligations	20.2	19.9	40.0	0.0	10.4
% Owners Delinquent on Personal Obligations	12.3	11.7	42.3	0.0	0.4
% Owners Declared Bankruptcy in Past 7yrs	2.8	2.8	8.0	0.0	0.0
<i>Other Firm Characteristics</i>					
% Female-Owned	16.9	16.8	20.6	65.6	6.3
Sales (in 1,000s of 1992 \$)	2422.6	2533.1	479.2	213.8	789.6
Profits (in 1,000s of 1992 \$)	169.5	178.3	58.1	92.6	-41.9
Assets (in 1,000s of 1992 \$)	1087.4	1137.9	179.7	58.7	371.9
Liabilities (in 1,000s of 1992 \$)	673.8	703.8	123.4	18.9	273.2
Owner's Years of Experience	18.9	19.0	16.0	9.2	19.9
Owner's Share of Business	76.5	76.5	92.2	65.6	54.0
% ≤ 8 th Grade Education	1.2	1.2	0.0	0.0	0.0
% 9 th -11 th Grade Education	1.9	1.7	0.0	31.2	5.1
% High School Graduate	27.3	27.8	14.6	0.0	30.4
% Some College	24.2	23.1	53.3	34.4	30.4
% College Graduate	27.6	28.5	10.4	34.4	10.4
% Postgraduate Education	17.8	17.7	21.8	0.0	23.7
% Line of credit	49.3	50.3	34.7	34.4	26.8
Total Full-time Employment in 1990	12.2	12.7	4.4	2.4	5.7
Total Full-time Employment in 1992	14.5	14.9	5.1	4.3	9.9
Firm age, in years	14.4	14.7	10.6	7.4	6.1
% New Firm Since 1990	10.1	9.3	15.6	0.0	36.3
% Firms Located in MSA	77.7	76.4	100.0	100.0	100.0
% Sole Proprietorship	32.2	32.4	45.0	31.2	5.6
% Partnership	10.4	9.9	9.2	0.0	36.5
% S Corporation	20.3	20.6	10.0	68.8	13.7
% C Corporation	37.1	37.2	35.8	0.0	44.2
% Existing Relationship with Lender	25.1	24.5	17.2	34.4	60.8
% Firms with Local Sales Market	55.9	56.7	47.5	100.0	23.7
<i>Characteristics of Loan Application</i>					
Amount Requested (in 1,000s of 1992\$)	320.0	333.4	54.8	21.3	171.9
% Loans to be Used for Working Capital	7.1	7.3	4.8	0.0	0.0
% Loans to be Used for Equipment/Machinery	1.9	2.0	0.0	0.0	0.0
% Loans to be Used for Land/Buildings	0.1	0.1	0.0	0.0	0.0
% Loan to be Backed by Real Estate	32.8	33.2	15.2	34.4	42.1
Total Sample Size (unweighted)	359	317	28	3	11

Source and Notes: See Table 6.1.

Table 6.3. Problems Firms Experienced During Preceding 12 Months - USA, 1993

	All	Non-minority	African American	Hispanic	Other Races
<i>Credit Market Conditions</i>					
Percent reporting not a problem	66.2	67.3	43.1	58.9	65.8
Percent reporting somewhat of a problem	20.1	19.9	25.6	18.2	21.3
Percent reporting serious problem	13.7	12.7	31.3	22.9	12.9
<i>Other Potential Problems (% reporting problem is serious)</i>					
Training costs	6.5	6.6	7.2	6.3	4.3
Worker's compensation costs	21.7	21.0	19.3	30.6	28.7
Health insurance costs	32.5	31.6	38.1	44.3	35.0
IRS regulation or penalties	12.3	11.8	17.1	17.9	13.2
Environmental regulations	8.5	8.5	5.6	7.4	11.0
Americans with Disabilities Act	2.7	2.6	3.6	2.7	3.9
Occupational Safety and Health Act	4.5	4.5	3.9	3.6	6.2
Family and Medical Leave Act	2.7	2.5	4.5	3.1	4.8
Number of observations (unweighted)	2,007	1,648	170	96	93

Source: See Table 6.1.

Table 6.4. Problems Firms Experienced During Preceding 12 Months – ENC, 1993

	All	Non-minority	African American	Hispanic	Other Races
<i>Credit Market Conditions</i>					
Percent reporting not a problem	71.9	73.1	45.6	65.8	64.0
Percent reporting somewhat of a problem	18.7	18.1	27.7	22.8	27.9
Percent reporting serious problem	9.4	8.8	26.7	11.4	8.1
<i>Other Potential Problems (% reporting problem is serious)</i>					
Training costs	6.5	6.5	9.9	7.6	0.0
Worker's compensation costs	16.2	16.4	17.8	3.8	15.3
Health insurance costs	30.8	30.3	38.3	44.2	31.3
IRS regulation or penalties	7.9	7.9	7.8	10.6	6.3
Environmental regulations	6.0	6.2	5.5	3.1	0.0
Americans with Disabilities Act	2.7	2.6	2.7	3.8	4.0
Occupational Safety and Health Act	3.4	3.1	4.6	0.0	13.3
Family and Medical Leave Act	1.8	1.7	5.7	7.6	0.0
Number of observations (unweighted)	748	625	74	17	32

Source: See Table 6.1.

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Table 6.5. Percentage of Firms Reporting Most Important Issues Affecting Them Over the Next 12 Months - USA, 1993

	All	Non-minority	African American	Hispanic	Other Races
Credit availability	5.9	5.5	20.5	5.3	4.3
Health care, health insurance	21.1	22.1	12.3	13.7	14.8
Taxes, tax policy	5.7	5.7	2.6	8.7	3.3
General U.S. business conditions	11.8	11.5	8.9	14.4	17.4
High interest rates	5.4	5.7	1.8	3.5	3.4
Costs of conducting business	3.3	3.3	3.8	3.8	3.6
Labor force problems	3.5	3.3	3.9	5.5	3.6
Profits, cash flow, expansion, sales	10.3	9.9	20.3	9.8	11.9
Number of observations (unweighted)	4,388	3,383	424	262	319

Source: See Table 6.1.

Table 6.6. Percentage of Firms Reporting Most Important Issues Affecting Them Over the Next 12 Months - ENC, 1993

	All	Non-minority	African American	Hispanic	Other Races
Credit availability	5.4	4.7	18.8	5.1	13.4
Health care, health insurance	20.8	21.5	13.3	9.0	8.3
Taxes, tax policy	5.4	5.4	3.3	5.1	6.7
General U.S. business conditions	10.7	10.6	10.0	30.1	6.6
High interest rates	5.0	4.9	0.0	3.2	14.8
Costs of conducting business	3.8	4.0	2.8	0.0	0.0
Labor force problems	4.3	4.3	4.5	5.1	2.4
Profits, cash flow, expansion, sales	12.9	12.5	23.0	9.4	15.7
Number of observations (unweighted)	705	591	74	14	26

Source: See Table 6.1.

Table 6.7. Types of Problems Facing Your Business, by Race and Gender – USA, 2005 (%)

	Non-minority male	Non-minority Female	Minority Male	Minority Female	African American	Hispanic	Asian
Availability of credit	19	23	54	38	46	52	34
Rising health care costs	60	49	50	41	31	42	66
Excessive tax burden	49	46	48	42	46	34	51
Lack of qualified workers	37	28	33	17	22	20	34
Rising energy costs	37	35	36	35	29	34	44
Rising costs of materials	44	47	36	47	53	42	32
Legal reform	21	15	15	12	11	10	17
Number firms	415	356	80	81	55	50	41

Source: U.S. Chamber of Commerce (2005), Appendix tables, page 55, available at http://www.uschamber.com/publications/reports/access_to_capital.htm.

Note: Total percentages may be greater than 100% due to respondents having the option to select multiple choices. Minorities also include 14 firms owned by Native Americans.

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Table 6.8. Determinants of Loan Denial Rates – USA, 1993

	(1)	(2)	(3)	(4)	(5)
African American	0.443 (11.21)	0.288 (6.84)	0.237 (5.57)	0.235 (5.22)	0.241 (5.13)
Asian	0.225 (4.21)	0.171 (3.18)	0.140 (2.56)	0.121 (2.15)	0.119 (2.07)
Native American	-0.016 (0.11)	-0.141 (1.06)	-0.097 (0.71)	-0.052 (0.35)	-0.083 (0.56)
Hispanic	0.129 (2.62)	0.070 (1.42)	0.067 (1.36)	0.035 (0.70)	0.031 (0.63)
Non-minority Female	0.088 (2.65)	0.048 (1.45)	0.047 (1.45)	0.036 (1.06)	0.033 (0.94)
Judgments		0.143 (2.84)	0.129 (2.56)	0.124 (2.40)	0.121 (2.29)
Firm delinquent		0.176 (6.50)	0.178 (6.43)	0.195 (6.77)	0.208 (7.00)
Personally delinquent		0.161 (4.45)	0.128 (3.56)	0.124 (3.38)	0.119 (3.17)
Bankrupt past 7 yrs		0.208 (3.11)	0.179 (2.68)	0.162 (2.37)	0.167 (2.33)
\$1992 profits (*10 ⁸)		-0.000 (0.89)	-0.000 (1.64)	-0.000 (1.78)	-0.000 (1.83)
\$1992 sales (*10 ⁸)		-0.000 (3.08)	-0.000 (3.38)	-0.000 (3.28)	-0.000 (3.38)
\$1992 assets (*10 ⁸)		0.000 (0.51)	0.000 (0.60)	0.000 (0.40)	0.000 (0.37)
\$1992 liabilities (*10 ⁸)		0.000 (0.61)	0.000 (1.11)	0.000 (1.04)	0.000 (1.17)
Owner years experience		-0.003 (2.59)	-0.001 (1.30)	-0.002 (1.55)	-0.002 (1.72)
Owners' share of business		0.001 (1.91)	0.000 (0.71)	0.000 (0.26)	0.000 (0.30)
Owner's Education (5 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (13 variables)	No	No	Yes	Yes	Yes
Region (8 indicator variables)	No	No	No	Yes	Yes
Industry (60 indicator variables)	No	No	No	Yes	Yes
Month /Year of Application (51 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (16 indicator vars.)	No	No	No	No	Yes
N	2,007	2,007	2,006	1,985	1,973
Pseudo R ²	.0608	.1412	.2276	.2539	.2725
Chi ²	143.6	333.4	537.3	595.4	635.8
Log likelihood	-1108.8	-1013.8	-911.6	-874.8	-848.7

Source: See Table 6.1.

Notes: Reported estimates are derivatives from Probit models, t-Statistics are in parentheses. "Other firm characteristics" include variables indicating whether the firm had a line of credit, 1990 employment, firm age, metropolitan area, a new firm since 1990, legal form of organization (sole proprietorship, partnership, S-corporation, or C-corporation), 1990-1992 employment change, existing long run relation with lender, geographic scope of market (local, regional, national or international), the value of the firm's inventory, the level of wages and salaries paid to workers, the firm's cash holdings, and the value of land held by the firm. "Characteristics of the loan" include the size of the loan applied for, a variable indicating whether the loan was backed by real estate, and twelve variables indicating the intended use of the loan.

Table 6.9. Determinants of Loan Denial Rates – ENC Region, 1993

	(1)	(2)	(3)	(4)	(5)
African American	0.441 (10.15)	0.288 (6.28)	0.237 (5.14)	0.235 (4.83)	0.241 (4.77)
Asian	0.205 (3.65)	0.149 (2.65)	0.122 (2.14)	0.101 (1.72)	0.091 (1.53)
Native American	0.029 (0.18)	-0.123 (0.84)	-0.083 (0.57)	-0.025 (0.15)	-0.059 (0.37)
Hispanic	0.129 (2.57)	0.071 (1.42)	0.067 (1.33)	0.043 (0.86)	0.041 (0.79)
Non-minority Female	0.097 (2.64)	0.058 (1.59)	0.050 (1.37)	0.037 (0.97)	0.032 (0.83)
African American*ENC	0.007 (0.08)	-0.002 (0.03)	-0.003 (0.04)	0.002 (0.02)	-0.001 (0.01)
Asian/Pacific*ENC	0.135 (0.78)	0.170 (0.97)	0.105 (0.62)	0.176 (0.98)	0.251 (1.30)
Native American*ENC	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
Hispanic*ENC	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
Non-minority Female*ENC	-0.041 (0.53)	-0.048 (0.61)	-0.012 (0.15)	-0.002 (0.02)	0.004 (0.05)
ENC region	-0.053 (1.71)	-0.044 (1.40)	-0.046 (1.47)	-0.064 (1.29)	-0.096 (2.00)
Creditworthiness controls (4 variables)	No	Yes	Yes	Yes	Yes
Owner's Education (5 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (13 variables)	No	No	Yes	Yes	Yes
Region (7 indicator variables)	No	No	No	Yes	Yes
Industry (60 indicator variables)	No	No	No	Yes	Yes
Month /Year of Application (51 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (16 indicator vars.)	No	No	No	No	Yes
N	2,002	2,002	2,001	1,980	1,968
Pseudo R ²	0.0632	0.1431	0.2292	0.2543	0.2735
Chi ²	149.06	337.45	540.27	595.50	637.24
Log likelihood	-1104.4	-1010.2	-908.5	-873.1	-846.4

Source: See Table 6.1.

Note: Creditworthiness controls are those used in Table 6.8 above.

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Table 6.10. Alternative Models of Loan Denials, 1993

Specification	African American	African American* ENC	Asian	Hispanic	Non-minority Female	Sample Size
All	0.237 (5.14)	-0.003 (0.04)	0.122 (2.14)	0.067 (1.33)	0.050 (1.37)	2,001
<i>Organization Type</i>						
1) Proprietorships and Partnerships	0.262 (3.05)	0.027 (0.15)	0.213 (1.86)	0.033 (0.38)	0.034 (0.47)	533
2) Corporations	0.210 (3.80)	-0.017 (0.15)	0.099 (1.47)	0.070 (1.08)	0.047 (1.09)	1,455
<i>Age of Firm</i>						
3) 12 Years or Under	0.258 (3.91)	0.069 (0.47)	0.210 (2.61)	0.029 (0.36)	0.043 (0.74)	1,069
4) Over 12 Years	0.229 (3.33)	-0.087 (0.83)	-0.077 (1.03)	0.108 (1.55)	0.072 (1.36)	924
<i>1993 Firm Size</i>						
5) Fewer than 10 Employees	0.239 (3.71)	-0.001 (0.01)	0.128 (1.49)	0.040 (0.56)	0.003 (0.06)	864
6) 10 or More Employees	0.199 (2.82)	0.147 (0.82)	0.099 (1.21)	0.110 (1.39)	0.108 (2.01)	1,132
<i>Intended Use of Loan</i>						
7) Working Capital	0.274 (4.61)	-0.042 (0.41)	0.049 (0.68)	-0.007 (0.12)	0.058 (1.13)	1,086
8) Other Use	0.149 (2.04)	0.118 (0.57)	0.250 (2.66)	0.165 (2.04)	0.047 (0.91)	912
<i>Scope of Sales Market</i>						
9) Local	0.214 (2.81)	-0.130 (1.20)	0.169 (2.13)	0.011 (0.16)	0.052 (0.97)	872
10) Regional, National, or international	0.188 (4.44)	0.205 (1.60)	0.030 (0.57)	0.093 (1.74)	0.036 (1.12)	1,127
<i>Creditworthiness</i>						
11) No Past Problems	0.244 (4.15)	-0.041 (0.41)	0.185 (3.06)	0.034 (0.72)	0.069 (1.93)	1,383
12) One Past Problem	0.254 (2.34)	0.075 (0.34)	-0.102 (0.61)	0.190 (1.34)	0.007 (0.07)	376
13) More Than One Problem	0.309 (2.91)	-0.033 (0.11)	0.251 (1.65)	0.051 (0.29)	-0.010 (0.06)	231

Source: See Table 6.1.

Notes: Reported estimates are derivatives from Probit models, t-Statistics are in parentheses. Each line of this table represents a separate regression with the same control variables as Column (3) of Table 6.8. The dependent variable in all specifications represents an indicator for whether or not a loan application was denied. Control for ENC also included.

Table 6.11. Models of Credit Card Use – USA, 1993

Specification	African American	Asian	Native American	Hispanic	Non-minority Female	Sample Size
1) Business Credit Card	0.035 (1.35)	-0.096 (3.23)	0.085 (1.00)	0.024 (0.79)	0.018 (0.83)	4,633
2) Personal Credit Card	0.019 (0.74)	-0.019 (0.63)	0.019 (0.23)	-0.042 (1.40)	0.028 (1.28)	4,633

Source: See Table 6.1.

Notes: Reported estimates are derivatives from Probit models, t-statistics are in parentheses. Each line of this table represents a separate regression with the same control variables as Column (3) of Table 6.8 but excluding the loan characteristics. The dependent variable indicates whether the firm used business or personal credit cards to finance business expenses. In all specifications, the sample size is all firms. Other races are excluded due to sample size limitations.

Table 6.12. Models of Credit Card Use – ENC, 1993

Specification	African American	Asian	Native American	Hispanic	Non-minority Female	Sample Size
1) Business Credit Card	0.042 (1.49)	-0.102 (3.31)	0.096 (1.08)	0.018 (0.58)	0.026 (1.09)	4,633
2) Personal Credit Card	0.024 (0.84)	-0.023 (0.74)	0.036 (0.41)	-0.058 (1.87)	0.019 (0.78)	4,633

Source: See Table 6.1.

Notes: See Table 6.11. Control for ENC included.

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Table 6.13. Models of Interest Rate Charged – USA, 1993

Specification	African American	Asian	Native American	Hispanic	Non-minority Female	Sample Size
1) All loans (controls as in Column 5, Table 6.8)	1.034 (3.72)	0.413 (1.37)	-0.427 (0.63)	0.517 (1.97)	0.025 (0.14)	1,454
<i>Creditworthiness</i>						
2) No credit problems	1.187 (3.27)	0.485 (1.33)	0.910 (1.07)	0.435 (1.48)	0.129 (0.66)	1,137
<i>Organization Type</i>						
3) Proprietorships and Partnerships	1.735 (2.57)	0.826 (1.03)	2.589 (0.9)	1.008 (1.74)	-0.239 (0.53)	364
4) Corporations	0.660 (2.04)	0.359 (1.07)	-0.585 (0.86)	0.491 (1.53)	0.127 (0.66)	1,090
<i>1993 Firm Size</i>						
5) Fewer than 10 Employees	1.200 (2.58)	-0.247 (0.41)	-0.010 (0.01)	0.783 (1.75)	-0.311 (1.02)	574
6) 10 or More Employees	0.450 (1.15)	0.446 (1.21)	-0.197 (0.25)	0.515 (1.37)	0.164 (0.77)	880
<i>Scope of Sales Market</i>						
7) Local	0.751 (1.55)	-0.073 (0.13)	1.773 (1.12)	0.805 (2.05)	0.324 (1.08)	633
8) Regional, National, or International	1.544 (4.26)	1.185 (2.93)	-1.368 (1.85)	0.392 (0.96)	-0.163 (0.73)	821

Source: See Table 6.1.

Notes: Reported estimates are Ordinary Least Squares (OLS) coefficients, t-statistics in parentheses. Each line of this table represents a separate regression with all of the control variables as Column (5) of Table 6.8 (except where specified) as well as: an indicator variable for whether the loan request was for a fixed interest rate loan, the length of the loan, the size of the loan, whether the loan was guaranteed, whether the loan was secured by collateral, and 7 variables identifying the type of collateral used if the loan was secured. The sample consists of firms who had applied for a loan and had their application approved. ‘No credit problems’ means that neither the firm nor the owner had been delinquent on payments over 60 days, no judgments against the owner for the preceding 3 years and the owner had not been bankrupt in the preceding 7 years.

Table 6.14. Models of Interest Rate Charged – ENC, 1993

Specification	African American	African American * ENC	Asian	Native American	Hispanic	Non-minority Female	Sample Size
1) All loans (controls as in Column 5, Table 6.8)	0.763 (2.51)	1.576 (2.29)	0.446 (1.40)	-0.801 (1.02)	0.609 (2.26)	0.023 (0.12)	1,454
<i>Creditworthiness</i>							
2) No credit problems	1.121 (2.80)	0.576 (0.65)	0.550 (1.43)	0.539 (0.56)	0.564 (1.87)	0.143 (0.64)	1,137
<i>Organization Type</i>							
3) Proprietorships and Partnerships	1.786 (2.35)	0.735 (0.49)	0.748 (0.90)	2.008 (0.70)	1.103 (1.92)	-0.276 (0.57)	364
4) Corporations	0.423 (1.23)	1.684 (1.93)	0.413 (1.15)	-0.828 (1.13)	0.635 (1.93)	0.166 (0.75)	1,090
<i>1993 Firm Size</i>							
5) Fewer than 10 Employees	0.728 (1.38)	1.925 (1.85)	-0.316 (0.51)	-0.899 (0.61)	0.801 (1.75)	-0.394 (1.20)	574
6) 10 or More Employees	0.467 (1.18)	0.168 (0.11)	0.519 (1.37)	-0.437 (0.48)	0.613 (1.63)	0.238 (0.92)	880
<i>Scope of Sales Market</i>							
7) Local	0.486 (0.88)	1.607 (1.57)	-0.133 (0.23)	1.404 (0.89)	0.971 (2.40)	0.329 (1.01)	633
8) Regional, National, or International	1.345 (3.51)	1.395 (1.27)	1.298 (3.05)	-1.844 (2.04)	0.493 (1.21)	-0.217 (0.82)	821

Source: See Table 6.1.

Notes: See Table 6.13.

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Table 6.15. Racial Differences in Failing to Apply for Loans Fearing Denial, 1993

Specification	African American	Asian	Native American	Hispanic	Non-minority Female
a) USA					
No Other Control Variables (n=4,637)	0.405 (16.65)	0.099 (3.61)	0.134 (1.72)	0.235 (8.28)	0.031 (1.54)
Full Set of Control Variables (same as Table 6.8, Column 3 except for loan characteristics) (n=4,633)	0.257 (10.02)	0.054 (1.98)	0.019 (0.27)	0.164 (5.69)	-0.008 (0.38)
b) ENC					
No Other Control Variables, except for ENC dummy and race*ENC interactions (n=4,637)	0.399 (14.98)	0.081 (2.82)	0.096 (1.17)	0.218 (7.45)	0.019 (0.84)
Full Set of Control Variables (same as Table 6.8, Column 3 except for loan characteristics) (n=4,633)	0.254 (9.09)	0.038 (1.33)	-0.007 (0.09)	0.148 (5.01)	-0.018 (0.84)
c) Construction					
No Other Control Variables (n=781)	0.350 (6.74)	0.109 (1.27)	-0.087 (0.54)	0.150 (2.22)	-0.007 (0.12)
Full Set of Control Variables (same as Table 6.8, Column 3 except for loan characteristics) (n=781)	0.181 (3.67)	0.064 (0.78)	-0.132 (1)	0.039 (0.65)	-0.063 (1.32)

Source: See Table 6.1.

Notes: Reported estimates are Probit derivatives, t-Statistics in parentheses. Sample consists of all firms. Dependent variable equals one if the firm said they did not apply for a loan fearing denial, zero otherwise.

Table 6.16. Models of Failure to Obtain Credit Among Firms that Desired Additional Credit, 1993

Specification	African American	Asian	Native American	Hispanic	Non-minority Female
a) USA					
No Other Control Variables (n=2,647)	0.455 (14.85)	0.299 (6.83)	0.188 (1.57)	0.297 (7.77)	0.126 (4.01)
Full Set of Control Variables (same as Table 6.8, Column 3 except for loan characteristics) (n=2,644)	0.276 (6.93)	0.180 (3.42)	-0.009 (0.06)	0.165 (3.51)	0.049 (1.38)
b) ENC					
No Other Control Variables (n=2,647)	0.449 (13.29)	0.278 (5.96)	0.209 (1.58)	0.275 (6.88)	0.122 (3.50)
Full Set of Control Variables (same as Table 6.8, Column 3 except for loan characteristics) (n=2,644)	0.269 (6.17)	0.157 (2.84)	0.011 (0.07)	0.141 (2.88)	0.037 (0.95)
c) Construction					
No Other Control Variables (n=463)	0.413 (6.12)	0.196 (1.46)	0.128 (0.36)	0.255 (2.71)	0.043 (0.51)
Full Set of Control Variables (same as Table 6.8, Column 3 except for loan characteristics) (n=463)	0.051 (2.86)	0.015 (0.53)	-0.015 (0.41)	0.019 (1.00)	-0.010 (1.04)

Source: See Table 6.1.

Notes: Reported estimates are Probit derivatives, t-Statistics in parentheses. The sample consists of all firms that applied for loans along with those who needed credit, but did not apply for fear of refusal. Failure to obtain credit includes those firms that were denied and those that did not apply for fear of refusal. Dependent variable is unity if the firm failed to obtain credit and zero if the firm applied for credit and had their loan application approved.

Statistical Disparities in Capital Markets

Table 6.17. Most Important Problem Facing Your Business Today – USA, 1998

	Non-minority male	African American	Other	Hispanic	Non-minority Female	Total
Financing and interest rates	5.8%	18.2%	10.6%	8.1%	6.2%	6.8%
Taxes	7.7%	1.9%	5.3%	3.1%	6.6%	6.9%
Inflation	0.4%	0.6%	0.0%	1.0%	0.4%	0.4%
Poor sales	7.0%	5.9%	11.6%	7.0%	8.3%	7.5%
Cost/availability of labor	3.9%	3.3%	2.4%	3.5%	4.5%	3.9%
Government regulations/red tape	7.1%	3.0%	4.8%	8.1%	6.5%	6.8%
Competition (from larger firms)	11.1%	10.7%	10.6%	18.4%	10.2%	11.3%
Quality of labor	14.4%	11.0%	9.4%	8.7%	9.1%	12.6%
Cost and availability of insurance	2.6%	1.0%	0.8%	0.0%	2.3%	2.2%
Other	11.4%	10.0%	8.3%	16.0%	12.7%	11.7%
Cash flow	4.6%	10.9%	6.3%	3.5%	3.3%	4.6%
Capital other than working capital	1.1%	1.7%	4.1%	0.8%	1.3%	1.3%
Acquiring and retaining new customers	3.1%	3.9%	5.0%	1.8%	3.3%	3.2%
Growth of firm/industry	0.9%	1.0%	1.2%	0.1%	0.4%	0.8%
Overcapacity of firm/industry	0.1%	0.0%	0.0%	0.3%	0.0%	0.1%
Marketing/advertising	2.1%	3.9%	2.5%	2.8%	3.6%	2.5%
Technology	1.4%	1.2%	1.6%	2.6%	1.3%	1.5%
Costs, other than labor	2.7%	1.8%	2.5%	3.6%	3.8%	2.9%
Seasonal/cyclical issues	1.3%	1.2%	0.7%	0.4%	0.7%	1.1%
Bill collection	2.8%	2.2%	2.4%	2.6%	2.8%	2.8%
Too much work/not enough time	3.6%	2.2%	4.3%	1.4%	5.7%	3.9%
No problems	4.6%	4.3%	5.6%	5.8%	6.4%	5.1%
Not ascertainable	0.4%	0.0%	0.0%	0.0%	0.7%	0.4%

Source: NERA calculations from the 1998 SSBF (n=3561).

Notes: Results are weighted.

Table 6.18. Determinants of Loan Denial Rates - USA, 1998

	(1)	(2)	(3)	(4)	(5)
African American	0.422 (7.94)	0.254 (5.36)	0.217 (5.05)	0.192 (4.52)	0.218 (4.74)
Asian	0.148 (2.54)	0.129 (2.52)	0.049 (1.25)	0.023 (0.65)	0.028 (0.77)
Hispanic	0.353 (6.44)	0.269 (5.37)	0.211 (4.69)	0.183 (4.21)	0.171 (4.00)
Non-minority Female	0.087 (2.22)	0.049 (1.55)	0.024 (0.96)	0.016 (0.66)	0.011 (0.44)
Judgments		0.272 (4.28)	0.249 (4.32)	0.272 (4.47)	0.262 (4.20)
Firm delinquent		0.081 (2.88)	0.115 (4.20)	0.103 (3.88)	0.111 (4.01)
Personally delinquent		0.092 (2.85)	0.039 (1.59)	0.042 (1.69)	0.045 (1.76)
Bankrupt past 7 yrs		0.504 (4.48)	0.406 (3.83)	0.392 (3.67)	0.395 (3.64)
\$1998 sales (*10 ⁸)		-0.000 (2.47)	-0.000 (0.26)	0.000 (0.02)	0.000 (0.03)
\$1998 firm equity (*10 ⁸)		0.000 (1.40)	0.000 (0.46)	0.000 (0.20)	0.000 (0.06)
Owner home equity (*10 ⁸)		0.000 (0.52)	0.000 (1.47)	0.000 (0.96)	0.000 (0.90)
Owner net worth (*10 ⁸)		-0.000 (1.25)	-0.000 (1.28)	-0.000 (1.19)	-0.000 (1.24)
Owner years experience		-0.002 (1.42)	-0.001 (0.49)	-0.000 (0.34)	-0.000 (0.21)
Owners' share of business		0.000 (0.75)	-0.000 (0.12)	0.000 (0.03)	-0.000 (0.33)
Dun & Bradstreet credit ratings (4)	No	Yes	Yes	Yes	Yes
Owner's Education (6 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (1 variable)	No	No	Yes	Yes	Yes
Region (8 indicator variables)	No	No	No	Yes	Yes
Industry (8 indicator variables)	No	No	No	Yes	Yes
Year of Application (5 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (11 indicator vars.)	No	No	No	No	Yes
N	924	924	924	924	905
Pseudo R ²	.1061	.2842	.3714	.3910	.4015
Chi ²	90.0	241.1	315.1	331.8	337.8
Log likelihood	-379.3	-303.7	-266.7	-258.3	-251.7

Source: See Table 6.17.

Notes: Reported estimates are derivatives from Probit models, t-Statistics are in parentheses. "Other firm characteristics" include variables indicating whether the firm had a line of credit, 1998 full time equivalent employment, firm age, metropolitan area, legal form of organization (sole proprietorship, partnership, LLP, S-corporation, C-corporation, or LLC), existing long run relation with lender, geographic scope of market (regional, national, foreign, or international), the value of the firm's inventory, the firm's cash holdings, and the value of land held by the firm. "Characteristics of the loan" includes the size of the loan applied for.

