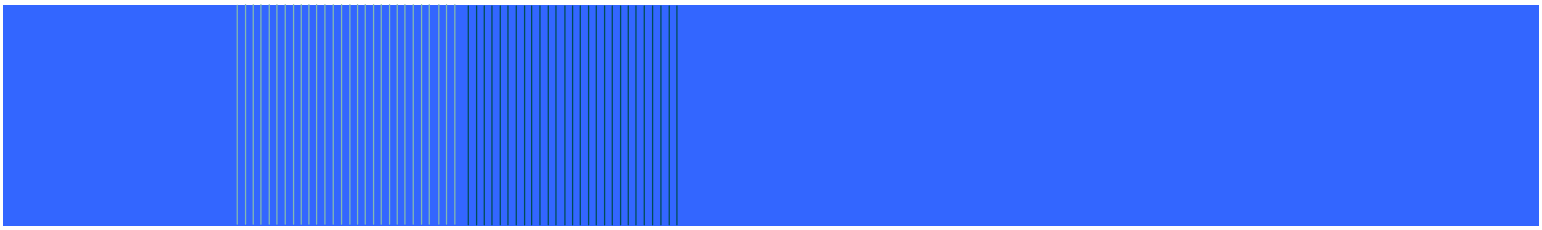
October 21, 2010

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

Prepared for the City of Minneapolis



NERA
Economic Consulting

Project Team

Jon Wainwright, Ph.D., Vice President, NERA

Colette Holt, J.D., Colette Holt & Associates

Kim Stewart, M.S., Research Analyst, NERA

J. Wesley Stewart, A.A., Research Assistant, NERA

J&D Data Services

Acknowledgments

This Study would not have been possible without the assistance and perseverance of Mr. Marvin Taylor of the Minneapolis Department of Civil Rights.

NERA Economic Consulting
1006 East 39th St.
Austin, Texas 78751
Tel: +1 512 371 8995
Fax: +1 512 371 9612
www.nera.com

About the Project Team—NERA Economic Consulting

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.

NERA Vice President Dr. Jon Wainwright led the NERA project team for this Study. Dr. Wainwright heads NERA's disparity study practice and is a nationally recognized expert on business discrimination and affirmative action. He has authored books, papers, and numerous research studies on the subject, and has been repeatedly qualified to testify on these and other issues as an expert in state and federal courts. At NERA, Dr. Wainwright directs and conducts economic and statistical studies of discrimination for attorneys, corporations, governments, and non-profit organizations. He also directs and conducts research and provides clients with advice on adverse impact and economic damage matters arising from their hiring, performance assessment, compensation, promotion, termination, or contracting activities.

NERA Economic Consulting
1006 East 39th St.
Austin, Texas 78751
Tel: +1 512 371 8995
Fax: +1 512 371 9612
www.nera.com

About the Project Team—NERA Research Partners

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.

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.

NERA Economic Consulting
1006 East 39th St.
Austin, Texas 78751
Tel: +1 512 371 8995
Fax: +1 512 371 9612
www.nera.com

Notice

This report sets forth the information required by the terms of NERA's engagement by the City of Minneapolis and is prepared in the form expressly required thereby. This report is intended to be read and used as a whole and not in parts. Separation or alteration of any section or page from the main body of this report is expressly forbidden and invalidates this report.

This report is not intended to be used, reproduced, quoted or distributed for any purpose other than those stipulated in the terms of NERA's engagement by the City of Minneapolis without the prior written permission of NERA.

Information furnished by others, upon which all or portions of this report are based, is believed to be reliable but has not been verified. No warranty is given as to the accuracy of such information. Public information and industry and statistical data, including contracting, subcontracting, and procurement data are from sources we deem to be reliable; however, we make no representation as to the accuracy or completeness of such information and have accepted the information without further verification.

The findings contained in this report may contain predictions based on current data and historical trends. Any such predictions are subject to inherent risks and uncertainties. In particular, actual results could be impacted by future events which cannot be predicted or controlled, including, without limitation, changes in business strategies, the development of future products and services, changes in market and industry conditions, the outcome of contingencies, changes in management, changes in law or regulations. NERA accepts no responsibility for actual results or future events.

The opinions expressed in this report are valid only for the purpose stated herein and as of the date of this report. No obligation is assumed to revise this report to reflect changes, events or conditions, which occur subsequent to the date hereof.

All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the City of Minneapolis. This report does not represent investment advice nor does it provide an opinion regarding the fairness of any transaction to any and all parties.

This report is for the exclusive use of City of Minneapolis. There are no third party beneficiaries with respect to this report, and NERA does not accept any liability to any third party. In particular, NERA shall not have any liability to any third party in respect of the contents of this report or any actions taken or decisions made as a consequence of the results, advice or recommendations set forth herein.

NERA Economic Consulting
1006 East 39th St.
Austin, Texas 78751
Tel: +1 512 371 8995
Fax: +1 512 371 9612
www.nera.com

Table of Contents

List of Tables

List of Tables

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 of the City of Minneapolis (hereinafter "the City" or "Minneapolis"). The purpose of this Study is to assist the City in evaluating whether its current Small Underutilized Business Program to assist small, minority-owned, and women-owned business enterprises is still necessary to remedy discrimination, and to narrowly tailor existing and any new measures that may be adopted.

The results of NERA's Study (hereinafter the "2010 Study"), provide the evidentiary record necessary for the City's consideration of whether to implement renewed race- and gender-conscious 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 City's contracting and procurement activity. The 2010 Study finds both statistical and anecdotal evidence of business discrimination against M/WBEs in the City'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 or local 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 Minneapolis must consider in evaluating its M/WBE Program and any future initiatives, with emphasis on critical issues and evidentiary concerns.

[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.

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 geographic radius around Minneapolis 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 excess of $50,000 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 City's relevant geographic market area was determined to be the Minneapolis-St. Paul-Bloomington, MN Metropolitan 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 City's Market Area

Chapter IV estimates the percentage of firms in the City'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 City'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	2.54	3.96	1.37	0.91	8.78	10.72	19.50	80.50
CRS	2.16	1.98	3.16	0.64	7.95	11.18	19.13	80.87
SERVICES	4.59	3.44	3.27	0.61	11.91	15.62	27.52	72.48
COMMODITIES	3.93	3.54	3.28	0.72	11.47	14.05	25.53	74.47
TOTAL	3.08	3.72	2.02	0.82	9.63	12.09	21.73	78.27

Source: Table 4.15.

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 Minneapolis 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

[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*. 212

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 33 percent lower in the Minneapolis 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 nonminority women. These disparities are consistent with the presence of market-wide discrimination. Observed disparities for these groups ranged from a low of -26 percent for persons reporting more than one race to a high of -33 percent for African Americans and nonminority women. Similar results were observed when the analysis was restricted to the Construction and CRS sector. That is, large, adverse, and statistically significant wage disparities were observed for all minority groups and for nonminority women. All wage and salary disparity analyses were then repeated to test whether observed disparities in the Minneapolis 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 than their 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 Minneapolis 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.

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). 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 Minnesota. The size of the disparities facing minority and female-owned firms in the state is striking. For example, although 1.81 percent of all firms in Minnesota are owned by African Americans, they earn only 0.36 percent of all sales and receipts. African American employer firms are 0.50 percent of the total but earn only 0.31 percent of sales and receipts. Disparities for women and for other minority groups are also very large in Minnesota.

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 particularly likely to report that they did not apply for a loan over the preceding three years because they feared the loan would be denied.

[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

- When minority-owned firms did apply for a loan, their requests were substantially more likely to be denied than other groups, even after accounting for differences in factors like size and credit history.

- When minority-owned firms did receive a loan, they paid higher interest rates than comparable non-minority-owned firms.

- Far more minority-owned firms report that credit market conditions are a serious concern than is the case for non-minority-owned firms.

- A greater share of minority-owned firms believes that the availability of credit is the most important issue likely to confront the firm in the next 12 months.

- Judging from the analysis done using data from the SSBF, there is no reason to believe that evidence of discrimination in the market for credit is different in the Minneapolis market area than in the nation as a whole. The evidence from NERA's own credit surveys in a variety of states and metropolitan areas across the country is entirely consistent with the results from the SSBF.

We conclude that there is evidence of discrimination against M/WBEs in the Minneapolis 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 City's Contracting and Procurement Markets, FY 2003–2007

Chapter VII analyzes the extent to which M/WBEs were utilized by the City between 2003-2007 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 Minneapolis Contracting and Procurement, 2003-2007

M/WBE Type	Procurement Category				
	Construction	CRS	Services	Commodities	Overall
	(%)	(%)	(%)	(%)	(%)
African American	0.15	4.87	0.28	0.00	0.32
Hispanic	0.73	0.00	0.02	0.00	0.32
Asian	1.00	3.71	0.47	2.99	1.09
Native American	1.73	0.04	0.01	0.07	0.76
MBE	3.62	8.62	0.78	3.06	2.50
Nonminority Female	3.81	3.57	1.88	0.14	2.55
M/WBE Total	7.43	12.19	2.66	3.20	5.05
Non-M/WBE Total	92.57	87.81	97.34	96.80	94.95
Total (%)	100.00	100.00	100.00	100.00	100.00
Total ($)	*412,112,047*	*27,633,866*	*405,018,324*	*114,233,858*	*958,998,095*

Source: Table 7.1

Next we compared the City'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 statistically significantly 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. In many cases, we find large disparities in the City's contracting and procurement activity despite the operation of the M/WBE Program. In other cases, the Program appears to be affording M/WBEs participation opportunities that meet or exceed their current availability levels.

Table C. Disparity Results for City of Minneapolis Contracting, Overall and By Procurement Category, 2003-2007

Procurement Category / M/WBE Type	Utilization	Availability	Disparity Ratio	
Construction				
African American	0.15	2.54	6.00	
Hispanic	0.73	3.96	18.42	
Asian	1.00	1.37	73.37	
Native	1.73	0.91	.	
Minority-owned	3.62	8.78	41.24	
White female	3.81	10.72	35.50	*
M/WBE total	7.43	19.50	38.08	**
CRS				
African American	4.87	2.16	.	
Hispanic	0.00	1.98	0.14	
Asian	3.71	3.16	.	
Native	0.04	0.64	6.30	
Minority-owned	8.62	7.95	.	
Non-minority female	3.57	11.18	31.90	
M/WBE total	12.19	19.13	63.73	
Services				
African American	0.28	4.59	6.05	
Hispanic	0.02	3.44	0.45	
Asian	0.47	3.27	14.53	
Native	0.01	0.61	2.02	
Minority-owned	0.78	11.91	6.56	
Non-minority female	1.88	15.62	12.05	
M/WBE total	2.66	27.52	9.67	
Commodities				
African American	0.00	3.93	0.00	
Hispanic	0.00	3.54	0.00	
Asian	2.99	3.28	91.03	
Native	0.07	0.72	9.29	
Minority-owned	3.06	11.47	26.63	
Non-minority female	0.14	14.05	1.02	*
M/WBE total	3.20	25.53	12.53	**
All Procurement				
African American	0.32	3.08	10.48	
Hispanic	0.32	3.72	8.61	
Asian	1.09	2.02	54.29	
Native	0.76	0.82	92.98	
Minority-owned	2.50	9.63	25.93	
Non-minority female	2.55	12.09	21.09	
M/WBE total	5.05	21.73	23.23	**

Source: Table 7.11. Note: "*" indicates an adverse disparity that is statistically significant at the 10% level or better. "**" indicates the disparity is significant at a 5% level or better. "***" indicates significance at a 1% level or better. An empty cell in the Disparity ratio column indicates that no adverse disparity was observed for that category.

Finally, Chapter VII compares current levels of M/WBE availability for Minneapolis 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 City's overall contracting and by major procurement category are presented below in Table D. Expected availability exceeds actual current availability in every case.

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	3.08	5.86
	Hispanic	3.72	5.73
	Asian	2.02	2.52
	Native American	0.82	1.82
	Minority total	9.63	13.20
	Non-minority female	12.09	16.34
	M/WBE total	21.73	31.80
Construction			
	African American	2.54	n/a
	Hispanic	3.96	5.50
	Asian	1.37	2.18
	Native American	0.91	n/a
	Minority total	8.78	13.43
	Non-minority female	10.72	17.05
	M/WBE total	19.50	30.61
CRS			
	African American	2.16	n/a
	Hispanic	1.98	2.75
	Asian	3.16	5.02
	Native American	0.64	n/a
	Minority total	7.95	12.16
	Non-minority female	11.18	17.78
	M/WBE total	19.13	30.03
Services			
	African American	4.59	9.70
	Hispanic	3.44	5.73
	Asian	3.27	4.50
	Native American	0.61	1.37
	Minority total	11.91	15.32
	Non-minority female	15.62	21.05
	M/WBE total	27.52	39.15
Commodities			
	African American	3.93	8.31
	Hispanic	3.54	5.90
	Asian	3.28	4.52
	Native American	0.72	1.61
	Minority total	11.47	14.75
	Non-minority female	14.05	18.93
	M/WBE total	25.53	36.32

Source: Table 7.13.

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 difficulties 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 the City and other public entities in the Minneapolis market area shows that business discrimination continues to fetter M/WBE business opportunities in the City's relevant markets.

We found that M/WBEs in the City'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 Minneapolis 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 City of Minneapolis, other public sector, and private sector contracts. Participants reported stereotyping, perceptions of M/WBE incompetence and being subject to higher performance standards; exclusion from industry networks; jobsite harassment; discrimination in access to commercial loans; inability to obtain public sector prime contracts; difficulties in receiving fair treatment in obtaining public sector subcontracts; and virtual exclusion from private sector opportunities to perform as either prime contractors as subcontractors.

While not definitive proof that Minneapolis 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, Minneapolis 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.

I. Small Underutilized Business Program Overview

Chapter IX provides an overview of Minneapolis' race- and gender-neutral Small Underutilized Business Program. We also review other Twin Cities area governments' studies and affirmative action contracting goals.

The City's SUBP is based upon a 1995 disparity study. The consultants concluded there was a "strong basis in evidence" of discrimination for African American-, Asian-, Hispanic-, and women-owned firms. Adopted in 1999, the SUBP sets project goals for MBE and WBE participation, and bidders must meet those goals or demonstrate their good faith efforts to do so. Certification of a firm's Program eligibility is performed by CERT, a consortium of local agencies. Minneapolis does not conduct its own outreach or assistance component for emerging businesses. It works with the other local agencies through CERT to provide information to M/WBEs on opportunities on City projects.

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 the City'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 n0n-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

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 of the City of Minneapolis (hereinafter "the City" or "Minneapolis"). The purpose of this Study is to assist the City in evaluating whether its current program to assist minority-owned and women-owned business enterprises M/WBEs is still necessary to remedy discrimination, and to narrowly tailor existing and any new measures that may be adopted.

Like many local governments, Minneapolis has a long record of commitment to including M/WBEs in its contracting and procurement activities. As will be documented in this Study, from fiscal years 2003 through 2007 the City 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 City's prior efforts have produced positive results—M/WBEs earned approximately 5 percent of the City's contracting and purchasing dollars from 2003 through 2007. 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, the City 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 Minneapolis.

A. Study Outline

To ensure compliance with constitutional mandates and M/WBE best practices, the City of Minneapolis commissioned NERA to examine the past and current status of M/WBEs in the City's geographic and product markets for contracting and procurement. The results of the 2010 Study provide the evidentiary record necessary for the City'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 City'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 Minneapolis market area. As part of our statistical findings, we surveyed the contracting experiences of M/WBEs and non-M/WBEs in the market area. Statistical analyses of the City'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 Minneapolis and how is it defined? What are the relevant product markets for Minneapolis and how are they defined?

Chapter IV: What percentage of all businesses in the City'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 Minneapolis market area less likely to be self-employed than similarly situated non-minority males? How do the findings in the Minneapolis 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 the City between 2003-2007, 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 City's Small Underutilized Business Program?

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.

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 Minneapolis 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.[4] 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 African American, 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.

[4] 488 U.S. 469 (1989).

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.[5]

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.[6] 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.[7]

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.[8]

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

---

[5] *Id*. at 491-92.

[6] *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.").

[7] 488 U.S. at 493.

[8] *Id*. at 499.

population representation is irrelevant. No data were presented about the availability of MBEs in 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 African Americans' 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.[9]

> 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."[10]

The foregoing analysis was applied only to African Americans. 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."[11]

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.[12] 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:

---

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

[10] 488 U.S. at 510.

[11] *Id*.

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

> 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 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.[13]

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.[14] 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."[15]

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 African Americans 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 African American businesses infects the local economy.[16]

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

---

[13] 488 U.S. at 509 (citations omitted).

[14] *Id*. at 502.

[15] *Id*. at 510.

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

> 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 (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*.[17]

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*."[18]

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."[19]

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

---

[17] *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").

[18] *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).

[19] *See Adarand III*, 515 U.S. at 237.

and utilization; and gathering anecdotal information about the experiences of MBEs and WBEs on public and private contracts.

Despite millions of dollars spent on such analyses, the results were often econometrically unsound,[20] politically motivated[21] 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.[22]

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*.[23] 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.[24] 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

---

[20] "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.

[21] *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).

[22] *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 III*"); *Engineering Contractors Association of South Florida,* Inc .v. *Metro. Dade County*, 122 F.3d 895 (11th Cir. 1997) ("*Engineering Contractors II*"*); 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).

[23] 515 U.S. 200 (1995) (applying strict scrutiny to federal legislation).

[24] Denver had commissioned disparity studies in 1990, 1991, 1995 and 1997.

M/WBE Program was upheld by the Tenth Court of Appeals, and the Supreme Court declined review.[25] The City of Chicago's M/WBE program for local construction contracts was also held to meet compelling interest using this framework.[26] The *Denver* and *Chicago* decisions provide the most detailed analysis of the evidence necessary to establish that Minneapolis 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 nonminority 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*[27], 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.

---

[25] *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")* .

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

[27] 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.

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" method[28] 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 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 nonminority 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 nonminority 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 nonminority 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 nonminority 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.

---

[28] 321 F.3d at 966.