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Table 6.19. Determinants of Loan Denial Rates – ENC, 1998

	(1)	(2)	(3)	(4)	(5)
African American	0.406 (7.35)	0.243 (4.98)	0.205 (4.67)	0.189 (4.26)	0.214 (4.48)
Asian	0.155 (2.57)	0.124 (2.40)	0.045 (1.17)	0.025 (0.70)	0.031 (0.82)
Hispanic	0.344 (6.20)	0.257 (5.09)	0.206 (4.51)	0.193 (4.27)	0.181 (4.07)
Non-minority Female	0.079 (1.97)	0.042 (1.30)	0.018 (0.70)	0.016 (0.63)	0.010 (0.39)
African American*ENC	0.082 (0.53)	0.000 (0)	0.017 (0.17)	0.016 (0.17)	0.029 (0.27)
Asian*ENC	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
Hispanic*ENC	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
Non-minority Female*ENC	0.017 (0.11)	0.000 (0)	0.023 (0.19)	0.020 (0.17)	0.030 (0.23)
ENC region	-0.057 (1.25)	-0.053 (1.50)	-0.039 (1.41)	-0.047 (1.27)	-0.046 (1.24)
Creditworthiness Controls (8 variables)	No	Yes	Yes	Yes	Yes
Owner's Education (6 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (1 variable)	No	No	Yes	Yes	Yes
Region (7 indicator variables)	No	No	No	Yes	Yes
Industry (8 indicator variables)	No	No	No	Yes	Yes
Year of Application (5 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (11 indicator vars.)	No	No	No	No	Yes
N	919	919	919	919	900
Pseudo R ²	0.1099	0.2892	0.3757	0.3912	0.4021
Chi ²	93.04	244.81	318.10	331.23	337.46
Log likelihood	-376.8	-300.9	-264.3	-257.7	-250.9

Source: See Table 6.17.

Notes: t-statistics in parentheses. Other creditworthiness controls are the 4 other variables included in Column (2) of Table 6.18.

Table 6.20. More Loan Denial Probabilities, 1998

	(1)	(2)	(3)	(4)
	<i>Denylast</i>	<i>Denylast</i>	<i>Denylast</i>	<i>Denylast</i>
African American	0.457 (8)	0.246 (4.76)	0.447 (7.47)	0.257 (4.63)
Asian	0.185 (2.81)	0.027 (0.65)	0.200 (2.90)	0.031 (0.72)
Hispanic	0.360 (6.28)	0.171 (3.67)	0.353 (6.06)	0.182 (3.75)
Non-minority Female	0.083 (2)	0.005 (0.20)	0.076 (1.79)	0.006 (0.20)
African American*ENC			0.043 (0.28)	-0.037 (0.47)
Asian*ENC			0.000 (0.00)	0.000 (0.00)
Hispanic*ENC			0.000 (0.00)	0.000 (0.00)
Non-minority Female*ENC			0.008 (0.05)	0.025 (0.20)
ENC			-0.058 (1.17)	-0.041 (0.88)
Creditworthiness Controls	No	Yes	No	Yes
Owner's Education	No	Yes	No	Yes
Other Firm Characteristics	No	Yes	No	Yes
Characteristics of the loan	No	Yes	No	Yes
Region	No	Yes	No	Yes
Industry	No	Yes	No	Yes
N	846	846	841	841
Pseudo R ²	0.1112	0.4265	0.1155	0.4265
Chi ²	90.94	348.71	94.17	347.85
Log likelihood	-363.3	-234.5	-360.7	-233.8

Source: See Table 6.17.

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Table 6.21. Models of Interest Rate Charged, 1998

Specification	African American	African American * ENC	African American * Construction	Asian	Hispanic	Non-minority Female
1a) All Loans (as in Column 5 of Table 6.18) n=765	1.064 (2.66)	–	–	0.559 (1.49)	-0.088 (0.23)	-0.501 (1.93)
1b) All Loans (as in Column 5 of Table 6.18) n=765	1.234 (2.69)	-2.199 (1.53)	0.173 (0.17)	0.576 (1.31)	0.136 (0.30)	-0.302 (1.06)
1c) All Loans (as in Column 5 of Table 6.18), ENC only n=103	-1.708 (1.05)		0.000 (0.00)	-1.530 (1.09)	5.768 (2.44)	-0.963 (0.80)

Source: See Table 6.17.

Notes: Each line of this table represents a separate regression with all of the control variables. The sample consists of firms who had applied for a loan and had their application approved.

Table 6.22. Racial Differences in Failing to Apply for Loans Fearing Denial, 1998

Specification	African American	Asian	Hispanic	Non-minority Female
a) U.S.				
No Other Control Variables (n=3,448)	0.353 (11.90)	0.046 (1.48)	0.173 (5.77)	0.051 (2.55)
Full Set of Control Variables (n=3,448)	0.208 (7.04)	-0.012 (0.43)	0.052 (1.87)	0.011 (0.59)
b) ENC region				
No Other Control Variables (n=467)	0.252 (3.05)	0.018 (0.21)	0.342 (2.16)	-0.003 (0.05)
Full Set of Control Variables (n=464)	0.015 (0.59)	0.018 (0.60)	0.059 (0.93)	0.009 (0.51)
c) Construction				
No Other Control Variables (n=613)	0.371 (5.06)	0.117 (1.43)	0.020 (0.26)	0.122 (2.08)
Full Set of Control Variables (n=609)	0.273 (3.69)	0.099 (1.32)	-0.062 (1.13)	0.038 (0.74)

Source: See Table 6.17.

Note: Reported estimates are Probit derivatives with t-statistics in parentheses. Full set of control variables as in Column (5) of Table 6.18, except for loan amount, year of application, and type of lender.

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Table 6.23. Models of Credit Card Use, 1998

Specification	African American	Asian	Hispanic	Non-minority Female	Sample Size
1) Business Credit Card	-0.001 (0.02)	-0.038 (1.00)	-0.014 (0.38)	-0.018 (0.72)	3,561
2) Personal Credit Card	-0.018 (0.54)	0.016 (0.44)	-0.050 (1.42)	0.012 (0.52)	3,561
3) Business Credit Card ENC	-0.140 (1.21)	-0.078 (0.64)	0.205 (0.98)	-0.005 (0.06)	485
4) Personal Credit Card ENC	0.105 (0.92)	0.077 (0.65)	-0.088 (0.45)	-0.037 (0.50)	485
3) Business Credit Card Construction & related	0.056 (0.62)	-0.074 (0.70)	0.087 (0.86)	-0.025 (0.35)	624
4) Personal Credit Card Construction & related	0.003 (0.04)	0.047 (0.46)	-0.092 (1.01)	-0.073 (0.99)	624

Source: See Table 6.17.

Notes: Each line of this table represents a separate regression with the same control variables as Column (5) of Table 6.18, except for loan amount, year of application and type of lender. The dependent variable indicates whether the firm used business or personal credit cards to finance business expenses. In all specifications, the sample size includes all firms. Reported estimates are Probit derivatives with t-statistics in parentheses.

Statistical Disparities in Capital Markets

Table 6.24. Most Important Problem Facing Your Business Today – USA, 2003

	Non-minority male	African American	Other	Hispanic	Non-minority Female	Total
Financing and interest rates	5.4%	20.7%	9.1%	5.7%	5.8%	6.3%
Taxes	6.3%	2.4%	4.9%	7.7%	4.3%	5.7%
Inflation	2.7%	1.0%	2.3%	0.5%	1.4%	2.3%
Poor sales	17.8%	38.5%	28.9%	30.0%	22.5%	20.6%
Cost/availability of labor	1.5%	0.0%	0.6%	1.5%	1.5%	1.4%
Government regulations/red tape	4.7%	1.0%	5.4%	9.6%	2.5%	4.5%
Competition (from larger firms)	4.0%	2.7%	2.7%	3.6%	3.6%	3.8%
Quality of labor	7.9%	6.9%	5.0%	3.8%	6.5%	7.2%
Cost and availability of insurance	10.3%	1.8%	3.1%	5.2%	6.4%	8.6%
Other	2.6%	1.9%	4.0%	2.8%	1.6%	2.5%
Cash flow	5.3%	3.4%	9.4%	4.1%	8.6%	6.0%
Capital other than working capital	6.2%	5.1%	4.6%	7.1%	6.8%	6.3%
Acquiring and retaining new customers	0.9%	2.7%	0.4%	1.1%	0.8%	1.0%
Growth of firm/industry	1.3%	0.0%	1.0%	0.1%	0.7%	1.0%
Overcapacity of firm/industry	1.6%	0.8%	1.8%	0.1%	1.1%	1.4%
Marketing/advertising	0.8%	0.8%	0.6%	1.6%	1.2%	0.9%
Technology	1.2%	2.2%	0.2%	0.0%	1.3%	1.1%
Costs, other than labor	4.2%	2.5%	4.3%	1.0%	6.1%	4.4%
Seasonal/cyclical issues	1.4%	0.7%	1.6%	2.3%	2.0%	1.6%
Bill collection	2.2%	1.8%	2.4%	1.8%	3.3%	2.4%
Too much work/not enough time	4.9%	1.9%	4.0%	2.3%	6.2%	4.8%
No problems	1.5%	0.0%	0.7%	0.8%	1.4%	1.4%
Costs, other than labor	1.5%	0.0%	0.7%	3.7%	1.2%	1.4%
Seasonal/cyclical issues	2.2%	1.0%	0.1%	3.6%	1.0%	1.9%
Bill collection	0.3%	0.0%	0.0%	0.0%	0.8%	0.4%
Too much work/not enough time	0.4%	0.0%	0.7%	0.0%	0.5%	0.4%
No problems	0.3%	0.4%	0.0%	0.0%	0.4%	0.3%
Not ascertainable	0.2%	0.0%	1.3%	0.0%	0.5%	0.3%

Source: NERA calculations from the 2003 SSBF (n=4072).

Note: Results are weighted.

Statistical Disparities in Capital Markets

Table 6.25. Determinants of Loan Denial Rates - USA, 2003

	(1)	(2)	(3)	(4)	(5)
African American	0.459 (8.38)	0.136 (5.47)	0.105 (4.80)	0.091 (5.04)	0.094 (4.95)
Asian	0.055 (1.51)	0.020 (1.59)	0.009 (1.01)	0.002 (0.49)	0.001 (0.18)
Hispanic	0.067 (1.74)	0.008 (0.83)	0.004 (0.58)	0.001 (0.30)	0.001 (0.25)
Native American and Other	0.184 (2.22)	0.061 (1.95)	0.032 (1.47)	0.021 (1.43)	0.021 (1.49)
Non-minority Female	0.043 (2.17)	0.003 (0.70)	0.002 (0.49)	0.001 (0.57)	0.002 (0.76)
Judgments against owner		0.007 (0.66)	0.003 (0.35)	0.003 (0.54)	0.006 (0.90)
Judgments against firm		0.005 (1.16)	0.005 (1.42)	0.001 (0.54)	0.001 (0.64)
Firm delinquent		0.032 (3.78)	0.021 (3.23)	0.019 (3.89)	0.021 (4.08)
Personally delinquent		-0.007 (0.69)	-0.006 (1.02)	-0.003 (0.82)	-0.002 (0.58)
Owner Bankrupt past 7 yrs		0.046 (1.36)	0.041 (1.35)	0.052 (1.81)	0.044 (1.66)
Firm Bankrupt past 7 yrs		0.000 (0.03)	0.003 (0.37)	0.001 (0.17)	-0.001 (0.38)
\$1998 sales (*10 ⁸)		-0.000 (1.68)	0.000 (0.04)	0.000 (0.29)	0.000 (0.51)
\$1998 firm equity (*10 ⁸)		-0.000 (2.23)	-0.000 (1.03)	-0.000 (1.62)	-0.000 (1.63)
Owner home equity (*10 ⁸)		0.000 (0.28)	0.000 (0.02)	-0.000 (0.45)	-0.000 (0.26)
Owner net worth (*10 ⁸)		-0.000 (2.97)	-0.000 (2.92)	-0.000 (3.06)	-0.000 (3.26)
Owner years experience		0.000 (0.31)	0.000 (1.00)	0.000 (0.82)	0.000 (0.62)
Owners' share of business		0.000 (0.08)	0.000 (0.61)	0.000 (0.38)	0.000 (0.47)
Dun & Bradstreet credit ratings (4)	No	Yes	Yes	Yes	Yes
Owner's Education (6 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (1 variable)	No	No	Yes	Yes	Yes
Region (8 indicator variables)	No	No	No	Yes	Yes
Industry (8 indicator variables)	No	No	No	Yes	Yes
Year of Application (5 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (11 indicator vars.)	No	No	No	No	Yes
N	1,664	1,655	1,655	1,655	1,605
Pseudo R ²	.0850	.2267	.2901	.3336	.3681
Chi ²	74.1	192.9	246.8	283.8	310.3
Log likelihood	-399.1	-328.9	-301.9	-283.4	-266.4

Source: See Table 6.24. Notes: "Other firm characteristics" include variables indicating whether the firm had a line of credit, 2003 total employment, firm age, metropolitan area, legal form of organization (sole proprietorship, partnership, LLP, S-corporation, C-corporation, or LLC), existing long run relation with lender, geographic scope of market (local, regional, national, foreign, or international), the value of the firm's inventory, the firm's cash holdings, the value of land held by the firm, and total salaries and wages paid. "Characteristics of the loan" includes the size of the loan applied for.

Table 6.26. Determinants of Loan Denial Rates – ENC, 2003

	(1)	(2)	(3)	(4)	(5)
African American	0.522 (8.45)	0.174 (5.66)	0.134 (4.92)	0.122 (5.23)	0.126 (5.13)
Asian	0.071 (1.79)	0.022 (1.70)	0.011 (1.14)	0.003 (0.68)	0.001 (0.34)
Hispanic	0.090 (2.08)	0.014 (1.25)	0.009 (1.04)	0.004 (0.82)	0.003 (0.74)
Native and Other	0.187 (2.22)	0.062 (2.01)	0.034 (1.55)	0.024 (1.55)	0.022 (1.59)
Non-minority Female	0.061 (2.74)	0.006 (1.19)	0.004 (0.95)	0.003 (1.13)	0.003 (1.33)
African American*ENC	-0.063 (1.92)	-0.011 (1.68)	-0.008 (1.44)	-0.004 (1.58)	-0.003 (1.51)
Asian*ENC	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
Hispanic-Other*ENC	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
Native-Other*ENC	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
Non-minority Female*ENC	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
ENC region	0.004 (0.19)	-0.000 (0.09)	0.000 (0.03)	-0.001 (0.20)	-0.002 (0.58)
Creditworthiness (4 variables)	No	Yes	Yes	Yes	Yes
Dun & Bradstreet credit ratings (4 variables)	No	Yes	Yes	Yes	Yes
Balance Sheet (4 indicator variables)	No	Yes	Yes	Yes	Yes
Owner Experience (1 indicator variable)	No	Yes	Yes	Yes	Yes
Owner's Share of Business (1 indicator variable)	No	Yes	Yes	Yes	Yes
Owner's Education (6 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (1 variable)	No	No	Yes	Yes	Yes
Region (7 indicator variables)	No	No	No	Yes	Yes
Industry (8 indicator variables)	No	No	No	Yes	Yes
Year of Application (5 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (11 indicator vars.)	No	No	No	No	Yes
N	1,618	1,609	1,609	1,609	1,559
Pseudo R ²	0.0939	0.2344	0.2966	0.3389	0.3736
Chi ²	81.27	197.80	250.24	285.90	312.32
Log likelihood	-392.0	-323.0	-296.7	-278.9	-261.8

Source: See Table 6.24.

Notes: t-statistics in parentheses. Creditworthiness controls include presence of legal judgments against the firm during the previous 3 years, more than 60 days delinquent on any personal obligations the firm's owner during the previous 3 years, more than 60 days delinquent on any business obligations the firm during the previous 3 years, and declaration of owner of firm bankruptcy during the previous 7 years. Balance sheet variables include firm sales in 1998, firm equity in 1998, owner's home equity in 1998, and owner's personal net worth (exclusive of firm equity and home equity) in 1998. For other variables, see notes for Table 6.25.

Statistical Disparities in Capital Markets

Table 6.27. Models of Interest Rate Charged, 2003

Specification	African American	Asian	Hispanic	Native and Other	Non-minority Female
1a) All Loans (as in Column 5 of Table 6.25) n=1,537	1.046 (2.02)	0.430 (1.20)	0.991 (2.72)	0.260 (0.35)	-0.148 (0.75)
1b) All Loans (as in Column 5 of Table 6.26) n=1,537	0.833 (1.39)	0.330 (0.78)	1.440 (3.22)	0.475 (0.51)	-0.332 (1.47)

Source: See Table 6.24.

Notes: Each line of this table represents a separate regression with all of the control variables as indicated. Additionally, controls were included for whether the loan required a co-signer or guarantor, whether collateral was required and, if so, the type of collateral required. The sample consists of firms who had applied for a loan and had their application approved.

Table 6.28. Models of Credit Card Use, 2003

Specification	African American	Asian	Hispanic	Native American and Other	Non-minority Female	Sample Size
1) Business Credit Card	-0.060 (1.13)	0.040 (0.91)	0.004 (0.08)	-0.001 (0.01)	0.002 (0.07)	3,676
2) Personal Credit Card	-0.132 (2.68)	0.036 (0.84)	-0.080 (1.77)	-0.040 (0.48)	0.036 (1.56)	3,676
3) Business Credit Card, ENC	0.211 (1.44)	-0.034 (0.20)	0.105 (0.75)	-	-0.127 (0.44)	557
4) Personal Credit Card, ENC	-0.220 (1.55)	0.111 (0.76)	-0.004 (0.03)	-0.092 (0.39)	0.101 (1.55)	562

Source: See Table 6.24.

Notes: Each line of this table represents a separate regression with the same control variables as Column (5) of Table 6.27, except for loan amount, year of application, and type of lender. The dependent variable indicates whether the firm used business or personal credit cards to finance business expenses. In all specifications, the sample size is all firms. Reported estimates are Probit derivatives with t-statistics in parentheses.

Statistical Disparities in Capital Markets

Table 6.29. Racial Differences in Failing to Apply for Loans Fearing Denial, 2003

Specification	African American	Asian	Hispanic	Native American and Other	Non-minority Female
a) U.S.					
No Other Control Variables (n=3,704)	0.385 (9.48)	0.059 (1.95)	0.138 (4.01)	0.138 (2.14)	0.072 (4.47)
Full Set of Control Variables (n=3,676)	0.166 (4.73)	0.038 (1.40)	0.050 (1.82)	0.052 (1.01)	0.035 (2.46)
b) ENC region					
No Other Control Variables (n=3,704)	0.392 (9.11)	0.061 (1.94)	0.150 (4.14)	0.128 (1.90)	0.060 (3.50)
Full Set of Control Variables (n=3,676)	0.170 (4.55)	0.037 (1.33)	0.061 (2.09)	0.049 (0.93)	0.026 (1.73)
c) Construction					
No Other Control Variables (n=705)	0.492 (4.34)	-0.022 (0.29)	0.090 (1.22)	0.258 (2.17)	0.026 (0.64)
Full Set of Control Variables (n=695)	0.303 (3.16)	0.002 (0.04)	-0.009 (0.34)	0.137 (1.65)	-0.002 (0.11)

Source: See Table 6.24.

Note: Reported estimates are Probit derivatives with t-statistics in parentheses. Full set of control variables as in Column (5) of Table 6.25, except for loan amount, year of application, and type of lender. In Panel (b), interaction terms between race, sex, and ENC were all insignificant, with the exception of the interaction between white female and ENC in the model with no other controls.

Table 6.30. Determinants of Loan Denial Rates – Nine Jurisdictions

	(1)	(2)
	<i>Most Recent Application</i>	<i>Last Three Years</i>
African American	0.289 (8.2)	0.293 (7.60)
Hispanic	0.178 (3.86)	0.244 (4.59)
Native American	0.087 (1.69)	0.188 (3.29)
Asian	0.042 (0.72)	0.003 (0.05)
Other race	0.313 (3.07)	0.364 (3.15)
Non-minority female	0.046 (1.83)	0.086 (2.96)
Judgments	0.051 (1.23)	0.119 (2.24)
Firm delinquent	0.022 (2.7)	0.057 (5.90)
Personally delinquent	0.076 (7.38)	0.077 (6.03)
Bankrupt past 3yrs	0.228 (3.99)	0.328 (4.74)
N	1,855	1,855
Pseudo R ²	.1905	.1721
Chi ²	336.0	363.3

Source: NERA Credit Market Surveys, 1999-2007.

Notes: Reported estimates are derivatives from Probit models, t-statistics are in parentheses. Indicator variables are also included for the various jurisdictions.

Statistical Disparities in Capital Markets

Table 6.31. Determinants of Interest Rates – Nine Jurisdictions

	(1)	(2)
African American	1.683 (3.44)	1.491 (2.98)
Asian	1.221 (2.16)	0.789 (1.34)
Hispanic	0.820 (1.48)	0.895 (1.56)
Native American	1.241 (1.52)	1.008 (1.24)
Other race	-1.115 (0.63)	-1.072 (0.61)
Non-minority female	0.046 (0.16)	0.018 (0.06)
Judgments		0.537 (0.85)
Firm delinquent		-0.041 (0.36)
Personally delinquent		0.644 (3.65)
Bankrupt past 3yrs		1.184 (1.13)
Creditworthiness, Firm, and Owner Characteristics	No	Yes
Loan Characteristics	Yes	Yes
N	1,490	1,463
Adjusted R ²	.0831	.1046
F	11.4	11.05

Source: See Table 6.30.

Notes: Reported estimates are OLS regression models, t-statistics are in parentheses. Source: NERA Credit Market Surveys, 1999-2007. Five indicators for primary owner's education level, four indicators for legal form of organization, loan amount applied for, loan amount granted, and month and year of loan application. Seven additional indicators for jurisdiction are also included.

VII. M/WBE Utilization and Disparity in the District's Markets

A. Introduction

The *Croson* decision and its progeny have held that statistical evidence of race-based or gender-based disparities in business enterprise activity is a requirement for any state or local entity that desires to establish or maintain race-conscious or gender-conscious requirements for M/WBE participation in contracting and procurement. Chapters V and VI documented the extent of disparity facing minority- and women-owned firms in the private sector of the District's market area, where contracting and procurement activity is typically *not* subject to such requirements. In this Chapter we examine whether there is statistical evidence of disparities in the public sector contracting and procurement activities supported by NEORSD.

To determine whether M/WBEs have been underutilized in the public sector we should ideally examine public expenditures that were *not* subject to affirmative action requirements. However, NEORSD has had a longstanding policy of pursuing affirmative action programs in contracting and procurement.²⁸⁸

Given the history of the District's M/WBE policies, its own data might not show evidence of underutilization, even if such underutilization exists in the private sector. Instead, the District's data, in our view, is most useful for examining the effectiveness of its M/WBE policy during the study period. On the other hand, of course, if actual NEORSD M/WBE utilization still turns out to be significantly less than M/WBE availability in certain procurement categories, then the District's data will still provide evidence of adverse disparities.

The statistical evidence reported in Chapter III has already established from which specific industries NEORSD buys the goods and services it requires as well as from which geographic areas it draws the majority of its prime contractors and subcontractors. In addition, the statistical evidence reported in Chapter IV has established what percentage of all firms in the District's geographic and product markets are M/WBEs.

This Chapter will document:

- To what extent NEORSD has utilized M/WBEs in its contracting and subcontracting opportunities during the study period;
- Whether M/WBEs have been utilized to the extent that they are available in the relevant marketplace.

We report this information for Construction, CRS, Services, and Commodities, and for all four of these procurement categories combined. All results are reported by race and sex as well as for all M/WBEs combined.

²⁸⁸ See Chapter I, Section A, for an historical summary of the District's M/WBE policy.

B. M/WBE Utilization

For this Study, we examined 23,010 prime contracts and 1,061 associated subcontracts covering a five-year time period and with a total value of approximately \$375M. NAICS codes, M/WBE status, and detailed race and sex status for the prime contractors and subcontractors included in the master contract/subcontract database²⁸⁹ were established through extensive computer-assisted cross-referencing of firms in that database with firms in (a) the master directory of M/WBEs assembled for this study,²⁹⁰ (b) Dun & Bradstreet/Hoovers²⁹¹ (c) company profiles drawn from American Business Information, Standard & Poors, and other sources, and (d) the results of our race/sex misclassification/non-classification surveys.²⁹²

During the study period, as a group, we found that M/WBEs earned 27.2 percent of all NEORSR contract and subcontract dollars in Construction, 25.7 percent of all contract and subcontract dollars in CRS, 11.0 percent of all contract and subcontract dollars in Services, and 8.5 percent of all contract dollars in Commodities. Combined, M/WBEs earned 22.6 percent of all NEORSR contract and subcontract dollars during the five-year study period.

Table 7.1 (page 235) details the key results of our analysis of M/WBE participation at NEORSR. For minority-owned M/WBEs (i.e. M/WBEs other than non-minority women), utilization was 17.1 percent in Construction, 18.9 percent in CRS, 6.1 percent in Services, 0.36 percent in Commodities, and 14.2 percent overall. For non-minority women-owned M/WBEs utilization was 10.0 percent in Construction, 6.8 percent in CRS, 4.9 percent in Services, 8.2 percent in Commodities, and 8.4 percent overall.

Overall, among M/WBEs, firms owned by non-minority women earned the largest fraction of NEORSR contracting and subcontracting dollars (8.4 percent), followed in descending order by firms owned by African Americans (7.3 percent), firms owned by Asians (3.3 percent), firms owned by Hispanics (1.3 percent), and firms owned by Native Americans (0.43 percent).

Tables 7.2 through 7.5 (starting on page 236) provide utilization statistics by NAICS Industry Sub-Sector group (three-digit NAICS code) for each race and sex group in the Study. Tables 7.6 through 7.9 (starting on page 245) provide similar utilization statistics by NAICS Industry Group (four-digit NAICS code).²⁹³

²⁸⁹ See Chapter III.

²⁹⁰ See Chapter IV.

²⁹¹ *Ibid.*

²⁹² *Ibid.*

²⁹³ Comparable statistics were calculated at the NAICS Industry level as well (five-digit and six-digit NAICS). In the interest of space, these results are not reported here. Four-digit NAICS codes are most comparable to four-digit Standard Industrial Classification (SIC) codes, which were used prior to the advent of the NAICS system.

C. Disparity Analysis

We turn next to a comparison between our estimates of M/WBE utilization in the District's own contracting and subcontracting activities and our estimates of M/WBE availability in the District's geographic and product market area.

Table 7.10 (starting on page 263) presents the results of this comparison for the District's contracting and procurement as a whole.

The figures in the utilization column in this table are the same as those from Table 7.1 and include both prime contract and subcontract dollars. The figures in the availability column are the same as those in Table 4.17.

The disparity ratio, in the final column of Table 7.10, is derived by dividing utilization by availability and multiplying the result by 100. A disparity ratio below 100 indicates that M/WBEs are participating in NEORSO contracting and subcontracting at a level that is less than their estimated availability in the relevant marketplace. A disparity ratio of 80 or lower is considered to be large. A disparity ratio is said to be adverse and statistically significant if it is less than or equal to 80 and unlikely to be caused by chance alone.

For NEORSO, disparity ratios are less than or equal to 80 in 15 of 35 cases examined in Table 7.10. It is evident from Table 7.10. Eight of these are statistically significant as well.

In Construction, adverse disparities are observed for Native American-owned firms and Non-minority female-owned firms. In CRS, statistically significant adverse disparities are observed for Hispanic-owned firms and non-minority female-owned firms.

In Services, adverse disparities are observed for African American-owned firms, non-minority female-owned firms, and for M/WBEs as a group.

In Commodities, statistically significant adverse disparities are observed for African American-owned firms, Hispanic-owned firms, Asian-owned firms, Native American-owned firms, MBE firms as a group, non-minority female-owned firms, and M/WBE firms as a group.

Tables 7.11 through 7.14 (starting on page 264) present disaggregated disparity results by NAICS Industry Sub-Sector. Adverse disparities are observed across all minority and sex groups and in a variety of industry categories.²⁹⁴

D. Current versus Expected Availability

Finally, Table 7.15 (page 291) provides a comparison between current levels of M/WBE availability for NEORSO and levels that we would expect to observe in a race- and gender-neutral marketplace. The latter, referred to as "expected availability," is derived by dividing the current availability figures, as documented in Table 4.17 (page 122), by the disparity ratios

²⁹⁴ Disparity statistics were also calculated at the NAICS Industry Group and NAICS Industry level, with similar results to those observed at the Industry Sub-Sector level. In the interest of space, these results are not reported here.

M/WBE Utilization and Disparity in the District's Markets

documented in column (3) of Table 5.21 (page 163). If no disparity is present in the relevant marketplace, the disparity ratio will be equal to 100 and expected availability will be equivalent to current availability. In cases where adverse disparities are present in the relevant marketplace, the disparity ratio will be less than 100 and, consequently, expected availability will exceed current availability. In 30 of the 35 cases examined in Table 7.15, expected M/WBE availability in the District's market area exceeds current M/WBE availability.

M/WBE Utilization and Disparity in the District's Markets

E. Tables

Table 7.1. M/WBE Utilization at NEORSD, 2004-2008

M/WBE Type	Procurement Category				
	Construction	CRS	Services	Commodities	Overall
	(%)	(%)	(%)	(%)	(%)
African American	11.33	3.80	2.75	0.00	7.28
Hispanic	1.74	0.00	2.36	0.00	1.26
Asian	1.26	11.59	0.28	0.00	3.26
Native American	0.07	1.62	0.24	0.00	0.43
MBE	17.14	18.91	6.07	0.36	14.21
Non-minority Females	10.04	6.77	4.92	8.18	8.42
M/WBE Total	27.18	25.69	11.00	8.54	22.62
Non-M/WBE Total	72.82	74.31	89.00	91.46	77.38
Total (%)	100.00	100.00	100.00	100.00	100.00
Total (\$)	<i>200,591,730</i>	<i>82,296,429</i>	<i>51,741,285</i>	<i>40,146,392</i>	<i>374,775,836</i>

Source: NERA Master Contract/Subcontract Database.

M/WBE Utilization and Disparity in the District's Markets

Table 7.2. Construction—M/WBE Utilization by Industry Sub-Sector (Percentages), 2004-2008

Industry Sub-Sector	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Heavy and Civil Engineering Construction (NAICS 237)	10.40	0.00	0.00	0.00	0.95	11.34	88.26
Specialty Trade Contractors (NAICS 238)	18.21	6.81	0.00	0.30	13.84	39.17	55.83
Construction of Buildings (NAICS 236)	1.52	0.00	1.55	0.00	18.57	21.64	78.36
Merchant Wholesalers, Durable Goods (NAICS 423)	15.94	0.00	0.08	0.00	14.59	30.60	68.56
Computer and Electronic Product Manufacturing (NAICS 334)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Administrative and Support Services (NAICS 561)	0.44	0.00	0.00	0.00	85.95	86.39	13.22
Waste Management and Remediation Services (NAICS 562)	1.11	0.00	0.00	0.00	0.00	1.11	97.03
Merchant Wholesalers, Nondurable Goods (NAICS 424)	0.00	0.00	0.00	0.00	0.40	0.40	24.05
Nonmetallic Mineral Product Manufacturing (NAICS 327)	15.50	0.00	0.00	0.00	73.76	89.27	10.73
Utilities (NAICS 221)	0.00	0.00	100.00	0.00	0.00	100.00	0.00
Truck Transportation (NAICS 484)	91.81	0.00	0.00	0.00	6.12	97.93	2.07
Professional, Scientific, and Technical Services (NAICS 541)	0.00	14.44	22.95	0.00	21.82	59.22	35.56
Plastics and Rubber Products Manufacturing (NAICS 326)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Rental and Leasing Services (NAICS 532)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Fabricated Metal Product Manufacturing (NAICS 332)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Building Material and Garden Equipment and Supplies Dealers (NAICS 444)	0.00	0.00	0.00	0.00	0.00	0.00	9.47
Repair and Maintenance (NAICS 811)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Machinery Manufacturing (NAICS 333)	0.00	0.00	0.00	0.00	74.98	74.98	25.02
Electrical Equipment, Appliance, and Component Manufacturing (NAICS 335)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Chemical Manufacturing (NAICS 325)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Primary Metal Manufacturing (NAICS 331)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Crop Production (NAICS 111)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Mining (except Oil and Gas)	100.00	0.00	0.00	0.00	0.00	100.00	0.00

M/WBE Utilization and Disparity in the District's Markets

Industry Sub-Sector	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
(NAICS 212) Textile Product Mills (NAICS 314)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Motion Picture and Sound Recording Industries (NAICS 512)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Real Estate (NAICS 531)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Miscellaneous Manufacturing (NAICS 339)	0.00	0.00	0.00	0.00	9.94	9.94	90.06
Educational Services (NAICS 611)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Petroleum and Coal Products Manufacturing (NAICS 324)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Furniture and Related Product Manufacturing (NAICS 337)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Wood Product Manufacturing (NAICS 321)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

M/WBE Utilization and Disparity in the District's Markets

Table 7.3. CRS—M/WBE Utilization by Industry Sub-Sector (Percentages) , 2004-2008

Industry Sub-Sector	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Professional, Scientific, and Technical Services (NAICS 541)	4.05	0.00	12.55	1.76	5.62	23.98	74.02
Educational Services (NAICS 611)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Administrative and Support Services (NAICS 561)	0.00	0.00	0.00	0.00	1.99	1.99	98.01
Merchant Wholesalers, Durable Goods (NAICS 423)	0.00	0.00	0.00	0.00	19.39	19.39	76.79
Construction of Buildings (NAICS 236)	0.00	0.00	0.00	0.00	93.12	93.12	6.88
Printing and Related Support Activities (NAICS 323)	0.00	0.22	0.00	0.00	99.78	100.00	0.00
Performing Arts, Spectator Sports, and Related Industries (NAICS 711)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Specialty Trade Contractors (NAICS 238)	100.00	0.00	0.00	0.00	0.00	100.00	0.00
Electrical Equipment, Appliance, and Component Manufacturing (NAICS 335)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Transit and Ground Passenger Transportation (NAICS 485)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Heavy and Civil Engineering Construction (NAICS 237)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Chemical Manufacturing (NAICS 325)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Securities, Commodity Contracts, and Other Financial Investments and Related Activities (NAICS 523)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

M/WBE Utilization and Disparity in the District's Markets

Table 7.4. Services—M/WBE Utilization by Industry Sub-Sector (Percentages), 2004-2008

Industry Sub-Sector	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Professional, Scientific, and Technical Services (NAICS 541)	6.53	0.00	1.03	0.88	5.20	13.63	86.03
Merchant Wholesalers, Durable Goods (NAICS 423)	0.24	0.00	0.00	0.00	5.84	6.08	93.71
Truck Transportation (NAICS 484)	1.88	0.00	0.00	0.00	0.00	1.88	98.12
Administrative and Support Services (NAICS 561)	7.68	31.98	0.00	0.00	15.97	55.63	44.26
Computer and Electronic Product Manufacturing (NAICS 334)	0.00	0.00	0.00	0.00	0.09	0.09	98.43
Construction of Buildings (NAICS 236)	0.00	0.00	0.00	0.00	1.12	1.12	98.88
Publishing Industries (except Internet) (NAICS 511)	2.80	0.00	0.00	0.00	1.79	4.58	89.94
Specialty Trade Contractors (NAICS 238)	0.00	0.00	0.00	0.00	6.37	6.37	93.63
Waste Management and Remediation Services (NAICS 562)	0.00	0.00	0.00	0.00	1.84	1.84	98.16
Machinery Manufacturing (NAICS 333)	0.00	0.00	0.00	0.00	1.77	1.77	98.23
Heavy and Civil Engineering Construction (NAICS 237)	0.00	0.00	0.00	0.00	29.61	29.61	69.90
Personal and Laundry Services (NAICS 812)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Repair and Maintenance (NAICS 811)	0.00	0.00	0.00	0.00	0.89	0.89	98.85
Rental and Leasing Services (NAICS 532)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Data Processing, Hosting and Related Services (NAICS 518)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Chemical Manufacturing (NAICS 325)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Printing and Related Support Activities (NAICS 323)	0.00	0.00	0.00	0.00	11.98	11.98	87.40
Real Estate (NAICS 531)	0.00	0.00	0.00	0.00	8.22	8.22	91.78
Funds, Trusts, and Other Financial Vehicles (NAICS 525)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Clothing and Clothing Accessories Stores (NAICS 448)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Insurance Carriers and Related Activities (NAICS 524)	0.00	0.00	0.00	0.00	34.87	34.87	64.86
Merchant Wholesalers,	0.00	0.00	0.00	0.00	16.42	16.42	83.58

M/WBE Utilization and Disparity in the District's Markets

Industry Sub-Sector	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Nondurable Goods (NAICS 424)							
Religious, Grantmaking, Civic, Professional, and Similar Organizations (NAICS 813)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Motor Vehicle and Parts Dealers (NAICS 441)	0.00	0.00	0.00	0.00	3.51	3.51	96.49
Fabricated Metal Product Manufacturing (NAICS 332)	0.00	0.00	0.00	0.00	5.49	5.49	94.51
Motion Picture and Sound Recording Industries (NAICS 512)	0.00	0.00	0.00	0.00	0.00	0.00	90.60
Educational Services (NAICS 611)	0.00	0.00	0.00	0.00	4.03	4.03	95.97
Electrical Equipment, Appliance, and Component Manufacturing (NAICS 335)	0.00	0.00	0.00	0.00	19.51	19.51	80.49
Building Material and Garden Equipment and Supplies Dealers (NAICS 444)	0.00	0.00	0.00	0.00	0.00	0.00	99.72
Warehousing and Storage (NAICS 493)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Furniture and Home Furnishings Stores (NAICS 442)	0.00	0.00	0.00	0.00	12.51	12.51	87.49
Transit and Ground Passenger Transportation (NAICS 485)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electronics and Appliance Stores (NAICS 443)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Broadcasting (except Internet) (NAICS 515)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Social Assistance (NAICS 624)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Primary Metal Manufacturing (NAICS 331)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Performing Arts, Spectator Sports, and Related Industries (NAICS 711)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Miscellaneous Store Retailers (NAICS 453)	0.00	0.00	0.00	0.00	2.82	2.82	97.18
Museums, Historical Sites, and Similar Institutions (NAICS 712)	0.00	0.00	0.00	0.00	9.86	9.86	90.14
Furniture and Related Product Manufacturing (NAICS 337)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Food Services and Drinking Places (NAICS 722)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Securities, Commodity Contracts, and Other Financial Investments and Related Activities (NAICS	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Sub-Sector	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
523)							
Miscellaneous Manufacturing (NAICS 339)	0.00	0.00	0.00	0.00	0.38	0.38	99.62
Ambulatory Health Care Services (NAICS 621)	0.00	0.00	0.00	0.00	0.71	0.71	99.29
Nonstore Retailers (NAICS 454)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Credit Intermediation and Related Activities (NAICS 522)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Amusement, Gambling, and Recreation Industries (NAICS 713)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Sporting Goods, Hobby, Book, and Music Stores (NAICS 451)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Couriers and Messengers (NAICS 492)	0.82	0.00	0.00	0.00	0.00	0.82	99.18
Transportation Equipment Manufacturing (NAICS 336)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Air Transportation (NAICS 481)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Support Activities for Transportation (NAICS 488)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Nonmetallic Mineral Product Manufacturing (NAICS 327)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Crop Production (NAICS 111)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Scenic and Sightseeing Transportation (NAICS 487)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Nursing and Residential Care Facilities (NAICS 623)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Textile Mills (NAICS 313)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Plastics and Rubber Products Manufacturing (NAICS 326)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Textile Product Mills (NAICS 314)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

M/WBE Utilization and Disparity in the District's Markets

Table 7.5. Commodities—M/WBE Utilization by Industry Sub-Sector (Percentages), 2004-2008

Industry Sub-Sector	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Merchant Wholesalers, Durable Goods (NAICS 423)	0.00	0.00	0.00	0.00	3.74	3.74	95.52
Chemical Manufacturing (NAICS 325)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Merchant Wholesalers, Nondurable Goods (NAICS 424)	0.00	0.00	0.00	0.00	7.58	7.58	92.42
Specialty Trade Contractors (NAICS 238)	0.00	0.00	0.00	0.00	33.40	33.40	66.60
Machinery Manufacturing (NAICS 333)	0.00	0.00	0.00	0.00	1.56	1.56	98.44
Professional, Scientific, and Technical Services (NAICS 541)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Computer and Electronic Product Manufacturing (NAICS 334)	0.00	0.00	0.00	0.00	11.97	11.97	88.03
Waste Management and Remediation Services (NAICS 562)	0.00	0.00	0.00	0.00	73.84	73.84	26.16
Building Material and Garden Equipment and Supplies Dealers (NAICS 444)	0.00	0.00	0.00	0.00	0.00	0.00	99.99
Heavy and Civil Engineering Construction (NAICS 237)	0.00	0.00	0.00	0.00	7.57	7.57	87.08
Repair and Maintenance (NAICS 811)	0.00	0.00	0.00	0.00	2.19	2.19	97.81
Publishing Industries (except Internet) (NAICS 511)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electrical Equipment, Appliance, and Component Manufacturing (NAICS 335)	0.00	0.00	0.00	0.00	43.48	43.48	56.52
Administrative and Support Services (NAICS 561)	0.00	0.00	0.00	0.00	11.43	11.43	88.57
Fabricated Metal Product Manufacturing (NAICS 332)	0.00	0.00	0.00	0.00	21.22	21.22	78.78
Support Activities for Transportation (NAICS 488)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Furniture and Home Furnishings Stores (NAICS 442)	0.00	0.00	0.00	0.00	29.39	29.39	70.61
Primary Metal Manufacturing (NAICS 331)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Motor Vehicle and Parts Dealers (NAICS 441)	0.00	0.00	0.00	0.00	0.00	0.00	98.21
Postal Service (NAICS 491)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Couriers and Messengers (NAICS 492)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Plastics and Rubber Products Manufacturing (NAICS 326)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Sub-Sector	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Miscellaneous Store Retailers (NAICS 453)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Real Estate (NAICS 531)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Rental and Leasing Services (NAICS 532)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electronics and Appliance Stores (NAICS 443)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Printing and Related Support Activities (NAICS 323)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Personal and Laundry Services (NAICS 812)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Transportation Equipment Manufacturing (NAICS 336)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Construction of Buildings (NAICS 236)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Nonstore Retailers (NAICS 454)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Truck Transportation (NAICS 484)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Clothing and Clothing Accessories Stores (NAICS 448)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Textile Product Mills (NAICS 314)	0.00	0.00	0.00	0.00	44.90	44.90	55.10
Furniture and Related Product Manufacturing (NAICS 337)	0.00	0.00	0.00	0.00	75.81	75.81	24.19
Religious, Grantmaking, Civic, Professional, and Similar Organizations (NAICS 813)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Miscellaneous Manufacturing (NAICS 339)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Crop Production (NAICS 111)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Educational Services (NAICS 611)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Insurance Carriers and Related Activities (NAICS 524)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Health and Personal Care Stores (NAICS 446)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Petroleum and Coal Products Manufacturing (NAICS 324)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Nonmetallic Mineral Product Manufacturing (NAICS 327)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Food Services and Drinking Places (NAICS 722)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Ambulatory Health Care Services (NAICS 621)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Performing Arts, Spectator Sports, and Related Industries (NAICS 711)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Sub-Sector	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Museums, Historical Sites, and Similar Institutions (NAICS 712)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

M/WBE Utilization and Disparity in the District's Markets

Table 7.6. Construction—M/WBE Utilization by Industry Group (Percentages), 2004-2008

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Utility System Construction (NAICS 2371)	13.62	0.00	0.00	0.00	1.16	14.78	84.66
Building Equipment Contractors (NAICS 2382)	33.03	12.98	0.00	0.00	0.72	46.73	42.24
Highway, Street, and Bridge Construction (NAICS 2373)	5.25	0.00	0.00	0.00	0.78	6.03	93.97
Nonresidential Building Construction (NAICS 2362)	1.94	0.00	1.98	0.00	0.96	4.88	95.12
Other Specialty Trade Contractors (NAICS 2389)	0.14	0.00	0.00	0.00	2.46	2.60	97.40
Other Heavy and Civil Engineering Construction (NAICS 2379)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	4.12	0.00	0.14	0.00	2.05	6.31	92.29
Building Finishing Contractors (NAICS 2383)	0.00	0.00	0.00	0.00	89.31	89.31	10.40
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	30.60	9.39	0.00	2.48	8.92	51.38	47.36
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Services to Buildings and Dwellings (NAICS 5617)	0.44	0.00	0.00	0.00	85.95	86.39	13.22
Residential Building Construction (NAICS 2361)	0.00	0.00	0.00	0.00	81.97	81.97	18.03
Waste Treatment and Disposal (NAICS 5622)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	54.42	0.00	0.00	0.00	2.19	56.60	43.10
Cement and Concrete Product Manufacturing (NAICS 3273)	15.50	0.00	0.00	0.00	73.76	89.27	10.73
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)	0.00	0.00	0.00	0.00	0.00	0.00	1.04
Water, Sewage and Other Systems (NAICS 2213)	0.00	0.00	100.00	0.00	0.00	100.00	0.00
General Freight Trucking (NAICS 4841)	91.81	0.00	0.00	0.00	6.12	97.93	2.07
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	0.00	0.00	0.00	0.00	86.16	86.16	13.84
Architectural, Engineering, and Related Services (NAICS	0.00	20.19	32.09	0.00	25.64	77.92	22.08

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
5413)							
Plastics Product Manufacturing (NAICS 3261)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Fabricated Metal Product Manufacturing (NAICS 3329)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Building Material and Supplies Dealers (NAICS 4441)	0.00	0.00	0.00	0.00	0.00	0.00	10.05
Grocery and Related Product Merchant Wholesalers (NAICS 4244)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)	0.00	0.00	0.00	0.00	99.27	99.27	0.73
Rubber Product Manufacturing (NAICS 3262)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Remediation and Other Waste Management Services (NAICS 5629)	17.19	0.00	0.00	0.00	0.00	17.19	54.18
Computer Systems Design and Related Services (NAICS 5415)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Management, Scientific, and Technical Consulting Services (NAICS 5416)	0.00	0.00	0.00	0.00	32.38	32.38	19.06
Personal and Household Goods Repair and Maintenance (NAICS 8114)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electronic and Precision Equipment Repair and Maintenance (NAICS 8112)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electrical Equipment Manufacturing (NAICS 3353)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Architectural and Structural Metals Manufacturing (NAICS 3323)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Chemical Product and Preparation Manufacturing (NAICS 3259)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Metal and Mineral (except Petroleum) Merchant	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Wholesalers (NAICS 4235)							
Other General Purpose Machinery Manufacturing (NAICS 3339)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Foundries (NAICS 3315)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Steel Product Manufacturing from Purchased Steel (NAICS 3312)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Oilseed and Grain Farming (NAICS 1111)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Professional, Scientific, and Technical Services (NAICS 5419)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)	100.00	0.00	0.00	0.00	0.00	100.00	0.00
Other Textile Product Mills (NAICS 3149)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Motion Picture and Video Industries (NAICS 5121)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Lessors of Real Estate (NAICS 5311)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Miscellaneous Manufacturing (NAICS 3399)	0.00	0.00	0.00	0.00	9.94	9.94	90.06
Paper and Paper Product Merchant Wholesalers (NAICS 4241)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Educational Support Services (NAICS 6117)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Petroleum and Coal Products Manufacturing (NAICS 3241)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Drugs and Druggists' Sundries Merchant Wholesalers (NAICS 4242)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Metalworking Machinery Manufacturing (NAICS 3335)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Furniture Related Product Manufacturing	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
(NAICS 3379) Consumer Goods Rental	0.00	0.00	0.00	0.00	0.00	0.00	100.00
(NAICS 5322) Other Wood Product Manufacturing (NAICS 3219)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Activities Related to Credit Intermediation (NAICS 5223)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

M/WBE Utilization and Disparity in the District's Markets

Table 7.7. CRS—M/WBE Utilization by Industry Group (Percentages), 2004-2008

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Architectural, Engineering, and Related Services (NAICS 5413)	4.89	0.00	15.14	0.00	6.27	26.29	71.76
Management, Scientific, and Technical Consulting Services (NAICS 5416)	0.00	0.00	0.00	10.67	1.46	12.13	87.53
Educational Support Services (NAICS 6117)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Services to Buildings and Dwellings (NAICS 5617)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	0.00	0.00	0.00	0.00	20.09	20.09	75.96
Nonresidential Building Construction (NAICS 2362)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Printing and Related Support Activities (NAICS 3231)	0.00	0.22	0.00	0.00	99.78	100.00	0.00
Other Professional, Scientific, and Technical Services (NAICS 5419)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Computer Systems Design and Related Services (NAICS 5415)	0.00	0.00	0.00	0.00	70.38	70.38	29.62
Performing Arts Companies (NAICS 7111)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Residential Building Construction (NAICS 2361)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electrical Equipment Manufacturing (NAICS 3353)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Building Equipment Contractors (NAICS 2382)	100.00	0.00	0.00	0.00	0.00	100.00	0.00
Taxi and Limousine Service (NAICS 4853)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Support Services (NAICS 5619)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Utility System Construction (NAICS 2371)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	100.00	0.00	0.00	0.00	0.00	100.00	0.00
Basic Chemical Manufacturing (NAICS 3251)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Financial Investment Activities (NAICS 5239)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

M/WBE Utilization and Disparity in the District's Markets

Table 7.8. Services—M/WBE Utilization by Industry Group (Percentages), 2004-2008

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
General Freight Trucking (NAICS 4841)	1.90	0.00	0.00	0.00	0.00	1.90	98.10
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	0.32	0.00	0.00	0.00	6.91	7.23	92.53
Legal Services (NAICS 5411)	0.48	0.00	0.00	0.00	0.10	0.58	99.42
Management, Scientific, and Technical Consulting Services (NAICS 5416)	22.94	0.00	1.43	3.51	15.96	43.84	55.46
Architectural, Engineering, and Related Services (NAICS 5413)	2.93	0.00	0.71	0.00	4.86	8.50	90.72
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	0.00	0.00	0.00	0.00	0.10	0.10	99.90
Services to Buildings and Dwellings (NAICS 5617)	13.13	51.44	0.00	0.00	0.20	64.78	35.03
Nonresidential Building Construction (NAICS 2362)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Building Equipment Contractors (NAICS 2382)	0.00	0.00	0.00	0.00	0.16	0.16	99.84
Waste Treatment and Disposal (NAICS 5622)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Software Publishers (NAICS 5112)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Accounting, Tax Preparation, Bookkeeping, and Payroll Services (NAICS 5412)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other General Purpose Machinery Manufacturing (NAICS 3339)	0.00	0.00	0.00	0.00	0.76	0.76	99.24
Utility System Construction (NAICS 2371)	0.00	0.00	0.00	0.00	27.57	27.57	71.90
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)	6.28	0.00	0.00	0.00	4.01	10.29	77.42
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Drycleaning and Laundry Services (NAICS 8123)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Computer Systems Design and Related Services (NAICS 5415)	0.00	0.00	11.51	0.00	2.86	14.37	85.63

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Other Professional, Scientific, and Technical Services (NAICS 5419)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Support Services (NAICS 5619)	0.00	0.00	0.00	0.00	83.50	83.50	16.50
Employment Services (NAICS 5613)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Data Processing, Hosting, and Related Services (NAICS 5182)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Business Support Services (NAICS 5614)	0.00	17.93	0.00	0.00	39.49	57.42	42.58
Residential Building Construction (NAICS 2361)	0.00	0.00	0.00	0.00	7.73	7.73	92.27
Printing and Related Support Activities (NAICS 3231)	0.00	0.00	0.00	0.00	11.98	11.98	87.40
Other Chemical Product and Preparation Manufacturing (NAICS 3259)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Investment Pools and Funds (NAICS 5259)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electronic and Precision Equipment Repair and Maintenance (NAICS 8112)	0.00	0.00	0.00	0.00	2.04	2.04	97.96
Clothing Stores (NAICS 4481)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Automotive Repair and Maintenance (NAICS 8111)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Communications Equipment Manufacturing (NAICS 3342)	0.00	0.00	0.00	0.00	0.00	0.00	79.92
Offices of Real Estate Agents and Brokers (NAICS 5312)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)	0.00	0.00	0.00	0.00	50.00	50.00	50.00
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	0.00	0.00	0.00	0.00	20.95	20.95	79.05
Other Specialty Trade Contractors (NAICS 2389)	0.00	0.00	0.00	0.00	40.35	40.35	59.65
Advertising, Public Relations, and Related Services (NAICS 5418)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Scientific Research and Development Services (NAICS 5417)	0.00	0.00	0.00	0.00	1.89	1.89	98.11
Civic and Social Organizations (NAICS 8134)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Investigation and Security Services (NAICS 5616)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Waste Collection (NAICS 5621)	0.00	0.00	0.00	0.00	19.65	19.65	80.35
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)	0.00	0.00	0.00	0.00	6.62	6.62	91.07
Engine, Turbine, and Power Transmission Equipment Manufacturing (NAICS 3336)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Computer and Peripheral Equipment Manufacturing (NAICS 3341)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Activities Related to Real Estate (NAICS 5313)	0.00	0.00	0.00	0.00	25.00	25.00	75.00
Motion Picture and Video Industries (NAICS 5121)	0.00	0.00	0.00	0.00	0.00	0.00	87.37
Insurance Carriers (NAICS 5241)	0.00	0.00	0.00	0.00	0.00	0.00	99.14
Apparel, Piece Goods, and Notions Merchant Wholesalers (NAICS 4243)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Specialized Freight Trucking (NAICS 4842)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Personal and Household Goods Repair and Maintenance (NAICS 8114)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Warehousing and Storage (NAICS 4931)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electrical Equipment Manufacturing (NAICS 3353)	0.00	0.00	0.00	0.00	4.25	4.25	95.75
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Building Material and Supplies Dealers (NAICS 4441)	0.00	0.00	0.00	0.00	0.00	0.00	99.67
Highway, Street, and Bridge Construction (NAICS 2373)	0.00	0.00	0.00	0.00	55.74	55.74	44.26
Automobile Dealers (NAICS 4411)	0.00	0.00	0.00	0.00	8.97	8.97	91.03
Taxi and Limousine Service (NAICS 4853)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electronics and Appliance Stores (NAICS 4431)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Miscellaneous Nondurable Goods Merchant Wholesalers (NAICS 4249)	0.00	0.00	0.00	0.00	20.80	20.80	79.20
Home Furnishings Stores (NAICS 4422)	0.00	0.00	0.00	0.00	15.08	15.08	84.92

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Other Motor Vehicle Dealers (NAICS 4412)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Schools and Instruction (NAICS 6116)	0.00	0.00	0.00	0.00	7.42	7.42	92.58
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)	0.00	0.00	0.00	0.00	0.00	0.00	95.58
Remediation and Other Waste Management Services (NAICS 5629)	0.00	0.00	0.00	0.00	2.87	2.87	97.13
Radio and Television Broadcasting (NAICS 5151)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Automotive Parts, Accessories, and Tire Stores (NAICS 4413)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Personal Services (NAICS 8129)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Individual and Family Services (NAICS 6241)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)	0.00	0.00	0.00	0.00	34.68	34.68	65.32
Iron and Steel Mills and Ferroalloy Manufacturing (NAICS 3311)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	0.00	0.00	0.00	0.00	4.33	4.33	95.67
Building Finishing Contractors (NAICS 2383)	0.00	0.00	0.00	0.00	77.01	77.01	22.99
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Miscellaneous Store Retailers (NAICS 4539)	0.00	0.00	0.00	0.00	2.82	2.82	97.18
Independent Artists, Writers, and Performers (NAICS 7115)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Grocery and Related Product Merchant Wholesalers (NAICS 4244)	0.00	0.00	0.00	0.00	38.75	38.75	61.25
Museums, Historical Sites, and Similar Institutions (NAICS 7121)	0.00	0.00	0.00	0.00	9.86	9.86	90.14
Coating, Engraving, Heat Treating, and Allied	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Activities (NAICS 3328) Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Other Financial Investment Activities (NAICS 5239) Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Miscellaneous Manufacturing (NAICS 3399)	0.00	0.00	0.00	0.00	0.38	0.38	99.62
Business Schools and Computer and Management Training (NAICS 6114) Educational Support Services (NAICS 6117)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Special Food Services (NAICS 7223)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Architectural and Structural Metals Manufacturing (NAICS 3323)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Specialized Design Services (NAICS 5414)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Electrical Equipment and Component Manufacturing (NAICS 3359)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)	0.00	0.00	0.00	0.00	67.17	67.17	32.83
Direct Selling Establishments (NAICS 4543)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Colleges, Universities, and Professional Schools (NAICS 6113)	0.00	0.00	0.00	0.00	4.28	4.28	95.72
Other Fabricated Metal Product Manufacturing (NAICS 3329)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Furniture Stores (NAICS 4421)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Business, Professional, Labor, Political, and Similar Organizations (NAICS 8139)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Offices of Physicians (NAICS 6211)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Ventilation, Heating, Air- Conditioning, and	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Commercial Refrigeration Equipment Manufacturing (NAICS 3334)							
Industrial Machinery Manufacturing (NAICS 3332)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Nondepository Credit Intermediation (NAICS 5222)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Social Advocacy Organizations (NAICS 8133)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Cutlery and Handtool Manufacturing (NAICS 3322)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Other Amusement and Recreation Industries (NAICS 7139)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Basic Chemical Manufacturing (NAICS 3251)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Elementary and Secondary Schools (NAICS 6111)	0.00	0.00	0.00	0.00	3.60	3.60	96.40
Sporting Goods, Hobby, and Musical Instrument Stores (NAICS 4511)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Couriers and Express Delivery Services (NAICS 4921)	0.82	0.00	0.00	0.00	0.00	0.82	99.18
Limited-Service Eating Places (NAICS 7222)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Office Administrative Services (NAICS 5611)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Motor Vehicle Parts Manufacturing (NAICS 3363)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Lessors of Real Estate (NAICS 5311)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Religious Organizations (NAICS 8131)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Nonscheduled Air Transportation (NAICS 4812)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Other Ambulatory Health Care Services (NAICS 6219)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Support Activities for Road Transportation (NAICS 4884)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Paper and Paper Product Merchant Wholesalers (NAICS 4241)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Nonmetallic Mineral Product Manufacturing (NAICS 3279)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Crop Farming (NAICS 1119)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Scenic and Sightseeing	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Transportation, Land (NAICS 4871)							
Travel Arrangement and Reservation Services (NAICS 5615)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Charter Bus Industry (NAICS 4855)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures (NAICS 7114)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Technical and Trade Schools (NAICS 6115)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Textile and Fabric Finishing and Fabric Coating Mills (NAICS 3133)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Outpatient Care Centers (NAICS 6214)	0.00	0.00	0.00	0.00	8.28	8.28	91.72
Nursing Care Facilities (NAICS 6231)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Plastics Product Manufacturing (NAICS 3261)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Grantmaking and Giving Services (NAICS 8132)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Book, Periodical, and Music Stores (NAICS 4512)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Metalworking Machinery Manufacturing (NAICS 3335)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Vending Machine Operators (NAICS 4542)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Residential Care Facilities (NAICS 6239)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Textile Product Mills (NAICS 3149)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Manufacturing and Reproducing Magnetic and Optical Media (NAICS 3346)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

M/WBE Utilization and Disparity in the District's Markets

Table 7.9. Commodities—M/WBE Utilization by Industry Group (Percentages), 2004-2008