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."[29]

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.[30] 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.[31]

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.[32]

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."[33] Similarly, the trial court was wrong to reject the statistical evidence because such evidence cannot identify the individuals responsible for the discrimination.[34]

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."[35]

Croson'*s* admonition that "mere societal" discrimination is not enough to meet strict scrutiny[36] does not apply where the government presents evidence of discrimination in the industry targeted

---

[29] *Id.* at 970.

[30] *Id*. at 975.

[31] *Id*. at 976.

[32] *Id*. at 973 (emphasis in the original).

[33] *Id*. at 971.

[34] *Id*. at 973.

[35] *Id*

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 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."[37]

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."[38] 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."[39] 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.[40]

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 nonminority 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."[41] Further, plaintiff failed to conduct any study showing

---

[36] *See* 488 U.S. at 497.

[37] 321 F.3d at 976.

[38] *Id*. at 977.

[39] *Id*.

[40] *Id*. at 979.

[41] *Id*. at 983 (emphasis in the original).

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*."[42]

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.[43]

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."[44] This "failure" of the legislative body to somehow verify testimony had been a favorite shibboleth of plaintiffs in other cases.[45]

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 African American-, Hispanic- and women-owned construction firms.[46] 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

---

[42] *Id*. at 987-88 (emphasis in the original).

[43] *Id*.

[44] *Id*. at 989.

[45] *See, e.g., Builders Association of Greater Chicago v. County of Cook*, 123 F.Supp.2d 1087 (N.D. Ill. 2000) ("*BAGC v. Cook*").

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

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.[47]

The opinion first reviews the historical proof of discrimination against minorities, particularly African Americans, 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 African American mayor, several reports focused on the exclusion of 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,

[47] 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.

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."[48]

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 African Americans, credit availability appeared to be a problem. Plaintiff's expert also identified discrimination against nonminority females in one data set.

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

[48] 298 F. Supp.2d at 738.

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
- The duration of the program.[49]

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.[50]

It is imperative that remedies not operate as fixed quotas.[51] Firms that fail to meet the subcontracting goals but make good faith efforts to do so must be eligible for contract awards.[52] 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

---

[49] *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.

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

[51] *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").

[52] *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.").

DBE program.[53] This feature has been central to the holding that the DBE program meets the narrow tailoring requirement.[54]

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.[55] 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.[56] 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 Americans, all of whom are included in the Act's definition of 'minority.'"[57] The "random inclusion" of groups that may never have experienced discrimination in the entity's marketplace may indicate impermissible "racial politics."[58] 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."[59]

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.[60]

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,[61] to separate goals for each minority group and women.[62] The State of Ohio's Program was specifically faulted for lumping together all "minorities," with the court

---

[53] 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"*).

[54] *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).

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

[56] *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).

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

[58] *Webster*, 51 F.Supp.2d at 1380–1381.

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

[60] *Concrete Work IV*, 321 F.3d at 9761.

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

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

questioning the legitimacy of forcing African American contractors to share relief with recent Asian immigrants.[63]

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.[64]

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-M/W/DBEs.[65] However, "innocent" parties can be made to share some of the burden of the remedy for eradicating racial discrimination.[66]

Race-based programs must have duration limits.[67] A race-based remedy must "not last longer than the discriminatory effects it is designed to eliminate."[68] 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."[69] 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.[70] In contrast, the USDOT DBE Program's periodic review by Congress has been repeatedly held to provide adequate durational limits.[71]

---

[63] *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.").

[64] *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").

[65] *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).

[66] *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.3 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.

[67] *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.").

[68] 515 U.S. at 238.

[69] *Drabik II*, 214 F.3d at 737.

[70] *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

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.[72] 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."[73] 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.[74] How old is too old is not definitively answered,[75] 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*,[76] 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

---

at 1382 (telling disqualifier was that the County had been implementing a "quota" program since 1979 with no contemplation of program expiration).

[71] *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).

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

[73] *Thompson. v. Augusta,* at *9.

[74] *BAGC v. Chicago*, 298 F.Supp.2d at 739.

[75] *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.").

[76] 515 U.S. 200 (1995) (*Adarand III*).

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.[77]

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 statute[78] and implementing regulations[79] 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.[80] While binding strictly only upon the DBE Program, these cases provide important guidance to Minneapolis about the types of evidence necessary to establish its compelling interest in adopting a local affirmative action contracting program and how to narrowly tailor a program. They are also highly relevant to how the City should meet its regulatory responsibilities in implementing its M/WBE 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.[81] 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 African American 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.[82]

---

[77] *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.

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

[79] 49 C.F.R. Part 26.

[80] *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"*).

[81] *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.").

[82] *See id.*, 407 F.3d at 992-93.

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.[83]

Next, the regulations were facially narrowly tailored. Unlike the prior program,[84] Part 26 provides that:

- 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.[85]

---

[83] *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.").

[84] 49 C.F.R. Part 23.

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."[86]

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 for DBE participation in the relevant contracting markets. This stands in stark contrast to the program struck down in *Croson*…."[87]

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."[88]

M/WBE programs based upon a methodology similar to that for this Study for Minneapolis, have been held to be narrowly tailored in their application of Part 26. Of particular application to Minneapolis, 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

---

[85] *Sherbrooke*, 345 F.3d. at 973.

[86] *Id*. at 972.

[87] *Id.*

[88] *Id*. at 973.

> of race-conscious and race-neutral methods as the year progressed, as the DOT regulations require.[89]

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.[90] 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 Minneapolis, 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 available firms.[91] 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;[92]
- Expert reports and anecdotal testimony presented to the Chicago City Council in support of the City's revised M/WBE Procurement Program ordinance;

---

[89] *Id*.

[90] *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.

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

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

- Anecdotal evidence gathered at IDOT's public hearings on the DBE program;
- Data on DBE involvement in construction projects in markets without DBE goals;[93] 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 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.[94]

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*.[95] 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.

---

[93] *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.").

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

[95] 545 F.3d 1023 (*Fed. Cir.* 2008) ("*Rothe VII*").

The court held that Section 1207,[96] 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.[97]

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,[98] Cincinnati,[99] and New York;[100] in Cuyahoga County, Ohio,[101] and Alameda County, California;[102] and in the Commonwealth of Virginia;[103]
- 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.

---

[96] 10 U.S.C. § 2323.

[97] *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.

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

[99] "City of Cincinnati Disparity Study," Griffin & Strong, PC (2002).

[100] "City of New York Disparity Study," Mason Tillman Associates, Ltd. (2005).

[101] "Ohio Multi-Jurisdictional Disparity Studies," Mason Tillman Associates, Ltd. (2003).

[102] "Alameda County Availability Study," Mason Tillman Associates, Ltd. (2004).

[103] "Procurement Disparity Study of the Commonwealth of Virginia," MGT of America, Inc. (2004).

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."[104]

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."[105]

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."[106]

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 the studies were irrelevant or flawed.[107] 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."[108] 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

---

[104] 545 F.3d at 1038–1039.

[105] *Id.*

[106] *Id.* at 1040.

[107] *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."

[108] 545 F.3d at 1040.

"qualifications" of the minority firms in the denominator of the disparity analysis,[109] or as the court terms it, "relative capacity."[110] 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.[111] 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.[112]

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 *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.[113]

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".[114]

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."[115]

---

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

[110] 545 F.3d at 1042.

[111] *Ibid.*

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

[113] 545 F.3d at 1045 (quoting from Justice Scalia's dissent in *Concrete Works V*, 540 U.S. 1027, 1032 [2003]).

[114] *Id.* at 1047–1048.

[115] *Id.* at 1049.

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."[116] 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.[117] 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 accurate measurement of the existence of the "market failure" of discrimination.[118] 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*.[119] 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"?

---

[116] *Id.* at 1049–1050.

[117] 545 F.3d at 1045.

[118] *Builders Association v. Chicago*, 298 F.Supp.2d at, 737.

[119] Enchautegui, et al. (1996).

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.

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 Minneapolis 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.[120] 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.[121] 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.[122]

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.[123] While the Eighth Circuit has not spoken to this issue, most courts have applied intermediate scrutiny to preferences for women and then upheld or struck down the female preference under that standard.[124] However, the Sixth Circuit has applied strict scrutiny to gender preferences.[125] This is probably a distinction without meaningful difference, as only one post-*Croson* court has

---

[120] 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.

[121] *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.

[122] 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.

[123] *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).

[124] *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.

[125] *Brunet,* 1 F.3d at 404.

upheld WBE provisions while striking down MBE measures.[126] 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."[127] Therefore, Minneapolis 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.[128] 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.[129] "As the courts 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."[130] A plaintiff "cannot meet its burden of proof through conjecture and unsupported criticism of [the government's] evidence."[131]For example, in the challenge to the Minnesota DBE program, "plaintiffs[132] presented evidence that the data was 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."[133]

There is no need of formal legislative findings,[134] nor "an ultimate judicial finding of discrimination before [a local government] can take affirmative steps to eradicate discrimination."[135] When the statistical information is sufficient to support the inference of discrimination, the plaintiff must prove that the statistics are flawed.[136] A plaintiff cannot rest

---

[126] *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].")..

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

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

[129] *Adarand VII*, 228 F.3d at 1166; *Scott*, 199 F.3d at 219.

[130] *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).

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

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

[133] *Sherbrooke*, 345 F.3d at 970

[134] *Webster*, 51 F.Supp2d at 1364.

[135] *Concrete Works II*, 36 F.3d at 1522.

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

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.[137]

E. Minneapolis' Compelling Interest in Remedying 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.[138] 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.[139]

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 Minneapolis 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.

1. Definition of Minneapolis' 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.[140] This Study empirically establishes the geographic and product dimensions of the City's contracting and procurement marketplace in order to ensure that the evidence is narrowly tailored.[141]

2. Examining Disparities between M/WBE Availability and Utilization

Next, statistical examination of the availability of minorities and women to participate in the City's projects and the history of utilizing M/WBEs as prime contractors and as subcontractors

---

[137] *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.

[138] *Adarand VII*, 228 F.3d at 1166 ("statistical and anecdotal evidence are appropriate").

[139] *Id*.

[140] 488 U.S. at 508.

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

by the government and its prime contractors is required as part of a disparity study.[142] Simple disparities between an area's overall minority population and its prime contractors' utilization of minority- and women-owned firms are not enough.[143] 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.[144]

This is known as the "disparity index" or "disparity ratio." A disparity index measures the participation of a group in Minneapolis' 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.[145] 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.[146]

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.[147] 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.[148]

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

---

[142] 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.

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

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

[145] *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).

[146] *Engineering Contractors II*, 122 F3d at 914.

[147] *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).

[148] *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).

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.[149]

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."[150]

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"[151] 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 contract with M/WBEs.[152] As the Eleventh Circuit has acknowledged, "the program at issue may itself be masking discrimination that might otherwise be occurring in the relevant market."[153] The courts are clear that the government has a compelling interest in not financing the evil of private prejudice with public dollars.[154] 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

---

[149] *Concrete Works IV,* 321 F.3d at 971.

[150] *Id*. at 987-988.

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

[152] *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).

[153] *Engineering Contractors II*, 122 F.3d at 912.

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

discrimination."[155] 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.[156] 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.[157] Evidence of unremediated markets "sharpens the picture of local market conditions for MBEs and WBEs."[158]

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.[159] 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".[160]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.[161] 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 probative."[162] "[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."[163]

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

---

[155] *Adarand VII*, 228 F.3d at 1174.

[156] *See also Philadelphia III*, 91 F.3d at 599-601.

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

[158] *Concrete Works II*, 36 F.3d at 1529.

[159] *Webster*, 51 F.Supp.2d at 1363, 1379.

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

[161] *Adarand VII*, 228 F.3d at 1168-1172.

[162] *Concrete Works II*, 36 F.3d at 1520, 1530.

[163] *Engineering Contractors II*, 122 F.3d at 926.

either refute the incidents described by Denver's witnesses or to relate their own perceptions on discrimination in the Denver construction industry."[164]

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

1. Race- and Gender-Neutral Remedies

Race- and gender-neutral approaches have become a necessary component of a defensible and effective M/WBE program.[165] The failure to seriously consider race- and gender-neutral remedies has been fatal to M/WBE programs.[166] 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.[167] 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 City 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.[168] 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.[169]

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.[170] 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."[171]

---

[164] *Concrete Works IV*, 321 F.3d at 989; *see also H.B. Rose Company, Inc. v. Tippett*, case: 09-1050, slip op. at 26 (4th cir. July 22, 2010) (anecdotal evidence need not be verified).

[165] *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).

[166] *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.

[167] *See* 49 CFR § 26.51.0

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

[169] *See, e.g.*, *Virdi*, at n.8.

[170] *Grutter*, 529 U.S. at 339.

[171] *Coral Construction*, 941 F.2d at 923.

2. Targeted Goal Setting

Numerical goals or benchmarks for M/WBE participation must be substantially related to their availability in the relevant market.[172] 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.).[173]

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]hough the underlying estimates may be inexact, the exercise requires the States to focus on establishing realistic goals for DBE participation in the relevant contracting markets. This stands in stark contrast to the program struck down in *Croson.*"[174] "On the other hand, sheer speculation cannot form the basis for an enforceable measure."[175]

---

[172] *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.

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

[174] *Sherbrooke,* 345 F.3d at 972.

[175] *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).

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 based upon availability of M/WBEs to perform the anticipated scopes of subcontracting. Not only is this legally mandated,[176] 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 Minneapolis' development of contract goals.

3. Flexibility of Goals and Requirements

Quotas are not defensible. The City 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.[177]

4. Program Beneficiaries

Based upon the Study, Minneapolis 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.[178] 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.[179]

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,[180] to separate goals for each minority group and women have been upheld.[181] 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 City 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

---

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

[177] 488 U.S. at 508; *see also Adarand VII*, 228 F.3d at 1181; *Sherbrooke*, 345 F.3d at 972.

[178] *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).

[179] *Concrete Work IV*, 321 F.3d at 9761.

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

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

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.[182]

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.[183] Minneapolis 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

The City 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.[184] Minneapolis 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."[185]

---

[182] 49 CFR §26.87.

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

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

[185] *Virdi*, at *18.

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' *nationwide* 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."[186] 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."[187]

The first step, therefore, in our evaluation of M/WBE availability and participation for the City of Minneapolis must be to define the relevant market area for its own Construction, Construction-related professional services ("CRS"),[188] Other Professional and General Services ("Services"), and Commodities, Supplies, and Equipment contracts ("Commodities"). Markets have both a product and a geographic dimension, both of which are considered.[189] For this Study, we define the City's market area based on its own historical contracting and subcontracting records. We define the geographic market by calculating from zip code data where the majority of the City'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, subcontractor, subconsultant, or supplier in those records.[190] 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 City'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 City's specific market area and contracting circumstances.

---

[186] *Croson*, 488 U.S. at 504.

[187] *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.

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

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

[190] Executive Office of the President, Office of Management and Budget, *North American Industrial Classification System: United States, 2007,* Lanham, MD: Bernan, 2007.

With assistance from the City, we collected prime contract and available associated first-tier subcontractor, subconsultant, and supplier (collectively "subcontractor") data for the City's Construction, Construction-related professional services ("CRS"), Other Professional and General Services ("Services"), and Commodities, Supplies, and Equipment contracts ("Commodities") that were awarded between January 2003 and December 2007.

We restricted our analysis to contracts of $50,000 or more, which is the City's Informal Bid threshold.[191] This Study, therefore, focuses on those 44 percent of City contracts that collectively account for over 97 percent of all contract spending. During the five-year study period, there were 1,231 such contracts. The total award value of these 1,231 contracts was approximately $1.019 billion. For each prime contract included in the Study, we attempted to obtain from the City the prime contractor name and address, project description, contract number, contractor gender and ethnicity, contract start and end dates, total contract amount authorized, and total amount expended.

The City has not maintained records of subcontracting activity during the study period that are sufficient for the disparity study assessment, especially in procurement categories outside of Construction. Of the 1,231 contracts and purchases in the scope of the study, the necessary subcontract information was available for 329, or 27 percent. These 329 prime contracts had 797 associated subcontracts. For the balance of 902 contracts in the Study (1231 – 329 = 902) it was necessary to select a statistically representative sample for which to obtain the missing information.

The 902 City contracts were stratified according to procurement category (Construction, CRS, Services, Commodities). We sampled the largest contracts with certainty, and sampled smaller contracts randomly with replacement.[192] The study sample drawn contained 469 City contracts, or 52.0 percent of the contracts in the sample universe, and accounted for approximately $585.9 million, or about 95.2 percent of the contract dollar expenditures in the sample universe.

For these 469 contracts, we sought to obtain the missing subcontract and subcontractor information, both for M/WBEs and non-M/WBEs, directly from the relevant prime contractors. With the City's assistance, the information we attempted to obtain from these firms included their contract award amount(s), contract paid amount(s), all subcontractor business names, address, and phone, all subcontractor gender and ethnicity information, and all subcontractor award amounts and paid amounts.

---

[191] City of Minneapolis Code of Ordinances, Chapter 139.20. *See also* Chapter 423.40. Excluding contracts with other public entities and non-profit entities, Although City contracts and purchases below $50,000 comprised almost 57 percent of all contract activity during the study period, these contracts and purchases collectively accounted for less than 3.1 percent of all authorized expenditures during that period.

[192] "With replacement" means that it is possible for a given purchase order to be included in the sample more than once. In the present context, sampling with replacement has certain desirable statistical properties that sampling without replacement lacks. In our sample for the City, 9 contracts were sampled twice and 2 contracts were sampled three times.

After an intensive data collection effort by the City, and with the assistance of NERA, we ultimately obtained the associated subcontract information for 372 prime contracts, or 79.3 percent (372 out of 469) of the total prime contracts sampled, and 998 associated subcontracts. The 372 prime contracts for which we obtained complete and usable subcontract information accounted for 94.8 percent of total awarded value of the prime contracts in the sample ($555.21 million out of $585.87 million). These percentages are sufficiently large to be well representative of the entire sample universe of contracts and subcontracts.