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	0.00	0.00	0.00	0.00	3.59	3.59	96.34
Basic Chemical Manufacturing (NAICS 3251)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	0.00	0.00	0.00	0.00	0.52	0.52	99.48
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)	0.00	0.00	0.00	0.00	0.74	0.74	99.26
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	0.00	0.00	0.00	0.00	14.55	14.55	85.45
Building Equipment Contractors (NAICS 2382)	0.00	0.00	0.00	0.00	0.92	0.92	99.08
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	0.00	0.00	0.00	0.00	12.49	12.49	87.51
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing (NAICS 3334)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Specialty Trade Contractors (NAICS 2389)	0.00	0.00	0.00	0.00	82.43	82.43	17.57
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	0.00	0.00	0.00	0.00	11.98	11.98	88.02
Industrial Machinery Manufacturing (NAICS 3332)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Management, Scientific, and Technical Consulting Services (NAICS 5416)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Waste Treatment and Disposal (NAICS 5622)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Building Material and Supplies Dealers (NAICS 4441)	0.00	0.00	0.00	0.00	0.00	0.00	99.99
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	0.00	0.00	0.00	0.00	0.04	0.04	81.21
Other General Purpose Machinery Manufacturing (NAICS 3339)	0.00	0.00	0.00	0.00	4.77	4.77	95.23
Software Publishers (NAICS 5112)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Paper and Paper Product Merchant Wholesalers (NAICS 4241)	0.00	0.00	0.00	0.00	10.19	10.19	89.81
Building Finishing Contractors (NAICS 2383)	0.00	0.00	0.00	0.00	28.25	28.25	71.75
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	0.00	0.00	0.00	0.00	10.00	10.00	90.00
Other Chemical Product and Preparation Manufacturing (NAICS 3259)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Specialized Design Services (NAICS 5414)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Utility System Construction (NAICS 2371)	0.00	0.00	0.00	0.00	10.93	10.93	80.88
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	0.00	0.00	0.00	0.00	0.32	0.32	99.68
Other Support Activities for Transportation (NAICS 4889)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Remediation and Other Waste Management Services (NAICS 5629)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)	0.00	0.00	0.00	0.00	0.12	0.12	99.88
Personal and Household Goods Repair and Maintenance (NAICS 8114)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Services to Buildings and Dwellings (NAICS 5617)	0.00	0.00	0.00	0.00	17.54	17.54	82.46
Electrical Equipment Manufacturing (NAICS 3353)	0.00	0.00	0.00	0.00	68.98	68.98	31.02
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Highway, Street, and Bridge Construction (NAICS 2373)	0.00	0.00	0.00	0.00	1.24	1.24	98.76
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Automotive Parts, Accessories, and Tire Stores (NAICS 4413)	0.00	0.00	0.00	0.00	0.00	0.00	98.18
Postal Service (NAICS 4911)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Automotive Repair and Maintenance (NAICS 8111)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Iron and Steel Mills and Ferroalloy Manufacturing (NAICS 3311)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Furniture Stores (NAICS 4421)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electronic and Precision Equipment Repair and Maintenance (NAICS 8112)	0.00	0.00	0.00	0.00	8.91	8.91	91.09
Soap, Cleaning Compound, and Toilet Preparation Manufacturing (NAICS 3256)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Fabricated Metal Product Manufacturing (NAICS 3329)	0.00	0.00	0.00	0.00	2.48	2.48	97.52
Plastics Product Manufacturing (NAICS 3261)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Electrical Equipment and Component Manufacturing (NAICS 3359)	0.00	0.00	0.00	0.00	20.43	20.43	79.57
Lessors of Real Estate (NAICS 5311)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)	0.00	0.00	0.00	0.00	0.00	0.00	85.80
Architectural, Engineering, and Related Services (NAICS 5413)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Couriers and Express Delivery Services (NAICS 4921)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)	0.00	0.00	0.00	0.00	35.23	35.23	64.77
Electronics and Appliance Stores (NAICS 4431)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Computer Systems Design and Related Services (NAICS 5415)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Investigation and Security Services (NAICS 5616)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Home Furnishings Stores (NAICS 4422)	0.00	0.00	0.00	0.00	91.69	91.69	8.31
Miscellaneous Durable Goods Merchant Wholesalers	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
(NAICS 4239)							
Cutlery and Handtool Manufacturing (NAICS 3322)	0.00	0.00	0.00	0.00	93.54	93.54	6.46
Electric Lighting Equipment Manufacturing (NAICS 3351)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Architectural and Structural Metals Manufacturing (NAICS 3323)	0.00	0.00	0.00	0.00	15.10	15.10	84.90
Other Miscellaneous Store Retailers (NAICS 4539)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Office Supplies, Stationery, and Gift Stores (NAICS 4532)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Printing and Related Support Activities (NAICS 3231)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Professional, Scientific, and Technical Services (NAICS 5419)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Local Messengers and Local Delivery (NAICS 4922)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Grocery and Related Product Merchant Wholesalers (NAICS 4244)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Drycleaning and Laundry Services (NAICS 8123)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Nonresidential Building Construction (NAICS 2362)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Office Administrative Services (NAICS 5611)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Railroad Rolling Stock Manufacturing (NAICS 3365)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Direct Selling Establishments (NAICS 4543)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
General Freight Trucking (NAICS 4841)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Clothing Stores (NAICS 4481)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Foundries (NAICS 3315)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Textile Product Mills (NAICS 3149)	0.00	0.00	0.00	0.00	44.90	44.90	55.10
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)	0.00	0.00	0.00	0.00	75.81	75.81	24.19
Nonferrous Metal (except Aluminum) Production and Processing (NAICS 3314)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Social Advocacy Organizations (NAICS 8133)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Motor Vehicle Parts Manufacturing (NAICS 3363)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Miscellaneous Manufacturing (NAICS 3399)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Spring and Wire Product Manufacturing (NAICS 3326)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Engine, Turbine, and Power Transmission Equipment Manufacturing (NAICS 3336)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Personal Services (NAICS 8129)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Greenhouse, Nursery, and Floriculture Production (NAICS 1114)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Employment Services (NAICS 5613)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Paint, Coating, and Adhesive Manufacturing (NAICS 3255)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Advertising, Public Relations, and Related Services (NAICS 5418)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Schools and Instruction (NAICS 6116)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Waste Collection (NAICS 5621)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Support Services (NAICS 5619)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Insurance Carriers (NAICS 5241)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Apparel, Piece Goods, and Notions Merchant Wholesalers (NAICS 4243)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Health and Personal Care Stores (NAICS 4461)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Automobile Dealers (NAICS 4411)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Land Subdivision (NAICS 2372)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Petroleum and Coal Products Manufacturing (NAICS 3241)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Cement and Concrete Product Manufacturing (NAICS 3273)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Scientific Research and Development Services (NAICS 5417)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Limited-Service Eating Places (NAICS 7222)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Miscellaneous Nondurable Goods Merchant Wholesalers (NAICS 4249)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Ambulatory Health	0.00	0.00	0.00	0.00	0.00	0.00	100.00

M/WBE Utilization and Disparity in the District's Markets

Industry Group	African American	Hispanic	Asian	Native American	Non-minority female	M/WBE	Non-M/WBE
Care Services (NAICS 6219) Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures (NAICS 7114)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Semiconductor and Other Electronic Component Manufacturing (NAICS 3344)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Aerospace Product and Parts Manufacturing (NAICS 3364)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Civic and Social Organizations (NAICS 8134)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Coating, Engraving, Heat Treating, and Allied Activities (NAICS 3328)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Museums, Historical Sites, and Similar Institutions (NAICS 7121)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Support Activities for Road Transportation (NAICS 4884)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

M/WBE Utilization and Disparity in the District's Markets

Table 7.10. Disparity Results for NEORSD Contracting, Overall and By Procurement Category, 2004-2008

Procurement Category / M/WBE Type	Utilization	Availability	Disparity Ratio	
Construction				
Black	11.33	4.06		
Hispanic	1.74	0.31		
Asian	1.26	0.15		
Native	0.07	1.03	7.09	
Minority-owned	14.40	5.54		
White female	10.04	16.77	59.85	
M/WBE total	24.44	22.31		
CRS				
Black	3.80	3.12		
Hispanic	0.00	1.27	0.07	
Asian	11.59	1.81		
Native	1.62	0.08		
Minority-owned	17.01	6.28		
Non-minority female	6.77	15.75	43.03	**
M/WBE total	23.78	22.03		
Services				
Black	2.75	4.35	63.20	
Hispanic	2.36	0.70		
Asian	0.28	0.32	86.23	
Native	0.24	0.19		
Minority-owned	5.63	5.57		
Non-minority female	4.92	17.19	28.63	**
M/WBE total	10.55	22.76	46.37	**
Commodities				
Black	0.00	4.20	0.00	**
Hispanic	0.00	0.13	0.00	
Asian	0.00	0.19	0.00	
Native	0.00	0.55	0.00	
Minority-owned	0.00	5.07	0.00	**
Non-minority female	8.18	20.66	39.59	**
M/WBE total	8.18	25.73	31.79	**
All Procurement				
Black	7.28	3.81		
Hispanic	1.26	0.70		
Asian	3.26	0.75		
Native	0.43	0.50	85.34	
Minority-owned	12.22	5.76		
Non-minority female	8.42	16.78	50.17	**
M/WBE total	20.64	22.54	91.56	

Source: calculations from NERA Master Contract/Subcontract Database and NERA Baseline Business Universe.
Notes: (1) “*” indicates an adverse disparity that is statistically significant at the 10% level or better (90% confidence). “**” indicates the disparity is significant at a 5% level or better (95% confidence). “***” indicates significance at a 1% level or better (99% confidence). An empty cell in the Disparity Ratio column indicates that no adverse disparity was observed for that category.

M/WBE Utilization and Disparity in the District's Markets

Table 7.11. Industry Sub-Sector Disparity Results for NEORS Construction Contracting, 2004-2008

Procurement Category / M/WBE Type	Utilization	Availability	Disparity Ratio
Heavy and Civil Engineering Construction (NAICS 237)			
Black	10.40	2.40	
Hispanic	0.00	0.13	0.00
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	10.40	2.53	
White female	0.95	13.74	6.89 *
M/W/DBE total	11.34	16.28	69.70
Specialty Trade Contractors (NAICS 238)			
Black	18.21	4.24	
Hispanic	6.81	0.19	
Asian	0.00	0.11	0.00
Native	0.30	1.58	19.22
Minority-owned	25.33	6.12	
White female	13.84	17.42	79.47
M/W/DBE total	39.17	23.54	
Construction of Buildings (NAICS 236)			
Black	1.52	3.40	44.75
Hispanic	0.00	1.45	0.00
Asian	1.55	0.45	
Native	0.00	1.08	0.00
Minority-owned	3.07	6.37	48.15
White female	18.57	10.34	
M/W/DBE total	21.64	16.72	
Merchant Wholesalers, Durable Goods (NAICS 423)			
Black	15.94	4.19	
Hispanic	0.00	0.02	0.00
Asian	0.08	0.48	16.12
Native	0.00	0.06	0.00
Minority-owned	16.01	4.74	
White female	14.59	22.10	65.99
M/W/DBE total	30.60	26.84	
Computer and Electronic Product Manufacturing (NAICS 334)			
Black	0.00	4.87	0.00
Hispanic	0.00	0.04	0.00
Asian	0.00	0.03	0.00
Native	0.00	0.00	
Minority-owned	0.00	4.94	0.00
White female	0.00	24.22	0.00
M/W/DBE total	0.00	29.16	0.00
Administrative and Support Services (NAICS 561)			
Black	0.44	4.07	10.78
Hispanic	0.00	0.15	0.00

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.09	0.00
Native	0.00	0.49	0.00
Minority-owned	0.44	4.79	9.16
White female	85.95	21.95	
M/W/DBE total	86.39	26.74	
Waste Management and Remediation Services (NAICS 562)			
Black	1.11	5.07	21.95
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native	0.00	0.34	0.00
Minority-owned	1.11	5.41	20.58
White female	0.00	20.74	0.00
M/W/DBE total	1.11	26.15	4.26
Merchant Wholesalers, Nondurable Goods (NAICS 424)			
Black	0.00	5.77	0.00
Hispanic	0.00	0.62	0.00
Asian	0.00	0.76	0.00
Native	0.00	0.00	
Minority-owned	0.00	7.16	0.00
White female	0.40	23.10	1.72
M/W/DBE total	0.40	30.26	1.32
Nonmetallic Mineral Product Manufacturing (NAICS 327)			
Black	15.50	4.95	
Hispanic	0.00	0.45	0.00
Asian	0.00	0.05	0.00
Native	0.00	0.00	
Minority-owned	15.50	5.45	
White female	73.76	21.85	
M/W/DBE total	89.27	27.29	
Utilities (NAICS 221)			
Black	0.00	5.48	0.00
Hispanic	0.00	0.00	
Asian	100.00	7.57	
Native	0.00	0.00	
Minority-owned	100.00	13.05	
White female	0.00	10.96	0.00
M/W/DBE total	100.00	24.01	
Truck Transportation (NAICS 484)			
Black	91.81	10.18	
Hispanic	0.00	0.17	0.00
Asian	0.00	0.65	0.00
Native	0.00	0.51	0.00
Minority-owned	91.81	11.51	
White female	6.12	12.87	47.56
M/W/DBE total	97.93	24.38	
Professional, Scientific, and Technical Services (NAICS 541)			
Black	0.00	3.11	0.00
Hispanic	14.44	1.29	

M/WBE Utilization and Disparity in the District's Markets

Asian	22.95	1.48	
Native	0.00	0.09	0.00
Minority-owned	37.39	5.98	
White female	21.82	15.83	
M/W/DBE total	59.22	21.81	
Plastics and Rubber Products Manufacturing (NAICS 326)			
Black	0.00	3.73	0.00
Hispanic	0.00	0.68	0.00
Asian	0.00	0.00	0.00
Native	0.00	0.00	
Minority-owned	0.00	4.41	0.00
White female	0.00	18.73	0.00
M/W/DBE total	0.00	23.14	0.00
Rental and Leasing Services (NAICS 532)			
Black	0.00	3.37	0.00
Hispanic	0.00	0.15	0.00
Asian	0.00	0.00	
Native	0.00	0.15	0.00
Minority-owned	0.00	3.68	0.00
White female	0.00	21.34	0.00
M/W/DBE total	0.00	25.01	0.00
Fabricated Metal Product Manufacturing (NAICS 332)			
Black	0.00	3.46	0.00
Hispanic	0.00	2.54	0.00
Asian	0.00	0.05	0.00
Native	0.00	0.00	
Minority-owned	0.00	6.05	0.00
White female	0.00	20.01	0.00
M/W/DBE total	0.00	26.06	0.00
Building Material and Garden Equipment and Supplies Dealers (NAICS 444)			
Black	0.00	0.43	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.23	0.00
Native	0.00	0.04	0.00
Minority-owned	0.00	0.70	0.00
White female	0.00	16.54	0.00
M/W/DBE total	0.00	17.24	0.00
Repair and Maintenance (NAICS 811)			
Black	0.00	4.65	0.00
Hispanic	0.00	2.68	0.00
Asian	0.00	0.11	0.00
Native	0.00	2.03	0.00
Minority-owned	0.00	9.48	0.00
White female	0.00	18.68	0.00
M/W/DBE total	0.00	28.16	0.00
Machinery Manufacturing (NAICS 333)			
Black	0.00	5.12	0.00
Hispanic	0.00	1.24	0.00

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	1.60	0.00
Native	0.00	0.00	
Minority-owned	0.00	7.96	0.00
White female	74.98	19.09	
M/W/DBE total	74.98	27.05	
Electrical Equipment, Appliance, and Component Manufacturing (NAICS 335)			
Black	0.00	4.00	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	4.00	0.00
White female	0.00	20.00	0.00
M/W/DBE total	0.00	24.00	0.00
Chemical Manufacturing (NAICS 325)			
Black	0.00	2.86	0.00
Hispanic	0.00	2.86	0.00
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	5.71	0.00
White female	0.00	14.29	0.00
M/W/DBE total	0.00	20.00	0.00
Primary Metal Manufacturing (NAICS 331)			
Black	0.00	3.97	0.00
Hispanic	0.00	2.92	0.00
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	6.89	0.00
White female	0.00	19.20	0.00
M/W/DBE total	0.00	26.09	0.00
Crop Production (NAICS 111)			
Black	0.00	3.08	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native	0.00	0.30	0.00
Minority-owned	0.00	3.38	0.00
White female	0.00	21.35	0.00
M/W/DBE total	0.00	24.72	0.00
Mining (except Oil and Gas) (NAICS 212)			
Black	100.00	9.97	
Hispanic	0.00	0.00	
Asian	0.00	4.71	0.00
Native	0.00	0.00	
Minority-owned	100.00	14.68	
White female	0.00	9.42	0.00
M/W/DBE total	100.00	24.10	
Textile Product Mills (NAICS 314)			
Black	0.00	2.97	0.00
Hispanic	0.00	2.71	0.00

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	5.68	0.00
White female	100.00	17.10	
M/W/DBE total	100.00	22.77	
Motion Picture and Sound Recording Industries (NAICS 512)			
Black	0.00	4.99	0.00
Hispanic	0.00	0.16	0.00
Asian	0.00	0.00	
Native	0.00	0.38	0.00
Minority-owned	0.00	5.53	0.00
White female	0.00	22.74	0.00
M/W/DBE total	0.00	28.27	0.00
Real Estate (NAICS 531)			
Black	0.00	3.85	0.00
Hispanic	0.00	0.26	0.00
Asian	0.00	0.09	0.00
Native	0.00	0.14	0.00
Minority-owned	0.00	4.34	0.00
White female	0.00	21.40	0.00
M/W/DBE total	0.00	25.75	0.00
Miscellaneous Manufacturing (NAICS 339)			
Black	0.00	3.50	0.00
Hispanic	0.00	0.39	0.00
Asian	0.00	0.58	0.00
Native	0.00	0.00	
Minority-owned	0.00	4.47	0.00
White female	9.94	26.36	37.71
M/W/DBE total	9.94	30.82	32.24
Educational Services (NAICS 611)			
Black	0.00	4.82	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	4.82	0.00
White female	0.00	35.92	0.00
M/W/DBE total	0.00	40.74	0.00
Petroleum and Coal Products Manufacturing (NAICS 324)			
Black	0.00	3.69	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.08	0.00
Native	0.00	0.00	
Minority-owned	0.00	3.78	0.00
White female	0.00	21.22	0.00
M/W/DBE total	0.00	25.00	0.00
Furniture and Related Product Manufacturing (NAICS 337)			
Black	0.00	4.97	0.00
Hispanic	0.00	3.12	0.00

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	8.09	0.00
White female	0.00	29.45	0.00
M/W/DBE total	0.00	37.54	0.00
Wood Product Manufacturing (NAICS 321)			
Black	0.00	2.96	0.00
Hispanic	0.00	2.79	0.00
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	5.75	0.00
White female	0.00	15.73	0.00
M/W/DBE total	0.00	21.48	0.00

Source and Notes: See Table 7.10.

M/WBE Utilization and Disparity in the District's Markets

Table 7.12. Industry Sub-Sector Disparity Results for NEORSD CRS Contracting, 2004-2008

Procurement Category / M/WBE Type	Utilization	Availability	Disparity Ratio	
Professional, Scientific, and Technical Services (NAICS 541)				
Black	4.05	3.02		
Hispanic	0.00	1.33	0.00	
Asian	12.55	1.87		
Native	1.76	0.06		
Minority-owned	18.37	6.27		
White female	5.62	15.46	36.33	**
M/W/DBE total	23.98	21.73		
Educational Services (NAICS 611)				
Black	0.00	4.82	0.00	
Hispanic	0.00	0.00		
Asian	0.00	0.00		
Native	0.00	0.00		
Minority-owned	0.00	4.82	0.00	
White female	0.00	35.92	0.00	
M/W/DBE total	0.00	40.74	0.00	
Administrative and Support Services (NAICS 561)				
Black	0.00	4.05	0.00	
Hispanic	0.00	0.15	0.00	
Asian	0.00	0.09	0.00	
Native	0.00	0.49	0.00	
Minority-owned	0.00	4.78	0.00	
White female	1.99	22.02	9.02	
M/W/DBE total	1.99	26.79	7.41	
Merchant Wholesalers, Durable Goods (NAICS 423)				
Black	0.00	4.12	0.00	
Hispanic	0.00	0.00		
Asian	0.00	0.04	0.00	
Native	0.00	0.10	0.00	
Minority-owned	0.00	4.26	0.00	
White female	19.39	22.30	86.96	
M/W/DBE total	19.39	26.56	73.01	
Construction of Buildings (NAICS 236)				
Black	0.00	5.08	0.00	
Hispanic	0.00	1.61	0.00	
Asian	0.00	0.39	0.00	
Native	0.00	1.37	0.00	
Minority-owned	0.00	8.44	0.00	
White female	93.12	9.89		
M/W/DBE total	93.12	18.33		
Printing and Related Support Activities (NAICS 323)				
Black	0.00	4.05	0.00	
Hispanic	0.22	0.00		

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.82	0.00
Native	0.00	0.00	
Minority-owned	0.22	4.87	4.50
White female	99.78	24.19	
M/W/DBE total	100.00	29.06	
Performing Arts, Spectator Sports, and Related Industries (NAICS 711)			
Black	0.00	4.62	0.00
Hispanic	0.00	0.00	
Asian	0.00	4.59	0.00
Native	0.00	3.67	0.00
Minority-owned	0.00	12.87	0.00
White female	0.00	31.51	0.00
M/W/DBE total	0.00	44.38	0.00
Specialty Trade Contractors (NAICS 238)			
Black	100.00	4.17	
Hispanic	0.00	0.14	0.00
Asian	0.00	0.04	0.00
Native	0.00	1.61	0.00
Minority-owned	100.00	5.96	
White female	0.00	16.44	0.00
M/W/DBE total	100.00	22.41	
Electrical Equipment, Appliance, and Component Manufacturing (NAICS 335)			
Black	0.00	3.07	0.00
Hispanic	0.00	2.80	0.00
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	5.87	0.00
White female	0.00	16.00	0.00
M/W/DBE total	0.00	21.87	0.00
Transit and Ground Passenger Transportation (NAICS 485)			
Black	0.00	6.69	0.00
Hispanic	0.00	0.21	0.00
Asian	0.00	4.61	0.00
Native	0.00	3.14	0.00
Minority-owned	0.00	14.65	0.00
White female	0.00	11.93	0.00
M/W/DBE total	0.00	26.58	0.00
Heavy and Civil Engineering Construction (NAICS 237)			
Black	0.00	1.47	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	1.47	0.00
White female	0.00	13.81	0.00
M/W/DBE total	0.00	15.28	0.00
Chemical Manufacturing (NAICS 325)			
Black	0.00	3.64	0.00
Hispanic	0.00	0.00	

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	3.64	0.00
White female	0.00	18.18	0.00
M/W/DBE total	0.00	21.82	0.00

Securities, Commodity Contracts, and Other Financial Investments and Related Activities (NAICS 523)

Black	0.00	3.38	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native	0.00	0.39	0.00
Minority-owned	0.00	3.77	0.00
White female	0.00	21.72	0.00
M/W/DBE total	0.00	25.49	0.00

Source and Notes: See Table 7.10.

M/WBE Utilization and Disparity in the District's Markets

Table 7.13. Industry Sub-Sector Disparity Results for NEORS D Services Contracting, 2004-2008

Procurement Category / M/WBE Type	Utilization	Availability	Disparity Ratio	
Professional, Scientific, and Technical Services (NAICS 541)				
Black	6.53	2.81		
Hispanic	0.00	1.15	0.00	
Asian	1.03	0.70		
Native	0.88	0.08		
Minority-owned	8.43	4.73		
White female	5.20	16.86	30.85	**
M/W/DBE total	13.63	21.59	63.14	
Merchant Wholesalers, Durable Goods (NAICS 423)				
Black	0.24	4.47	5.44	*
Hispanic	0.00	0.09	0.00	
Asian	0.00	0.58	0.00	
Native	0.00	0.07	0.00	
Minority-owned	0.24	5.21	4.66	*
White female	5.84	22.29	26.18	**
M/W/DBE total	6.08	27.51	22.10	**
Truck Transportation (NAICS 484)				
Black	1.88	10.78	17.42	
Hispanic	0.00	0.09	0.00	
Asian	0.00	0.19	0.00	
Native	0.00	0.02	0.00	
Minority-owned	1.88	11.07	16.95	
White female	0.00	12.65	0.00	
M/W/DBE total	1.88	23.72	7.91	
Administrative and Support Services (NAICS 561)				
Black	7.68	5.79		
Hispanic	31.98	0.32		
Asian	0.00	0.08	0.00	
Native	0.00	0.65	0.00	
Minority-owned	39.66	6.83		
White female	15.97	24.87	64.23	
M/W/DBE total	55.63	31.70		
Computer and Electronic Product Manufacturing (NAICS 334)				
Black	0.00	4.05	0.00	
Hispanic	0.00	0.00	0.00	
Asian	0.00	0.04	0.00	
Native	0.00	0.00		
Minority-owned	0.00	4.09	0.00	
White female	0.09	25.54	0.35	
M/W/DBE total	0.09	29.64	0.30	
Construction of Buildings (NAICS 236)				
Black	0.00	3.27	0.00	
Hispanic	0.00	1.46	0.00	

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.56	0.00
Native	0.00	0.99	0.00
Minority-owned	0.00	6.28	0.00
White female	1.12	11.05	10.11
M/W/DBE total	1.12	17.33	6.45
Publishing Industries (except Internet) (NAICS 511)			
Black	2.80	4.20	66.62
Hispanic	0.00	0.02	0.00
Asian	0.00	0.17	0.00
Native	0.00	0.33	0.00
Minority-owned	2.80	4.71	59.40
White female	1.79	22.54	7.92
M/W/DBE total	4.58	27.25	16.82
Specialty Trade Contractors (NAICS 238)			
Black	0.00	4.76	0.00
Hispanic	0.00	0.12	0.00
Asian	0.00	0.07	0.00
Native	0.00	1.59	0.00
Minority-owned	0.00	6.54	0.00
White female	6.37	16.11	39.55
M/W/DBE total	6.37	22.65	28.14
Waste Management and Remediation Services (NAICS 562)			
Black	0.00	4.98	0.00
Hispanic	0.00	0.00	0.00
Asian	0.00	0.00	0.00
Native	0.00	0.02	0.00
Minority-owned	0.00	5.00	0.00
White female	1.84	20.24	9.07
M/W/DBE total	1.84	25.24	7.27
Machinery Manufacturing (NAICS 333)			
Black	0.00	3.80	0.00
Hispanic	0.00	0.09	0.00
Asian	0.00	0.11	0.00
Native	0.00	0.00	0.00
Minority-owned	0.00	4.00	0.00
White female	1.77	22.38	7.93
M/W/DBE total	1.77	26.38	6.73
Heavy and Civil Engineering Construction (NAICS 237)			
Black	0.00	1.67	0.00
Hispanic	0.00	0.05	0.00
Asian	0.00	0.00	0.00
Native	0.00	0.00	0.00
Minority-owned	0.00	1.73	0.00
White female	29.61	13.76	
M/W/DBE total	29.61	15.49	
Personal and Laundry Services (NAICS 812)			
Black	0.00	11.35	0.00
Hispanic	0.00	1.88	0.00

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.01	0.00
Native	0.00	1.89	0.00
Minority-owned	0.00	15.13	0.00
White female	0.00	19.77	0.00
M/W/DBE total	0.00	34.89	0.00
Repair and Maintenance (NAICS 811)			
Black	0.00	5.58	0.00
Hispanic	0.00	2.22	0.00
Asian	0.00	0.11	0.00
Native	0.00	1.87	0.00
Minority-owned	0.00	9.78	0.00
White female	0.89	18.87	4.71 *
M/W/DBE total	0.89	28.65	3.10 **
Rental and Leasing Services (NAICS 532)			
Black	0.00	3.30	0.00
Hispanic	0.00	0.01	0.00
Asian	0.00	0.00	0.00
Native	0.00	0.01	0.00
Minority-owned	0.00	3.32	0.00
White female	0.00	20.80	0.00
M/W/DBE total	0.00	24.11	0.00
Data Processing, Hosting and Related Services (NAICS 518)			
Black	0.00	4.99	0.00
Hispanic	0.00	0.60	0.00
Asian	0.00	0.99	0.00
Native	0.00	0.77	0.00
Minority-owned	0.00	7.36	0.00
White female	0.00	26.02	0.00
M/W/DBE total	0.00	33.38	0.00
Chemical Manufacturing (NAICS 325)			
Black	0.00	3.72	0.00
Hispanic	0.00	0.00	0.00
Asian	0.00	1.26	0.00
Native	0.00	0.00	0.00
Minority-owned	0.00	4.97	0.00
White female	0.00	23.00	0.00
M/W/DBE total	0.00	27.97	0.00
Printing and Related Support Activities (NAICS 323)			
Black	0.00	4.18	0.00
Hispanic	0.00	0.00	0.00
Asian	0.00	0.71	0.00
Native	0.00	0.00	0.00
Minority-owned	0.00	4.90	0.00
White female	11.98	24.42	49.05
M/W/DBE total	11.98	29.32	40.86 **
Real Estate (NAICS 531)			
Black	0.00	4.19	0.00
Hispanic	0.00	0.10	0.00

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.04	0.00
Native	0.00	0.52	0.00
Minority-owned	0.00	4.85	0.00
White female	8.22	24.57	33.44
M/W/DBE total	8.22	29.43	27.93
Funds, Trusts, and Other Financial Vehicles (NAICS 525)			
Black	0.00	6.17	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native	0.00	0.20	0.00
Minority-owned	0.00	6.37	0.00
White female	0.00	21.56	0.00
M/W/DBE total	0.00	27.93	0.00
Clothing and Clothing Accessories Stores (NAICS 448)			
Black	0.00	0.68	0.00
Hispanic	0.00	0.99	0.00
Asian	0.00	2.18	0.00
Native	0.00	0.07	0.00
Minority-owned	0.00	3.92	0.00
White female	0.00	26.90	0.00
M/W/DBE total	0.00	30.83	0.00
Insurance Carriers and Related Activities (NAICS 524)			
Black	0.00	3.78	0.00
Hispanic	0.00	1.28	0.00
Asian	0.00	0.04	0.00
Native	0.00	0.28	0.00
Minority-owned	0.00	5.38	0.00
White female	34.87	22.84	
M/W/DBE total	34.87	28.21	
Merchant Wholesalers, Nondurable Goods (NAICS 424)			
Black	0.00	3.81	0.00
Hispanic	0.00	1.20	0.00
Asian	0.00	0.27	0.00
Native	0.00	0.00	
Minority-owned	0.00	5.27	0.00
White female	16.42	25.51	64.36
M/W/DBE total	16.42	30.78	53.33
Religious, Grantmaking, Civic, Professional, and Similar Organizations (NAICS 813)			
Black	0.00	7.36	0.00
Hispanic	0.00	1.39	0.00
Asian	0.00	0.00	0.00
Native	0.00	1.39	0.00
Minority-owned	0.00	10.13	0.00
White female	0.00	22.01	0.00
M/W/DBE total	0.00	32.14	0.00
Motor Vehicle and Parts Dealers (NAICS 441)			
Black	0.00	0.17	0.00
Hispanic	0.00	0.08	0.00

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	3.04	0.00	
Native	0.00	0.13	0.00	
Minority-owned	0.00	3.41	0.00	
White female	3.51	10.48	33.45	
M/W/DBE total	3.51	13.89	25.24	
Fabricated Metal Product Manufacturing (NAICS 332)				
Black	0.00	3.81	0.00	
Hispanic	0.00	1.46	0.00	
Asian	0.00	0.66	0.00	
Native	0.00	0.07	0.00	
Minority-owned	0.00	6.01	0.00	
White female	5.49	20.62	26.64	
M/W/DBE total	5.49	26.62	20.63	*
Motion Picture and Sound Recording Industries (NAICS 512)				
Black	0.00	4.98	0.00	
Hispanic	0.00	0.17	0.00	
Asian	0.00	0.00	0.00	
Native	0.00	0.38	0.00	
Minority-owned	0.00	5.53	0.00	
White female	0.00	22.74	0.00	*
M/W/DBE total	0.00	28.27	0.00	**
Educational Services (NAICS 611)				
Black	0.00	2.11	0.00	
Hispanic	0.00	0.03	0.00	
Asian	0.00	3.72	0.00	
Native	0.00	3.11	0.00	
Minority-owned	0.00	8.97	0.00	
White female	4.03	33.13	12.18	**
M/W/DBE total	4.03	42.10	9.58	**
Electrical Equipment, Appliance, and Component Manufacturing (NAICS 335)				
Black	0.00	3.99	0.00	
Hispanic	0.00	0.77	0.00	
Asian	0.00	0.96	0.00	
Native	0.00	0.00	0.00	
Minority-owned	0.00	5.72	0.00	
White female	19.51	18.78		
M/W/DBE total	19.51	24.51	79.60	
Building Material and Garden Equipment and Supplies Dealers (NAICS 444)				
Black	0.00	0.28	0.00	
Hispanic	0.00	0.21	0.00	
Asian	0.00	1.67	0.00	
Native	0.00	0.18	0.00	
Minority-owned	0.00	2.34	0.00	
White female	0.00	13.53	0.00	*
M/W/DBE total	0.00	15.88	0.00	**
Warehousing and Storage (NAICS 493)				
Black	0.00	6.58	0.00	
Hispanic	0.00	0.11	0.00	

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	3.18	0.00
Native	0.00	3.18	0.00
Minority-owned	0.00	13.06	0.00
White female	0.00	13.07	0.00
M/W/DBE total	0.00	26.13	0.00
Furniture and Home Furnishings Stores (NAICS 442)			
Black	0.00	1.93	0.00
Hispanic	0.00	1.55	0.00
Asian	0.00	2.56	0.00
Native	0.00	0.13	0.00
Minority-owned	0.00	6.18	0.00
White female	12.51	22.70	55.13
M/W/DBE total	12.51	28.88	43.33
Transit and Ground Passenger Transportation (NAICS 485)			
Black	0.00	6.79	0.00
Hispanic	0.00	0.21	0.00
Asian	0.00	4.56	0.00
Native	0.00	3.13	0.00
Minority-owned	0.00	14.68	0.00
White female	0.00	11.90	0.00
M/W/DBE total	0.00	26.58	0.00
Electronics and Appliance Stores (NAICS 443)			
Black	0.00	0.21	0.00
Hispanic	0.00	0.43	0.00
Asian	0.00	1.37	0.00
Native	0.00	0.26	0.00
Minority-owned	0.00	2.26	0.00
White female	0.00	16.00	0.00
M/W/DBE total	0.00	18.26	0.00
Broadcasting (except Internet) (NAICS 515)			
Black	0.00	3.47	0.00
Hispanic	0.00	3.47	0.00
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	6.94	0.00
White female	0.00	23.45	0.00
M/W/DBE total	0.00	30.40	0.00
Social Assistance (NAICS 624)			
Black	0.00	0.59	0.00
Hispanic	0.00	0.00	
Asian	0.00	4.05	0.00
Native	0.00	3.99	0.00
Minority-owned	0.00	8.62	0.00
White female	0.00	28.96	0.00
M/W/DBE total	0.00	37.59	0.00
Primary Metal Manufacturing (NAICS 331)			
Black	0.00	2.05	0.00
Hispanic	0.00	0.13	0.00

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	2.18	0.00
White female	0.00	48.07	0.00 **
M/W/DBE total	0.00	50.25	0.00 **
Performing Arts, Spectator Sports, and Related Industries (NAICS 711)			
Black	0.00	4.50	0.00
Hispanic	0.00	0.45	0.00
Asian	0.00	0.05	0.00
Native	0.00	0.05	0.00
Minority-owned	0.00	5.04	0.00
White female	0.00	40.90	0.00
M/W/DBE total	0.00	45.94	0.00
Miscellaneous Store Retailers (NAICS 453)			
Black	0.00	1.04	0.00
Hispanic	0.00	0.74	0.00
Asian	0.00	3.73	0.00
Native	0.00	0.07	0.00
Minority-owned	0.00	5.58	0.00
White female	2.82	13.80	20.42
M/W/DBE total	2.82	19.38	14.54
Museums, Historical Sites, and Similar Institutions (NAICS 712)			
Black	0.00	0.10	0.00
Hispanic	0.00	0.00	
Asian	0.00	4.26	0.00
Native	0.00	4.11	0.00
Minority-owned	0.00	8.48	0.00
White female	9.86	29.74	33.16
M/W/DBE total	9.86	38.22	25.81
Furniture and Related Product Manufacturing (NAICS 337)			
Black	0.00	4.61	0.00
Hispanic	0.00	2.15	0.00
Asian	0.00	0.02	0.00
Native	0.00	0.00	
Minority-owned	0.00	6.78	0.00
White female	100.00	16.04	
M/W/DBE total	100.00	22.82	
Food Services and Drinking Places (NAICS 722)			
Black	0.00	2.51	0.00
Hispanic	0.00	0.50	0.00
Asian	0.00	4.85	0.00
Native	0.00	3.57	0.00
Minority-owned	0.00	11.42	0.00
White female	0.00	34.09	0.00
M/W/DBE total	0.00	45.51	0.00
Securities, Commodity Contracts, and Other Financial Investments and Related Activities (NAICS 523)			
Black	0.00	3.38	0.00

M/WBE Utilization and Disparity in the District's Markets

Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native	0.00	0.39	0.00
Minority-owned	0.00	3.77	0.00
White female	0.00	21.72	0.00
M/W/DBE total	0.00	25.49	0.00
Miscellaneous Manufacturing (NAICS 339)			
Black	0.00	3.43	0.00
Hispanic	0.00	0.68	0.00
Asian	0.00	0.51	0.00
Native	0.00	0.00	
Minority-owned	0.00	4.62	0.00
White female	0.38	24.95	1.52
M/W/DBE total	0.38	29.57	1.28
Ambulatory Health Care Services (NAICS 621)			
Black	0.00	0.69	0.00
Hispanic	0.00	0.29	0.00
Asian	0.00	4.88	0.00
Native	0.00	3.90	0.00
Minority-owned	0.00	9.76	0.00
White female	0.71	31.33	2.28
M/W/DBE total	0.71	41.09	1.74 *
Nonstore Retailers (NAICS 454)			
Black	0.00	1.03	0.00
Hispanic	0.00	1.25	0.00
Asian	0.00	3.14	0.00
Native	0.00	0.40	0.00
Minority-owned	0.00	5.81	0.00
White female	0.00	22.60	0.00
M/W/DBE total	0.00	28.42	0.00 *
Credit Intermediation and Related Activities (NAICS 522)			
Black	0.00	3.56	0.00
Hispanic	0.00	3.56	0.00
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	7.13	0.00
White female	0.00	21.48	0.00
M/W/DBE total	0.00	28.60	0.00
Amusement, Gambling, and Recreation Industries (NAICS 713)			
Black	0.00	1.40	0.00
Hispanic	0.00	0.00	
Asian	0.00	4.79	0.00
Native	0.00	3.73	0.00
Minority-owned	0.00	9.93	0.00
White female	0.00	33.31	0.00
M/W/DBE total	0.00	43.23	0.00
Sporting Goods, Hobby, Book, and Music Stores (NAICS 451)			
Black	0.00	0.36	0.00

M/WBE Utilization and Disparity in the District's Markets

Hispanic	0.00	0.38	0.00
Asian	0.00	3.77	0.00
Native	0.00	0.07	0.00
Minority-owned	0.00	4.58	0.00
White female	0.00	11.40	0.00
M/W/DBE total	0.00	15.98	0.00
Couriers and Messengers (NAICS 492)			
Black	0.82	8.36	9.77
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.82	8.36	9.77
White female	0.00	12.27	0.00
M/W/DBE total	0.82	20.63	3.96
Transportation Equipment Manufacturing (NAICS 336)			
Black	0.00	3.29	0.00
Hispanic	0.00	2.80	0.00
Asian	0.00	0.68	0.00
Native	0.00	0.00	
Minority-owned	0.00	6.77	0.00
White female	0.00	18.20	0.00
M/W/DBE total	0.00	24.97	0.00
Air Transportation (NAICS 481)			
Black	0.00	8.32	0.00
Hispanic	0.00	0.16	0.00
Asian	0.00	2.11	0.00
Native	0.00	2.11	0.00
Minority-owned	0.00	12.71	0.00
White female	100.00	13.13	
M/W/DBE total	100.00	25.84	
Support Activities for Transportation (NAICS 488)			
Black	0.00	6.98	0.00
Hispanic	0.00	1.53	0.00
Asian	0.00	3.04	0.00
Native	0.00	3.04	0.00
Minority-owned	0.00	14.60	0.00
White female	0.00	14.04	0.00
M/W/DBE total	0.00	28.63	0.00
Nonmetallic Mineral Product Manufacturing (NAICS 327)			
Black	0.00	2.29	0.00
Hispanic	0.00	2.29	0.00
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	4.57	0.00
White female	0.00	21.43	0.00
M/W/DBE total	0.00	26.00	0.00
Crop Production (NAICS 111)			
Black	0.00	3.30	0.00

M/WBE Utilization and Disparity in the District's Markets

Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native	0.00	0.12	0.00
Minority-owned	0.00	3.41	0.00
White female	0.00	19.84	0.00
M/W/DBE total	0.00	23.25	0.00
Scenic and Sightseeing Transportation (NAICS 487)			
Black	0.00	6.67	0.00
Hispanic	0.00	0.00	
Asian	0.00	3.33	0.00
Native	0.00	3.33	0.00
Minority-owned	0.00	13.33	0.00
White female	0.00	10.00	0.00
M/W/DBE total	0.00	23.33	0.00
Nursing and Residential Care Facilities (NAICS 623)			
Black	0.00	0.93	0.00
Hispanic	0.00	0.00	
Asian	0.00	4.53	0.00
Native	0.00	3.92	0.00
Minority-owned	0.00	9.39	0.00
White female	0.00	31.33	0.00
M/W/DBE total	0.00	40.72	0.00
Textile Mills (NAICS 313)			
Black	0.00	5.02	0.00
Hispanic	0.00	2.83	0.00
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	7.85	0.00
White female	0.00	37.36	0.00
M/W/DBE total	0.00	45.21	0.00
Plastics and Rubber Products Manufacturing (NAICS 326)			
Black	0.00	4.03	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.41	0.00
Native	0.00	0.00	
Minority-owned	0.00	4.43	0.00
White female	0.00	23.48	0.00
M/W/DBE total	0.00	27.92	0.00
Textile Product Mills (NAICS 314)			
Black	0.00	2.97	0.00
Hispanic	0.00	2.71	0.00
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	5.68	0.00
White female	0.00	17.10	0.00
M/W/DBE total	0.00	22.77	0.00

Source and Notes: See Table 7.10.

M/WBE Utilization and Disparity in the District's Markets

Table 7.14. Industry Sub-Sector Disparity Results for NEORSD Commodities Contracting, 2004-2008

Procurement Category / M/WBE Type	Utilization	Availability	Disparity Ratio	
Merchant Wholesalers, Durable Goods (NAICS 423)				
Black	0.00	4.35	0.00	**
Hispanic	0.00	0.07	0.00	
Asian	0.00	0.29	0.00	
Native	0.00	0.06	0.00	
Minority-owned	0.00	4.77	0.00	**
White female	3.74	22.23	16.81	**
M/W/DBE total	3.74	27.00	13.84	**
Chemical Manufacturing (NAICS 325)				
Black	0.00	5.89	0.00	
Hispanic	0.00	0.00	0.00	
Asian	0.00	0.13	0.00	
Native	0.00	0.00		
Minority-owned	0.00	6.03	0.00	
White female	0.00	20.91	0.00	**
M/W/DBE total	0.00	26.94	0.00	**
Merchant Wholesalers, Nondurable Goods (NAICS 424)				
Black	0.00	5.24	0.00	
Hispanic	0.00	0.03	0.00	
Asian	0.00	0.43	0.00	
Native	0.00	0.00		
Minority-owned	0.00	5.70	0.00	
White female	7.58	23.43	32.36	**
M/W/DBE total	7.58	29.13	26.03	**
Specialty Trade Contractors (NAICS 238)				
Black	0.00	4.16	0.00	**
Hispanic	0.00	0.14	0.00	
Asian	0.00	0.07	0.00	
Native	0.00	1.56	0.00	
Minority-owned	0.00	5.92	0.00	**
White female	33.40	17.32		
M/W/DBE total	33.40	23.24		
Machinery Manufacturing (NAICS 333)				
Black	0.00	3.79	0.00	
Hispanic	0.00	0.06	0.00	
Asian	0.00	0.23	0.00	
Native	0.00	0.00		
Minority-owned	0.00	4.08	0.00	
White female	1.56	23.06	6.75	
M/W/DBE total	1.56	27.13	5.73	*
Professional, Scientific, and Technical Services (NAICS 541)				
Black	0.00	2.27	0.00	
Hispanic	0.00	2.56	0.00	

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.23	0.00	
Native	0.00	0.18	0.00	
Minority-owned	0.00	5.24	0.00	
White female	0.00	22.38	0.00	
M/W/DBE total	0.00	27.62	0.00	
Computer and Electronic Product Manufacturing (NAICS 334)				
Black	0.00	3.98	0.00	**
Hispanic	0.00	0.00	0.00	
Asian	0.00	0.39	0.00	
Native	0.00	0.00		
Minority-owned	0.00	4.38	0.00	**
White female	11.97	24.87	48.12	**
M/W/DBE total	11.97	29.25	40.92	**
Waste Management and Remediation Services (NAICS 562)				
Black	0.00	4.62	0.00	
Hispanic	0.00	0.00	0.00	
Asian	0.00	0.00		
Native	0.00	0.11	0.00	
Minority-owned	0.00	4.74	0.00	
White female	73.84	20.72		
M/W/DBE total	73.84	25.45		
Building Material and Garden Equipment and Supplies Dealers (NAICS 444)				
Black	0.00	0.09	0.00	
Hispanic	0.00	0.14	0.00	
Asian	0.00	0.39	0.00	
Native	0.00	0.04	0.00	
Minority-owned	0.00	0.66	0.00	
White female	0.00	14.66	0.00	**
M/W/DBE total	0.00	15.32	0.00	**
Heavy and Civil Engineering Construction (NAICS 237)				
Black	0.00	2.69	0.00	
Hispanic	0.00	0.25	0.00	
Asian	0.00	0.00		
Native	0.00	0.00		
Minority-owned	0.00	2.94	0.00	
White female	7.57	13.68	55.30	
M/W/DBE total	7.57	16.62	45.52	
Repair and Maintenance (NAICS 811)				
Black	0.00	4.68	0.00	**
Hispanic	0.00	2.45	0.00	**
Asian	0.00	0.12	0.00	
Native	0.00	2.06	0.00	*
Minority-owned	0.00	9.31	0.00	**
White female	2.19	17.39	12.60	**
M/W/DBE total	2.19	26.69	8.21	**
Publishing Industries (except Internet) (NAICS 511)				
Black	0.00	3.40	0.00	
Hispanic	0.00	0.00		

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.30	0.00	
Native	0.00	0.24	0.00	
Minority-owned	0.00	3.94	0.00	
White female	0.00	21.82	0.00	**
M/W/DBE total	0.00	25.76	0.00	**
Electrical Equipment, Appliance, and Component Manufacturing (NAICS 335)				
Black	0.00	4.01	0.00	
Hispanic	0.00	0.76	0.00	
Asian	0.00	0.00		
Native	0.00	0.00		
Minority-owned	0.00	4.77	0.00	
White female	43.48	20.53		
M/W/DBE total	43.48	25.30		
Administrative and Support Services (NAICS 561)				
Black	0.00	5.32	0.00	
Hispanic	0.00	0.21	0.00	
Asian	0.00	0.10	0.00	
Native	0.00	0.55	0.00	
Minority-owned	0.00	6.18	0.00	
White female	11.43	22.80	50.15	*
M/W/DBE total	11.43	28.98	39.45	**
Fabricated Metal Product Manufacturing (NAICS 332)				
Black	0.00	3.41	0.00	
Hispanic	0.00	2.45	0.00	
Asian	0.00	0.25	0.00	
Native	0.00	0.02	0.00	
Minority-owned	0.00	6.14	0.00	
White female	21.22	19.00		
M/W/DBE total	21.22	25.14	84.42	
Support Activities for Transportation (NAICS 488)				
Black	0.00	7.03	0.00	
Hispanic	0.00	0.00	0.00	
Asian	0.00	6.25	0.00	
Native	0.00	0.00	0.00	
Minority-owned	0.00	13.28	0.00	
White female	0.00	19.53	0.00	
M/W/DBE total	0.00	32.81	0.00	
Furniture and Home Furnishings Stores (NAICS 442)				
Black	0.00	0.85	0.00	
Hispanic	0.00	0.74	0.00	
Asian	0.00	1.20	0.00	
Native	0.00	0.09	0.00	
Minority-owned	0.00	2.89	0.00	
White female	29.39	20.53		
M/W/DBE total	29.39	23.42		
Primary Metal Manufacturing (NAICS 331)				
Black	0.00	2.47	0.00	
Hispanic	0.00	1.38	0.00	

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.00		
Native	0.00	0.00		
Minority-owned	0.00	3.85	0.00	
White female	0.00	33.10	0.00	**
M/W/DBE total	0.00	36.95	0.00	**
Motor Vehicle and Parts Dealers (NAICS 441)				
Black	0.00	0.24	0.00	
Hispanic	0.00	0.00	0.00	
Asian	0.00	0.63	0.00	
Native	0.00	0.19	0.00	
Minority-owned	0.00	1.07	0.00	
White female	0.00	14.72	0.00	**
M/W/DBE total	0.00	15.79	0.00	**
Postal Service (NAICS 491)				
Black	0.00	9.38	0.00	*
Hispanic	0.00	0.00		
Asian	0.00	0.00		
Native	0.00	0.00		
Minority-owned	0.00	9.38	0.00	*
White female	0.00	9.38	0.00	*
M/W/DBE total	0.00	18.75	0.00	**
Couriers and Messengers (NAICS 492)				
Black	0.00	8.39	0.00	
Hispanic	0.00	0.00		
Asian	0.00	0.00		
Native	0.00	0.00		
Minority-owned	0.00	8.39	0.00	
White female	0.00	14.91	0.00	*
M/W/DBE total	0.00	23.31	0.00	**
Plastics and Rubber Products Manufacturing (NAICS 326)				
Black	0.00	3.83	0.00	
Hispanic	0.00	0.51	0.00	
Asian	0.00	0.32	0.00	
Native	0.00	0.00		
Minority-owned	0.00	4.66	0.00	
White female	0.00	22.53	0.00	**
M/W/DBE total	0.00	27.19	0.00	**
Miscellaneous Store Retailers (NAICS 453)				
Black	0.00	1.60	0.00	
Hispanic	0.00	0.69	0.00	
Asian	0.00	3.96	0.00	
Native	0.00	0.15	0.00	
Minority-owned	0.00	6.40	0.00	
White female	0.00	14.53	0.00	
M/W/DBE total	0.00	20.93	0.00	**
Real Estate (NAICS 531)				
Black	0.00	3.85	0.00	
Hispanic	0.00	0.26	0.00	

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.09	0.00	
Native	0.00	0.14	0.00	
Minority-owned	0.00	4.34	0.00	
White female	0.00	21.40	0.00	**
M/W/DBE total	0.00	25.75	0.00	**
Rental and Leasing Services (NAICS 532)				
Black	0.00	3.35	0.00	
Hispanic	0.00	0.12	0.00	
Asian	0.00	0.00	0.00	
Native	0.00	0.12	0.00	
Minority-owned	0.00	3.59	0.00	
White female	0.00	21.33	0.00	*
M/W/DBE total	0.00	24.91	0.00	**
Electronics and Appliance Stores (NAICS 443)				
Black	0.00	0.42	0.00	
Hispanic	0.00	0.48	0.00	
Asian	0.00	2.26	0.00	
Native	0.00	0.20	0.00	
Minority-owned	0.00	3.35	0.00	
White female	0.00	14.70	0.00	
M/W/DBE total	0.00	18.06	0.00	
Printing and Related Support Activities (NAICS 323)				
Black	0.00	4.44	0.00	
Hispanic	0.00	0.00	0.00	
Asian	0.00	0.56	0.00	
Native	0.00	0.00	0.00	
Minority-owned	0.00	5.00	0.00	
White female	0.00	25.17	0.00	
M/W/DBE total	0.00	30.17	0.00	*
Personal and Laundry Services (NAICS 812)				
Black	0.00	10.85	0.00	
Hispanic	0.00	1.75	0.00	
Asian	0.00	0.04	0.00	
Native	0.00	1.78	0.00	
Minority-owned	0.00	14.42	0.00	
White female	0.00	21.42	0.00	*
M/W/DBE total	0.00	35.83	0.00	**
Transportation Equipment Manufacturing (NAICS 336)				
Black	0.00	3.35	0.00	
Hispanic	0.00	0.88	0.00	
Asian	0.00	0.25	0.00	
Native	0.00	0.00	0.00	
Minority-owned	0.00	4.47	0.00	
White female	0.00	23.11	0.00	
M/W/DBE total	0.00	27.58	0.00	*
Construction of Buildings (NAICS 236)				
Black	0.00	5.21	0.00	
Hispanic	0.00	1.63	0.00	

M/WBE Utilization and Disparity in the District's Markets

Asian	0.00	0.41	0.00
Native	0.00	1.38	0.00
Minority-owned	0.00	8.64	0.00
White female	0.00	10.03	0.00
M/W/DBE total	0.00	18.67	0.00
Nonstore Retailers (NAICS 454)			
Black	0.00	1.04	0.00
Hispanic	0.00	1.26	0.00
Asian	0.00	3.12	0.00
Native	0.00	0.41	0.00
Minority-owned	0.00	5.83	0.00
White female	0.00	22.85	0.00 **
M/W/DBE total	0.00	28.68	0.00 **
Truck Transportation (NAICS 484)			
Black	0.00	10.80	0.00
Hispanic	0.00	0.09	0.00
Asian	0.00	0.18	0.00
Native	0.00	0.00	0.00
Minority-owned	0.00	11.06	0.00
White female	0.00	12.55	0.00
M/W/DBE total	0.00	23.62	0.00
Clothing and Clothing Accessories Stores (NAICS 448)			
Black	0.00	1.17	0.00
Hispanic	0.00	0.99	0.00
Asian	0.00	4.10	0.00
Native	0.00	0.04	0.00
Minority-owned	0.00	6.29	0.00
White female	0.00	15.84	0.00 **
M/W/DBE total	0.00	22.14	0.00 **
Textile Product Mills (NAICS 314)			
Black	0.00	2.97	0.00
Hispanic	0.00	2.71	0.00
Asian	0.00	0.00	0.00
Native	0.00	0.00	0.00
Minority-owned	0.00	5.68	0.00
White female	44.90	17.10	0.00
M/W/DBE total	44.90	22.77	0.00
Furniture and Related Product Manufacturing (NAICS 337)			
Black	0.00	4.61	0.00
Hispanic	0.00	2.15	0.00
Asian	0.00	0.02	0.00
Native	0.00	0.00	0.00
Minority-owned	0.00	6.78	0.00
White female	75.81	16.04	0.00
M/W/DBE total	75.81	22.82	0.00
Religious, Grantmaking, Civic, Professional, and Similar Organizations (NAICS 81 > 3)			
Black	0.00	12.25	0.00

M/WBE Utilization and Disparity in the District's Markets

Hispanic	0.00	0.03	0.00
Asian	0.00	0.00	0.00
Native	0.00	0.03	0.00
Minority-owned	0.00	12.31	0.00
White female	0.00	34.75	0.00
M/W/DBE total	0.00	47.06	0.00
Miscellaneous Manufacturing (NAICS 339)			
Black	0.00	3.64	0.00
Hispanic	0.00	2.72	0.00
Asian	0.00	0.11	0.00
Native	0.00	0.11	0.00
Minority-owned	0.00	6.58	0.00
White female	0.00	22.75	0.00
M/W/DBE total	0.00	29.33	0.00 *
Crop Production (NAICS 111)			
Black	0.00	3.06	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native	0.00	0.34	0.00
Minority-owned	0.00	3.39	0.00
White female	100.00	24.49	
M/W/DBE total	100.00	27.89	
Educational Services (NAICS 611)			
Black	0.00	1.71	0.00
Hispanic	0.00	0.00	
Asian	0.00	4.42	0.00
Native	0.00	3.87	0.00
Minority-owned	0.00	9.99	0.00
White female	0.00	31.47	0.00
M/W/DBE total	0.00	41.47	0.00
Insurance Carriers and Related Activities (NAICS 524)			
Black	0.00	4.29	0.00
Hispanic	0.00	3.82	0.00
Asian	0.00	0.00	
Native	0.00	0.00	
Minority-owned	0.00	8.12	0.00
White female	0.00	23.66	0.00
M/W/DBE total	0.00	31.77	0.00
Health and Personal Care Stores (NAICS 446)			
Black	0.00	0.28	0.00
Hispanic	0.00	0.36	0.00
Asian	0.00	3.75	0.00
Native	0.00	0.10	0.00
Minority-owned	0.00	4.50	0.00
White female	0.00	12.24	0.00
M/W/DBE total	0.00	16.74	0.00
Petroleum and Coal Products Manufacturing (NAICS 324)			
Black	0.00	3.50	0.00

M/WBE Utilization and Disparity in the District's Markets

Hispanic	0.00	0.00	
Asian	0.00	0.07	0.00
Native	0.00	0.00	
Minority-owned	0.00	3.57	0.00
White female	0.00	22.22	0.00
M/W/DBE total	0.00	25.78	0.00
Nonmetallic Mineral Product Manufacturing (NAICS 327)			
Black	0.00	5.24	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.06	0.00
Native	0.00	0.00	
Minority-owned	0.00	5.30	0.00
White female	0.00	22.40	0.00
M/W/DBE total	0.00	27.70	0.00
Food Services and Drinking Places (NAICS 722)			
Black	0.00	0.62	0.00
Hispanic	0.00	0.18	0.00
Asian	0.00	4.72	0.00
Native	0.00	3.86	0.00
Minority-owned	0.00	9.39	0.00
White female	0.00	31.98	0.00 **
M/W/DBE total	0.00	41.37	0.00 **
Ambulatory Health Care Services (NAICS 621)			
Black	0.00	0.88	0.00
Hispanic	0.00	0.00	
Asian	0.00	4.27	0.00
Native	0.00	3.97	0.00
Minority-owned	0.00	9.12	0.00
White female	0.00	31.04	0.00
M/W/DBE total	0.00	40.16	0.00
Performing Arts, Spectator Sports, and Related Industries (NAICS 711)			
Black	0.00	3.69	0.00
Hispanic	0.00	0.00	
Asian	0.00	1.03	0.00
Native	0.00	0.90	0.00
Minority-owned	0.00	5.62	0.00
White female	0.00	29.41	0.00
M/W/DBE total	0.00	35.03	0.00
Museums, Historical Sites, and Similar Institutions (NAICS 712)			
Black	0.00	0.12	0.00
Hispanic	0.00	0.00	
Asian	0.00	4.28	0.00
Native	0.00	4.10	0.00
Minority-owned	0.00	8.50	0.00
White female	0.00	29.83	0.00
M/W/DBE total	0.00	38.33	0.00

Source and Notes: See Table 7.10.

M/WBE Utilization and Disparity in the District's Markets

Table 7.15. Current Availability and Expected Availability

Procurement Category	M/WBE Type	Current Availability	Expected Availability
All	African American:	3.81	7.26
	Hispanic	0.70	0.75
	Asian	0.75	0.66
	Native American	0.50	0.67
	Minority total	5.76	9.26
	Non-minority female	16.78	27.64
	M/WBE total	22.54	35.78
Construction	African American:	4.06	5.84
	Hispanic	0.31	0.14
	Asian	0.15	0.24
	Native American	1.03	1.19
	Minority total	5.54	7.53
	Non-minority female	16.77	36.46
	M/WBE total	22.31	34.01
CRS	African American:	3.12	4.49
	Hispanic	1.27	0.58
	Asian	1.81	2.92
	Native American	0.08	0.09
	Minority total	6.28	8.53
	Non-minority female	15.75	34.24
	M/WBE total	22.03	33.58
Services	African American:	4.35	8.07
	Hispanic	0.70	1.13
	Asian	0.32	0.29
	Native American	0.19	0.27
	Minority total	5.57	8.97
	Non-minority female	17.19	25.28
	M/WBE total	22.76	34.75
Commodities	African American:	4.20	7.79
	Hispanic	0.13	0.21
	Asian	0.19	0.17
	Native American	0.55	0.78
	Minority total	5.07	8.16
	Non-minority female	20.66	30.38
	M/WBE total	25.73	39.28

Source: See Tables 4.17 and 5.21.

VIII. Anecdotal Evidence of Disparities in the District's Marketplace

We have presented a variety of economic and statistical findings above that are consistent with and indicative of the presence of business discrimination against minorities and women in the geographic and product markets that are relevant to the District's contracting and procurement activities. Chapters V and VI in particular have documented large and statistically significant adverse disparities in the District's relevant markets impacting minority and female entrepreneurs. Commercial loan denial rates are higher, the cost of credit is higher, business formation rates are lower, and business owner earnings are lower—even when comparisons are restricted to similarly situated businesses and business owners.

As a further check on these findings, we investigated anecdotal evidence of disparities in the District's market area. First, we conducted a large scale survey of business establishments in these markets—both M/WBE and non-M/WBE—and asked owners directly about their experiences, if any, with contemporary business-related acts of discrimination. We find that M/WBEs in the District's markets report suffering business-related discrimination in large numbers and with statistically significantly greater frequency than non-M/WBEs. These differences remain statistically significant even when firm size and owner characteristics are held constant. We also find that M/WBEs in these markets are more likely than similarly situated non-M/WBEs to report that specific aspects of the regular business environment make it harder for them to conduct their businesses, less likely than similarly situated non-M/WBEs to report that specific aspects of the regular business environment make it easier for them to conduct their businesses, and that these differences are statistically significant in many cases. Additionally, we find that M/WBE firms that have been hired in the past by non-M/WBE prime contractors to work on public sector contracts with M/WBE goals are rarely hired—or even solicited—by these prime contractors to work on projects without M/WBE goals. The relative lack of M/WBE hiring and, even more tellingly, the relative lack of solicitation of M/WBEs in the absence of affirmative efforts by NEORS and other public entities in the NEORS market area shows that business discrimination continues to fetter M/WBE business opportunities in the District's relevant markets. We conclude that the statistical evidence presented in this report is consistent with these anecdotal accounts of contemporary business discrimination.

Next, we conducted in-depth personal interviews with minority, women and majority business owners about their experiences in seeking and performing contracts in the District's marketplace. These focus groups confirmed the results of the statistical evidence and the mail surveys: minorities and women encounter significant barriers to the success of their firms in seeking public and private sector work, and these barriers are often the result of discrimination.

The remainder of this Chapter is organized as follows. We first discuss the mail survey results in Section A. In Section A.1, we discuss the survey questionnaire, sample frame, and response rate. Section A.2 presents evidence on willingness of firms to do business with the public sector. Section A.3 presents the key findings from the M/WBE and non-M/WBE respondents concerning disparate treatment. Section A.4 documents disparities in firm experience and size among M/WBE and non-M/WBE respondents. Section A.5 presents the key findings concerning the impact of the regular business environment on M/WBEs' ability to conduct their businesses. Section A.6 presents key findings to our questions concerning whether prime contractors solicit or hire M/WBEs for work on public or private contracts without M/WBE goals. Section A.7 then

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examines whether M/WBEs and non-M/WBEs that responded to the mail surveys are representative of all M/WBEs and non-M/WBEs in the relevant markets. To do so, we surveyed a random sample of M/WBEs and non-M/WBEs that did not respond to our mail survey, and then compared their responses to key questions with those of our survey respondents.

Finally, Section B describes the results of the business experience group interviews. Responses are grouped under the headings of the most common cited barriers and issues facing M/WBEs and non-M/WBEs.

A. Business Experience Surveys

1. Survey Questionnaire, Sample, and Responses

The survey questionnaires asked whether and with what frequency firms had experienced discrimination in a wide variety of likely business dealings in the previous five years. The survey also inquired about the influence of specific aspects of the everyday business environment, such as bonding and insurance requirements, on each firm's ability to do business in the District's relevant markets. We also asked about the relative frequency with which firms that have been used as subcontractors, subconsultants, or suppliers by prime contractors on contracts *with* M/WBE goals have been hired to work, or even solicited to bid, on similar contracts *without* M/WBE goals. Finally, we posed questions about the characteristics of the firm, including firm age, owner's education, employment size, and revenue size to facilitate comparisons of similarly situated firms.