Therefore, including the 329 contracts and 797 associated subcontracts for which the data were already in-hand, the final sample of contracts and subcontracts to be used for the study contains 701 prime contracts and 1,795 associated subcontracts, with a total awarded dollar value of $959.0 million and a total paid dollar value of $800.5 million.[193]

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 and paid, 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 and payments associated with those contracts, by major procurement category. Table 3.3 shows the same information disaggregated across City departments.

B. Geographic Market Definition for Contracting and Procurement

To determine the geographic dimension of the City'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 Minneapolis 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 is one Core Based Statistical Area (CBSA) that encompasses the City of Minneapolis. It is the Minneapolis-St. Paul-Bloomington, MN-WI Metropolitan Statistical Area. Contractors located within the Minnesota portion of the CBSA account for the vast majority of contracting and procurement expenditures by the City of Minneapolis and its prime contractors during the study period.

As shown in Table 3.4, the overall share of expenditures inside this market area is 81.0 percent of dollars awarded and 82.0 percent of dollars paid. The share is highest in CRS (96.9 and 98.2 percent, respectively) and lowest in Commodities (58.2 and 52.1 percent, respectively). For

[193] Contracts that were not substantially complete at the time the subcontract data was collected were excluded from the paid dollar analyses.

purposes of this Study, we therefore define the primary geographic market area to be the Minneapolis-St. Paul-Bloomington, MN Metropolitan Statistical Area as identified above, and hereafter referred to as the "Minneapolis market area."

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.[194]

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 City'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 City's contracting activities, actual 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 two Industry Sub-sectors (NAICS 238 and 236) account for over two-thirds of all contract spending spent and six Sub-sectors account for over 90 percent, with the remaining amount distributed among 37 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 81 percent of all contract spending. In Services, three Sub-sectors (NAICS 524, 812, and 621) account for more than two-thirds of all contract spending and 9 Sub-sectors together account over 91 percent. In Commodities, four Sub-sectors (NAICS 333, 423, 517, and 334) together account for more than half of all spending and nine 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, Minneapolis contracting expenditures during the study period occur in 66 NAICS Industry Sub-sectors, 147 NAICS Industry Groups, and 274 NAICS Industries.

In Construction, Minneapolis contract spending occurs across 42 NAICS Industry Sub-sectors, 90 NAICS Industry Groups, and 157 NAICS Industries. In CRS, Minneapolis contract spending occurs across 17 NAICS Industry Sub-sectors, 27 NAICS Industry Groups, and 38 NAICS Industries. In Services, Minneapolis contract spending occurs across 49 NAICS Industry Sub-sectors, 100 NAICS Industry Groups, and 164 NAICS Industries. In Commodities, Minneapolis contract spending occurs across 25 NAICS Industry Sub-sectors, 45 NAICS Industry Groups, and 56 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

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

Commodities.[195]

Now that the geographic and industry parameters of the City'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 City's specific contracting circumstances.

[195] The percentage weights are re-normalizing to sum to 100.

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
CONSTRUCTION		412,112,047	394,076,904
Prime Contracts	210	206,298,170	187,844,266
Subcontracts	1,345	205,813,877	206,232,638
CRS		27,633,866	20,869,074
Prime Contracts	104	22,751,353	17,367,767
Subcontracts	146	4,882,513	3,501,307
SERVICES		405,018,324	298,459,060
Prime Contracts	260	382,850,412	276,814,260
Subcontracts	304	22,167,912	21,644,801
COMMODITIES		114,233,858	87,057,003
Prime Contracts	127	114,233,858	87,057,003
Subcontracts	-	0	0
GRAND TOTAL		958,998,095	800,462,041
Prime Contracts	701	726,133,793	569,083,295
Subcontracts	1,795	232,864,302	231,378,746

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
CONSTRUCTION			
2003	48	222,775,241	221,769,209
2004	43	87,671,563	87,546,941
2005	43	43,929,240	43,561,238
2006	29	37,195,212	23,122,605
2007	47	20,540,789	18,076,908
TOTAL	210	412,112,045	394,076,901
CRS			
2003	7	1,384,875	1,380,100
2004	27	7,368,314	6,076,095
2005	40	9,591,103	7,504,849
2006	20	6,708,590	3,647,981
2007	10	2,580,983	2,260,050
TOTAL	104	27,633,866	20,869,074
SERVICES			
2003	29	25,211,260	26,286,042
2004	47	178,422,454	122,867,760
2005	81	50,977,583	41,497,854
2006	52	82,935,273	45,894,236
2007	51	67,471,752	61,913,167
TOTAL	260	405,018,322	298,459,059

PROCUREMENT CATEGORY & YEAR OF AWARD	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED	DOLLARS PAID
COMMODITIES			
2003	23	25,003,350	21,867,897
2004	20	12,412,241	11,179,898
2005	38	22,600,888	17,912,750
2006	27	43,232,772	27,818,313
2007	19	10,984,607	8,278,146
TOTAL	127	114,233,858	87,057,003
ALL			
2003	107	274,374,727	271,303,248
2004	137	285,874,573	227,670,693
2005	202	127,098,814	110,476,691
2006	128	170,071,846	100,483,135
2007	127	101,578,132	90,528,271
TOTAL	701	958,998,091	800,462,038

Source: See Table 3.1.

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

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED	DOLLARS PAID
CONSTRUCTION	210	412,112,047	394,076,904
COMMUNITY PLANNING AND ECO DEV	26	32,036,571	31,577,107
CONVENTION CENTER	9	1,988,294	1,986,671
LIBRARY BOARD	19	74,601,266	74,589,056
PARK BD - CAP IMPROVEMENT	15	7,872,358	7,939,163
PARK BOARD	36	17,872,808	16,620,756
PUBLIC WORKS	15	10,402,940	10,153,454
MULTIPLE DEPARTMENTS	88	266,068,120	249,942,163
OTHER DEPARTMENTS	2	1,269,691	1,268,535
CRS	104	27,633,866	20,869,074
BUSINESS INFORMATION SERVICES	1	49,995	49,995
COMMUNITY PLANNING AND ECO DEV	26	1,200,598	977,235
CONVENTION CENTER	1	50,000	36,449
LIBRARY BOARD	4	2,514,190	2,452,240
PARK BD - CAP IMPROVEMENT	14	2,517,635	2,481,796
PUBLIC WORKS	17	4,710,255	3,365,071
MULTIPLE DEPARTMENTS	41	16,591,193	11,506,287

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED	DOLLARS PAID
SERVICES	260	405,018,324	298,459,060
ATTORNEY	19	5,892,742	3,893,760
BUSINESS INFORMATION SERVICES	7	13,222,488	8,542,836
COMMUNITY PLANNING AND ECO DEV	18	10,452,281	6,147,597
CONVENTION CENTER	5	5,285,350	3,863,596
FINANCE DEPARTMENT	15	2,939,021	1,758,218
HEALTH AND FAMILY SUPPORT	11	1,348,584	1,072,244
HUMAN RESOURCES	3	150,000	36,226
LIBRARY BOARD	5	890,800	780,642
PARK BD - CAP IMPROVEMENT	1	410,000	410,459
PARK BOARD	4	348,765	341,428
POLICE DEPARTMENT	4	1,193,045	1,198,427
PUBLIC WORKS	28	81,122,217	55,345,346
REGULATORY SERVICES	10	3,284,298	3,019,725
MULTIPLE DEPARTMENTS	102	77,922,467	57,973,604
OTHER DEPARTMENTS	28	200,556,266	154,074,951
COMMODITIES	127	114,233,858	87,057,003
COMMUNITY PLANNING AND ECO DEV	1	54,000	54,000
CONVENTION CENTER	1	859,887	859,887
FINANCE DEPARTMENT	2	105,000	70,187
HEALTH AND FAMILY SUPPORT	1	50,000	35,133
HUMAN RESOURCES	2	100,000	75,125
LIBRARY BOARD	18	10,454,011	8,754,806
PARK BOARD	7	1,527,423	1,226,051
POLICE DEPARTMENT	3	1,751,151	1,705,176
PUBLIC WORKS	46	27,990,569	22,086,495
REGULATORY SERVICES	1	50,500	5,819
MULTIPLE DEPARTMENTS	33	44,019,589	40,675,610
OTHER DEPARTMENTS	12	27,271,729	11,508,714

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED	DOLLARS PAID
OVERALL	701	958,998,095	800,462,041
ATTORNEY	19	5,892,742	3,893,760
BUSINESS INFORMATION SERVICES	8	13,272,483	8,592,831
COMMUNITY PLANNING AND ECO DEV	71	43,743,450	38,755,940
CONVENTION CENTER	16	8,183,531	6,746,603
FINANCE DEPARTMENT	17	3,044,021	1,828,405
HEALTH AND FAMILY SUPPORT	12	1,398,584	1,107,378
HUMAN RESOURCES	5	250,000	111,351
LIBRARY BOARD	46	88,460,267	86,576,744
PARK BD - CAP IMPROVEMENT	30	10,799,993	10,831,419
PARK BOARD	47	19,748,996	18,188,234
POLICE DEPARTMENT	7	2,944,196	2,903,603
PUBLIC WORKS	106	124,225,980	90,950,366
REGULATORY SERVICES	11	3,334,798	3,025,543
MULTIPLE DEPARTMENTS	264	404,601,368	360,097,664
OTHER DEPARTMENTS	42	229,097,686	166,852,200

Source: See Table 3.1.

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

Location	Construction (%)	CRS (%)	Services (%)	Commodities (%)	Overall (%)
	Award Dollars				
Inside Minneapolis Market Area	89.5	96.9	77.6	58.2	81.0
Outside Minneapolis Market Area	10.5	3.1	22.4	41.8	19.0
Inside Minnesota	90.7	97.2	77.7	62.4	82.0
Outside Minnesota	9.3	2.8	22.3	37.6	18.0
	Paid Dollars				
Inside Minneapolis Market Area	89.2	98.2	80.1	52.1	82.0
Outside Minneapolis Market Area	10.8	1.8	19.9	47.9	18.0
Inside Minnesota	90.4	98.6	80.2	57.2	83.2
Outside Minnesota	9.6	1.4	19.8	42.8	16.8

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
238	Specialty Trade Contractors	42.87	42.87
236	Construction of Buildings	26.04	68.91
237	Heavy and Civil Engineering Construction	8.28	77.18
423	Merchant Wholesalers, Durable Goods	6.11	83.30
333	Machinery Manufacturing	5.08	88.38
541	Professional, Scientific, and Technical Services	2.49	90.87
332	Fabricated Metal Product Manufacturing	1.77	92.64
339	Miscellaneous Manufacturing	1.36	94.00
531	Real Estate	1.08	95.08
327	Nonmetallic Mineral Product Manufacturing	0.87	95.96
561	Administrative and Support Services	0.62	96.58
337	Furniture and Related Product Manufacturing	0.59	97.18
443	Electronics and Appliance Stores	0.43	97.61
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	0.41	98.02
321	Wood Product Manufacturing	0.29	98.31
444	Building Material and Garden Equipment and Supplies Dealers	0.28	98.59
562	Waste Management and Remediation Services	0.25	98.84
484	Truck Transportation	0.20	99.04
	Remaining Balance (25 industry sub-sectors)	0.96	100.00
	TOTAL - $412,112,047		

Source: See Table 3.1.

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	81.50	81.50
237	Heavy and Civil Engineering Construction	15.46	96.96
238	Specialty Trade Contractors	1.65	98.61
333	Machinery Manufacturing	0.90	99.51
	Remaining Balance (13 industry sub-sectors)	0.49	100.00
	TOTAL - $27,633,866		

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
524	Insurance Carriers and Related Activities	42.27	42.27
812	Personal and Laundry Services	13.85	56.11
621	Ambulatory Health Care Services	11.62	67.73
541	Professional, Scientific, and Technical Services	10.12	77.86
561	Administrative and Support Services	4.49	82.35
511	Publishing Industries (except Internet)	2.92	85.27
334	Computer and Electronic Product Manufacturing	2.46	87.73
488	Support Activities for Transportation	2.18	89.90
624	Social Assistance	1.79	91.70
525	Funds, Trusts, and Other Financial Vehicles	1.70	93.40
562	Waste Management and Remediation Services	1.61	95.01
221	Utilities	1.08	96.09
238	Specialty Trade Contractors	0.88	96.98
236	Construction of Buildings	0.60	97.58
423	Merchant Wholesalers, Durable Goods	0.55	98.12
333	Machinery Manufacturing	0.33	98.45
532	Rental and Leasing Services	0.32	98.77
713	Amusement, Gambling, and Recreation Industries	0.31	99.08
	Remaining Balance (31 industry sub-sectors)	0.94	100.00
	TOTAL - $405,018,324		

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
333	Machinery Manufacturing	16.40	16.40
423	Merchant Wholesalers, Durable Goods	13.76	30.16
517	Telecommunications	12.77	42.93
334	Computer and Electronic Product Manufacturing	9.38	52.32
424	Merchant Wholesalers, Nondurable Goods	6.11	58.43
336	Transportation Equipment Manufacturing	5.92	64.35
541	Professional, Scientific, and Technical Services	5.44	69.79
327	Nonmetallic Mineral Product Manufacturing	5.40	75.19
238	Specialty Trade Contractors	5.22	80.41
237	Heavy and Civil Engineering Construction	5.07	85.48
212	Mining (except Oil and Gas)	4.53	90.01
511	Publishing Industries (except Internet)	3.45	93.45
324	Petroleum and Coal Products Manufacturing	2.06	95.51
321	Wood Product Manufacturing	1.05	96.57
519	Other Information Services	0.92	97.48
561	Administrative and Support Services	0.88	98.36
515	Broadcasting (except Internet)	0.55	98.90
522	Credit Intermediation and Related Activities	0.45	99.35
	Remaining Balance (7 industry sub-sectors)	0.65	100.00
	TOTAL - $114,233,858		

Source: See Table 3.1.

IV. M/WBE Availability in the City of Minneapolis 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 City's contracting market area—what we will refer to as the Baseline Business Universe.[196] 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 Minneapolis.

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."[197] However, most courts in our view have properly refused to make the results of discrimination the benchmark for non-discrimination.[198] 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.[199]

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 chapter). Dun & Bradstreet produces the most comprehensive publicly available database of businesses in the U.S. This database contains over 15 million records and is

---

[196] To yield a percentage, the resulting figure is multiplied by 100.

[197] *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)).

[198] *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 *Croson* to require disparity studies that measure whether construction firms are able to perform a *particular contract*.")

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

updated continuously. Each record in Dun & Bradstreet represents a business or business 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 City's own prime contract data for the study period.

Although numerous industries play a role in the City'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 Minnesota and surrounding states. Beyond the information already in *MarketPlace*, NERA collected lists of M/WBEs from the City of Minneapolis as well as other public and private entities. Specifically, directories were included from: Minnesota Department of Transportation, Minnesota Department of Administration, Association of Women Contractors, City of Duluth, City of Minneapolis, City of Saint Paul, Metropolitan Economic Development Association, Minnesota American Indian Chamber of Commerce, Minnesota Black Chamber of Commerce, Minnesota Black Pages, Minnesota Women's Press, St. Cloud Metropolitan Transit Commission, Moorehead Metropolitan Area Transit, United Indian Development Association, National Association of Women in Construction, African American Business Association of Des Moines, Iowa Department of Transportation, State of Iowa Department of Inspections and Appeals, African American Chamber of Commerce of Greater Milwaukee, National Center for American Indian Economic Development, American Indian Chamber of Commerce of Wisconsin, City of Madison, Great Lakes Inter-Tribal Council, Hmong Wisconsin Chamber of Commerce, National Association of Women Business Owners – Madison, The Business Council of Milwaukee, Wisconsin Black Chamber of Commerce, Wisconsin Department of Commerce,

Wisconsin Hispanic Chamber of Commerce, National Association of Women Business Owners – Milwaukee, Port of Milwaukee, Wisconsin Department of Transportation, Women Entrepreneurs of Wisconsin, Native American Business Development Agency, Asian Women in Business, U.S. Women's Chamber of Commerce, Diversity Business.com, Business Research Services, Small Business Association Dynamic Small Business Search/Central Contractor Registry, and Diversity Information Resources.[200]

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

[200] 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.

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.

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 applied survey responses from more than 15,000 firms drawn from the Dun & Bradstreet database designed to measure how often they were misclassified (or unclassified) by race and/or sex.[201] These surveys were not all performed at once. Rather, they are the combined results from 10 distinct surveys conducted throughout the country for different clients between 2005 and 2010.[202]

The first part of each survey tested whether the listed M/WBEs in the Baseline Business Universe were correctly classified by race and/or sex. The second part of each survey tested whether the unclassified firms in the Baseline Business Universe 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

Of more than 15,000 firms interviewed across our 10 surveys, approximately 6,000 were putatively classified as minority-owned or women-owned. The race and gender status of the listed M/WBEs in the Baseline Business Universe was changed, if necessary, according to the survey results for these approximately 6,000 putatively M/WBE firms. For example, for putatively non-minority female owned firms, we estimate the race and sex of their ownership based on the amount of misclassification we observed among the non-minority female owned firms that we interviewed.

For example, suppose that our surveys showed that 61 percent of the non-minority female owned firms interviewed in a particular NAICS code were indeed actually non-minority female-owned, 24 percent were actually non-minority male-owned, 7 percent are actually African American owned, 6 percent are actually Hispanic-owned, and 2 percent are actually Asian-owned. In this example, we would assign each of the putative non-minority female firms in that NAICS code in

[201] 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.

[202] The ten surveys included are New York State and the New York City Consolidated Metropolitan Statistical Area (2010), the Augusta-Richmond County, GA metropolitan statistical area (2009), the Austin, TX metropolitan statistical area (2008), the Memphis, TN-AR-MS metropolitan statistical area (2008), Utah (2008), the Baltimore, MD metropolitan statistical area (2007), Washington State (2007), the State of Maryland and the District of Columbia metropolitan statistical area (2006), the Denver, CO metropolitan statistical area (2006), and the State of Massachusetts (2006).

the Baseline Business Universe a 61.0 percent probability of actually being non-minority female-owned, a 24 percent probability of actually being non-minority male-owned, a 7 percent probability of being African American owned, a 6 percent probability of being Hispanic-owned, and a 2 percent probability of being Asian-owned. We then repeated this procedure for all putative race and sex categories and all NAICS codes.