The mail survey sample was stratified by industry and drawn directly from the Master M/WBE Directory and the Baseline Business Universe compiled for this study. Firms were sampled randomly within strata. M/WBE firms were oversampled to facilitate statistical comparisons with non-M/WBEs.²⁹⁵ Of 9,094 businesses that received the questionnaire,²⁹⁶ 685 (7.5 percent) provided usable responses.²⁹⁷ The distribution of total responses according to the race and sex of the business owner, by major procurement category, appears in Table 8.1.

2. Willingness of Firms to Contract with the Public Sector

The probative value of anecdotal evidence of discrimination increases when it comes from active businesses in the relevant geographic and procurement markets. The value of such evidence increases further when it comes from firms that have actually worked or attempted to work for the public sector within those markets. Such is the present case.

²⁹⁵ See Chapter III for a discussion of how the product and geographic markets were defined. See Chapter IV for discussion of how the Master M/WBE Directory and the Baseline Business Universe were assembled.

²⁹⁶ These figures exclude surveys that were returned undelivered or were otherwise undeliverable.

²⁹⁷ The total number of valid responses to any particular survey question, however, was sometimes lower than this due to item non-response.

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As shown below in Table 8.2, there is a strong linkage between the firms responding to our mail survey and the public sector of the Northeast Ohio economy. All respondents operate establishments in the relevant geographic and product markets. Moreover, significant numbers of survey respondents have worked or attempted to do work for NEORSD or other public entities in the market area in the last five years. This is observed for virtually all types of M/WBEs and non-M/WBEs in all procurement categories. Overall, more than half of M/WBEs and non-M/WBEs have worked or attempted to work for NEORSD or some other public entity in the market area in the previous five years. This phenomenon is especially apparent for M/WBEs and non-M/WBEs in Construction and CRS.

3. Experiences of Disparate Treatment in Business Dealings

The survey included questions about instances of disparate treatment based on race and/or sex experienced in various business dealings during the past five years. As shown in the last row of Table 8.3, 39 percent of M/WBE firms said they had experienced at least one instance of disparate treatment in one or more areas of business dealings identified on the survey. Reports of disparate treatment were substantially and statistically significantly higher for minorities and non-minority women than for non-minority males, casting doubt on claims of widespread “reverse discrimination.” Reports were highest among African Americans, with an overall rate over 67 percent, and Hispanics, with an overall rate of almost 44 percent. Similar patterns were observed when the results were disaggregated by procurement category.

The balance of Table 8.3 shows results for each of 14 distinct types of disparate treatment inquired about in the survey. In all categories, the difference in reported amounts of disparate treatment between M/WBEs and non-M/WBEs is substantial. In having to perform inappropriate or extra work not required of non-M/WBEs, M/WBE firms reported disparate treatment more than seven times as frequently as non-M/WBEs. In hiring workers from union hiring halls, the ratio was almost five times higher. In applying for commercial loans,²⁹⁸ applying for surety bonds, applying for commercial or professional insurance, obtaining price quotes from suppliers, and having to meet quality, inspection, or performance standards not required of comparable non-M/WBEs, the ratio was more than three times higher. Even where differences are smallest, M/WBEs report being discriminated against roughly 1.2 to 2.4 times more frequently as non-M/WBEs.

Evidence of the impact of public sector M/WBE programs is seen in that the smallest differences between M/WBEs and non-M/WBEs appear in the categories of working or attempting to work on public sector prime contracts (1.25 times higher) and subcontracts (1.2 times higher). Comparable ratios on private sector prime contracts and private sector subcontracts were 2.2 times and 1.9 times higher, respectively.

Table 8.4 represents the same disparate treatment information as in Table 8.3, but with the frequency percentages replaced by relative rankings. That is, the 14 kinds of disparate treatment

²⁹⁸ Discrimination in access to commercial credit and capital is the most widely and commonly cited problem facing minority-owned firms. See Chapter VI for an extensive discussion of the theory and analysis of the evidence behind this phenomenon.

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are ranked by each group according to the frequency with which disparate treatment was reported, with “1” representing the most frequent and “14” representing the least frequent.

The most frequently reported issue overall for M/WBEs was receiving timely payment for work performed. This was followed closely by working or attempting to work on public sector prime contracts, working or attempting to work on private sector prime contracts, and working or attempting to work on public sector subcontracts.

Some courts and other observers have asserted that findings such as those in Table 8.3 tell us nothing about discrimination against M/WBEs since, even though they are current, even though they come directly from the businesses alleging disparate treatment, even though they are restricted to the relevant geographic and product markets, even though they are disaggregated by procurement category, and even though they are disaggregated by race and sex, they still do not compare firms of similar size, qualifications, or experience. We have argued elsewhere against such flawed logic (and economics) since size, qualifications, and experience are *precisely* the factors that are adversely impacted by discrimination.²⁹⁹ Nevertheless, if disparities are still observed even when such “capacity” factors are held constant, the case becomes even more compelling. The results reported below in Table 8.5 show that even when levels of size, qualifications, and experience are held constant across firms, measures of disparate treatment of minority-owned businesses are still large, adverse, and statistically significant.

In Table 8.5, we report the results from a series of Probit regressions using the mail survey data on disparate treatment.³⁰⁰ As indicated earlier, the survey questionnaire collected data related to each firm's size, qualifications, and experience. The reported estimates from these models can be interpreted as changes or differences in the probability of disparate treatment conditional on the control variables. The estimates in the table show large differences in disparate treatment probabilities between M/WBEs and non-M/WBEs. In column (1) of Table 8.5 (in which the regression model contains only M/WBE status and procurement category indicators), the estimated coefficient of 0.115 on the M/WBE indicator indicates that the likelihood of experiencing disparate treatment for M/WBE firms is 11.5 percentage points higher than that for non-M/WBE firms.³⁰¹ This difference is statistically significant within a 99 percent confidence interval or better. Column (2) of Table 8.5 includes additional explanatory variables to hold constant differences in the characteristics of firms that may vary by race or sex, including the owner's education, the age of the firm, and the size of the firm measured by employment and by sales. Even after controlling for these differences, however, M/WBE firms remain 9.0 percentage points more likely than non-M/WBE firms to experience disparate treatment. This difference is also statistically significant within a 99 percent confidence interval. Firm size and other characteristics account for little of the disparate treatment reported by M/WBEs in the NEORS market area.

²⁹⁹ Wainwright and Holt (2010, 65-67) and Wainwright (2000, 86-87).

³⁰⁰ See Chapter V for a description of Probit regression.

³⁰¹ This estimate largely replicates the raw difference in disparate treatment rates between M/WBE and non-M/WBE firms reported in the last row of Table 8.3. The raw differential observed there ($44.4\% - 23.3\% = 21.2\%$) differs slightly from the 22.1% differential reported here since the regression specification also controls for industry category.

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The exercise is repeated in columns (3) and (4). The only difference is that the M/WBE indicator is separated into two components—one for minority-owned firms and one for non-minority-female owned firms. The results in column (3) indicate that minority-owned firms in the District’s market area are 26.3 percentage points more likely to experience disparate treatment than non-minority firms. When controls are added in column (4), this difference falls to 22.0 percentage points. Non-minority female-owned firms are 6.0 percentage points and 3.7 percentage points higher than for non-minority males, respectively; however these differences are not statistically significant.

The exercise is repeated again in columns (5) and (6) with separate indicators for each type of M/WBE. The results for non-minority females are nearly identical to those in columns (3) and (4). For African American-owned firms, the differential is 40.3 percentage points in column (5), falling to 36.5 percentage points once controls are added. Both results are highly statistically significant. The results for other minority groups, though suggesting a greater prevalence of disparate treatment for Hispanics, Asians, and Native Americans, are not statistically significant due most likely to the relatively small sample sizes involved. For Hispanic-owned firms, the differentials are 15.4 and 9.1 percentage points, respectively. For Asian-owned firms, the differentials are 7.1 and 4.6 percentage points, respectively. For Native American-owned firms, the differentials are 3.1 and 0.2 percentage points, respectively.

The regression models reported in Table 8.5 used as their dependent variable an indicator of whether or not a survey respondent reported having been treated less favorably in any of the 14 different types of business dealings described in the first column of Table 8.3.³⁰² We re-estimated the regression model reported in Column (2) of Table 8.5 separately using as the dependent variable, in turn, each of the 14 types of business dealings and report those results in Table 8.6. As Table 8.6 shows, African American-owned firms in particular experience a wide variety of disparate treatment compared to non-M/WBEs. In 12 of the 14 categories the differences for African American-owned firms are both large and statistically significant. For non-minority female-owned firms, it is true in 3 of 14 cases. For M/WBES as a group it is true in 10 of the 14 cases.

4. Impact of Current Business Environment on Ability to Win Contracts

The survey asked questions about some common features of the business environment to determine which factors were perceived by M/WBEs as serious impediments to obtaining contracts.

As Table 8.7 makes clear, substantial percentages of both M/WBEs and non-M/WBEs report that certain factors, such as “Late notice of bid/proposal deadlines,” “Large project sizes,” and “Bonding requirements” make it harder or impossible for firms to obtain contracts. Among non-

³⁰² Our disparate treatment question also allowed respondents to indicate the quantity of disparate treatment experienced (never, 1-5 times, 6-20 times, more than 20-times). Although not reported here, we also ran regressions using a dependent variable measuring high frequency of disparate treatment (6 or more times) during the prior five years. Results were more limited due to smaller sample sizes but were qualitatively similar to those obtained in Tables 8.5 and 8.6.

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M/WBEs, for example, 42.7 percent reported that late notice of bid/proposal deadlines made it harder or impossible for them to win contracts, 32.3 percent reported that large project sizes made it harder or impossible for them to win contracts, and 31.3 percent reported that bonding requirements made it harder or impossible to win contracts. The comparable figures for M/WBEs, however, at 58.9, 46.5, and 45.6 percent, respectively, are much greater than for non-M/WBEs. Indeed, as Table 8.7 shows, M/WBEs reported more difficulty on 7 out of the 9 factors about which they were polled.

To control for firm and owner characteristics, we used a regression technique known as ordered Probit.³⁰³ Ordered Probit regression is used when the dependent variable is discrete and ordinal (and hence can be ranked). We use ordered Probit to model the ordinal ranking—helps me (1), no effect (2), makes it harder (3), and makes it impossible (4)—of the aspect of procurement under consideration. The firm characteristics used as control variables consist of the age of the firm, the number of employees, the size of revenues, the education level of the primary owner of the firm, and the major industry group. To report results from ordered Probit analysis, we use a “+” to indicate that M/WBEs had more difficulty than non-M/WBEs with similar firm characteristics, and a “-” to indicate that M/WBEs had less difficulty than non-M/WBEs with similar firm characteristics.

Table 8.8 reports the sign and statistical significance from the ordered Probit analysis. We find that when observable firm characteristics are controlled for, six of the nine factors we inquired about prove to be greater difficulties for M/WBEs than for non-M/WBEs (as indicated by the “+” sign). In particular, the disparities for “late notice of bid/proposal deadlines” are statistically significant with respect to non-M/WBEs.

5. Solicitation and Use of M/WBEs on Public and Private Projects Without Affirmative Action Goals

Our second to last survey question asked, “How often do prime contractors who use your firm as a subcontractor on public-sector projects with requirements for minority, women and/or disadvantaged businesses also hire your firm on projects (public or private) *without* such goals or requirements?” As Table 8.9 shows, 69 percent of African American-owned firms, 50 percent of Hispanic-owned firms, 73 percent of Asian-owned firms, 67 percent of Native American-owned firms, and 59 percent of non-minority female-owned firms responded that this seldom or never occurs. Similar results were observed in each major procurement category as well, though for Hispanics in Construction the incidence was substantially lower than for other groups or in other procurement categories.

At least one court has held that the failure of prime contractors to even *solicit* qualified minority- and women-owned firms is a “market failure” that serves to establish a government’s compelling interest in remedying that failure.³⁰⁴ Among the evidence relied upon for this holding was a

³⁰³ For a textbook discussion of ordered Probit, see, for example, Greene (1997).

³⁰⁴ *Builders Association of Greater Chicago v. Authority of Chicago*, 298 F.Supp.2d 725, 737 (N.D. Ill. 2003).

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NERA survey similar to the current one in which approximately 50 percent of the respondents reported that they were seldom or never solicited for non-goals work.³⁰⁵

Our final survey question therefore asked “How often do prime contractors who use your firm as a subcontractor on public-sector projects with requirements for minority, women and/or disadvantaged businesses *solicit* your firm on projects (public or private) without such goals or requirements?” Responses to this question are tabulated in Table 8.10, which shows the same pattern as in Table 8.9. In Table 8.10, 67 percent of African American-owned firms, more than 46 percent of Hispanic-owned firms, 88 percent of Asian-owned firms, 67 percent of Native American-owned firms, and 61 percent of non-minority female-owned firms responded that this seldom or never occurs. Similar results were observed in each major procurement category as well, though for Hispanics in Construction the incidence was substantially lower than for other groups or in other procurement categories.

B. Business Owner Interviews

To explore additional anecdotal evidence of possible discrimination against minorities and women in the District’s marketplace, we conducted six group interviews. We met with 156 business owners from a broad cross section of the industries from which NEORS D purchases services and goods. Firms ranged in size from large national businesses to decades-old family-owned firms to new start-ups. Owners’ backgrounds included individuals with decades of experience in their fields and entrepreneurs beginning their careers. We sought to explore their experiences in seeking and performing public and private sector prime contracts and subcontracts, with emphasis on NEORS D contracts.

This effort gathered individual perspectives to augment the statistical information from the business experience and credit access surveys. In general, interviewees’ individual experiences mirrored the responses to the business experience surveys. We also elicited recommendations for improvements to the District’s current race- and gender-neutral programs and possible race- and gender-conscious remedies, reported below in Chapter IX.

The following are summaries of the issues discussed. Quotations are indented, and are representative of the views expressed over the many sessions by many participants.

1. Discriminatory Barriers, Negative Perceptions of Competence and Higher Performance Standards

Many minority and women owners reported that while progress has been made in integrating minorities and women into public and private sector contracting activities in the NEORS D marketplace through affirmative action contracting programs, many barriers remain. Perhaps the most subtle and difficult to address is that of perceptions and stereotypes. These stereotypes about minorities’ and women’s of lack of competence infect all aspects of their attempts to obtain contracts and to be treated equally in performing contract work. Minorities and women

³⁰⁵ *Id.*

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repeatedly discussed their struggles with negative perceptions and attitudes of their capabilities in the business world. M/WBEs emphatically answered “No” to the question, “Do you think that the minority contractors who are qualified and can do the work are getting the same opportunities as their white male counterparts?”

We've got to get over is that it doesn't cost you any more money to use a minority firm or a small business. That's a misconception. It's going to cost us more money if we're going to bring along this minority firm that's not qualified, put it in the mix, and it's going to cost more money. That's a horrible perception.

I've worked with firms prior to this one that are not in that [minority-owned]. And things could get, they could get by with things that I could not imagine. With this firm I'm in with now we are looked at like with a microscope. We have seen that regularly.

[Unlike majority-owned professionals,] we are constantly being known or called to task by the mistakes for the least of us.

[F]irms were considered incompetent [that were owned by] a female. Doing the work that I'm doing in my business, I've been at this 18 years and prior to that 20 some years being a female out on a project doing the work. Being female, you know, the dominant white male and some even Black male, at first the perception [is] that you're not doing the work. Do the work, done successfully and we'll do it to deal with the same client on another project. It's like starting all over again. No matter the work was done successfully in the past is that I'm always constantly having to prove that I'm capable of doing the work. And I'm proud to say that each one project we have done successfully. You can't, that's the way people think. You can't make people think a certain way that you want them to think of you. That's how they are. Unproportionately we have to always go to that test and do it successfully because they're always looking for the next miracle out of you.... It tires me out but that's what I have to do. It's just that that's the mindset of the people. Whether you fail at it or successful at it, that person don't want you on that project. They feel like they're forced to have you because of the goals or whatever. They're going to give you a hard time whether you are qualified or not. I'm like, I forgot which person that was, I want to get rid of the MBE, all of that set aside. I want you to hire me because my company is capable not just minor league, any one of the guys that are going out for this project are more then qualified. That's why I want you to hire me. Not because I'm a female or you're forced. Because of the work I have done in the past.

Women in particular related the continuing effects of stereotypes about gender roles and sexist behavior from male colleagues and clients.

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I've always been in male dominated manufacturing and I went into the cars. But I think the difference is, for most people if a man walks in the door, no offense to anyone, but if a man walks in the door he knows what he's talking about, especially if you're in their kind of kingdom. So, you have to just try harder to prove yourself as a woman and then they sit up and pay attention. You know, I've had the same thing as you did, you know, an old guy came in and said, honey, where's the guy that's running the place? And there's no graceful way to answer those questions.

I'm in consulting which is very male. I mean, it's almost all men. And it's usually men in their 40s and I'm younger too so I've got it on both ends. So, by one of my first projects I went to and I'm in the bus garage, we do transit too, and the guy that my coworkers introduced me to says, oh is this your assistant? And he says, no, this is my coworker.

There was near universal agreement that race- and gender-conscious program were necessary to reduce barriers to equal contracting opportunities.

I started practicing [over 50 years ago]. I had a degree from [local] University, a masters from [Ivy League University], I studied at [international university]. I couldn't get a job in this town. And I used to go down to Columbus and they said, well [name] you're not qualified. I was more qualified than anybody in the city. But what do you define qualification. Eighteen years I went to the State of Ohio, each week, each year and they said, well [name] you have to come back next year because after all, we have a lot of architects in the state of Ohio. Eighteen years. It was only when Carl Stokes and Hatcher and Jackson became mayors of these cities and the civil rights movement was moving along. They said, wait a minute; there must be somebody in this town who can design a building. That was the beginning....

[Y]ou try to establish a relationship, try to open up dialogue. And certainly during those negotiations when you're working on the project they need you, you think you have a relationship. But when that project's over, the relationship ends. And, you know, you wonder why. You're saying, I thought we did everything right. We were professional, on time. But it doesn't continue as you would hope it would. And therein lies the problem.

For us, on the private industry side it's been very helpful being an MBE. It has, again, opened some doors, given us some access that we probably would not have had otherwise in developing relationships and meeting people.

I've been able to do non-goal work but I think it had everything to do with the goal. Our company is positioned to be a prime and because we could be the prime and ask them to

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be the sub, I think that's the reason why we were able to do some stuff outside of government work. So, I don't think that we were buddy buddies, we're not best friends. There's a mutual respect there because there's a benefit possibly.

We don't receive any RFPs for anything outside of a goal oriented project.

2. Exclusion from Industry Networks

Many minorities and women recounted their exclusion from the industry networks necessary for success. Relationships are key to obtaining work as subcontractors.

We're doing our job and we're trying to do it the right way and then all of a sudden, it goes back to the good old boy network of, oh, we've always done business with them and we don't want to have to deal with somebody else.

One of your barriers is the old boys network and that's Cleveland. That's Cuyahoga County. That's northeast Ohio.

That's true.

[Informal contracts is] where they hide everything. You go and look in there they've got millions of dollars that are being spent and they break it up into little pieces and that's who they go to the golf outings with and, you know, go to Vegas and all of the trips and all of that. And then eventually it comes out in a scandal.

You have to go out there and you have to take care of your own. Be surprised what goes back and forth in e-mails and old boys clubs and conversations.... I've had many people say, no don't do anything, don't make waves. Because you just never know how deep these rivers go.... You don't know who's talking to who and who's getting what done and who's greasing who.

I can tell you about a recent case that was just dropped, just dissolved from one of the local unions where, in which a minority contractor was working on a project and because they did not want, they were a union company shop already but because they didn't want to sign with another union, they tried to kick him off the project. So, they tried to get

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them caught up in their jurisdictional type issues. However, the majority companies that are currently working on the project did the same thing this minority company did, they do it all the time. It's their way of business. So, say for instance if they are a carpenter and they need to sub out labor the majority white company, that's just how business is done. They're not signed with that local, they sub it out. Yada, yada, yada. The work goes on. You may have an issue where if that's a minority company that wants to sub out that work, no, no, no, no. You have to sign with that labor union in order to do the job. So there are things that are placed in the system to make it very difficult sometimes for contractors, for minority contractors to even go union when you start talking about real dollars, larger projects, it's almost mandatory in this area for you to be union.

3. Obtaining Work on an Equal Basis

M/WBEs reported that while it is easier to obtain subcontracts than prime contracts on public projects because of affirmative action goals, it is still difficult to get work, receive fair treatment, and be paid on time. Many believed that majority prime firms use them only if forced to do so.

I am so sick and tired of getting stuff at four o'clock in the afternoon and it has to be due Monday. That stuff has to stop.

You run into so many people who call you on a Friday.... you get tired of just giving numbers out. You know, I don't need practice bidding jobs.

Some owners reported that although their firms have been listed on the contract, they were not utilized.

The prime will use us because we have the certification and after they're awarded the job, we're dropped.

[The prime vendor will] put us on as maybe the goal's ten percent, they'll put us on as twenty to look good because the mayor is promoting small business and then they take away our stuff, our work. And then we don't even get ten. But [the agency] don't care because they met the, you know what I mean? All they do is look at the beginning and then they award it and they don't care that we didn't even get the ten much less the twenty.

Our numbers were submitted with a bid for a project that we were actually unaware that the numbers were submitted in the bid from the prime. And it was just by happenstance someone mentioned that they saw our numbers with the bid package that we were able to clarify that situation. But otherwise they would have just used our numbers, would have

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never told us anything about it. We wouldn't have had any idea that, that we should have even been involved in the project.

[S]ometimes we get into the contract and think...we're going to get it and then the prime takes it back and does it internally.

"Front" companies were one way that work is denied to legitimate M/WBEs.

We're beat up and whipped by the frauds, the fronts, the scams, the backs, and everything else that goes wrong simply because people don't want a program. They want a hundred percent set aside for the firms that already have the work. So, we've got to change that perception in that we need to be known by the best and the brightest. Not by the least and the hellacious.

Someone is using them as a front just because they are a minority.

We've had so many front companies taking all the dollars and just be pass throughs as opposed to actually MBE and FBE companies really getting the work.

Several majority-male owners agreed that "pass throughs" were used to meet goals.

When we get a job basically and it's going to be your FBE or both, we have to hire an outside company, that'd be your MBE, and then pay them like a percentage, like maybe three or five percent. So what we do is we do a pass through where we actually hire them to purchase material. And a lot of times we do have difficulty trying to find a union contractor, MBE or FBE, so we take care of that minority situation by going through a company like that. I'm not sure if that's illegal or not but we've been doing it for years and everybody kind of like looks the other way so I'm not even sure if it's illegal anymore. It's probably just a standard practice. How else would you do the job if you're not a minority, how would you get a job if you couldn't do something like that?

[As a manufacturer,] we will often go through another person as was described. We're just on the other side of it. We could sell our products directly to the contractor for one price or we either run it through somebody else or the contractor has us go through so somewhere in there there's that extra three to five percent that's being mentioned. That's about what it is, I guess. It's an added cost to the District, to the taxpayers.... I have no idea whether it's, if somebody were to, if a prosecutor were looking is it a legal practice or an illegal practice, I have no idea. But that's, that's what everybody does.

Anecdotal Evidence of Disparities in the District's Marketplace

I am a manufacturer's rep so we sell services and equipment and there's a lot of times we get purchase orders from people we've never even heard of.... It's an in-between type person is getting paid.... [Despite the credit risk,] we can't get around it because it's something to satisfy a general's [M/WBE] percentage that he's got to do. It's easy to buy equipment because then you can follow that on down the line. For us to go ahead and follow that getting the first part isn't so bad; getting retainage and all that other stuff out of it is steep.... That's how you work within the rule.

There's a couple electrical distributors in town that are either MBE or FBE that do the paper shuffle that he was talking about.... We tell them where to buy and they'd mark it up and sell it to us to meet our [MBE] requirements.

As an employee, not as a business owner but as an employee I've been on a project where everything on the hard hat and the equipment had one name and the only name that was different was the one that was on your paycheck.... You would go on somebody else's payroll to satisfy minority requirements. Everything on a project would say [MBE] on the hat.... You'd look at your paycheck and it's got a name of a different company. For a few weeks you would get a paycheck from [MBE] and then you would go back to your regular [employer].

This type of fraud was reported to be less prevalent for union contractors.

We're IBEW union and we use IBEW union contractors and there are minority contractors but, you know, the owners are minorities. The workforce comes from the same union pool that everybody else comes from.... There are a couple qualified minority contractors.

4. Access to Capital

A few firms believed they were denied loans based on the race of the owner.

It took ten years for me to get a loan from a bank to get capital.

I go to the bank to get, acquire money to run the business. [My White male foreman] gets the money for the campground and my credit score is 760, 780, somewhere in there, personally. I worked for Ford for 40 years. I mean, I have, you know, I have history. And still he gets the loan before I do.... And mind you, I had to go to another bank in order to get the loan.

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5. Conclusion

Consistent with other evidence reported in this Study, anecdotal interview information strongly suggests that M/WBEs continue to suffer discriminatory barriers to full and fair access to District and private sector contracts. This evidence includes stereotypes, perceptions of M/WBE incompetence and being subject to higher performance standards; discrimination in access to commercial loans; difficulties in receiving fair treatment in obtaining public sector subcontracts; and exclusion from private sector opportunities to perform as either prime contractors or as subcontractors. While not definitive proof that NEORS has a compelling interest in implementing race- and gender-conscious remedies for these impediments, the results of the surveys and the personal interviews are the types of evidence that, especially when considered along side the numerous pieces of statistical evidence assembled, the courts have found to be highly probative of whether the District would be a passive participant in a discriminatory marketplace without affirmative interventions.

Anecdotal Evidence of Disparities in the District’s Marketplace

C. Tables

Table 8.1. Race, Sex and Procurement Category of Mail Survey Respondents

Group	Construction	CRS	Services	Commodities	Total
African American	16	10	40	5	71
Hispanic	6	3	6	1	16
Asian	4	4	7	2	17
Native American	1	0	5	1	7
Minorities with Unknown Race/Ethnicity	1	0	0	1	2
Non-minority Women	61	21	148	68	298
Total M/WBE	89	38	206	78	411
Non-minority Men	64	20	83	107	274
Total	153	58	289	185	685

Source: NERA NEORS D mail surveys.

Anecdotal Evidence of Disparities in the District's Marketplace

Table 8.2. Survey Respondents Indicating They Had Worked or Attempted to Work for Public Sector Agencies in the Last Five Years

Worked or Attempted to Work, Last Five Years	African American	Hispanic	Asian	Native American	Total Minority	Non-minority Female	Total M/WBEs	Non-minority Male
ALL INDUSTRIES								
With NEORS	38.6%	62.5%	47.1%	71.4%	45.5%	23.2%	29.2%	33.0%
	(70)	(16)	(17)	(7)	(110)	(297)	(407)	(273)
With Other Public Entity in Market Area	83.1%	68.8%	58.8%	71.4%	76.6%	39.4%	49.5%	51.1%
	(71)	(16)	(17)	(7)	(111)	(297)	(408)	(274)
With any Public Entity in Market Area	83.1%	68.8%	58.8%	85.7%	77.5%	42.2%	51.8%	54.0%
	(71)	(16)	(17)	(7)	(111)	(296)	(407)	(274)
CONSTRUCTION								
With NEORS	31.3%	83.3%	25.0%	100.0%	44.4%	26.2%	31.8%	34.4%
	(16)	(6)	(4)	(1)	(27)	(61)	(88)	(64)
With Other Public Entity in Market Area	81.3%	100.0%	75.0%	100.0%	85.2%	52.5%	62.5%	54.7%
	(16)	(6)	(4)	(1)	(27)	(61)	(88)	(64)
With any Public Entity in Market Area	81.3%	100.0%	75.0%	100.0%	85.2%	57.4%	65.9%	56.3%
	(16)	(6)	(4)	(1)	(27)	(61)	(88)	(64)
CRS								
With NEORS	50.0%	66.7%	100.0%	-	64.7%	42.9%	52.6%	30.0%
	(10)	(3)	(4)	(0)	(17)	(21)	(38)	(20)
With Other Public Entity in Market Area	90.0%	66.7%	100.0%	-	88.2%	71.4%	78.9%	60.0%
	(10)	(3)	(4)	(0)	(17)	(21)	(38)	(20)
With any Public Entity in Market Area	90.0%	66.7%	100.0%	-	88.2%	71.4%	78.9%	65.0%
	(10)	(3)	(4)	(0)	(17)	(21)	(38)	(20)
OTHER SERVICES								
With NEORS	38.5%	33.3%	42.9%	60.0%	40.4%	17.7%	24.0%	19.5%
	(39)	(6)	(7)	(5)	(57)	(147)	(204)	(82)
With Other Public Entity in Market Area	80.0%	33.3%	42.9%	60.0%	69.0%	27.7%	39.3%	42.2%
	(40)	(6)	(7)	(5)	(58)	(148)	(206)	(83)
With any Public Entity in Market Area	80.0%	33.3%	42.9%	80.0%	70.7%	29.9%	41.5%	44.6%
	(40)	(6)	(7)	(5)	(58)	(147)	(205)	(83)
COMMODITIES								
With NEORS	40.0%	100.0%	0.0%	100.0%	44.4%	26.5%	28.6%	43.0%

Anecdotal Evidence of Disparities in the District's Marketplace

Worked or Attempted to Work, Last Five Years	African American	Hispanic	Asian	Native American	Total Minority	Non-minority Female	Total M/WBEs	Non-minority Male
	(5)	(1)	(2)	(1)	(9)	(68)	(77)	(107)
With Other Public Entity in Market Area	100.0%	100.0%	0.0%	100.0%	77.8%	43.3%	47.4%	54.2%
	(5)	(1)	(2)	(1)	(9)	(67)	(76)	(107)
With any Public Entity in Market Area	100.0%	100.0%	0.0%	100.0%	77.8%	46.3%	50.0%	57.9%
	(5)	(1)	(2)	(1)	(9)	(67)	(76)	(107)

Source: NERA calculations from NEORSO mail surveys.

Note: Total number of valid responses in parentheses.