Table 4.9 shows the misclassification percentages, by NAICS codes, used to produce the City of Minneapolis M/WBE availability estimates.

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 Dun & Bradstreet/Hoovers or in one or more of the other directories.

Of the more than 15,000 firms interviewed across our 10 surveys, approximately 9,000 were putatively unclassified by race or gender. The race and gender status of the unclassified firms in the Baseline Business Universe was changed, if necessary, according to the survey results for these approximately 9,000 putatively non-M/WBE firms.

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 the unclassified businesses in the Baseline Business Universe, we assigned probability values (probability actually non-minority male-owned, probability actually non-minority female-owned, probability actually African American-owned, etc.) based on the interview responses from our 10 combined surveys. We again carried out the probability assignment for each NAICS code in the Baseline Business Universe.

Not surprisingly, a large majority of unclassified businesses in the Baseline Business Universe are indeed non-minority male-owned. Nevertheless, substantial numbers of firms in this group turned out to *not* be non-minority male-owned. Among the latter, the largest group was non-minority female-owned, with descending size shares accounted for by Hispanic-owned, African American-owned, Asian-owned, and finally Native American-owned.

Table 4.10 shows the nonclassification percentages, by NAICS codes, used to produce the City of Minneapolis M/WBE availability estimates.

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

Tables 4.11-4.14 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 4.11 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 19.50 percent.

Table 4.12 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 19.13 percent.

Table 4.13 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 27.52 percent.

Table 4.14 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 25.53 percent.

Finally, Table 4.15 shows that overall M/WBE availability in the City's market area is 21.73 percent. Non-M/WBE availability is 78.27 percent. Overall, among M/WBEs, availability of African American-owned businesses is 3.08 percent, availability of Hispanic-owned businesses is 3.72 percent, availability of Asian-owned businesses is 2.02 percent, availability of Native American-owned businesses is 0.82 percent, and availability of non-minority female-owned businesses is 12.09 percent.

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)
2362	Nonresidential Building Construction	457	24.60	24.60
2382	Building Equipment Contractors	1,756	23.35	47.94
2381	Foundation, Structure, and Building Exterior Contractors	1,504	9.89	57.83
2389	Other Specialty Trade Contractors	1,132	4.91	62.74
2383	Building Finishing Contractors	1,743	4.73	67.47
2373	Highway, Street, and Bridge Construction	133	4.54	72.01
3331	Agriculture, Construction, and Mining Machinery Manufacturing	1	3.80	75.81
2371	Utility System Construction	148	3.74	79.55
4233	Lumber and Other Construction Materials Merchant Wholesalers	360	2.84	82.39
3323	Architectural and Structural Metals Manufacturing	171	1.67	84.07
2361	Residential Building Construction	4,104	1.44	85.50
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	81	1.39	86.89
3399	Other Miscellaneous Manufacturing	382	1.36	88.25
3339	Other General Purpose Machinery Manufacturing	92	1.17	89.42
5416	Management, Scientific, and Technical Consulting Services	4,084	1.09	90.52
5413	Architectural, Engineering, and Related Services	1,393	0.92	91.44
5312	Offices of Real Estate Agents and Brokers	1,768	0.76	92.19
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	210	0.66	92.85
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	869	0.62	93.47
3273	Cement and Concrete Product Manufacturing	78	0.59	94.07
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	38	0.59	94.66
5617	Services to Buildings and Dwellings	1,720	0.47	95.12
4431	Electronics and Appliance Stores	184	0.43	95.56
8133	Social Advocacy Organizations	99	0.41	95.97
5418	Advertising, Public Relations, and Related Services	189	0.38	96.34
5311	Lessors of Real Estate	871	0.33	96.67
3219	Other Wood Product Manufacturing	139	0.29	96.96
3272	Glass and Glass Product Manufacturing	24	0.23	97.20
4232	Furniture and Home Furnishing Merchant Wholesalers	73	0.23	97.43
5629	Remediation and Other Waste Management Services	169	0.22	97.64
4441	Building Material and Supplies Dealers	419	0.20	97.84
1114	Greenhouse, Nursery, and Floriculture Production	71	0.19	98.03
4236	Electrical and Electronic Goods Merchant Wholesalers	381	0.18	98.21
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	149	0.17	98.38

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
4422	Home Furnishings Stores	463	0.16	98.53
4931	Warehousing and Storage	133	0.14	98.67
4841	General Freight Trucking	905	0.13	98.81
5611	Office Administrative Services	138	0.13	98.94
3261	Plastics Product Manufacturing	144	0.10	99.03
5419	Other Professional, Scientific, and Technical Services	1,006	0.09	99.12
4442	Lawn and Garden Equipment and Supplies Stores	100	0.08	99.20
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	168	0.07	99.27
5322	Consumer Goods Rental	66	0.07	99.34
3333	Commercial and Service Industry Machinery Manufacturing	40	0.07	99.40
4842	Specialized Freight Trucking	62	0.06	99.47
3329	Other Fabricated Metal Product Manufacturing	6	0.06	99.53
3279	Other Nonmetallic Mineral Product Manufacturing	4	0.04	99.57
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	31	0.04	99.61
3359	Other Electrical Equipment and Component Manufacturing	32	0.03	99.64
4921	Couriers and Express Delivery Services	37	0.03	99.67
3132	Fabric Mills	15	0.03	99.70
5614	Business Support Services	3,039	0.03	99.73
4239	Miscellaneous Durable Goods Merchant Wholesalers	364	0.03	99.75
3324	Boiler, Tank, and Shipping Container Manufacturing	3	0.02	99.77
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	137	0.02	99.79
3351	Electric Lighting Equipment Manufacturing	10	0.02	99.81
3259	Other Chemical Product and Preparation Manufacturing	30	0.02	99.83
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	12	0.02	99.85
5621	Waste Collection	60	0.02	99.87
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	310	0.02	99.89
5622	Waste Treatment and Disposal	77	0.02	99.90
7121	Museums, Historical Sites, and Similar Institutions	79	0.02	99.92
7115	Independent Artists, Writers, and Performers	178	0.01	99.93
4539	Other Miscellaneous Store Retailers	660	0.01	99.94
3314	Nonferrous Metal (except Aluminum) Production and Processing	1	0.01	99.95
5411	Legal Services	1,451	0.01	99.96
3372	Office Furniture (including Fixtures) Manufacturing	57	0.01	99.96
4511	Sporting Goods, Hobby, and Musical Instrument Stores	361	0.00	99.97
3315	Foundries	2	0.00	99.97
8111	Automotive Repair and Maintenance	143	0.00	99.97
4421	Furniture Stores	245	0.00	99.98
3341	Computer and Peripheral Equipment Manufacturing	8	0.00	99.98
3326	Spring and Wire Product Manufacturing	26	0.00	99.98

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
3251	Basic Chemical Manufacturing	5	0.00	99.99
2123	Nonmetallic Mineral Mining and Quarrying	17	0.00	99.99
4241	Paper and Paper Product Merchant Wholesalers	87	0.00	99.99
5619	Other Support Services	275	0.00	99.99
6241	Individual and Family Services	665	0.00	99.99
3353	Electrical Equipment Manufacturing	10	0.00	99.99
3241	Petroleum and Coal Products Manufacturing	15	0.00	100.00
8114	Personal and Household Goods Repair and Maintenance	254	0.00	100.00
2213	Water, Sewage and Other Systems	53	0.00	100.00
5616	Investigation and Security Services	103	0.00	100.00
5241	Insurance Carriers	48	0.00	100.00
3379	Other Furniture Related Product Manufacturing	16	0.00	100.00
3159	Apparel Accessories and Other Apparel Manufacturing	12	0.00	100.00
5613	Employment Services	215	0.00	100.00
3149	Other Textile Product Mills	37	0.00	100.00
5242	Agencies, Brokerages, and Other Insurance Related Activities	1,446	0.00	100.00
6242	Community Food and Housing, and Emergency and Other Relief Services	20	0.00	100.00
	CONSTRUCTION	*38,873*		

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

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	1,393	77.82	77.82
2371	Utility System Construction	148	15.33	93.15
5416	Management, Scientific, and Technical Consulting Services	3,642	3.48	96.63
2382	Building Equipment Contractors	1,731	1.39	98.02
3339	Other General Purpose Machinery Manufacturing	88	0.90	98.93
2389	Other Specialty Trade Contractors	1,132	0.23	99.16
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	12	0.18	99.34
2373	Highway, Street, and Bridge Construction	133	0.13	99.47
6113	Colleges, Universities, and Professional Schools	382	0.09	99.56
5417	Scientific Research and Development Services	134	0.08	99.64
5419	Other Professional, Scientific, and Technical Services	105	0.07	99.71
7121	Museums, Historical Sites, and Similar Institutions	79	0.07	99.78
5612	Facilities Support Services	20	0.04	99.82
5614	Business Support Services	3,039	0.04	99.86
5415	Computer Systems Design and Related Services	844	0.04	99.90
5617	Services to Buildings and Dwellings	1,070	0.04	99.94
2381	Foundation, Structure, and Building Exterior Contractors	591	0.02	99.97
3231	Printing and Related Support Activities	42	0.02	99.98
5414	Specialized Design Services	416	0.00	99.99
7139	Other Amusement and Recreation Industries	103	0.00	99.99
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	362	0.00	99.99
3273	Cement and Concrete Product Manufacturing	38	0.00	100.00
3323	Architectural and Structural Metals Manufacturing	50	0.00	100.00
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	8	0.00	100.00
5179	Other Telecommunications	158	0.00	100.00
4921	Couriers and Express Delivery Services	37	0.00	100.00
4931	Warehousing and Storage	76	0.00	100.00
	CRS	*15,833*		

Source: See Table 4.1.

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)
5241	Insurance Carriers	84	41.09	41.09
8129	Other Personal Services	1,480	13.85	54.94
6214	Outpatient Care Centers	35	11.60	66.54
5415	Computer Systems Design and Related Services	1,314	3.29	69.83
5411	Legal Services	1,451	3.14	72.98
5616	Investigation and Security Services	155	3.02	76.00
5112	Software Publishers	220	2.92	78.92
5416	Management, Scientific, and Technical Consulting Services	3,807	2.48	81.40
3341	Computer and Peripheral Equipment Manufacturing	17	2.46	83.85
4884	Support Activities for Road Transportation	113	1.93	85.78
5251	Insurance and Employee Benefit Funds	6	1.70	87.48
6243	Vocational Rehabilitation Services	95	1.38	88.86
5622	Waste Treatment and Disposal	51	1.22	90.08
5242	Agencies, Brokerages, and Other Insurance Related Activities	1,455	1.18	91.25
2211	Electric Power Generation, Transmission and Distribution	57	1.02	92.27
5413	Architectural, Engineering, and Related Services	1,393	0.91	93.18
5613	Employment Services	397	0.80	93.98
5617	Services to Buildings and Dwellings	1,763	0.56	94.54
2382	Building Equipment Contractors	1,756	0.34	94.88
3339	Other General Purpose Machinery Manufacturing	22	0.32	95.20
2361	Residential Building Construction	905	0.32	95.52
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	176	0.32	95.84
7139	Other Amusement and Recreation Industries	632	0.31	96.15
2362	Nonresidential Building Construction	457	0.28	96.43
5629	Remediation and Other Waste Management Services	169	0.28	96.71
6241	Individual and Family Services	855	0.26	96.97
4882	Support Activities for Rail Transportation	27	0.25	97.21
2381	Foundation, Structure, and Building Exterior Contractors	703	0.25	97.46
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	329	0.24	97.70
2383	Building Finishing Contractors	1,677	0.17	97.87
4842	Specialized Freight Trucking	93	0.17	98.04
5419	Other Professional, Scientific, and Technical Services	402	0.17	98.21
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	869	0.16	98.37
2389	Other Specialty Trade Contractors	1,132	0.13	98.50
4233	Lumber and Other Construction Materials Merchant Wholesalers	111	0.12	98.61
5621	Waste Collection	60	0.11	98.73
5239	Other Financial Investment Activities	323	0.11	98.84
5614	Business Support Services	3,133	0.11	98.95
6244	Child Day Care Services	2,359	0.10	99.05

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	690	0.09	99.14
5312	Offices of Real Estate Agents and Brokers	1,768	0.08	99.22
6116	Other Schools and Instruction	303	0.08	99.30
2213	Water, Sewage and Other Systems	53	0.07	99.37
4921	Couriers and Express Delivery Services	37	0.07	99.44
6242	Community Food and Housing, and Emergency and Other Relief Services	20	0.06	99.50
7115	Independent Artists, Writers, and Performers	178	0.06	99.55
5418	Advertising, Public Relations, and Related Services	344	0.04	99.59
4247	Petroleum and Petroleum Products Merchant Wholesalers	66	0.04	99.63
5179	Other Telecommunications	475	0.03	99.66
2372	Land Subdivision	245	0.03	99.69
3399	Other Miscellaneous Manufacturing	177	0.03	99.72
4931	Warehousing and Storage	76	0.02	99.74
7121	Museums, Historical Sites, and Similar Institutions	79	0.02	99.77
4841	General Freight Trucking	905	0.02	99.79
8114	Personal and Household Goods Repair and Maintenance	417	0.02	99.81
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	87	0.02	99.83
7114	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	236	0.02	99.85
2371	Utility System Construction	148	0.01	99.86
5232	Securities and Commodity Exchanges	1	0.01	99.88
4431	Electronics and Appliance Stores	383	0.01	99.89
6213	Offices of Other Health Practitioners	225	0.01	99.90
5222	Nondepository Credit Intermediation	92	0.01	99.91
6231	Nursing Care Facilities	175	0.01	99.92
4471	Gasoline Stations	355	0.01	99.93
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	191	0.01	99.94
3329	Other Fabricated Metal Product Manufacturing	5	0.01	99.95
6114	Business Schools and Computer and Management Training	1	0.01	99.95
8134	Civic and Social Organizations	565	0.01	99.96
4413	Automotive Parts, Accessories, and Tire Stores	332	0.00	99.96
5223	Activities Related to Credit Intermediation	17	0.00	99.97
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	108	0.00	99.97
3331	Agriculture, Construction, and Mining Machinery Manufacturing	39	0.00	99.98
3359	Other Electrical Equipment and Component Manufacturing	43	0.00	99.98
4481	Clothing Stores	136	0.00	99.98
3231	Printing and Related Support Activities	278	0.00	99.98
2379	Other Heavy and Civil Engineering Construction	18	0.00	99.99
4883	Support Activities for Water Transportation	8	0.00	99.99

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
5221	Depository Credit Intermediation	401	0.00	99.99
7223	Special Food Services	7	0.00	99.99
4482	Shoe Stores	171	0.00	99.99
8111	Automotive Repair and Maintenance	801	0.00	99.99
5122	Sound Recording Industries	41	0.00	99.99
3333	Commercial and Service Industry Machinery Manufacturing	9	0.00	99.99
3121	Beverage Manufacturing	2	0.00	99.99
4241	Paper and Paper Product Merchant Wholesalers	87	0.00	100.00
4461	Health and Personal Care Stores	117	0.00	100.00
2373	Highway, Street, and Bridge Construction	133	0.00	100.00
4441	Building Material and Supplies Dealers	170	0.00	100.00
4236	Electrical and Electronic Goods Merchant Wholesalers	187	0.00	100.00
3326	Spring and Wire Product Manufacturing	26	0.00	100.00
3362	Motor Vehicle Body and Trailer Manufacturing	4	0.00	100.00
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	89	0.00	100.00
4543	Direct Selling Establishments	12	0.00	100.00
6211	Offices of Physicians	1,016	0.00	100.00
5414	Specialized Design Services	416	0.00	100.00
6215	Medical and Diagnostic Laboratories	41	0.00	100.00
5311	Lessors of Real Estate	871	0.00	100.00
6219	Other Ambulatory Health Care Services	460	0.00	100.00
5111	Newspaper, Periodical, Book, and Directory Publishers	71	0.00	100.00
6221	General Medical and Surgical Hospitals	45	0.00	100.00
	CRS	*44,536*		

Source: See Table 4.1.

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

NAICS Code	NAICS Description	Number of Estab-lishments	Industry Weight	Industry Weight (Cumu-lative)
3339	Other General Purpose Machinery Manufacturing	100	16.89	16.89
5172	Wireless Telecommunications Carriers (except Satellite)	94	11.84	28.73
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	329	11.33	40.06
3341	Computer and Peripheral Equipment Manufacturing	49	8.08	48.14
3362	Motor Vehicle Body and Trailer Manufacturing	6	6.12	54.25
2382	Building Equipment Contractors	1,731	5.24	59.49
2373	Highway, Street, and Bridge Construction	133	5.23	64.73
5415	Computer Systems Design and Related Services	1,286	4.94	69.66
2123	Nonmetallic Mineral Mining and Quarrying	21	4.68	74.34
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	37	4.05	78.39
5112	Software Publishers	220	3.36	81.75
3273	Cement and Concrete Product Manufacturing	38	2.80	84.55
4247	Petroleum and Petroleum Products Merchant Wholesalers	52	2.26	86.81
3241	Petroleum and Coal Products Manufacturing	15	2.12	88.93
3342	Communications Equipment Manufacturing	27	1.50	90.43
4233	Lumber and Other Construction Materials Merchant Wholesalers	79	1.22	91.66
3219	Other Wood Product Manufacturing	120	1.09	92.75
5171	Wired Telecommunications Carriers	17	0.98	93.72
5191	Other Information Services	58	0.95	94.67
5616	Investigation and Security Services	103	0.90	95.57
4239	Miscellaneous Durable Goods Merchant Wholesalers	273	0.75	96.32
5152	Cable and Other Subscription Programming	36	0.56	96.89
4232	Furniture and Home Furnishing Merchant Wholesalers	73	0.50	97.39
5222	Nondepository Credit Intermediation	6	0.41	97.80
5179	Other Telecommunications	475	0.38	98.18
5239	Other Financial Investment Activities	47	0.20	98.38
5111	Newspaper, Periodical, Book, and Directory Publishers	166	0.20	98.58
3372	Office Furniture (including Fixtures) Manufacturing	45	0.17	98.75
2389	Other Specialty Trade Contractors	788	0.16	98.91
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	66	0.14	99.05
4236	Electrical and Electronic Goods Merchant Wholesalers	152	0.14	99.19
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	81	0.12	99.31
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	16	0.12	99.43
4931	Warehousing and Storage	76	0.10	99.53
5413	Architectural, Engineering, and Related Services	6	0.09	99.62
8114	Personal and Household Goods Repair and Maintenance	254	0.06	99.68
2362	Nonresidential Building Construction	396	0.05	99.73
5223	Activities Related to Credit Intermediation	17	0.05	99.77
5416	Management, Scientific, and Technical Consulting Services	1,927	0.05	99.82

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Industry Weight (Cumulative)
3333	Commercial and Service Industry Machinery Manufacturing	40	0.05	99.86
5312	Offices of Real Estate Agents and Brokers	1,768	0.05	99.91
5419	Other Professional, Scientific, and Technical Services	901	0.05	99.95
6112	Junior Colleges	7	0.05	100.00
	COMMODITIES	*12,131*		

Source: See Table 4.1.

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 (Cumu-lative)
2362	Nonresidential Building Construction	36	24.60	24.60
2382	Building Equipment Contractors	108	23.35	47.94
2381	Foundation, Structure, and Building Exterior Contractors	73	9.89	57.83
2389	Other Specialty Trade Contractors	78	4.91	62.74
2383	Building Finishing Contractors	75	4.73	67.47
2373	Highway, Street, and Bridge Construction	7	4.54	72.01
3331	Agriculture, Construction, and Mining Machinery Manufacturing	0	3.80	75.81
2371	Utility System Construction	13	3.74	79.55
4233	Lumber and Other Construction Materials Merchant Wholesalers	18	2.84	82.39
3323	Architectural and Structural Metals Manufacturing	14	1.67	84.07
2361	Residential Building Construction	100	1.44	85.50
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	7	1.39	86.89
3399	Other Miscellaneous Manufacturing	46	1.36	88.25
3339	Other General Purpose Machinery Manufacturing	3	1.17	89.42
5416	Management, Scientific, and Technical Consulting Services	526	1.09	90.52
5413	Architectural, Engineering, and Related Services	114	0.92	91.44
5312	Offices of Real Estate Agents and Brokers	144	0.76	92.19
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	15	0.66	92.85
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	50	0.62	93.47
3273	Cement and Concrete Product Manufacturing	2	0.59	94.07
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	4	0.59	94.66
5617	Services to Buildings and Dwellings	159	0.47	95.12
4431	Electronics and Appliance Stores	8	0.43	95.56
8133	Social Advocacy Organizations	0	0.41	95.97
5418	Advertising, Public Relations, and Related Services	26	0.38	96.34
5311	Lessors of Real Estate	18	0.33	96.67
3219	Other Wood Product Manufacturing	6	0.29	96.96
3272	Glass and Glass Product Manufacturing	3	0.23	97.20
4232	Furniture and Home Furnishing Merchant Wholesalers	6	0.23	97.43
5629	Remediation and Other Waste Management Services	20	0.22	97.64
4441	Building Material and Supplies Dealers	17	0.20	97.84
1114	Greenhouse, Nursery, and Floriculture Production	8	0.19	98.03
4236	Electrical and Electronic Goods Merchant Wholesalers	30	0.18	98.21
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	13	0.17	98.38
4422	Home Furnishings Stores	55	0.16	98.53
4931	Warehousing and Storage	4	0.14	98.67
4841	General Freight Trucking	46	0.13	98.81

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumu-lative)
5611	Office Administrative Services	9	0.13	98.94
3261	Plastics Product Manufacturing	14	0.10	99.03
5419	Other Professional, Scientific, and Technical Services	84	0.09	99.12
4442	Lawn and Garden Equipment and Supplies Stores	9	0.08	99.20
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	5	0.07	99.27
5322	Consumer Goods Rental	11	0.07	99.34
3333	Commercial and Service Industry Machinery Manufacturing	6	0.07	99.40
4842	Specialized Freight Trucking	7	0.06	99.47
3329	Other Fabricated Metal Product Manufacturing	0	0.06	99.53
3279	Other Nonmetallic Mineral Product Manufacturing	0	0.04	99.57
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	4	0.04	99.61
3359	Other Electrical Equipment and Component Manufacturing	4	0.03	99.64
4921	Couriers and Express Delivery Services	2	0.03	99.67
3132	Fabric Mills	4	0.03	99.70
5614	Business Support Services	119	0.03	99.73
4239	Miscellaneous Durable Goods Merchant Wholesalers	31	0.03	99.75
3324	Boiler, Tank, and Shipping Container Manufacturing	0	0.02	99.77
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	8	0.02	99.79
3351	Electric Lighting Equipment Manufacturing	1	0.02	99.81
3259	Other Chemical Product and Preparation Manufacturing	3	0.02	99.83
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	0	0.02	99.85
5621	Waste Collection	1	0.02	99.87
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	25	0.02	99.89
5622	Waste Treatment and Disposal	5	0.02	99.90
7121	Museums, Historical Sites, and Similar Institutions	1	0.02	99.92
7115	Independent Artists, Writers, and Performers	63	0.01	99.93
4539	Other Miscellaneous Store Retailers	55	0.01	99.94
3314	Nonferrous Metal (except Aluminum) Production and Processing	0	0.01	99.95
5411	Legal Services	98	0.01	99.96
3372	Office Furniture (including Fixtures) Manufacturing	3	0.01	99.96
4511	Sporting Goods, Hobby, and Musical Instrument Stores	17	0.00	99.97
3315	Foundries	0	0.00	99.97
8111	Automotive Repair and Maintenance	8	0.00	99.97
4421	Furniture Stores	17	0.00	99.98
3341	Computer and Peripheral Equipment Manufacturing	0	0.00	99.98
3326	Spring and Wire Product Manufacturing	4	0.00	99.98
3251	Basic Chemical Manufacturing	1	0.00	99.99
2123	Nonmetallic Mineral Mining and Quarrying	1	0.00	99.99
4241	Paper and Paper Product Merchant Wholesalers	18	0.00	99.99

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumu-lative)
5619	Other Support Services	45	0.00	99.99
6241	Individual and Family Services	3	0.00	99.99
3353	Electrical Equipment Manufacturing	1	0.00	99.99
3241	Petroleum and Coal Products Manufacturing	1	0.00	100.00
8114	Personal and Household Goods Repair and Maintenance	3	0.00	100.00
2213	Water, Sewage and Other Systems	1	0.00	100.00
5616	Investigation and Security Services	9	0.00	100.00
5241	Insurance Carriers	4	0.00	100.00
3379	Other Furniture Related Product Manufacturing	5	0.00	100.00
3159	Apparel Accessories and Other Apparel Manufacturing	3	0.00	100.00
5613	Employment Services	27	0.00	100.00
3149	Other Textile Product Mills	8	0.00	100.00
5242	Agencies, Brokerages, and Other Insurance Related Activities	114	0.00	100.00
6242	Community Food and Housing, and Emergency and Other Relief Services	0	0.00	100.00
	CONSTRUCTION	*2,714*		

Source: See Table 4.1.

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	114	77.82	77.82
2371	Utility System Construction	13	15.33	93.15
5416	Management, Scientific, and Technical Consulting Services	469	3.48	96.63
2382	Building Equipment Contractors	108	1.39	98.02
3339	Other General Purpose Machinery Manufacturing	3	0.90	98.93
2389	Other Specialty Trade Contractors	78	0.23	99.16
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	0	0.18	99.34
2373	Highway, Street, and Bridge Construction	7	0.13	99.47
6113	Colleges, Universities, and Professional Schools	1	0.09	99.56
5417	Scientific Research and Development Services	16	0.08	99.64
5419	Other Professional, Scientific, and Technical Services	21	0.07	99.71
7121	Museums, Historical Sites, and Similar Institutions	1	0.07	99.78
5612	Facilities Support Services	1	0.04	99.82
5614	Business Support Services	119	0.04	99.86
5415	Computer Systems Design and Related Services	141	0.04	99.90
5617	Services to Buildings and Dwellings	52	0.04	99.94
2381	Foundation, Structure, and Building Exterior Contractors	30	0.02	99.97
3231	Printing and Related Support Activities	4	0.02	99.98
5414	Specialized Design Services	126	0.00	99.99
7139	Other Amusement and Recreation Industries	5	0.00	99.99
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	13	0.00	99.99
3273	Cement and Concrete Product Manufacturing	0	0.00	100.00
3323	Architectural and Structural Metals Manufacturing	4	0.00	100.00
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	0	0.00	100.00
5179	Other Telecommunications	22	0.00	100.00
4921	Couriers and Express Delivery Services	2	0.00	100.00
4931	Warehousing and Storage	5	0.00	100.00
	CRS	*1,355*		

Source: See Table 4.1.

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)
5241	Insurance Carriers	6	41.09	41.09
8129	Other Personal Services	103	13.85	54.94
6214	Outpatient Care Centers	5	11.60	66.54
5415	Computer Systems Design and Related Services	194	3.29	69.83
5411	Legal Services	98	3.14	72.98
5616	Investigation and Security Services	11	3.02	76.00
5112	Software Publishers	22	2.92	78.92
5416	Management, Scientific, and Technical Consulting Services	509	2.48	81.40
3341	Computer and Peripheral Equipment Manufacturing	2	2.46	83.85
4884	Support Activities for Road Transportation	10	1.93	85.78
5251	Insurance and Employee Benefit Funds	0	1.70	87.48
6243	Vocational Rehabilitation Services	1	1.38	88.86
5622	Waste Treatment and Disposal	3	1.22	90.08
5242	Agencies, Brokerages, and Other Insurance Related Activities	116	1.18	91.25
2211	Electric Power Generation, Transmission and Distribution	1	1.02	92.27
5413	Architectural, Engineering, and Related Services	114	0.91	93.18
5613	Employment Services	51	0.80	93.98
5617	Services to Buildings and Dwellings	160	0.56	94.54
2382	Building Equipment Contractors	108	0.34	94.88
3339	Other General Purpose Machinery Manufacturing	2	0.32	95.20
2361	Residential Building Construction	26	0.32	95.52
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	5	0.32	95.84
7139	Other Amusement and Recreation Industries	66	0.31	96.15
2362	Nonresidential Building Construction	36	0.28	96.43
5629	Remediation and Other Waste Management Services	20	0.28	96.71
6241	Individual and Family Services	3	0.26	96.97
4882	Support Activities for Rail Transportation	0	0.25	97.21
2381	Foundation, Structure, and Building Exterior Contractors	33	0.25	97.46
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	30	0.24	97.70
2383	Building Finishing Contractors	74	0.17	97.87
4842	Specialized Freight Trucking	9	0.17	98.04
5419	Other Professional, Scientific, and Technical Services	71	0.17	98.21
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	50	0.16	98.37
2389	Other Specialty Trade Contractors	78	0.13	98.50
4233	Lumber and Other Construction Materials Merchant Wholesalers	12	0.12	98.61
5621	Waste Collection	1	0.11	98.73
5239	Other Financial Investment Activities	11	0.11	98.84
5614	Business Support Services	165	0.11	98.95
6244	Child Day Care Services	1,354	0.10	99.05

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumu-lative)
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	114	0.09	99.14
5312	Offices of Real Estate Agents and Brokers	144	0.08	99.22
6116	Other Schools and Instruction	29	0.08	99.30
2213	Water, Sewage and Other Systems	1	0.07	99.37
4921	Couriers and Express Delivery Services	2	0.07	99.44
6242	Community Food and Housing, and Emergency and Other Relief Services	0	0.06	99.50
7115	Independent Artists, Writers, and Performers	63	0.06	99.55
5418	Advertising, Public Relations, and Related Services	57	0.04	99.59
4247	Petroleum and Petroleum Products Merchant Wholesalers	3	0.04	99.63
5179	Other Telecommunications	39	0.03	99.66
2372	Land Subdivision	10	0.03	99.69
3399	Other Miscellaneous Manufacturing	20	0.03	99.72
4931	Warehousing and Storage	5	0.02	99.74
7121	Museums, Historical Sites, and Similar Institutions	1	0.02	99.77
4841	General Freight Trucking	46	0.02	99.79
8114	Personal and Household Goods Repair and Maintenance	67	0.02	99.81
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	7	0.02	99.83
7114	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	26	0.02	99.85
2371	Utility System Construction	13	0.01	99.86
5232	Securities and Commodity Exchanges	0	0.01	99.88
4431	Electronics and Appliance Stores	19	0.01	99.89
6213	Offices of Other Health Practitioners	43	0.01	99.90
5222	Nondepository Credit Intermediation	4	0.01	99.91
6231	Nursing Care Facilities	14	0.01	99.92
4471	Gasoline Stations	7	0.01	99.93
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	5	0.01	99.94
3329	Other Fabricated Metal Product Manufacturing	1	0.01	99.95
6114	Business Schools and Computer and Management Training	0	0.01	99.95
8134	Civic and Social Organizations	1	0.01	99.96
4413	Automotive Parts, Accessories, and Tire Stores	7	0.00	99.96
5223	Activities Related to Credit Intermediation	0	0.00	99.97
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	7	0.00	99.97
3331	Agriculture, Construction, and Mining Machinery Manufacturing	2	0.00	99.98
3359	Other Electrical Equipment and Component Manufacturing	4	0.00	99.98
4481	Clothing Stores	35	0.00	99.98
3231	Printing and Related Support Activities	35	0.00	99.98
2379	Other Heavy and Civil Engineering Construction	1	0.00	99.99
4883	Support Activities for Water Transportation	0	0.00	99.99

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumu-lative)
5221	Depository Credit Intermediation	3	0.00	99.99
7223	Special Food Services	0	0.00	99.99
4482	Shoe Stores	7	0.00	99.99
8111	Automotive Repair and Maintenance	25	0.00	99.99
5122	Sound Recording Industries	5	0.00	99.99
3333	Commercial and Service Industry Machinery Manufacturing	0	0.00	99.99
3121	Beverage Manufacturing	1	0.00	99.99
4241	Paper and Paper Product Merchant Wholesalers	18	0.00	100.00
4461	Health and Personal Care Stores	16	0.00	100.00
2373	Highway, Street, and Bridge Construction	7	0.00	100.00
4441	Building Material and Supplies Dealers	2	0.00	100.00
4236	Electrical and Electronic Goods Merchant Wholesalers	13	0.00	100.00
3326	Spring and Wire Product Manufacturing	4	0.00	100.00
3362	Motor Vehicle Body and Trailer Manufacturing	0	0.00	100.00
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	5	0.00	100.00
4543	Direct Selling Establishments	1	0.00	100.00
6211	Offices of Physicians	39	0.00	100.00
5414	Specialized Design Services	126	0.00	100.00
6215	Medical and Diagnostic Laboratories	4	0.00	100.00
5311	Lessors of Real Estate	18	0.00	100.00
6219	Other Ambulatory Health Care Services	18	0.00	100.00
5111	Newspaper, Periodical, Book, and Directory Publishers	5	0.00	100.00
6221	General Medical and Surgical Hospitals	0	0.00	100.00
	CRS	*4,709*		

Source: See Table 4.1.

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)
3339	Other General Purpose Machinery Manufacturing	3	16.89	16.89
5172	Wireless Telecommunications Carriers (except Satellite)	3	11.84	28.73
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	30	11.33	40.06
3341	Computer and Peripheral Equipment Manufacturing	8	8.08	48.14
3362	Motor Vehicle Body and Trailer Manufacturing	0	6.12	54.25
2382	Building Equipment Contractors	108	5.24	59.49
2373	Highway, Street, and Bridge Construction	7	5.23	64.73
5415	Computer Systems Design and Related Services	190	4.94	69.66
2123	Nonmetallic Mineral Mining and Quarrying	2	4.68	74.34
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	4	4.05	78.39
5112	Software Publishers	22	3.36	81.75
3273	Cement and Concrete Product Manufacturing	0	2.80	84.55
4247	Petroleum and Petroleum Products Merchant Wholesalers	2	2.26	86.81
3241	Petroleum and Coal Products Manufacturing	1	2.12	88.93
3342	Communications Equipment Manufacturing	2	1.50	90.43
4233	Lumber and Other Construction Materials Merchant Wholesalers	6	1.22	91.66
3219	Other Wood Product Manufacturing	5	1.09	92.75
5171	Wired Telecommunications Carriers	1	0.98	93.72
5191	Other Information Services	12	0.95	94.67
5616	Investigation and Security Services	9	0.90	95.57
4239	Miscellaneous Durable Goods Merchant Wholesalers	24	0.75	96.32
5152	Cable and Other Subscription Programming	0	0.56	96.89
4232	Furniture and Home Furnishing Merchant Wholesalers	6	0.50	97.39
5222	Nondepository Credit Intermediation	1	0.41	97.80
5179	Other Telecommunications	39	0.38	98.18
5239	Other Financial Investment Activities	3	0.20	98.38
5111	Newspaper, Periodical, Book, and Directory Publishers	21	0.20	98.58
3372	Office Furniture (including Fixtures) Manufacturing	2	0.17	98.75
2389	Other Specialty Trade Contractors	58	0.16	98.91
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	6	0.14	99.05
4236	Electrical and Electronic Goods Merchant Wholesalers	15	0.14	99.19
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	7	0.12	99.31
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	0	0.12	99.43
4931	Warehousing and Storage	5	0.10	99.53
5413	Architectural, Engineering, and Related Services	2	0.09	99.62
8114	Personal and Household Goods Repair and Maintenance	3	0.06	99.68
2362	Nonresidential Building Construction	30	0.05	99.73
5223	Activities Related to Credit Intermediation	0	0.05	99.77
5416	Management, Scientific, and Technical Consulting Services	229	0.05	99.82

NAICS Code	NAICS Description	Number of Listed M/WBEs	Industry Weight	Industry Weight (Cumu-lative)
3333	Commercial and Service Industry Machinery Manufacturing	6	0.05	99.86
5312	Offices of Real Estate Agents and Brokers	144	0.05	99.91
5419	Other Professional, Scientific, and Technical Services	63	0.05	99.95
6112	Junior Colleges	0	0.05	100.00
	COMMODITIES	*1,079*		

Source: See Table 4.1.