Anecdotal Evidence of Disparities in the District's Marketplace

Table 8.3. Firms Indicating They Had Been Treated Less Favorably Due to Race and/or Sex While Participating in Business Dealings

Business Dealings	African American	Hispanic	Asian	Native American	Total Minority	Non-minority Female	Total M/WBEs	Non-minority male
Applying for commercial loans	45.0%	11.1%	0.0%	20.0%	32.8%	13.5%	19.0%	5.8%
	(40)	(9)	(7)	(5)	(61)	(155)	(216)	(138)
Applying for surety bonds	42.3%	11.1%	0.0%	20.0%	28.3%	7.8%	13.7%	4.3%
	(26)	(9)	(6)	(5)	(46)	(115)	(161)	(117)
Applying for commercial or professional insurance	13.6%	7.7%	9.1%	0.0%	10.8%	3.2%	5.3%	1.7%
	(44)	(13)	(11)	(6)	(74)	(189)	(263)	(173)
Hiring workers from union hiring halls	19.0%	10.0%	0.0%	0.0%	12.5%	2.6%	6.0%	1.2%
	(21)	(10)	(4)	(5)	(40)	(76)	(116)	(82)
Obtaining price quotes from suppliers	50.0%	14.3%	18.2%	0.0%	33.3%	7.8%	14.7%	4.9%
	(36)	(14)	(11)	(5)	(66)	(179)	(245)	(164)
Working or attempting to obtain work on public-sector prime contracts	49.0%	27.3%	18.2%	20.0%	39.5%	12.0%	21.6%	17.3%
	(49)	<i>(11)</i>	(11)	(5)	(76)	(142)	(218)	(139)
Working or attempting to obtain work on public-sector subcontracts	50.0%	30.8%	18.2%	20.0%	40.3%	16.3%	24.8%	20.6%
	(48)	(13)	(11)	(5)	(77)	(141)	(218)	(141)
Working or attempting to obtain work on private-sector prime contracts	52.2%	21.4%	16.7%	20.0%	39.0%	15.0%	22.8%	10.3%
	(46)	(14)	(12)	(5)	(77)	(160)	(237)	(155)
Working or attempting to obtain work on private-sector subcontracts	42.2%	21.4%	18.2%	20.0%	33.3%	15.0%	21.1%	10.8%
	(45)	(14)	(11)	(5)	(75)	(153)	(228)	(157)
Receiving timely payment for work performed	52.1%	21.4%	23.1%	40.0%	41.3%	17.5%	24.5%	17.5%
	(48)	(14)	(13)	(5)	(80)	(189)	(269)	(177)
Functioning without hindrance or harassment on the work site	27.3%	22.2%	9.1%	0.0%	21.7%	13.6%	16.0%	6.7%
	(44)	(9)	(11)	(5)	(69)	(169)	(238)	(149)
Joining or dealing with construction trade associations	20.8%	14.3%	0.0%	0.0%	14.3%	5.9%	8.1%	3.5%
	(24)	(7)	(7)	(4)	(42)	(119)	(161)	(113)
Having to do inappropriate or extra work not required of comparable non-M/WBEs	42.9%	7.7%	8.3%	20.0%	29.2%	9.1%	15.5%	2.1%
	(42)	(13)	(12)	(5)	(72)	(154)	(226)	(144)
Double standards not required of comparable non-M/WBEs	30.8%	23.1%	8.3%	0.0%	23.2%	9.3%	13.4%	4.5%
	(39)	(13)	(12)	(5)	(69)	(162)	(231)	(157)
In any one of the business dealings listed above	67.2%	43.8%	21.4%	28.6%	53.7%	32.1%	38.6%	26.6%
	(58)	(16)	(14)	(7)	(95)	(224)	(319)	(207)

Source: See Table 8.2 Note: Total number of valid responses in parentheses. Figures in **boldface** type are statistically significantly different from non-M/WBEs using a conventional two-tailed Fisher's Exact Test and within a 95% or better confidence interval. Figures in **boldface italicized** type are significant within a 90% confidence interval.

Anecdotal Evidence of Disparities in the District's Marketplace

Table 8.4. Firms Indicating They Had Been Treated Less Favorably Due to Race and/or Sex While Participating in Business Dealings (Rankings)

Business Dealings	African American	Hispanic	Asian	Native American	Total Minority	Non-minority Female	Total M/WBEs
Applying for commercial loans	6	5	6	7	6	8	6
Applying for surety bonds	12	9	8	–	10	11	11
Applying for commercial or professional insurance	14	12	12	10	13	13	13
Hiring workers from union hiring halls	11	13	14	–	14	14	14
Obtaining price quotes from suppliers or subs	8	11	10	9	11	10	10
Working or attempting to obtain work on public sector prime contracts	4	2	2	4	1	2	2
Working or attempting to obtain work on private sector prime contracts	2	1	4	5	2	3	3
Working or attempting to obtain work on public sector subcontracts	1	7	3	2	3	4	4
Working or attempting to obtain work on private sector subcontracts	3	3	5	3	5	5	5
Receiving timely payment for work performed	5	4	1	6	4	1	1
Functioning without hindrance or harassment on the work site	9	10	9	8	9	7	8
Joining or dealing with trade associations	10	14	13	–	12	12	12
Having to do extra work not required of others	13	6	7	1	7	6	7
Having to meet quality or performance standards not required of others	7	8	11	–	8	9	9

Source: See Table 8.2.

Anecdotal Evidence of Disparities in the District's Marketplace

Table 8.5. Prevalence of Disparate Treatment Facing M/WBEs

	(1)	(2)	(3)	(4)	(5)	(6)
M/WBE	0.115 (2.66)	0.090 (1.91)				
Minority			0.263 (4.21)	0.220 (3.31)		
Non-minority Female			0.060 (1.26)	0.037 (0.72)	0.061 (1.28)	0.041 (0.79)
African American					0.403 (5.27)	0.365 (4.39)
Hispanic					0.154 (1.21)	0.091 (0.68)
Asian/Pacific Islanders					(0.071) (-0.52)	(0.046) (-0.32)
Native American					0.031 (0.16)	0.002 (0.01)
Owner's Education (3 indicator variables)	No	Yes	No	Yes	No	Yes
Firm Age (4 indicators)	No	Yes	No	Yes	No	Yes
Employment size bracket (6 indicators)	No	Yes	No	Yes	No	Yes
Sales/revenue size bracket (4 indicators)	No	Yes	No	Yes	No	Yes
Industry category (3 indicators)	Yes	Yes	Yes	Yes	Yes	Yes
N	528.00	501.00	528.00	501.00	528.00	501.00
Pseudo R ²	0.03	0.06	0.05	0.07	0.06	0.09
Chi ²	19.49	39.30	30.72	47.51	43.89	57.31
Log likelihood	(328.38)	(301.28)	(322.76)	(297.18)	(316.18)	(292.28)

Source: See Table 8.2.

Note: Reported estimates are derivatives from Probit models, t-statistics are in parentheses. T-statistics of 2.58 (1.96) (1.64) or larger indicate that the result is significant within a 99 (95) (90) percent confidence interval.

Anecdotal Evidence of Disparities in the District's Marketplace

Table 8.6. Prevalence of Disparate Treatment Facing M/WBEs, by Type of Business Dealing

Business Dealings	African American	Hispanic	Asian	Native American	Total Minority	Non-minority Female	Total M/WBEs
Applying for commercial loans	44.6% (4.71)	4.6% (0.37)	0.0% (0.00)	22.5% (1.15)	29.7% (4.08)	9.0% (1.93)	11.9% (2.99)
Applying for surety bonds	43.5% (4.36)	15.8% (1.11)	0.0% (0.00)	21.3% (1.30)	28.6% (3.92)	2.7% (0.74)	7.9% (2.23)
Applying for commercial or professional insurance	11.5% (2.44)	19.6% (1.61)	26.8% (1.79)	0.0% (0.00)	13.6% (2.98)	1.0% (0.43)	4.0% (1.75)
Hiring workers from union hiring halls	0.0% (0.00)	100.0% (0.00)	0.0% (0.00)	0.0% (0.00)	0.1% (1.88)	0.0% (1.24)	0.1% (1.85)
Obtaining price quotes from suppliers or subcontracts	34.1% (5.59)	4.9% (1.05)	10.4% (1.58)	0.0% (0.00)	14.3% (4.59)	1.6% (1.18)	4.1% (2.82)
Working or attempting to obtain work on public sector prime contracts	23.7% (2.94)	-3.0% (-0.26)	-4.7% (-0.44)	0.4% (0.02)	13.5% (2.16)	-10.4% (-2.02)	-0.9% (-0.19)
Working or attempting to obtain work on public sector subcontracts	22.3% (2.58)	1.1% (0.09)	-8.1% (-0.66)	-4.7% (-0.25)	11.9% (1.76)	-10.0% (-1.78)	-1.9% (-0.36)
Working or attempting to obtain work on private sector prime contract	42.2% (4.79)	8.4% (0.73)	17.3% (1.26)	12.3% (0.67)	29.6% (4.31)	4.7% (0.97)	11.1% (2.61)
Working or attempting to obtain work on private sector subcontracts	23.8% (3.07)	7.9% (0.70)	15.0% (1.12)	10.1% (0.56)	19.4% (3.11)	3.3% (0.69)	7.9% (1.91)
Receiving timely payment for work performed	29.7% (3.60)	-1.1% (-0.09)	11.5% (0.84)	17.0% (0.87)	19.2% (3.00)	-3.1% (-0.64)	3.8% (0.86)
Functioning without hindrance or harassment on the work site	21.7% (2.97)	16.0% (1.22)	3.5% (0.30)	0.0% (0.00)	15.2% (2.62)	8.1% (2.02)	8.3% (2.47)
Joining or dealing with construction trade associations	0.7% (1.26)	0.3% (0.50)	0.0% (0.00)	0.0% (0.00)	0.1% (0.66)	0.0% (0.08)	0.0% (0.34)
Having to do inappropriate or extra work not required of comparable non-M/WBEs	44.2% (4.85)	14.0% (1.29)	13.0% (1.11)	33.3% (1.70)	30.2% (4.34)	7.6% (2.18)	9.3% (3.25)
Having to meet quality, inspection, or performance standards not required of comparable non-M/WBEs	12.6% (3.22)	4.7% (1.00)	5.4% (0.98)	0.0% (0.00)	7.9% (2.88)	2.2% (1.40)	2.7% (2.21)
In any one of the business dealings listed above	36.5% (4.39)	9.1% (0.68)	-4.6% (-0.32)	0.2% (0.01)	22.0% (3.31)	3.7% (0.72)	9.0% (1.91)

Source: See Table 8.2.

Note: Reported estimates are derivatives from Probit models with specification such as in Table 8.5, columns (2). T-statistics are in parentheses. T-statistics of 1.96 (1.64) or larger indicate that the result is significant within a 95 (90) percent confidence interval. Adverse results with T-statistics of 1.96 or higher are **boldfaced**. Adverse results with T-statistics of 1.64 or higher are **boldfaced italicized**.

Anecdotal Evidence of Disparities in the District's Marketplace

Table 8.7. Firms Indicating that Specific Factors in the Business Environment Make It Harder or Impossible to Obtain Contracts, Sample Differences

Business Environment	African American	Hispanic	Asian	Native American	Total Minority	Non-minority Female	Total M/WBEs	Non-M/WBEs
Bonding Requirements	41.7% (36)	45.5% (11)	0.0% (4)	100.0% (4)	43.6% (55)	46.6% (103)	45.6% (158)	31.3% (115)
Insurance Requirements	16.3% (43)	36.4% (11)	11.1% (9)	60.0% (5)	22.1% (68)	16.9% (136)	18.6% (204)	11.8% (144)
Previous Experience Requirements	12.5% (48)	16.7% (12)	18.2% (11)	16.7% (6)	14.3% (77)	9.2% (142)	11.0% (219)	12.9% (163)
Cost of Bidding or Proposing	18.0% (50)	36.4% (11)	30.0% (10)	40.0% (5)	23.7% (76)	25.9% (135)	25.1% (211)	26.8% (164)
Large Project Sizes	36.2% (47)	40.0% (10)	77.8% (9)	50.0% (6)	43.1% (72)	48.4% (128)	46.5% (200)	32.3% (155)
Price of Supplies or Materials	18.6% (43)	27.3% (11)	37.5% (8)	20.0% (5)	22.4% (67)	27.3% (132)	25.6% (199)	18.2% (159)
Obtaining Working Capital	42.2% (45)	36.4% (11)	14.3% (7)	33.3% (6)	37.7% (69)	44.0% (125)	41.8% (194)	21.5% (149)
Late Notice of Bid/Proposal Deadlines	58.1% (43)	72.7% (11)	70.0% (10)	83.3% (6)	64.3% (70)	55.7% (115)	58.9% (185)	42.7% (143)
Prior Dealings with Owner	12.5% (48)	0.0% (13)	8.3% (12)	0.0% (6)	8.9% (79)	7.9% (139)	8.3% (218)	6.6% (166)

Source: See Table 8.2.

Note: Total number of valid responses in parentheses. Figures in **boldface** type are statistically significantly different from non-M/WBEs using a conventional two-tailed Fisher's Exact Test and within a 95% or better confidence interval. Figures in **boldface italicized** type are significant within a 90% confidence interval.

Anecdotal Evidence of Disparities in the District's Marketplace

Table 8.8. Firms Indicating that Specific Factors in the Business Environment Make It Harder or Impossible to Obtain Contracts, Regression Results

Business Environment	M/WBEs
Bonding Requirements	+
Insurance Requirements	+
Previous Experience Requirements	-
Cost of Bidding or Proposing	-
Large Project Sizes	+
Price of Supplies or Materials	+
Obtaining Working Capital	+
Late Notice of Bid/Proposal Deadlines	+ [†]
Prior Dealings with Owner	-

Source: See Table 8.2.

Note: A plus (+) indicates that a group is more likely than non-M/WBEs to report difficulty with business environment factors. A minus (-) indicates that a group is less likely than non-M/WBEs to experience difficulty. An asterisk (*) indicates that the disparity is statistically significant within a 95% or better confidence interval. A dagger (†) indicates that the disparity is statistically significant within a 90% or better confidence interval.

Anecdotal Evidence of Disparities in the District's Marketplace

Table 8.9. Percent of M/WBEs Indicating that Prime Contractors Who Use Them as Subcontractors on Projects with M/WBE Goals Seldom or Never *Hire* Them on Projects without Such Goals

M/WBE Group	All Industries	Construction	CRS	Services	Commodities
African American	68.9% (45)	76.9% (13)	71.4% (7)	60.9% (23)	100.0% (2)
Hispanic	50.0% (10)	16.7% (6)	100.0% (1)	100.0% (2)	100.0% (1)
Asian	72.7% (11)	50.0% (2)	100.0% (3)	60.0% (5)	100.0% (1)
Native American	66.7% (3)	- (0)	- (0)	66.7% (3)	- (0)
Total Minority	66.2% (71)	54.5% (22)	81.8% (11)	63.6% (33)	100.0% (5)
Non-minority Female	59.0% (134)	47.4% (38)	37.5% (8)	67.2% (58)	63.3% (30)
Total M/WBE	61.5% (205)	50.0% (60)	63.2% (19)	65.9% (91)	68.6% (35)

Source: See Table 8.2.

Note: Total number of valid responses in parentheses.

Anecdotal Evidence of Disparities in the District's Marketplace

Table 8.10. Percent of M/WBEs Indicating that Prime Contractors Who Use Them as Subcontractors on Projects with M/WBE Goals Seldom or Never *Solicit* Them on Projects without Such Goals

M/WBE Group	All Industries	Construction	CRS	Services	Commodities
African American	66.7% (45)	69.2% (13)	71.4% (7)	66.7% (24)	0.0% (1)
Hispanic	45.5% (11)	16.7% (6)	50.0% (2)	100.0% (2)	100.0% (1)
Asian	87.5% (8)	50.0% (2)	100.0% (3)	100.0% (2)	100.0% (1)
Native American	66.7% (3)	- (0)	- (0)	66.7% (3)	- (0)
Total Minority	65.2% (69)	50.0% (22)	75.0% (12)	71.0% (31)	75.0% (4)
Non-minority Female	60.8% (125)	52.8% (36)	25.0% (8)	74.5% (51)	56.7% (30)
Total M/WBE	62.4% (194)	51.7% (58)	55.0% (20)	73.2% (82)	58.8% (34)

Source: See Table 8.2.

Note: Total number of valid responses in parentheses.

IX. NEORSD's Targeted Contracting and Procurement Policies and Procedures

In this Chapter, we describe the District's Small Business Enterprise Program, followed by a summary of business owner experiences with these policies and procedures, as well as with NEORSD's prior M/WBE program and other government affirmative action contracting programs.

A. History of NEORSD's Minority and Women-Owned Business Enterprise Program

The District first adopted a M/WBE policy in 1992. The Program included construction and consulting contracts valued at over \$25,000. "Minority" was defined as Blacks, Hispanics, Asian-Americans or Native-Americans. The District's contracting market was defined as the counties of Cuyahoga, Lake, Lorain, Medina, Geauga, Portage, and Summit. The Contract Compliance Administrator was to determine the annual goals for MBE and WBE participation for each procurement category and for each type of work to be performed on a particular contract, based upon the availability of certified MBEs and WBEs in the contracting market. The District staff were to consider the utilization of MBEs and WBEs when recommending a lowest and best bidder to the Board for contract award. However, the goals were not to be quotas, and the failure to meet a goal would not automatically disqualify a bidder, and a bidder who was unable to achieve the goal(s) could submit a "request for exception" on the appropriate form that documented its good faith efforts. A contractor who failed to comply with the policy was subject to sanctions, including withholding of payments, cancellation or rescission of the contract, or other legal actions. A certified firm that failed to comply was subject to revocation of its certification. Appeals of decisions related to the application of the policy were to be made to the Board.

In June 2009, the District suspended its M/WBE policy and implemented an interim Small Business Enterprise Program. It also directed the staff to procure a disparity study to determine whether the prior M/WBE Program complies and is consistent with all existing legal requirements and to protect the District from becoming a passive participant in any unlawful discrimination. Although the new SBE Program is race- and gender-neutral, the District's Board has emphasized by resolution that it continues to encourage prime vendors to utilize SBEs and D/M/WBEs and to work with the District's Office of Contract Compliance to provide subcontracting opportunities to such businesses.

B. NEORSD's Small Business Enterprise Program

SBE subcontracting goals apply to construction, goods and services and professional services contracts. SBE goals are established on a contract-per-contract basis, based on an analysis of market availability and commercially useful function within the contract, along with the professional advice from the Director of the requesting department. The Contract Compliance

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Manager may also waive the SBE goals for particular bids or proposals. The total dollar value of a subcontract with a SBE may be counted toward a specified SBE goal. SBE goals will only be established on those contracts that have subcontracting opportunities for SBE participation. The size of SBE goals will be dependent on the circumstances of each contract (*e.g.*, type and location of work, availability of SBEs to perform the particular type of work) and functionality within the contract.

In addition to contract goals, the Office may establish overall SBE goals by analyzing the types and amounts of purchases made by NEORSD and the levels of prior SBE participation for NEORSD's overall procurement. The Program does not apply to any of the following:

- Sole source procurements, which by their very nature limit the source of supply to one vendor;
- State of Ohio contract purchases that do not require competitive bidding;
- The acquisition of any interest in real property, including lease holdings;
- Direct and indirect employee payments including payroll expenditures, pensions and unemployment compensation and other employee-related expenditures;
- Contracts with non-profit or governmental entities; and
- Any other categories and subcategories of goods and services that NEORSD may from time to time establish as excluded.

The Contract Compliance Office has five full time employees—the Contract Compliance Manager, three Contract Compliance officers, and a prevailing wage coordinator—and reports to the Director of Finance. The Office encourages contracting opportunities for SBEs and strives to achieve the policies and objectives of the SBE Program by:

- Administering and enforcing SBE Program policies;
- Establishing written rules, regulations and procedures consistent with this SBE Policy;
- Maintaining outreach and assistance programs to promote contracting opportunities for SBEs;
- Establishing, enhancing and maintaining relationships with agencies and stakeholders in the region;
- Maintaining a current database of available SBEs and making such database accessible to interested parties;
- Monitoring and tracking data related to utilization of SBEs as prime contractors and subcontractors on NEORSD projects;
- Recommending SBE goals to contracting departments of NEORSD;

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- Attending pre-bid/proposal conferences regarding contract solicitations that include SBE goals;
- Attending kick-off meetings for major projects to explain the SBE Program and goals;
- Participating on evaluation panels;
- Investigating written complaints;
- Determining compliance of SBE Program rules and regulations;
- Preparing reports related to the SBE Program, including formal tracking of overall SBE dollars spent by the District and overall SBE dollars spent under the Capital Improvement Program and other District programs; and
- Performing other tasks as may be required to fulfill the purposes of the SBE Program.

The Office reports monthly to the Board on SBE goals as compared to actual utilization; the number of new SBE applicants; and the total number of certified SBEs. Daily monitoring of SBE participation is performed by the Engineering and Construction functions, with regular reporting to the Contract Compliance Office.

To be eligible for SBE certification, a firm must:

- Serve a commercially useful function;
- Have been in operation for at least one year;
- Be registered to conduct business within the State of Ohio;
- Not exceed the District's size standard for its industry, inclusive of its affiliates as defined in 13 C.F.R. Part 121; and
- Have a functioning office located within the limits of Cuyahoga, Geauga, Lake, Lorain, Medina, and Summit Counties.

SBE certification must be annually renewed. The District may reject SBE certification for those businesses that have defaulted on District or non-District contracts within the 5 years prior to applying for SBE certification. This includes persons or firms who have ownership or the right of control of any person, firm, corporation, joint venture, or joint venture partner that committed a default within the 5 years prior to certification application, and have committed any a default while performing as a prime contractor, subcontractor or joint venture partner, even if such firm is submitting an application for SBE certification as a partner in a different joint venture arrangement, and regardless of whether the firm was the managing joint venture partner under the prior joint venture.

All contractors, including SBEs, must make good faith efforts to attain SBE contract goals using District certified SBEs. If a bidder is awarded a contract without meeting the Contract Goal, such

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contract award does not relieve the bidder from the continuing contractual obligation to exercise good faith efforts throughout performance of the contract in order to meet the Contract Goal prior to contract completion. The obligation to meet such goals shall be ongoing throughout the performance of the contract. A SBE that submits a bid or proposal as a prime contractor or consultant must obtain 100% of the contract goal. All SBEs must perform a commercially useful function on the contract.

For competitively bid or procured contracts, bidders must complete all forms and submit all documents regarding SBE participation at the time of the bid. Such information must include:

- A list of all SBEs and other subcontractors to be utilized on the contract;
- A list of SBEs who provided quotes for the project, but were not chosen to perform the work; and
- The dollar amount and percentage of contract funds related to each SBE.

Any bidder or contractor who violates any provision of this SBE Policy shall be subject to administrative sanctions. In addition, any violation of this SBE Program shall constitute a material breach of contract, enforceable at law or in equity, including the imposition of penalties. The following sanctions and penalties are established for the enforcement of this Program:

- Determination of Non-Responsiveness;
- Limited Suspension;
- Rejection of Future Proposals;
- Withholding Payment;
- Cancellation of Contract; and
- Permanent debarment.

The District ensures that SBEs are solicited for all appropriate informal procurements under \$25,000. The District has also taken several important steps to support SBEs and increase their capacities. NEORSD has focused on the following key elements:

- Vendor registration: the Office has joined forces with the Purchasing Department in developing and implementing an on-line vendor registration system that tracks the number of registered vendors doing business with the District and vendor payments, as well as assisting in the identification of potential vendors for the SBE Program. The real time, on-line vendor registration system enables vendors to upload and edit their vendor profile information as well entering SBE certification data. In less than 1 year time there are over 803 registered vendors.
- Community awareness and outreach: the District's SBE outreach are coordinated with the Communications and Community Relations (CRC) Department and designed to

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encourage and increase awareness for businesses to become SBE certified and provide greater opportunities to do business with the District. There have been 38 community outreach events and presentations since the implementation of the SBE Program.

- Diversity and inclusion initiatives: the input of major stakeholders groups is a major component of the SBE Program. Participation is sought from groups such as the Hispanic Business Association, the Asian American business community, the National Black MBA Regional Conference, the Consortium of African American Organizations, Hard Hatted Women, the Cleveland Matchmaker 2010, the U.S. Small Business Administration, the Greater Akron Supplier Diversity Conference and the Urban League of Greater Akron and Cleveland.
- Certification outreach: the District partnered with other public agencies such as Cuyahoga County, the Greater Cleveland Regional Transit Authority (GCRTA), the Cuyahoga Metropolitan Housing Authority and the State of Ohio EDGE Program to certify small businesses “on the spot” for the SBE programs at their respective organizations. In addition, the District conducted seven Certification Workshops in Cuyahoga, Lake, Lorain and Summit Counties with 335 participants. The workshops were in collaborating with the City of Cleveland, Cuyahoga County, GCRTA, the State of Ohio EDGE Program and the Northern Ohio Minority Business Supplier Development Council to increase the knowledge base of participants seeking to do business with the District and other governmental agencies.
- Construction Track Program: The Office of Contract Compliance, the departments of Purchasing, Law, CRC, Construction and Engineering, in conjunction with the District's outside consultant CH2MHill, developed the Construction Track Program, which was held for seven weeks from October 1 – November 12, 2009. Thirty six companies graduated from the program, The classes included:
 - Relationship Building;
 - The District's Capital Improvement Program;
 - The pre-contract phase;
 - Estimating;
 - Safety;
 - Bonding;
 - Maintaining a strong back office; and
 - Invoices: How to get paid.
- Goods and services workshops: NEORSD staff in association with the Hispanic Business Association, the Urban League of Greater Cleveland, the City of Cleveland, Asian Americans Business Community and Cuyahoga County Department of Economic

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Development, hosted three workshops. Over 90 companies participated in the following classes:

- Cash Reigns Supreme: Tracking the financial results of your business;
- Business Practices for Success: How to maintain a strong back office; and
- How to prepare a winning bid/quote: Purchasing quotes (under \$25,000) and goods & services bids (over \$25,000).

C. Business Owner Interviews

To gather anecdotal evidence of the effectiveness of current and past District policies and procedures in opening up opportunities for all firms, including M/WBEs, we interviewed 156 firms. We also explored owners' experiences with the District's prior M/WBE Program and other race- and gender-conscious contracting programs, as a guide to the District for revising current and adopting future initiatives.

The following are summaries of the issues discussed. Quotations are indented, and are representative of the views expressed over the many sessions by many participants.

1. NEORSD's Contracting and Procurement Policies and Procedures

Numerous interviewees, M/WBEs and non-M/WBEs alike, provided feedback on NEORSD's race- and gender-neutral procedures and prior M/WBE program. Many suggested concrete improvements.

a. Contract specifications

Numerous owners described what they experienced as overly restrictive contract specifications.

It took me sixteen years to get ten million dollars ... it took me sixteen years to get ten million dollars worth of liability insurance and some of the requirements that are just necessary in order to even bid this work make it very difficult for a lot of companies to participate.

b. Access to information

Smaller and new firms found it difficult to access information on upcoming opportunities or to contact the appropriate District personnel.

There was a general consensus that more outreach, more access to information, and more transparency are needed.

Complete transparency on every contract, large or small, that's left. People need to know who was selected, why they were selected, what were the, what was the postmortem done so that we can improve next time around.

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[H]ow you can find out what might be available for your small niche?

If you do the paperwork, generally, and your paperwork is in order and you keep up the certification. It goes smoothly. It seems that after that myself and a lot of other people I know other than, of course, this meeting, do not get phone calls or follow-ups. It seems like you get the certification but then, you know, you will call and you check on it and they don't seem to follow through and they don't seem to respond.... everybody that requires all us women and minorities to fill out these forms and do that and then it seems it comes to a dead end. It's not followed up.... they don't help you follow up...and they don't let you know if there's other contracts or what happened to the last contracts or kind of keep you in the net. It's sort of like you're dropped.

One recommendation was to open up the process through the appointment of a contracting committee, which would be comprised of contractors, subcontractors and District staff. This group, which would meet regularly, would be an opportunity for dialogue and problem solving for the vendor community and the District.

More transparency in that regard is something that the District ought to consider to give us the opportunity to see where these opportunities are being missed, where teams aren't really meeting goals that are established.

c. Payment

Participants reported few problems with being paid promptly by the District, once all required paperwork was submitted. Even subcontractors were generally mostly satisfied with payments by the prime contractor, again, once all required paperwork was submitted. One owner reported that NEORSD helped to expedite payment to her when it was the prime contractor's invoicing error that caused delay in payment to her.

[O]ne time when I contacted them and let them know and they expedited it so that I was able to get it.

Some MBEs advised that subcontractors must be aggressive to get paid.

You have to get in their face, let them know you're nothing about playing games. You're going to perform as the contract states or as that document states and that you want your money. And then you have to develop a relationship with the entity to let you know when the money was paid to the prime.... And you have to stay on it. You cannot look at it in any way of being intimidated. I don't care how much money they make. I don't care how large they are.... It's not easy. In fact, it's extremely hard and I've waited many, many months for people to pay me on monies that they had in their house. And I've had people say some of the nastiest things in the world.

2. NEORSD's Small Business Enterprise Program

There was much discussion about the District's new race- and gender-neutral programs. Overall, minority- and women-owners reported that it is not adequate for a remedial M/WBE program.

With the recent change that the District has made to the SBE certification, I think... there has to be a mechanism in place that it doesn't recreate those barriers that minority firms have always been up against.

So many firms fall in that SBE category that, I mean it's not small business anymore in my opinion.

A lot of primes are developing their own small businesses with their wives, their daughters, etc.

Many majority-owned prime vendors preferred the SBE program, that permits small, local White-male owned firms to participate, over the former M/WBE program. It was seen as more flexible and it is easier to meet the goal.

If it was an SBE approach then it's, then it's a group so you spend more on one [MBE], less on the other [WBE or SBE], it's still you met the SBE [goal].... So, from our perspective, if it was an SBE requirement, it's better.

The SBE program has given us more latitude....There's a lot more qualified SBEs out there, not to say that there's, there's some MBEs that qualify SBEs also. And that's fine but in the specialty area like in our industry, it's not so widely spread.

I feel more comfortable with the SBE, the small businesses, because most small businesses are qualified and you can look their record up as opposed to a particular entity of business. So we've never, ever, most of the time we're over the goal. And you don't, they give you more credit for being over the goal. So, we've had occasions where the particular SBE would back out. We had an electrician back out after the contract was awarded. And we just had to go to a website and find an additional electrician that could do the work

Small firms believed that they should be permitted to count their self-performance towards meeting subcontract goals.

[Requiring subcontracting is] discouraging me from prime contracts.

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The [Army] Corps of Engineers just had a contract out and...they had three large business and two small set asides. And they divided that and I think it worked well... Because we're small set aside we didn't have to comply with all the minority requirements. So, we can put a quality team. That the primes, on the other hand, they have to put in, meet all these other minority qualifications. Which is, I think is a burden on them but there were more projects they can go, you know, that there were three teams that were going to be selected. And, then, then they had two small set asides.

More "unbundling" of contracts was suggested by a range of participants to increase opportunities for small firms to perform as prime contractors. Large contracts were out of the reach of the great majority of M/WBEs and other small firms.

Where if the District would consider, like they do in the construction industry, breaking projects up, you know, between trades and so forth, breaking them up into smaller components, it would create many, many more opportunities for all small business to try to participate on a project.

One thing I've noticed, maybe it falls under unbundling, is that the few prime players here, they found themselves satisfying the minority or the SBE requirement by filling in the gap that they have in their company. So that's why we end up most of us don't see that portion of that work, ever.

You have to unbundle

From day one when they start designing a project they need to start thinking about not only unbundling but how to develop the scope so that you maximize, you optimize your MBE and FBE participation... from the initial concept of a project they need to start thinking about how do you engage minority and female businesses, small businesses. Okay. Right now, it's an afterthought. The project's already designed, the primes are already in place, the budget's already set. And then they say, oops, that's right we got to do the goals for this.

Small business setasides are one method to increase opportunities for firms to obtain work as prime contractors and consultants.

[W]e need prime work. We need work, you know, sub work is fine. But to really mature as a firm and to make that transition from DBE, from MBE, to mainstream firm, we need to be selected as prime consultants.