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

NAICS Code	Misclassification (Percentage non-minority male)	Percentage Actually M/WBE-owned	Number of Businesses Interviewed
236115	20.2	79.8	35
236116	19.2	80.8	16
236117	12.0	88.0	37
236118	20.8	79.2	35
236210	28.9	71.1	26
236220	24.2	78.5	36
237110	30.1	75.5	25
237120	72.7	27.3	11
237130	23.6	76.4	23
237210	16.0	84.0	47
237310	27.0	76.2	26
237990	35.0	75.1	30
238110	26.5	75.3	69
238120	25.7	74.3	96
238130	30.6	71.4	68
238140	31.2	70.3	56
238150	29.3	70.7	67
238160	30.3	69.7	78
238170	21.1	78.9	54
238190	28.9	72.2	69
238210	27.0	74.6	65
238220	29.2	72.3	63
238290	18.2	81.8	55
238310	29.5	74.1	59
238320	30.0	72.4	73
238330	26.7	73.3	58
238340	29.4	70.6	77
238350	33.1	66.9	51
238390	27.6	72.4	56
238910	28.4	71.6	62
238990	25.6	74.4	65
423310	29.0	71.0	38
423320	20.5	79.5	22
423330	0.0	100.0	4
423390	18.5	81.5	92

NAICS Code	Misclassification (Percentage non-minority male)	Percentage Actually M/WBE-owned	Number of Businesses Interviewed
423510	26.6	73.4	39
423610	27.7	72.3	37
423710	29.0	71.0	45
423720	24.6	75.4	54
423730	42.3	57.7	16
424720	13.8	86.2	57
541310	16.6	83.4	81
541320	20.7	79.3	103
541330	20.9	82.8	72
541340	9.5	90.5	59
541350	19.8	82.4	76
541370	22.8	77.2	47
541380	18.0	82.0	56
541620	12.0	88.5	105

Source: NERA telephone surveys, 2005-2010.

Table 4.10. Unclassified Businesses Survey — Amount of Nonclassification, by NAICS Code

NAICS Code	Percentage Actually non-minority male-owned	Percentage M/WBE	Number of Businesses Interviewed
236115	88.2	11.8	302
236116	86.1	13.9	205
236117	88.0	12.0	188
236118	87.7	12.3	276
236210	84.1	15.9	175
236220	87.7	12.4	173
237110	89.4	11.6	151
237120	85.0	15.0	90
237130	84.8	15.2	84
237210	80.2	19.8	335
237310	86.3	14.0	202
237990	89.0	11.9	191
238110	85.8	15.3	295
238120	82.8	17.2	166
238130	88.3	12.7	184
238140	85.6	14.8	265
238150	87.4	12.6	279
238160	84.1	15.9	286
238170	84.1	15.9	245
238190	82.3	17.7	174
238210	85.8	14.5	272
238220	85.3	14.9	266
238290	83.0	17.0	287
238310	85.4	15.3	352
238320	84.8	15.4	307
238330	87.0	13.0	169
238340	86.9	13.1	156
238350	82.8	17.2	123
238390	82.5	17.5	359
238910	86.3	14.6	301
238990	82.6	17.4	335
423310	88.3	11.7	115
423320	86.2	13.8	271
423330	92.7	7.3	110
423390	93.0	7.0	43

NAICS Code	Percentage Actually non-minority male-owned	Percentage M/WBE	Number of Businesses Interviewed
423510	85.6	14.4	123
423610	86.4	14.6	175
423710	84.6	15.4	144
423720	87.6	12.4	227
423730	80.7	19.3	363
424720	70.2	29.8	160
541310	88.1	11.9	259
541320	83.8	16.2	214
541330	87.9	12.2	266
541340	87.4	12.7	261
541350	87.4	12.7	261
541370	86.4	13.6	408
541380	88.0	12.0	279
541620	82.2	18.0	227

Source: NERA telephone surveys, 2005-2010.

Table 4.11. Detailed M/WBE Availability—Construction, 2010

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Nonresidential Building Construction (NAICS 2362)	2.05	2.44	1.96	0.95	10.15	17.56	82.44
Building Equipment Contractors (NAICS 2382)	2.61	4.83	0.98	1.06	10.75	20.24	79.76
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	2.80	4.47	0.83	1.58	12.67	22.34	77.66
Other Specialty Trade Contractors (NAICS 2389)	2.28	6.10	0.86	0.97	11.20	21.41	78.59
Building Finishing Contractors (NAICS 2383)	2.31	4.61	0.83	0.83	9.31	17.90	82.10
Highway, Street, and Bridge Construction (NAICS 2373)	1.79	2.48	0.65	0.54	10.14	15.60	84.40
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)	0.00	2.80	1.87	0.00	8.41	13.08	86.92
Utility System Construction (NAICS 2371)	2.05	2.32	0.72	0.59	11.55	17.23	82.77
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	3.18	0.65	1.95	0.38	14.36	20.52	79.48
Architectural and Structural Metals Manufacturing (NAICS 3323)	0.90	1.33	2.03	0.73	13.15	18.14	81.86
Residential Building Construction (NAICS 2361)	2.25	2.75	1.39	0.53	8.15	15.06	84.94
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)	2.71	2.45	4.61	0.27	12.90	22.94	77.06
Other Miscellaneous Manufacturing (NAICS 3399)	3.59	1.81	4.01	0.36	23.34	33.11	66.89
Other General Purpose Machinery Manufacturing (NAICS 3339)	0.03	2.80	1.90	0.00	8.49	13.23	86.77
Management, Scientific, and Technical Consulting Services (NAICS 5416)	3.48	4.06	2.86	0.73	17.89	29.02	70.98
Architectural, Engineering, and Related Services (NAICS 5413)	1.62	1.89	2.31	0.83	11.86	18.51	81.49
Offices of Real Estate Agents and Brokers (NAICS 5312)	4.99	1.04	1.23	0.64	14.36	22.25	77.75
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	4.64	1.87	3.83	0.21	15.42	25.97	74.03
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	5.73	1.88	3.93	0.25	12.43	24.23	75.77
Cement and Concrete Product	0.50	1.43	1.98	0.36	9.77	14.04	85.96

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Manufacturing (NAICS 3273)							
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)	3.76	1.88	3.76	0.00	24.16	33.55	66.45
Services to Buildings and Dwellings (NAICS 5617)	3.90	3.41	2.61	0.67	14.22	24.81	75.19
Electronics and Appliance Stores (NAICS 4431)	4.00	2.88	4.83	0.48	11.34	23.53	76.47
Social Advocacy Organizations (NAICS 8133)	4.91	2.68	5.36	0.89	12.50	26.34	73.66
Advertising, Public Relations, and Related Services (NAICS 5418)	7.46	2.32	3.73	0.50	13.31	27.32	72.68
Lessors of Real Estate (NAICS 5311)	4.95	1.49	3.58	0.82	14.57	25.40	74.60
Other Wood Product Manufacturing (NAICS 3219)	2.18	1.08	3.04	0.10	18.25	24.65	75.35
Glass and Glass Product Manufacturing (NAICS 3272)	1.32	1.27	1.46	0.68	16.65	21.38	78.62
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)	4.09	0.48	3.89	0.56	14.28	23.31	76.69
Remediation and Other Waste Management Services (NAICS 5629)	2.71	2.53	1.75	0.60	13.39	20.99	79.01
Building Material and Supplies Dealers (NAICS 4441)	4.90	2.50	3.65	0.52	12.71	24.28	75.72
Greenhouse, Nursery, and Floriculture Production (NAICS 1114)	0.00	2.45	6.58	0.00	15.25	24.28	75.72
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	2.17	2.19	3.54	0.48	13.75	22.12	77.88
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	2.56	2.42	3.90	0.65	14.70	24.23	75.77
Home Furnishings Stores (NAICS 4422)	3.28	3.83	5.36	0.61	28.83	41.90	58.10
Warehousing and Storage (NAICS 4931)	0.14	6.09	9.59	0.00	10.34	26.17	73.83
General Freight Trucking (NAICS 4841)	4.42	3.66	2.89	0.67	11.96	23.58	76.42
Office Administrative Services (NAICS 5611)	2.52	3.66	2.51	0.61	14.60	23.90	76.10
Plastics Product Manufacturing (NAICS 3261)	4.17	2.55	5.50	0.15	20.07	32.44	67.56
Other Professional, Scientific, and Technical Services (NAICS 5419)	0.82	2.98	0.27	0.70	11.93	16.69	83.31
Lawn and Garden Equipment	1.98	5.19	1.23	0.86	16.40	25.66	74.34

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
and Supplies Stores (NAICS 4442)							
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)	2.08	3.56	2.03	0.23	13.60	21.50	78.50
Consumer Goods Rental (NAICS 5322)	3.80	3.75	2.38	0.40	22.83	33.17	66.83
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	1.10	2.21	3.87	0.90	17.79	25.87	74.13
Specialized Freight Trucking (NAICS 4842)	7.36	4.32	2.44	0.46	17.26	31.82	68.18
Other Fabricated Metal Product Manufacturing (NAICS 3329)	1.94	0.97	2.91	0.00	15.05	20.87	79.13
Other Nonmetallic Mineral Product Manufacturing (NAICS 3279)	3.27	1.31	0.98	0.33	9.48	15.36	84.64
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing (NAICS 3334)	3.44	1.72	3.44	1.28	26.05	35.92	64.08
Other Electrical Equipment and Component Manufacturing (NAICS 3359)	1.19	4.37	3.14	1.55	15.98	26.22	73.78
Couriers and Express Delivery Services (NAICS 4921)	0.22	5.90	8.73	0.07	12.38	27.31	72.69
Fabric Mills (NAICS 3132)	1.21	0.46	2.71	0.87	30.32	35.58	64.42
Business Support Services (NAICS 5614)	2.67	7.51	0.86	0.86	12.75	24.65	75.35
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)	1.89	0.99	3.12	0.26	17.62	23.88	76.12
Boiler, Tank, and Shipping Container Manufacturing (NAICS 3324)	0.00	3.17	1.59	1.59	1.59	7.94	92.06
Miscellaneous Nondurable Goods Merchant Wholesalers (NAICS 4249)	0.51	1.28	2.81	0.26	21.35	26.21	73.79
Electric Lighting Equipment Manufacturing (NAICS 3351)	0.67	2.52	8.35	0.00	8.01	19.55	80.45
Other Chemical Product and Preparation Manufacturing (NAICS 3259)	2.70	1.76	3.34	0.50	16.97	25.26	74.74
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	1.55	3.34	1.96	0.33	12.14	19.32	80.68
Waste Collection (NAICS 5621)	6.15	13.67	1.42	0.47	8.51	30.22	69.78
Machine Shops; Turned Product; and Screw, Nut, and Bolt	1.19	2.18	3.48	0.01	21.44	28.31	71.69

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Manufacturing (NAICS 3327)							
Waste Treatment and Disposal (NAICS 5622)	7.45	1.05	1.86	0.72	14.58	25.65	74.35
Museums, Historical Sites, and Similar Institutions (NAICS 7121)	3.62	5.97	7.24	0.00	12.74	29.58	70.42
Independent Artists, Writers, and Performers (NAICS 7115)	8.40	2.19	2.35	0.24	32.72	45.89	54.11
Other Miscellaneous Store Retailers (NAICS 4539)	4.00	2.05	2.65	0.95	14.85	24.50	75.50
Nonferrous Metal (except Aluminum) Production and Processing (NAICS 3314)	4.26	2.13	4.26	0.00	17.02	27.66	72.34
Legal Services (NAICS 5411)	4.65	3.11	3.14	0.56	14.85	26.31	73.69
Office Furniture (including Fixtures) Manufacturing (NAICS 3372)	4.18	1.92	3.61	0.27	16.35	26.33	73.67
Sporting Goods, Hobby, and Musical Instrument Stores (NAICS 4511)	6.74	1.73	3.87	0.25	13.82	26.41	73.59
Foundries (NAICS 3315)	4.26	2.13	4.26	0.00	17.02	27.66	72.34
Automotive Repair and Maintenance (NAICS 8111)	9.00	2.44	4.04	0.00	13.61	29.09	70.91
Furniture Stores (NAICS 4421)	5.82	0.98	2.16	0.78	12.82	22.56	77.44
Computer and Peripheral Equipment Manufacturing (NAICS 3341)	4.26	2.13	4.26	0.00	17.02	27.66	72.34
Spring and Wire Product Manufacturing (NAICS 3326)	1.94	5.01	2.90	0.28	20.07	30.19	69.81
Basic Chemical Manufacturing (NAICS 3251)	4.86	1.57	2.82	0.31	18.98	28.55	71.45
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)	0.00	2.19	6.57	0.00	13.93	22.69	77.31
Paper and Paper Product Merchant Wholesalers (NAICS 4241)	4.66	1.19	7.52	0.17	19.28	32.82	67.18
Other Support Services (NAICS 5619)	7.95	0.64	1.34	0.67	21.48	32.09	67.91
Individual and Family Services (NAICS 6241)	4.93	2.69	5.36	0.89	12.75	26.61	73.39
Electrical Equipment Manufacturing (NAICS 3353)	3.88	2.05	4.02	0.28	22.48	32.71	67.29
Petroleum and Coal Products Manufacturing (NAICS 3241)	0.43	0.07	1.93	0.09	9.87	12.39	87.61
Personal and Household Goods Repair and Maintenance (NAICS 8114)	1.57	7.90	0.61	1.10	8.60	19.77	80.23
Water, Sewage and Other Systems (NAICS 2213)	0.12	6.03	9.00	0.00	10.19	25.35	74.65
Investigation and Security Services (NAICS 5616)	5.27	4.49	1.82	1.29	15.09	27.96	72.04

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Insurance Carriers (NAICS 5241)	1.64	5.68	0.72	0.70	16.55	25.28	74.72
Other Furniture Related Product Manufacturing (NAICS 3379)	3.44	1.98	2.93	0.00	30.66	39.00	61.00
Apparel Accessories and Other Apparel Manufacturing (NAICS 3159)	3.19	1.60	5.04	0.00	32.21	42.04	57.96
Employment Services (NAICS 5613)	7.14	2.32	4.19	0.68	17.45	31.78	68.22
Other Textile Product Mills (NAICS 3149)	5.34	1.79	4.04	0.35	28.70	40.23	59.77
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)	6.63	2.37	3.20	0.25	15.00	27.45	72.55
Community Food and Housing, and Emergency and Other Relief Services (NAICS 6242)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
CONSTRUCTION	2.54	3.96	1.37	0.91	10.72	19.50	80.50

Source: See Table 4.1.

Table 4.12. 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)	2.00	1.78	3.17	0.66	11.02	18.64	81.36
Utility System Construction (NAICS 2371)	2.05	2.32	0.72	0.59	11.55	17.23	82.77
Management, Scientific, and Technical Consulting Services (NAICS 5416)	3.45	3.61	3.20	0.88	18.40	29.52	70.48
Building Equipment Contractors (NAICS 2382)	2.81	4.81	0.97	0.96	11.80	21.35	78.65
Other General Purpose Machinery Manufacturing (NAICS 3339)	2.75	2.29	4.12	0.16	14.95	24.28	75.72
Other Specialty Trade Contractors (NAICS 2389)	2.29	6.41	0.87	0.98	11.29	21.84	78.16
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	1.55	3.34	1.96	0.33	12.14	19.32	80.68
Highway, Street, and Bridge Construction (NAICS 2373)	1.79	2.48	0.65	0.54	10.14	15.60	84.40
Colleges, Universities, and Professional Schools (NAICS 6113)	2.79	4.18	2.47	0.75	11.21	21.40	78.60
Scientific Research and Development Services (NAICS 5417)	3.03	3.07	2.40	1.00	14.92	24.42	75.58
Other Professional, Scientific, and Technical Services (NAICS 5419)	3.12	5.15	3.96	0.67	20.32	33.22	66.78
Museums, Historical Sites, and Similar Institutions (NAICS 7121)	3.62	5.97	7.24	0.00	12.74	29.58	70.42
Facilities Support Services (NAICS 5612)	3.25	2.92	2.75	0.73	13.58	23.23	76.77
Business Support Services (NAICS 5614)	2.67	7.51	0.86	0.86	12.75	24.65	75.35
Computer Systems Design and Related Services (NAICS 5415)	6.55	4.17	5.32	0.59	19.34	35.96	64.04
Services to Buildings and Dwellings (NAICS 5617)	3.57	3.30	2.54	0.60	12.99	23.00	77.00
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	2.22	4.96	0.71	0.89	10.27	19.05	80.95
Printing and Related Support Activities (NAICS 3231)	6.51	1.92	3.22	0.14	18.21	29.99	70.01
Specialized Design Services (NAICS 5414)	5.57	3.43	1.64	0.44	30.02	41.10	58.90
Other Amusement and Recreation Industries (NAICS	3.64	5.83	7.28	0.00	14.70	31.46	68.54

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
7139)							
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	3.50	2.36	4.12	0.41	11.57	21.96	78.04
Cement and Concrete Product Manufacturing (NAICS 3273)	0.39	1.57	1.77	0.20	8.45	12.38	87.62
Architectural and Structural Metals Manufacturing (NAICS 3323)	0.87	1.17	2.04	0.81	13.63	18.52	81.48
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)	1.11	4.77	1.11	0.64	12.88	20.51	79.49
Other Telecommunications (NAICS 5179)	4.38	3.85	3.93	0.81	16.42	29.38	70.62
Couriers and Express Delivery Services (NAICS 4921)	0.22	5.90	8.73	0.07	12.38	27.31	72.69
Warehousing and Storage (NAICS 4931)	0.41	6.28	8.90	0.00	12.60	28.20	71.80
CRS	2.16	1.98	3.16	0.64	11.18	19.13	80.87

Source: See Table 4.1.

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

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Insurance Carriers (NAICS 5241)	6.73	4.15	3.88	0.00	10.94	25.70	74.30
Other Personal Services (NAICS 8129)	0.00	0.82	2.46	0.00	22.95	26.23	73.77
Outpatient Care Centers (NAICS 6214)	4.46	0.00	5.36	0.89	11.61	22.32	77.68
Computer Systems Design and Related Services (NAICS 5415)	5.79	3.95	4.59	0.69	17.94	32.94	67.06
Legal Services (NAICS 5411)	4.65	3.11	3.14	0.56	14.85	26.31	73.69
Investigation and Security Services (NAICS 5616)	4.20	5.08	2.34	0.73	13.02	25.37	74.63
Software Publishers (NAICS 5112)	3.73	4.18	3.90	1.33	15.61	28.75	71.25
Management, Scientific, and Technical Consulting Services (NAICS 5416)	3.42	3.99	2.73	0.78	17.43	28.35	71.65
Computer and Peripheral Equipment Manufacturing (NAICS 3341)	3.75	1.88	10.07	0.00	19.59	35.30	64.70
Support Activities for Road Transportation (NAICS 4884)	8.12	3.76	4.56	0.00	15.44	31.87	68.13
Insurance and Employee Benefit Funds (NAICS 5251)	4.76	7.14	0.00	0.00	14.29	26.19	73.81
Vocational Rehabilitation Services (NAICS 6243)	6.06	1.75	3.46	0.86	10.12	22.24	77.76
Waste Treatment and Disposal (NAICS 5622)	1.19	4.92	0.68	0.68	11.72	19.19	80.81
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)	7.09	3.61	4.77	0.14	17.11	32.72	67.28
Electric Power Generation, Transmission and Distribution (NAICS 2211)	0.12	6.03	9.01	0.00	10.11	25.27	74.73
Architectural, Engineering, and Related Services (NAICS 5413)	1.76	1.64	2.88	0.78	11.29	18.35	81.65
Employment Services (NAICS 5613)	7.64	2.02	3.80	0.76	17.36	31.57	68.43
Services to Buildings and Dwellings (NAICS 5617)	4.92	3.74	2.82	0.87	17.93	30.27	69.73
Building Equipment Contractors (NAICS 2382)	2.61	4.83	0.98	1.06	10.76	20.25	79.75
Other General Purpose Machinery Manufacturing (NAICS 3339)	0.04	2.79	1.89	0.00	8.54	13.28	86.72
Residential Building Construction (NAICS 2361)	3.42	1.66	0.99	0.59	8.80	15.46	84.54
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS	3.49	4.16	2.50	0.38	14.19	24.72	75.28

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
5324)							
Other Amusement and Recreation Industries (NAICS 7139)	3.69	2.84	4.54	1.06	14.72	26.86	73.14
Nonresidential Building Construction (NAICS 2362)	1.68	2.58	1.95	1.20	11.38	18.78	81.22
Remediation and Other Waste Management Services (NAICS 5629)	3.07	3.17	2.79	0.57	15.49	25.08	74.92
Individual and Family Services (NAICS 6241)	4.86	2.36	5.36	0.89	12.47	25.95	74.05
Support Activities for Rail Transportation (NAICS 4882)	4.57	2.91	5.61	0.83	12.27	26.20	73.80
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	3.66	1.83	0.94	0.69	9.47	16.58	83.42
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	2.66	2.34	3.96	0.58	14.44	23.98	76.02
Building Finishing Contractors (NAICS 2383)	3.06	3.40	1.13	0.69	9.76	18.05	81.95
Specialized Freight Trucking (NAICS 4842)	6.84	4.48	2.37	0.45	15.02	29.15	70.85
Other Professional, Scientific, and Technical Services (NAICS 5419)	5.03	6.58	3.15	0.58	24.60	39.93	60.07
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	4.98	1.50	3.61	0.29	13.07	23.45	76.55
Other Specialty Trade Contractors (NAICS 2389)	2.24	4.79	0.83	0.93	10.82	19.61	80.39
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	2.17	2.00	4.37	0.54	14.66	23.73	76.27
Waste Collection (NAICS 5621)	6.15	13.67	1.42	0.47	8.51	30.22	69.78
Other Financial Investment Activities (NAICS 5239)	7.84	3.08	3.66	0.01	12.90	27.49	72.51
Business Support Services (NAICS 5614)	5.81	4.13	1.47	1.56	32.66	45.63	54.37
Child Day Care Services (NAICS 6244)	6.98	3.05	4.64	0.65	45.14	60.46	39.54
Accounting, Tax Preparation, Bookkeeping, and Payroll Services (NAICS 5412)	3.69	2.22	3.51	0.56	24.26	34.24	65.76
Offices of Real Estate Agents and Brokers (NAICS 5312)	4.99	1.04	1.23	0.64	14.36	22.25	77.75
Other Schools and Instruction (NAICS 6116)	4.76	2.24	6.46	0.00	26.88	40.35	59.65
Water, Sewage and Other Systems (NAICS 2213)	0.12	6.03	9.00	0.00	10.19	25.35	74.65

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Couriers and Express Delivery Services (NAICS 4921)	0.22	5.90	8.73	0.07	12.38	27.31	72.69
Community Food and Housing, and Emergency and Other Relief Services (NAICS 6242)	4.91	2.68	5.36	0.89	12.50	26.34	73.66
Independent Artists, Writers, and Performers (NAICS 7115)	8.40	2.19	2.35	0.24	32.72	45.89	54.11
Advertising, Public Relations, and Related Services (NAICS 5418)	5.46	1.36	3.39	1.37	19.69	31.27	68.73
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	1.51	3.91	2.59	0.61	13.85	22.47	77.53
Other Telecommunications (NAICS 5179)	5.12	3.60	3.83	0.80	15.51	28.86	71.14
Land Subdivision (NAICS 2372)	3.53	3.82	1.77	0.71	12.17	21.99	78.01
Other Miscellaneous Manufacturing (NAICS 3399)	1.89	1.44	2.28	0.68	15.96	22.24	77.76
Warehousing and Storage (NAICS 4931)	0.41	6.28	8.90	0.00	12.60	28.20	71.80
Museums, Historical Sites, and Similar Institutions (NAICS 7121)	3.62	5.97	7.24	0.00	12.74	29.58	70.42
General Freight Trucking (NAICS 4841)	4.58	3.55	2.75	0.64	11.76	23.28	76.72
Personal and Household Goods Repair and Maintenance (NAICS 8114)	3.91	4.43	2.59	0.54	20.20	31.66	68.34
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)	2.94	2.20	3.93	0.29	9.28	18.65	81.35
Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures (NAICS 7114)	0.99	2.14	2.02	0.37	13.31	18.83	81.17
Utility System Construction (NAICS 2371)	2.05	2.32	0.72	0.59	11.55	17.23	82.77
Securities and Commodity Exchanges (NAICS 5232)	5.26	4.35	2.29	0.31	10.91	23.11	76.89
Electronics and Appliance Stores (NAICS 4431)	1.60	5.21	1.33	0.87	11.69	20.69	79.31
Offices of Other Health Practitioners (NAICS 6213)	5.58	3.12	5.74	0.65	23.66	38.75	61.25
Nondepository Credit Intermediation (NAICS 5222)	5.61	6.99	0.05	0.00	15.59	28.23	71.77
Nursing Care Facilities (NAICS 6231)	4.28	0.17	5.45	1.00	16.07	26.97	73.03
Gasoline Stations (NAICS 4471)	1.01	2.90	2.92	0.00	5.56	12.39	87.61
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)	3.09	3.92	2.62	0.56	10.91	21.10	78.90

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Other Fabricated Metal Product Manufacturing (NAICS 3329)	1.62	0.88	2.70	0.58	26.46	32.24	67.76
Business Schools and Computer and Management Training (NAICS 6114)	4.35	2.17	6.52	0.00	21.74	34.78	65.22
Civic and Social Organizations (NAICS 8134)	4.88	3.29	4.61	0.77	12.86	26.41	73.59
Automotive Parts, Accessories, and Tire Stores (NAICS 4413)	8.81	2.09	4.77	0.44	10.10	26.21	73.79
Activities Related to Credit Intermediation (NAICS 5223)	8.49	2.52	4.09	0.00	10.38	25.47	74.53
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenances (NAICS 8113)	3.03	5.64	1.14	0.72	14.46	24.99	75.01
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)	0.09	2.66	1.83	0.00	9.28	13.85	86.15
Other Electrical Equipment and Component Manufacturing (NAICS 3359)	1.06	4.20	3.00	1.38	15.16	24.80	75.20
Clothing Stores (NAICS 4481)	2.65	1.79	3.80	0.00	27.94	36.18	63.82
Printing and Related Support Activities (NAICS 3231)	7.03	2.05	3.27	0.12	18.67	31.14	68.86
Other Heavy and Civil Engineering Construction (NAICS 2379)	1.81	1.96	0.65	0.56	10.79	15.78	84.22
Support Activities for Water Transportation (NAICS 4883)	0.71	2.86	0.00	0.71	7.14	11.43	88.57
Depository Credit Intermediation (NAICS 5221)	6.05	2.48	3.31	0.00	14.27	26.12	73.88
Special Food Services (NAICS 7223)	4.84	2.23	4.06	0.32	13.46	24.92	75.08
Shoe Stores (NAICS 4482)	2.89	2.47	4.57	0.58	17.68	28.19	71.81
Automotive Repair and Maintenance (NAICS 8111)	2.70	5.99	2.70	0.83	10.59	22.81	77.19
Sound Recording Industries (NAICS 5122)	4.17	4.43	2.85	0.45	20.14	32.04	67.96
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	1.30	2.60	2.60	0.00	11.04	17.53	82.47
Beverage Manufacturing (NAICS 3121)	2.13	1.06	5.83	0.00	47.40	56.42	43.58
Paper and Paper Product Merchant Wholesalers (NAICS 4241)	4.66	1.19	7.52	0.17	19.28	32.82	67.18
Health and Personal Care Stores (NAICS 4461)	8.44	2.87	4.01	0.00	18.19	33.51	66.49
Highway, Street, and Bridge Construction (NAICS 2373)	1.79	2.48	0.65	0.54	10.14	15.60	84.40
Building Material and Supplies	4.23	2.51	3.52	1.12	9.72	21.10	78.90

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Dealers (NAICS 4441)							
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	1.06	1.83	2.85	0.45	12.85	19.04	80.96
Spring and Wire Product Manufacturing (NAICS 3326)	1.94	5.01	2.90	0.28	20.07	30.19	69.81
Motor Vehicle Body and Trailer Manufacturing (NAICS 3362)	2.51	1.26	2.93	0.84	11.72	19.25	80.75
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	5.52	1.63	4.02	0.04	13.86	25.07	74.93
Direct Selling Establishments (NAICS 4543)	1.95	1.95	2.61	0.57	16.70	23.78	76.22
Offices of Physicians (NAICS 6211)	5.00	2.26	5.61	0.79	14.93	28.60	71.40
Specialized Design Services (NAICS 5414)	5.57	3.43	1.64	0.44	30.02	41.10	58.90
Medical and Diagnostic Laboratories (NAICS 6215)	2.53	1.68	2.84	0.59	15.09	22.74	77.26
Lessors of Real Estate (NAICS 5311)	4.95	1.49	3.58	0.82	14.57	25.40	74.60
Other Ambulatory Health Care Services (NAICS 6219)	4.49	2.26	6.62	0.00	23.46	36.84	63.16
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)	3.96	1.98	5.50	0.00	20.20	31.64	68.36
General Medical and Surgical Hospitals (NAICS 6221)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
SERVICES	4.59	3.44	3.27	0.61	15.62	27.52	72.48

Source: See Table 4.1.

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

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Other General Purpose Machinery Manufacturing (NAICS 3339)	2.58	2.33	3.98	0.15	14.54	23.57	76.43
Wireless Telecommunications Carriers (except Satellite) (NAICS 5172)	6.94	1.21	2.86	0.57	11.58	23.16	76.84
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	3.05	2.06	4.23	0.45	13.75	23.53	76.47
Computer and Peripheral Equipment Manufacturing (NAICS 3341)	3.75	1.88	10.04	0.00	19.67	35.33	64.67
Motor Vehicle Body and Trailer Manufacturing (NAICS 3362)	2.51	1.26	2.93	0.84	11.72	19.25	80.75
Building Equipment Contractors (NAICS 2382)	2.51	4.84	0.99	1.12	10.22	19.68	80.32
Highway, Street, and Bridge Construction (NAICS 2373)	1.79	2.48	0.65	0.54	10.14	15.60	84.40
Computer Systems Design and Related Services (NAICS 5415)	6.50	4.16	5.29	0.60	19.23	35.78	64.22
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)	0.27	2.13	5.72	0.10	17.44	25.67	74.33
Miscellaneous Nondurable Goods Merchant Wholesalers (NAICS 4249)	2.61	2.81	14.44	0.20	19.74	39.81	60.19
Software Publishers (NAICS 5112)	3.73	4.18	3.90	1.33	15.61	28.75	71.25
Cement and Concrete Product Manufacturing (NAICS 3273)	0.39	1.57	1.77	0.20	8.45	12.38	87.62
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	1.50	3.89	2.56	0.61	13.80	22.37	77.63
Petroleum and Coal Products Manufacturing (NAICS 3241)	0.43	0.07	1.93	0.09	9.87	12.39	87.61
Communications Equipment Manufacturing (NAICS 3342)	0.08	0.16	3.42	0.24	15.05	18.94	81.06
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	2.17	2.08	4.51	0.54	14.54	23.84	76.16
Other Wood Product Manufacturing (NAICS 3219)	1.88	0.93	2.85	0.05	17.60	23.31	76.69
Wired Telecommunications Carriers (NAICS 5171)	6.45	3.35	4.53	0.50	13.99	28.81	71.19
Other Information Services (NAICS 5191)	4.14	3.03	4.43	0.38	25.15	37.14	62.86
Investigation and Security Services (NAICS 5616)	5.27	4.49	1.82	1.29	15.09	27.96	72.04
Miscellaneous Durable Goods	2.82	0.75	3.37	0.59	17.71	25.25	74.75

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Merchant Wholesalers (NAICS 4239)							
Cable and Other Subscription Programming (NAICS 5152)	0.00	6.06	9.09	0.00	9.09	24.24	75.76
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)	4.09	0.48	3.89	0.56	14.28	23.31	76.69
Nondepository Credit Intermediation (NAICS 5222)	4.76	6.75	0.00	0.00	21.43	32.94	67.06
Other Telecommunications (NAICS 5179)	5.91	3.33	3.73	0.78	14.56	28.31	71.69
Other Financial Investment Activities (NAICS 5239)	8.12	3.49	3.00	1.82	13.53	29.98	70.02
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)	3.58	1.63	4.55	0.41	21.42	31.59	68.41
Office Furniture (including Fixtures) Manufacturing (NAICS 3372)	4.18	1.89	3.55	0.30	16.09	26.02	73.98
Other Specialty Trade Contractors (NAICS 2389)	2.29	6.64	0.88	0.99	11.36	22.15	77.85
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	3.69	2.14	3.46	0.40	16.13	25.82	74.18
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	3.21	2.21	4.03	0.38	14.92	24.75	75.25
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)	2.71	2.45	4.61	0.27	12.90	22.94	77.06
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	2.65	2.85	2.89	0.19	14.13	22.71	77.29
Warehousing and Storage (NAICS 4931)	0.41	6.28	8.90	0.00	12.60	28.20	71.80
Architectural, Engineering, and Related Services (NAICS 5413)	0.78	1.79	1.12	0.26	31.32	35.27	64.73
Personal and Household Goods Repair and Maintenance (NAICS 8114)	1.57	7.90	0.61	1.10	8.60	19.77	80.23
Nonresidential Building Construction (NAICS 2362)	2.13	2.41	1.96	0.90	9.90	17.30	82.70
Activities Related to Credit Intermediation (NAICS 5223)	8.49	2.52	4.09	0.00	10.38	25.47	74.53
Management, Scientific, and Technical Consulting Services (NAICS 5416)	3.14	3.88	2.30	0.87	16.49	26.67	73.33
Commercial and Service Industry Machinery	1.10	2.21	3.87	0.90	17.79	25.87	74.13

Detailed Industry	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Manufacturing (NAICS 3333)							
Offices of Real Estate Agents and Brokers (NAICS 5312)	4.99	1.04	1.23	0.64	14.36	22.25	77.75
Other Professional, Scientific, and Technical Services (NAICS 5419)	0.76	2.92	0.18	0.70	11.71	16.27	83.73
Junior Colleges (NAICS 6112)	2.79	4.18	2.47	0.75	11.04	21.22	78.78
COMMODITIES	3.93	3.54	3.28	0.72	14.05	25.53	74.47

Source: See Table 4.1.

Table 4.15. 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	2.54	3.96	1.37	0.91	8.78	10.72	19.50	80.50
CRS	2.16	1.98	3.16	0.64	7.95	11.18	19.13	80.87
SERVICES	4.59	3.44	3.27	0.61	11.91	15.62	27.52	72.48
COMMODITIES	3.93	3.54	3.28	0.72	11.47	14.05	25.53	74.47
TOTAL	3.08	3.72	2.02	0.82	9.63	12.09	21.73	78.27

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 DBE 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 DBEs to compete, those practices will impact the larger private sector as well as the public sector. Second, examining the utilization of DBEs in the private sector provides an indicator of the extent to which DBEs 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.[203] There is a good deal of agreement in the literature on the micro-economic correlates of self-employment.[204] 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,

[203] Microeconometric 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), 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 (1990), 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.

[204] Parker (2004) and Aronson (1991) provide good overviews.

1987), immigration (Fairlie and Meyer, 1998; 2003; Olson, Zuiker and Montalto, 2000; Mora and Davila 2006, Robles and Cordero-Gúzman, 2007),[205] 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.[206] 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.[207]

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.[208] 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

---

[205] 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 (2003), 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.