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[Y]ou have to have prime contracts available for medium and small size firms

Cuyahoga County, they have a SBE program similar to this but it's a different agency. When general contracts come up, they have SBE bids. Like amongst ourselves we can compete against each other for smaller bids.

Professional service participants were especially enthusiastic about a SBE Target Market program.

But one of the interesting things about working with the MBE, WBE, SBE firms is they, I find intriguing how they approach a project. It very well could be different than a large national engineering firm like...us. They approach it a little bit different. They serve the client in a little bit different fashion. So, in the context for the benefit of the client, giving these firms an opportunity to manage a project for the client to learn, what is their style? Maybe their style is different. Their approach of how they manage it, you know, how they execute a project. It might actually be better than the major firms and such. And I think it's a great opportunity for a client to see that and get that opportunity. So having contracts exclusively just for SBE firms I think is a terrific idea because also we're under pressure all the time. We're under pressure even from the client. We have heard it recently that we have been chastised for not going after enough projects. This can take a little bit of pressure off us and such because we're always under pressure to keep proposing, keep proposing, keep proposing.

I would definitely support that concept.

Bonding and technical assistance would be an important component.

A lot of [M/WBEs] don't have the resources to get bids in on time...and they also don't have the resources and the knowledge to produce the paperwork that needs to happen during the project so certified payrolls, getting their invoices in on time, getting all the waivers that you need in on time. We get invoices from minorities three months after they did the work. Like maybe, it was a trucking company. They finally went through their truck and they found trucking tickets in their truck and they sent us invoices three months later. So stuff like that, tracking all the stuff that goes on during the project seems to be an issue.

Performing more prime work would increase small firms' opportunities for subcontracting work.

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From a prime standpoint if I have an SBE relationship, a relationship with an SBE, MBE, or W from somebody who has instituted the quality control measures, the management measures, that we have to institute when we're primes, I will be more likely to trust them... it's back to the relationship, the trust.... If they have the opportunity to prime them, I think it would make it easier to work together.

3. Race- and Gender-Conscious Initiatives

a. M/WBE Programs

In general, minorities and women reported that race- and gender-conscious contracting programs are needed to ensure full and fair access to government contracts. Being certified created opportunities that otherwise would not have presented themselves. Race- and gender-conscious affirmative action contracting programs were seen as vital to the continuing viability of their companies. The SBE Program was not an adequate substitute.

b. Supportive Services Programs

Several owners suggested increased supportive services for SBE and M/WBEs. Bonding and financing were major obstacles.

If they really were committed to the program then provide a bond for it.

We typically like to take the girl home that we take to the dance, so to speak, and if they help us get a job, they get a job. So, it's very hard after the fact to try to work with other contractors that didn't help you get a project. Secondly, you know, we require our subs depending on their financial ability, bonding ability, their strength because ultimately if they fail it's our responsibility so they have to have a bond, they have to have the proper insurance. They have to have other things too. They have to meet the EEO goals, they have to meet, you know, there are other criteria that a lot of people don't meet or don't come close to but have a certification so that eliminates probably 70 percent of the people that are in the pool and on the list right out of the gate.

We typically haven't insisted on [subcontractors providing a surety bond] because they can't, if we're trying to meet the goal they can't put up the bond so we either maybe hold a little more retainage or try something, you know. Working for the Sewer District, you're guaranteed to get your money. So, that isn't the problem. But you just work around it. But most of them can't provide a bond.

The District's 6-week program for small contractors was praised as a good start.

It was a step in the right direction. I mean some of the contractors I think that are in the room probably participated in it in one fashion or another as either a mentor or protégé

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(inaudible) either or. I think it was eye opening for a lot of the subcontractors that were in the room to hear the generals speak on behalf of the requirements from the bidding phase all the way through the constructability phase. Not only is there the issues we're talking about which is upfront and stuff right now but there are the union issues, there are certified payroll issues. There are, you know, we got a lot of subs that will fax us a piece, a yellow tab with and call it certified payroll. I mean, it's very common to have that go on. You have a contract with these people, the District expects you to use them. It might be your first time working with them and they fail miserably. And at what point do you, you know, sever that relationship and move on. I mean, we do a lot of coddling for a lot of these people that we're almost forced to use.

There was some support for a mentor-protégé program, whereby larger established firms would work with emerging businesses to provide advice and other assistance.

[The District should adopt] a protégé mentoring, protégé program that takes place where there's a program where the subcontractor and the prime, prime contractors come together on a monthly basis.

I have found mentor-protégé relationships that are endorsed by an owner actually work and it works on an incremental basis whereby a majority firm who the owner likes has a preference for working for, can select at least on an annual basis a protégé or several protégés and they can foster their relationship with each other. And then if the owner comes back and gives some type of incentive for that mentor-protégé program in terms of those tandems, as far as the selection criteria, that would actually be meaningful in terms of having those teams work together. Meanwhile you can, I've been a member of mentor-protégé programs in a number of forums, you can understand the nature of the owner, what the owner wants. You can perhaps match yourself with a mentor firm that has capabilities that you want to look at and oftentimes the protégé can tell the mentor a few things too. So, that's a good tandem. And with regard to that relationship thing, that's a building thing. You understand the owner and if the owner has an incentive with regard to those teams working together, that would be an incentive for those teams to come together with that. So, yeah, it is a good idea when you go into a proposal situation to have a team but you should have a team that perhaps that's ordained by the owner already in terms of a program like that.

We need to establish a protégé program.

With benefits for both, especially for the mentor because, like I said, the thing is they're just so, they don't want to give anything up as it is. So, it would have to be something that would be rewarding for them in order to do it.

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A few prime contractors have participated in Ohio Department of Transportation's program, and found it to be valuable.

It's not been a bad experience, you know, we actually have a person who is not even in our direct field that we are working with and it's actually worked out fairly well. We have regular meetings, we have to document, keep track of notes, meet with ODOT and OCA and CEA and have to turn in our paperwork and all that stuff. It's not a bad program.... We do it based on the fact that we think it's good for the industry [and] for [the protégé].

c. Meeting M/WBE Goals

The goal setting process and meeting contract goals elicited many comments. In addition to experience with meeting prior M/WBE goals on NEORSD projects, comments were often directed towards general familiarity with government affirmative action contracting programs.

For the most part, contractors were able to meet M/WBE goals.

We've had two contracts where we had, we had goals, with the District. And we've had several contracts with the City of Cleveland where we've had goals. I guess the first thing I would say is, we were able to meet the goals.... One of the prime reasons we were able to meet the goals is because we established a relationship very early when we came here with a, a WBE firm that was, as you know in the consulting industry, it's about the relationships and it's about, it's about helping each other. And so we established early on relationships with firms that do things that we don't do that, but they were able to provide work for us. So, we established a good back and forth. And so I think that just starting off by saying, you know, there are very good W and MBE firms in the Sewer District service area. And, but I think the important word for me at least is establishing relationship.

We were talking about relationships, it's an investment. It's a burden of the bigger firm. To bring a lot of the firms on and teach them their culture or learn vice versa. To the extent that you trust them. So, you know, that element of trust is huge to the extent that, you know, when you say, WBE, MBE, SBE, there are a, you know, quantifiable number of firms that you will and won't work with, based on your level of trust.... There is a cost associated with that.... [W]e don't talk about that.

They want to do local, small, lowest bidder, best quality. What wins?

One large non-M/WBE engineering firm owner reported that his firm had benefited from having to meet goals.

If it wasn't for these programs, I worked in several large municipal markets before I came to Cleveland that had nothing. There was no MBE, WBE, DBE, small business,

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nothing...[Because of] this program I've gotten exposure to firms that I would have not otherwise probably gotten exposure to or known them and now...we have a relationship with them and we've seen the quality of their work.... [N]ow we have this relationship because of this program.... It has really helped. It has built relationships that now we just want to work with them because they're easy to contract, they're trusting, they're timely, they're responsive.

Several prime vendors complained that the SBE goals, and the MBE and WBE goals under the prior program, were arbitrary and did not reflect actual subcontracting opportunities of the project.

It seems the number, as we talk about it is arbitrary. When I say arbitrary, it means it's not specific to do the job well.

Implementing contract specific goals rather than arbitrary, pre-set percentages, would ease the problem, as in the recent SBE program.

It's a little different now with the SBE because there's varying percentages. It used to be 15 percent MBE, 5 percent FBE, M and F, so it may be a large contract that has a couple pieces of large expensive equipment. That doesn't make any difference, you got to meet the percentage, so that's the only way to meet the goal is to work through an MBE supplier, if you would, and maybe to purchase something from these fellas.

They've since now started to evaluate the jobs a little better based upon whom they think the primes are going to be, whom they think, what scopes of work they think those primes would non self perform and what supplies are needed for the job and try to base their goals off of that.

Some prime contractors felt that M/WBEs were often too expensive.

The biggest problem, a very big problem is they're not low. Not only, you know, the ones that are qualified are typically not the cheapest. And most of them feel they can get a couple extra percent because you need to use me. I don't have to be the low supplier. I can add three to five percent and I can still get a job because, well, because you have to get it and if you don't give it to somebody I'm going to go down and complain. So, that becomes the theory behind a lot of people that have the certifications in the city.

Some prime vendors felt that M/WBEs took unfair advantage of the preference to raise prices to contractors or refuse to be exclusive to one design team.

One of the challenges with, and I'm speaking in consulting in general, is that we're all seeking that competitive advantage when we're trying to win a contract. And when there's an area of service that's very specialized and there are very few M or WBE firms that provide that service, sometimes it feels like, if that's the only, if that's the only firm that provides that service then if you don't bring that firm onboard you've lost the

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competitive advantage. Because that firm, the understanding from the previous administration was that, and I can't speak for the MBE firms, the WBE firms, but I believe they were told you cannot turn down. You should not turn down a request from a prime to be on a team. In other words, you should not be exclusive.

Within the Cleveland system I think all of us would agree that there have been minority or women firms...who have taken advantage of their position as an M or a W from a fee standpoint... And I think that one of the things that would be interesting is if the owners were to perhaps, to look for that. In all the documentation they get it just seems ludicrous to me that they wouldn't see this pricing that's coming from an MBE sub that's like three times what the prime is charging for that same level of staff.

Prime contractors thought M/WBEs should be more proactive in contacting them to submit quotes.

[Sometimes] I don't pick up plans and become a plan holder for two weeks until the job bids because I wasn't on top of it and didn't know the job was coming out. Now it came out, I have two weeks to bid the job so it takes me a couple days to get into it and see what I need, yeah now those guys are limited to a week and a half maybe, week sometimes, sure. That happens. I mean, but it's because we weren't a plan holder or didn't know of the project either. And, you know, I guess my, anybody, any sub can contact a prime if they want to bid the project. No different than us. You can look and see a notice in the Plain Dealer when projects come out. They're on...the Builders Exchange and fairly inexpensive.... The Sewer District has a website. They know when projects are coming out. If they're looking for work, they should be going through publications looking for work.

The District is real reasonable to recently buy a set of plans and specs, \$40, \$50, \$100, they go get their own. And that'd be a little proactive instead of waiting for somebody to come to them. Say, hey I got a price for trenching or whatever for, put in this or that sewer, you know, as a, find a specific. Somebody has a set of plans they might come to us and say, how can we help you? You know, and then ask to define the scope. What you might like to slice out of the big package and, you know, if it's, if we have the ability to break that out of our estimate

Several participants had passed up bid or proposal opportunities with government agencies because they believed the M/WBE goals were unreasonable or overly burdensome. Many firms believed that waivers of goals based upon their good faith efforts were unavailable or feared retaliation from the agency.

We've never [sought a waiver].

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Yea.

You cannot [obtain a waiver].

Taken in the context of marketing, this is, this is very bad. Because this is a very small community. And if you ask for a waiver, it's going to be played out in the political market.... [You will be punished] severely.

They tell you it's a goal but if you don't really meet it, you're a goner for next time.

There is no such thing as a waiver. In our, in my years of experience, there's rules and that's it.

Others were aware of the process to request a waiver based on good faith efforts.

You have to show that you made good effort to try to obtain quotations from MBEs and WBEs and...you have to advertise in the paper, if you can demonstrate you've gone through all these good faith efforts but it has to be at least a month before the bid date and you include that in your bid documents and you were unable to get any MBEs or WBEs, then it is a waiver. There is a process.

We solicit probably, every trade, every subcontractor on that list as far as good faith effort at bid time and turn in inches upon inches of good faith effort for every package. We probably get five percent of those people that actually quote us at bid time, we probably get another ten to fifteen percent that want to come to us after the fact.

Some prime firms reported that it was difficult to make changes to compliance plans during contract performance to reflect changed circumstances.

You have your team in place and all that settled out, but something happened either during the design assumptions or even the construction phase assumptions. Now we've got the whole team in place whether they're MBEs or SBEs or just, you know, regular consultants. Sometimes we get into a situation to try to meet that goal we've got to make work for those entity regardless of what they are. Whether they're minority or not, just to meet those goals because, yea, we have the contract in place but what we assumed at a proposal phase we were going to, whatever, design three buildings and now we're designed the one building and now that sub, their scope's changed.... I think there needs

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to be flexibility and consideration once the contract's in place in terms of, quote, meeting goals. How do you still keep those people engaged in the project, meet your goals, make sure that other people get the fees that they were promised. That's where some difficulties come into play. And certainly, you don't want to say, well, you were supposed to get fifteen percent. Now you're going to get five and, you know, deal with it. We don't want to do business that way.... there should be consideration given to that because ultimately for the most part with maybe few exceptions we're going to be held to our goals regardless of what happens in reality and no matter, you know, we could bring that to the table or have those meetings. There's not the flexibility currently to initiate that dialogue.

The client said, find something, period, for them to do. It may not be that meaningful role. You bring them on a team, we hear this frequently, find a meaningful role for your small business firms. Don't just be reproduction, don't just be typing or report preparation. But ultimately they forced us to say, find something, do something. And since we took the CAD work out of, you know, our folks and gave this firm to do. But, again, wouldn't classify that as meaningful but that wasn't really the client's fault. It wasn't anybody's fault. We weren't trying to find fault but that was just a natural course of the project but it was not, it is not easy to, to change. There was no flexibility. It just wasn't practical to try to bring on a new firm or change contractual arrangements in the middle of the project. It's just not realistic.... [W]e went into talking to some high level folks at the District And the very first question they asked us, well, how did you meet your SBE goals on your last project? That's the first thing they wanted to know from us. And there's no justification explanation. Did you meet it or didn't you? And if you did, great. If you didn't, it's going to be held against you.

So it is a cultural issue and I think it goes all the way to the, all the way up to the board level and maybe there's a frustration at the engineering level that the board doesn't understand that.

Other interviewees reported more flexibility during contract performance. One participant reported that when the MBE failed to perform, he was able to self-perform that portion.

If you have a legitimate reason, you don't have to meet the goals.

If the work wasn't necessary and you were counting on your MBE to do that work, his dollars are less and our percentage is less... [The District was] accept[ing] and understanding.

One White male construction industry participant felt that M/WBE programs were by nature fraudulent and "reverse discrimination."

I don't even know who's a minority anymore. I think everybody's a minority. The only people that's not a minority is White guys like me. Now should I rush out and sign my daughter up to have a business so I can be a liar and create more fraud like, I'm not going to point the finger at anybody, but everybody knows what the thing is. I think the whole purpose of this is to have lawyers work.... I was so happy when they got this small business thing going so they cut the discrimination out of all this stuff.... Everybody but the white guy. Which, you know, I'd hate to be a cry baby because it forced me to start my own company or whatever, but there are two or three guys that get all the minority work. It's mostly paper shuffling, whatever it is. And it's a nightmare trying to meet your quotas on the stuff. And I think this whole thing about picking and choosing the proper people to do the proper amount of work that you have to go to college a long, long time to come up with stuff like that.

d. Contract Performance Monitoring

Finally, concerns were raised about how the District will monitor compliance with any new M/WBE initiatives, based upon M/WBEs' experiences with the prior program and other local affirmative action contracting programs.

If you have a program, it has to be fully enforced.

People get certified in fencing and they get written down for cement or they get written down for something that they don't even do. And no one is really monitoring and looking at those types of practices that are happening and have been happening for a very long time.

They do not enforce. Then exactly that's the situation. How do you circumvent that? I have the bonding. I have the capability.

You have to have people like they said that are trained as opposed to people who are going, oh okay, well here's a checklist.

If you're not going to enforce the program, why have it?... the city or the agency really is the subcontractor's first line of defense in anything.

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[The agencies] offer this MBE, FBE, CSB, DBE, you offer all of this but when it's time to support us and to get our monies we can't get it and you bow out very gracefully and say, I don't have a contract with you

I would think that they have a compliance officer and they have a subcontractor that's not getting paid and they've paid the prime, then the prime is out of compliance.

Find out through the monitoring process, which it has to be done, that this man is not on this job, then they both pay. Mr. Prime Contractor, you knew that. If he wasn't on this job, you should have reported that he was not here. If he wasn't qualified to do this job, you should not have used them. Now, here's the other part of it. The penalties. Mr. Prime Contractor, you don't bid another job for another year. Mr. Subcontractor who fronted, you're out of the program for two years.

Some non-M/WBEs were also concerned about fraud in meeting goals.

The more demands [for participation by] MBE and FBE regardless of capabilities and force either contractor or consultant to use [those firms], it promoted unethical business practices.... [a] few years ago and locally one big contractor had MBE and FBE as subcontractors. He paid them not to show up on the job.... Here's your money, just stay away from me.

They are more strict now. In the last year and a half, two years, they're monitoring it very strictly....

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Appendix A—Master Directory Sources

A. Entities whose lists of M/WBE firms that were duplicative of previously collected lists

Central Ohio Transit Authority
Central Ohio Women’s Business Center
City of Dayton
City of Pittsburgh
Cleveland Hopkins International Airport
Columbus Regional Airport Authority
Greater Cleveland Regional Transit Authority
Greater Dayton Regional Transit Authority
Ohio State University
Warren County
Central Ohio Minority Business Association
Allegheny County
Detroit Department of Transportation
Detroit Metropolitan Wayne County Airport
Fort Wayne International Airport
Indiana Unified Certification Program
Ink Newspaper
Michigan Unified Certification Program
Montgomery County
Pennsylvania Department of Transportation
Port Authority of Allegheny County
Southeastern Pennsylvania Transportation Authority
Wayne County
Suburban Mobility Authority for Regional Transportation

B. Entities who had no directory, or their directory did not identify race and sex

Allen County, Ohio
Allen County, Indiana
Black Business Men Coalition
Carroll County
City of Ann Arbor
City of Detroit
City of Middletown
City of Springfield
City of Toledo
Clark County
Dearborn County
Delaware County Regional Sewer District

References

Detroit Black Pages
Fulton County
Greater Cincinnati African American Chamber of Commerce
Greater Dayton Hispanic Chamber of Commerce
Licking County
Licking County Chamber of Commerce
Lorain County
Macomb County
Madison County
Union County
Urban League of Greater Cleveland

C. Entities that were non responsive to repeated contacts

Cincinnati African American Chamber
Black Pages Ohio
Boone County
Bracken County
Brown County
Butler County
City of Akron
City of Buffalo
City of Elyria
City of Erie
City of Mansfield
City of Mentor
City of Youngstown
Clermont County
Cuyahoga County
Delaware County
Earnhart Hill Regional Water & Sewer District
Fairfield County
Fort Wayne Black Chamber of Commerce
Franklin County (IN)
Franklin County (OH)
Gallatin County
Geauga County
Grant County
Greater Cincinnati Chinese Chamber of Commerce
Greater Cleveland Partnership Commission on Economic Inclusion
Hamilton County
Heath-Newark-Licking County Port Authority
Hispanic Business Association (Cleveland)
Hispanic Chamber of Cincinnati
Hispanic Chamber of Columbus

Indo-American Chamber of Commerce
Kenton County
Lake County
Lake County Port Authority
Lucas County
Mahoning County
Medina County
Mercer County
Miami County
Morrow County
National Association of Women in Construction
Northern Ohio Minority Supplier Development Council
Northwestern Water & Sewer District
Oakland County
Ohio Commission on Hispanic/Latino Affairs
Ohio County
Ohio River Valley Women’s Business Center
Ohio Wesleyan University
Organization of Chinese Americans of Greater Cleveland
Ottawa County
Owens Corning
Pendleton County
Pickaway County
Portage County
Preble County
Richland County
South Central Ohio Minority Supplier Development Council
Southwest Licking Community Water and Sewer District
Southwest Ohio Regional Transit Authority
Stark Area Regional Transit Authority
Summit County
Toledo African American Bureau of Commerce
Trumbull County
Union County Regional Airport Authority
Washtenaw County
Wells County
Whitley County
Wood County
Stark County
Ohio Asian American Chamber of Commerce
Japan/America Society of Kentucky
Hispanic Latino Coalition of Louisville
MWBE Enterprises, Inc.
MWBE.com

References

D. Entities that refused to provide the requested information

Akron Urban League

Campbell County

Minority Business Accelerator

Appendix B—Glossary

Aggregation, aggregated: Refers to the practice of combining smaller groups into larger groups. In the present context this term is typically used in reference to the presentation of utilization, availability, or related statistics according to industry. For example, statistics presented for the “Construction” sector as a whole are more aggregated than separate statistics for “Building Construction,” “Heavy Construction,” and “Special Trades Construction” industries. See also “Disaggregation, disaggregated.”

Anecdotal evidence: Qualitative data regarding business owners’ accounts of experiences with disparate treatment and other barriers to business success.

Availability: A term of art in disparity studies that refers to the percentage of a given population of businesses owned by one or more groups of interest. For example, Table A indicates that M/WBE availability in Construction is 22.31 percent, meaning that 22.31 percent of all the construction establishments in the District’s relevant market area are owned by minorities or women. *See also* Utilization, Disparity Ratio.

Baseline Business Universe: The underlying population of business establishments that is used in an availability analysis. The denominator in a M/WBE availability measure.

Capacity: This term has no single definition. See Chapter II for an extended discussion of this concept and its role in disparity studies.

Constitutional significance or substantive significance: An indication of the how large or small a given disparity is. Under the EEOC’s “four-fifths” rule, a disparity ratio is substantively significant if it is 0.8 or less on a scale of 0 to 1 or 80 or less on a scale of 1 to 100.

Core Based Statistical Area (CBSA): The term “core based statistical area” became effective in 2000 and refers collectively to metropolitan and micropolitan statistical areas. The 2000 standards provide that each CBSA must contain at least one urban area of 10,000 or more population. Each metropolitan statistical area must have at least one urbanized area of 50,000 or more inhabitants. Each micropolitan statistical area must have at least one urban cluster of at least 10,000 but less than 50,000 population.

De novo: “Anew.” A *de novo* review is a completely new review of evidence held in a higher or appellate court as if the original trial court’s review had never taken place.

Decennial: Refers to the census conducted every decade by the U.S. Census Bureau. The last decennial census was conducted in 2000. The next is currently underway as of this writing (in 2010).

Demand-side: Refers to activity on the demand-side of an economic market. For example, when State agencies hire contractors or vendors they are creating market demand. *See also* “Supply-side.”

References

Dependent variable: In a regression analysis, a variable whose value is postulated to be influenced by one or more other, “independent” or “exogenous” or “explanatory,” variables. For example, in business owner earnings regressions, business owner earnings is the dependent variable, and other variables, such as industry, geographic location, or age are the explanatory variables. *See also* “Independent variable,” “Exogenous variable.”

Disaggregation, disaggregated: Refers to the practice of splitting larger groups into smaller groups. In the present context this term is typically used in reference to the presentation of utilization, availability, or related statistics according to industry. For example, statistics presented for “Building Construction,” “Heavy Construction,” and “Special Trades Construction” industries are more disaggregated than statistics for the “Construction” sector as a whole.

Disparate impact: A synonym for “disparity,” often used in the employment discrimination litigation context. A disparate impact occurs when a “good” outcome for a given group occurs significantly less often than expected given that group’s relative size, or when a “bad” outcome occurs significantly more often than expected.

Disparity ratio: A measure derived from dividing utilization by availability and multiplying the result by 100. A disparity ratio of less than 100 indicates that utilization is less than availability. A disparity ratio of 80 or less can be taken as evidence of disparate impact. *See also* Availability, Constitutional Significance, Utilization.

Econometrics, econometrically: Econometrics is the field of economics that concerns itself with the application of statistical inference to the empirical measurement of relationships postulated by economic theory. *See also* “Regression.”

Endogenous variable: A variable that is correlated with the residual in a regression analysis or equation. Endogenous variables should not be used in statistical tests for the presence of disparities. *See also* “Exogenous variable.”

Exogenous variable: A variable that is uncorrelated with the residual in a regression analysis or equation. Exogenous variables are appropriate for use in statistical tests for the presence of disparities. *See also* “Endogenous variable,” “Independent variable,” “Dependent variable.”

FBE: Women-Owned Business Enterprise: A business establishment that is 51% or more owned and controlled by non-minority women. *See also* WBE.

First-tier subcontractors: Subcontractors or suppliers hired directly by the prime contractor.

Independent variable: In a regression analysis, one or more variables that are postulated to influence or explain the value of another, “dependent” variable. For example, in business owner earnings regressions, business owner earnings is the dependent variable, and other variables, such as industry, geographic location, or age are the independent or explanatory variables. *See also* “Dependent variable,” “Exogenous variable.”

MBE: Minority-Owned Business Enterprise. A business establishment that is 51% or more owned and controlled by racial or ethnic minorities (*i.e.* African Americans, Hispanics, Asians or Pacific Islanders, or Native Americans).

Mean: A term of art in statistics, synonymous in this context with the arithmetic average. For example, the mean value of the series 1, 1, 2, 2, 2, 4, 5 is 2.43. This is derived by calculating the sum of all the values in the series (*i.e.* 17) and dividing that sum by the number of elements in the series (*i.e.* 7).

Median: A term of art in statistics, meaning the middle value of a series of numbers. For example, the median value of the series 1, 1, 2, 2, 2, 4, 5 is 2.

Microdata or micro-level data: Quantitative data rendered at the level of the individual person or business, as opposed to data rendered for groups or aggregates of individuals or businesses. For example, Dun and Bradstreet provides micro-level data on business establishments. The Census Bureau’s *Survey of Business Owners*, provides grouped or aggregated data on businesses.

Micropolitan Statistical Area: Similar to a Metropolitan Statistical Area (MSA), a Micropolitan Statistical Area must have at least one urban cluster of at least 10,000 but less than 50,000 population.

Misclassification: In the present context, this term refers to a situation when a listing or directory of minority-owned or women-owned firms has incorrectly classified a firm’s race or gender status. For example, when a firm listed as Hispanic-owned is actually African-American owned, or when a firm listed as White female-owned is actually White male-owned. *See also* “Nonclassification.”

Metropolitan Statistical Area (MSA): As defined by the federal Office of Management and Budget, a MSA must have at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties. For the 2010 Study, the relevant market area consists of the (1) Cleveland-Elyria-Mentor, OH Metropolitan Statistical Area, (2) Akron, OH Metropolitan Statistical Area, (3) Canton-Massillon, OH Metropolitan Statistical Area, (4) Youngstown-Warren, OH Metropolitan Statistical Area, and (5) the Ashtabula, OH Micropolitan Statistical Area.

NAICS: North American Industry Classification System. The standard system for classifying industry-based data in the U.S. Superseded the Standard Industrial Classification (SIC) System in 1997. *See also* “SIC.”

Nonclassification: In the present context, this term refers to a type of misclassification when a listing or directory has not identified firms as minority-owned or women-owned when, in fact, they are. *See* “Misclassification.”

PUMS: Public Use Microdata Sample. Both the decennial census and the American Community Survey publish PUMS products.

p-value: A standard measure used to represent the level of statistical significance. It states the numerical probability that the stated relationship is due to chance alone. For example, a p-value of 0.05 or 5% indicates that the chance a given statistical difference is due purely to chance is 1-in-20. *See also* “Statistical Significance.”

References

Regression, multiple regression, multivariate regression: A type of statistical analysis which examines the correlation between two variables (“regression”) or three or more variables (“multiple regression” or “multivariate regression”) in a mathematical model by determining the line of best fit through a series of data points. Econometric research typically employs regression analysis. *See also* “Econometrics.”

SBE: Small Business Enterprise: A business establishment that does not exceed certain standards for size, measured by either revenues or employment.

SBO: The Census Bureau’s *Survey of Business Owners* statistical data series. Part of the five-year *Economic Census* series.

Setaside, setasides: A contracting practice where certain contracts or classes of contracts are reserved for competitive bidding exclusively among a given subset of contractors, for example minority-owned and women-owned contractors.

SIC: Standard Industrial Classification System. Prior to 1997, the standard system for classifying industry-based data in the U.S. Superseded by the North American Industry Classification System (NAICS). *See also* “NAICS.”

Statistical significance: A statistical outcome or result that is unlikely to have occurred as the result of random chance alone. The greater the statistical significance, the smaller the probability that it resulted from random chance alone. *See also* “p-value.”

Stratified: In the present context, this refers to a statistical practice where random samples are drawn within different categories or “strata” such as time period, industry sector, or DBE status.

Substantive significance or constitutional significance: An indication of the how large or small a given disparity is. Under the EEOC’s “four-fifths” rule, a disparity ratio is substantively significant if it is 0.8 or less on a scale of 0 to 1.

Supply-side: Refers to activity on the supply-side of an economic market. For example, when new businesses are formed, other things equal, the supply of contractors to the market is increased. *See also* “Demand-side.”

t-test, t-statistic, t distribution: Often employed in disparity studies to determine the statistical significance of a particular disparity statistic. A t-test is a statistical hypothesis test based on a test statistic whose sampling distribution is a t-distribution. Various t-tests, strictly speaking, are aimed at testing hypotheses about populations with normal probability distributions. However, statistical research has shown that t-tests often provide quite adequate results for non-normally distributed populations as well.

Two-tailed (or two-sided) statistical test: A “two-tailed” test means that one is testing the hypothesis that two values, say u (utilization) and a (availability), are equal against the alternate hypothesis that u is not equal to a . In contrast, a one-sided test means that you are testing the hypothesis that u and a are equal against the alternate hypothesis u is not equal to a in only one direction. That is, that it is either larger than a or smaller than a .

Utilization: A term of art in disparity studies that refers to the percentage of a given amount of contracting and/or procurement dollars that is awarded or paid to businesses owned by one or more groups of interest. For example, Table B indicates that M/WBE utilization in Construction is 12.39 percent, indicating our estimate that 12.39 percent of the \$7.9B of construction spending in our sample (or roughly \$979M) was awarded to minorities or women. *See also* Availability, Disparity Ratio.

WBE: Women-Owned Business Enterprise: A business establishment that is 51% or more owned and controlled by non-minority women. *See also* FBE.

z-test, z-statistic, z distribution: Often employed in disparity studies to determine the statistical significance of a particular disparity statistic. A z-test is a statistical hypothesis test based on a test statistic whose sampling distribution is a z-distribution. Various z-tests, strictly speaking, are aimed at testing hypotheses about populations with normal probability distributions.

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