[206] In an interesting study pooling individual level data for the U.S. and Canada from the Current Population Survey 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.

[207] 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.

[208] 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.

into action? Lack of start-up capital is one likely explanation. This factor is commonly cited by 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.[209] 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

[209] 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.

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.

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 nonminority 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 nonminority 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 nonminority 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 nonminority-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 nonminority-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 nonminority male counterparts. Other things equal, if minority and female business owners as a group cannot achieve comparable earnings from their businesses as similarly-situated nonminorities 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—in both the economy at large and also in the construction and construction-related professional services sector.[210]

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.

---

[210] 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*.

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 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 City'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 City of Minneapolis Market Area (MINN), which encompasses the Minneapolis-St. Paul-Bloomington, MN Metropolitan 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 MINN 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.[211]

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.[212]

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.

The data source used 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

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

[212] Typically, 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.

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 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.

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

Tables 5.1 and 5.2 report results from our regression analyses of annual earnings among wage and salary workers. Table 5.1 focuses on the economy as a whole and Table 5.2 on Construction and CRS. The numbers shown in each of table indicate the percentage difference between the average wages of a given race/sex group and comparable nonminority 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 nonminority males in 2006–2008 was -32.7 percent. That is, average annual wages among African Americans were 32.7 percent lower than for nonminority 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.[213] In the example just used, the t-statistic of 172.39 indicates that the result is statistically significant.

Specification (1) in Table 5.1 show adverse and statistically significant wage disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting in multiple race categories, and nonminority women consistent with the presence of discrimination in these markets. Observed disparities are large as well, ranging from a low of -22.6 percent for Hispanics to a high of -32.7 percent for African Americans.

Specification (1) in Table 5.2 shows similar results when the basic analysis is restricted to the Construction and CRS sector. 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 nonminority women. A comparison of Tables 5.1 and 5.2 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 nonminority women, they are somewhat larger. Disparities for Native Americans are about the same.

[213] From a two-tailed test.

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

Next, we turn to Specifications (2) and (3) in Tables 5.1 and 5.2. 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 MINN 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 statistically significant 5.7 percent wage decrement that captures the indirect effect of residing in MINN and being African American. That is, wages for African Americans in MINN, on average, were 5.7 percent lower than for African Americans in the nation as a whole and 38.3 percent (-32.6 percent minus 5.7 percent) lower than for nonminority males in MINN.

Specification (3) simply repeats Specification (2), dropping any MINN 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 nonminority females. The net result of Specification (3) in Table 5.1 is evidence of large, adverse, and statistically significant wage disparities for all minority groups and for nonminority women. In Table 5.2, for Construction and CRS, there is evidence of large, adverse, and statistically significant wage disparities for all minority groups and for nonminority women as well.

c. Conclusions

Clearly, minorities and women earn substantially and significantly less from their labor than do their nonminority male counterparts—in the City of Minneapolis 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. Table 5.3 focuses on the economy as a whole and Table 5.4 on Construction and CRS. The numbers shown in each table indicate the percentage difference between the average annual self-employment earnings of a given race/sex group and comparable nonminority males.

a. Specification (1) - the Basic Model

Specification (1) in Table 5.3 shows large, adverse, and statistically significant business owner earnings disparities for African Americans, Hispanics, Asians, Native Americans, persons

reporting multiple races, and nonminority women consistent with the presence of discrimination in these markets. The measured difference for African Americans is 40 percent lower than for comparable nonminority males; for Hispanics, 23.1 percent lower; for Asians, 9.3 percent lower; for Native Americans, 35.8 percent lower; and for nonminority women, 40.7 percent lower.

Turning to the Construction and CRS sector, Specification (1) in Table 5.4 shows large, adverse, and statistically significant business owner earnings disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting multiple races, and nonminority women consistent with the presence of discrimination in these markets. The measured difference for African Americans is 43.2 percent lower than for comparable nonminority males; for Hispanics, 15.9 percent lower; for Asians, 17.3 percent lower; for Native Americans, 31.2 percent lower; and for nonminority women, 45.9 percent lower.

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

Next, we turn to Specifications (2) and (3) in Tables 5.3 and 5.4. Specification (2) is the basic regression model enhanced by a set of interaction terms to test whether minorities and women in MINN differ significantly from those elsewhere in the U.S. economy. Specification (3) drops any MINN interaction terms that are not statistically significant.

For the economy as a whole in 2006-2008, Table 5.3 shows that only the MINN interaction term for nonminority females is statistically significant, indicating that disparities for minorities in MINN are no better or worse than in the nation as a whole, while disparities for nonminority women are better in MINN than in the nation as a whole.

For the Construction and CRS sector in 2006–2008, Table 5.4 shows that the estimates for MINN are in agreement with results for the nation as a whole.

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 nonminority male entrepreneurs. The situation is, in general, little different in the City of Minneapolis 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 nonminority 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.[214] 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 nonminority 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 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 men 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-owned from ever starting businesses at all.[215] 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 nonminority women are as likely to be business owners as are comparable nonminority 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,

[214] We use the phrases "business formation rates" and "self-employment rates" interchangeably in this Study.

[215] See also the materials cited at fn. 210 *supra*.

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.[216] 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 model. The underlying data for this section is once again the 2006–2008 ACS PUMS.

2. Findings: Race and Sex Disparities in Business Formation

As a point of reference for what follows, Tables 5.5 and 5.6 provide a summary of business ownership rates in 2006–2008 by race and sex. A striking feature of both tables is how much higher business ownership rates are for nonminority males than for all other groups.

Table 5.5, for example, shows a 7.43 percentage point difference between the overall self-employment rate of African Americans and nonminority Males in MINN (12.08 – 4.65 = 7.43). As shown in the final column, this 7.43 percentage point gap translates into a African American business formation rate in MINN that is 61.5 percent lower than the nonminority male business formation rate (*i.e.*, (4.65 – 12.09) ÷ 12.09 ≈ -61.5%). Similarly large deficits are observed for all minority groups as well as nonminority women, in the Construction and CRS sector, the Goods and Services sector, and the economy as a whole.

There is no doubt that part of the group differences documented in Tables 5.5 and 5.6 are associated with differences in the distribution of individual characteristics and preferences between minorities, women, and nonminority 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.[217] Since most minority populations in the United States have a lower median age than the non-Hispanic nonminority population, we must examine whether the disparities in business ownership evidenced in Tables 5.5 and 5.6 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 nonminority women compared to nonminority 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 5.7 focuses on the economy as a whole and Tables 5.8 and 5.9 focus on the Construction and CRS sector and the Goods and Services

---

[216] 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.

[217] Wainwright (2000), p. 86.

sector, respectively. 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 nonminority males.

a. Specification (1) - the Basic Model

Specification (1) in Table 5.7 shows large, adverse, and statistically significant business formation disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting multiple races, and nonminority women consistent with the presence of discrimination in these markets. Specification (1) in Tables 5.8 and 5.9 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.

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

Very few of the MINN interaction terms included in Specification (2) were significant. The final results are in Specification (3) for Tables 5.7-5.9.

To summarize for the economy-wide results (Table 5.7):

- For African Americans, business formation rates are 1.3 percentage points lower than what would be expected in a race- and gender-neutral marketplace.
- For Hispanics, business formation rates are 3.2 percentage points than what would be expected in a race- and gender-neutral marketplace.
- For Asians, business formation rates are 1.8 percentage points lower than what would be expected in a race- and gender-neutral marketplace.
- For Native Americans, business formation rates are 2.7 percentage points lower than what would be expected in a race- and gender-neutral marketplace.
- For nonminority women, business formation rates are 2.8 percentage points lower than what would be expected in a race- and gender-neutral marketplace.

To summarize for the Construction and CRS sector results (Table 5.8):

- For African Americans, business formation rates are 9.2 percentage points lower than what would be expected in a race- and gender-neutral marketplace.
- For Hispanics, business formation rates are 7.8 percentage points lower than what would be expected in a race- and gender-neutral marketplace.
- For Asians, business formation rates are 6.2 percentage points lower than what would be expected in a race- and gender-neutral marketplace.

- For Native Americans, business formation rates are 7.9 percentage points lower than what would be expected in a race- and gender-neutral marketplace.

- For nonminority women, business formation rates are 9.6 percentage points lower than what would be expected in a race- and gender-neutral marketplace.

To summarize for the Goods and Services sector results (Table 5.9):

- For African Americans, business formation rates are 1.9 percentage points lower than what would be expected in a race- and gender-neutral marketplace.

- For Hispanics, business formation rates are 3.0 percentage points lower than what would be expected in a race- and gender-neutral marketplace.

- For Asians, business formation rates are between 2.7 percentage points lower than what would be expected in a race- and gender-neutral marketplace.

- For Native Americans, business formation rates are 2.8 percentage points lower than what would be expected in a race- and gender-neutral marketplace.

- For nonminority women, business formation rates are 1.6 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 City of Minneapolis market area are substantially and statistically significantly lower in 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 nonminority males whether they work as employees or as entrepreneurs.

D. Expected Business Formation Rates—Implications for Current M/WBE Availability[218]

In Table 5.10, the Probit regression results from Tables 5.7, 5.8, and 5.9 for the overall Minneapolis market area economy, Construction and CRS sector, and Services and Commodities sector, respectively, are combined with weighted average self-employment rates by race and sex from the 2006–2008 ACS PUMS (Tables 5.5 and 5.6) to determine the expected difference

[218] This exercise addresses the requirements of 49 CFR 26.45 ("Step 2") for the USDOT DBE Program.

between baseline availability and expected availability in a race- and gender-neutral marketplace. These figures appear in column (3) of each panel in Table 5.10.

The business formation rate in MINN for minorities and women in the Construction and CRS sector is 15.79 percent (see middle panel of Table 5.10, last row). According to the regression specification underlying Table 5.8, however, that rate would be 24.79 percent, or 57.0 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 63.70. Disparity indices are adverse and statistically significant for all groups examined.

In Construction and CRS, the largest disparity observed is for African Americans and Native Americans (both zero), followed in descending order by nonminority females (62.89), Asians (62.94), minorities as a group (65.37), African Americans (64.4), Hispanics (71.94), and persons reporting two or more races (85.78). For M/WBEs as a group in MINN Construction and CRS sectors, the disparity index is 63.70.

In the Goods and Services sector, the largest disparity observed is for Native Americans (44.66), followed by African Americans (47.32), Hispanics (60.05), persons reporting two or more races (61.13), Asians (72.59), nonminority women (74.21), and minorities as a group (77.74). For M/WBEs as a group in MINN Goods and Services sectors, the disparity index is 70.30.

Given the large disparities observed throughout Table 5.10, 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 5.10 can be combined with the estimates of current M/WBE availability documented in Tables 4.15 and elsewhere to provide estimates of expected availability. These estimates appear below in Table 7.13. In every single instance in the City of Minneapolis market area, expected M/WBE availability exceeds current M/WBE availability.

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 just released in 2007.

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.[219]

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 nonminority-owned, non-women-owned firms.[220]

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 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 Minnesota.[221] In the remainder of this section we present 2002 SBO statistics for the United States as a whole and the State of Minnesota 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.

Tables 5.11 and 5.12 contain data for all industries combined. Table 5.11 is for the U.S. as a whole, Table 5.12 is for the State of Minnesota. Panel A in these two tables summarizes the 2002 SBO results for each grouping. Panel A of Table 5.11, 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 5.11 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.

---

[219] 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/.

[220] In the ACS PUMS 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.

[221] It is, in general, not possible with the SBO dataset to examine geographic divisions below the state level.

Panel A of Table 5.12 provides comparable information for Minnesota. In 2002 the Census Bureau counted 123,905 female-owned firms in the state, 7,837 African American-owned firms, 3,984 Hispanic-owned firms, 7,700 Asian-owned firms, and 2,742 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 5.12 shows that African American-owned firms were 1.81 percent and female-owned firms were 28.69 percent of all firms in Minnesota in 2002. Additionally, 0.92 percent of firms were Hispanic-owned, 1.78 percent were Asian-owned and 0.63 percent were Native American-owned.

Column (2) in Panel B provides the same percentage distribution for overall sales and receipts. Table 5.12, for example, shows that although African American-owned firms were 1.81 percent of all firms in Minnesota, they accounted for only 0.36 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 5.12 shows that African American-owned employer firms accounted for 0.50 percent of all firms but only 0.31 percent of all sales and receipts. Large disparities in Minnesota are observed not only for African Americans, but also for female-owned firms, Hispanic-owned firms, Asian-owned firms, and Native American-owned firms.

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 Minnesota, the sales and receipts disparity indices fall beneath the 80 percent threshold in every single case.

Tables 5.14 shows comparable SBO data for Construction and CRS (NAICS 23 and 54) in Minnesota, while Table 5.16 shows data for Goods and Services (balance of NAICS codes). Disparity indices for sales and receipts in Minnesota are again large and statistically significant in all but a few instances.

Tables

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

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.327 (172.39)	-0.326 (171.95)	-0.327 (172.47)
Hispanic	-0.226 (122.82)	-0.227 (122.79)	-0.227 (122.92)
Asian	-0.266 (110.49)	-0.267 (110.21)	-0.266 (110.52)
Native American	-0.308 (47.65)	-0.308 (47.54)	-0.308 (47.67)
Two or more races	-0.263 (62.85)	-0.263 (62.61)	-0.263 (62.87)
Nonminority Female	-0.325 (293.65)	-0.326 (292.86)	-0.326 (292.96)
Age	0.182 (572.73)	0.182 (572.73)	0.182 (572.73)
Age^2	-0.002 (498.90)	-0.002 (498.91)	-0.002 (498.91)
MINN	0.164 (21.57)	0.128 (13.21)	0.129 (14.38)
MINN*African American		-0.057 (1.84)	-0.057 (1.84)
MINN*Hispanic		0.026 (0.76)	
MINN * Asian/Pacific Islander		0.051 (1.66)	
MINN * Native American		0.011 (0.11)	
MINN *Other Race		-0.001 (0.02)	
MINN *Nonminority female		0.078 (6.46)	0.077 (6.66)
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	.4594	.4595	.4594

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 nonminority 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) "MINN" is shorthand for "City of Minneapolis Market Area," which is the Minneapolis-St. Paul, MN CBSA.

Table 5.2. Annual Wage Earnings Regressions, Construction and Related Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.350 (44.22)	-0.350 (44.08)	-0.350 (44.22)
Hispanic	-0.196 (36.91)	-0.196 (36.86)	-0.196 (36.91)
Asian	-0.219 (19.39)	-0.220 (19.36)	-0.219 (19.39)
Native American	-0.309 (17.12)	-0.308 (17.08)	-0.309 (17.12)
Two or more races	-0.227 (15.89)	-0.227 (15.88)	-0.227 (15.89)
Nonminority Female	-0.361 (81.53)	-0.360 (81.10)	-0.361 (81.53)
Age	0.149 (139.50)	0.149 (139.50)	0.149 (139.50)
Age^2	-0.001 (119.54)	-0.001 (119.54)	-0.001 (119.54)
MINN	0.199 (7.79)	0.207 (7.52)	0.199 (7.79)
MINN *African American		-0.329 (1.85)	-0.329 (1.85)
MINN *Hispanic		-0.043 (0.36)	
MINN * Asian/Pacific Islander		0.060 (0.33)	
MINN * Native American		-0.648 (1.30)	
MINN *Other Race		0.132 (0.48)	
MINN*Nonminority female		-0.020 (0.36)	
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	.2763	.2763	.2763

Source and Notes: See Table 5.1.

Table 5.3. Annual Business Owner Earnings Regressions, All Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.400 (32.06)	-0.401 (32.07)	-0.400 (32.08)
Hispanic	-0.231 (20.70)	-0.231 (20.75)	-0.231 (20.73)
Asian	-0.093 (5.77)	-0.094 (5.81)	-0.093 (5.79)
Native American	-0.358 (10.17)	-0.357 (10.10)	-0.358 (10.17)
Two or more races	-0.363 (16.20)	-0.362 (16.12)	-0.363 (16.20)
Nonminority Female	-0.407 (67.41)	-0.408 (67.38)	-0.408 (67.38)
Age	0.163 (79.12)	0.163 (79.12)	0.163 (79.12)
Age^2	-0.002 (69.62)	-0.002 (69.62)	-0.002 (69.62)
MINN	-0.096 (2.45)	-0.159 (3.46)	-0.149 (3.37)
MINN*African American		0.205 (0.77)	
MINN*Hispanic		0.204 (0.83)	
MINN* Asian/Pacific Islander		0.105 (0.45)	
MINN * Native American		-0.459 (0.87)	
MINN *Other Race		-0.075 (0.24)	
MINN *Nonminority female		0.193 (2.60)	0.179 (2.48)
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 nonminority 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) "MINN" is shorthand for "City of Minneapolis Market Area," which is the Minneapolis-St. Paul, MN CBSA.

Table 5.4. Business Owner Earnings Regressions, Construction and Related Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.432 (14.07)	-0.432 (14.07)	-0.432 (14.07)
Hispanic	-0.159 (6.96)	-0.160 (6.99)	-0.159 (6.96)
Asian/Pacific Islanders	-0.173 (3.54)	-0.171 (3.47)	-0.173 (3.54)
Native American	-0.312 (4.48)	-0.312 (4.48)	-0.312 (4.48)
Two or more races	-0.280 (5.41)	-0.279 (5.38)	-0.280 (5.41)
Nonminority female	-0.459 (22.95)	-0.459 (22.87)	-0.459 (22.95)
Age	0.126 (27.40)	0.126 (27.41)	0.126 (27.40)
Age^2	-0.001 (24.68)	-0.001 (24.68)	-0.001 (24.68)
MINN	-0.147 (1.85)	-0.151 (1.83)	-0.147 (1.85)
MINN*African American			
MINN *Hispanic		0.358 (0.72)	
MINN * Asian/Pacific Islanders		-0.301 (0.62)	
MINN * Native American			
MINN *Other Race		-0.189 (0.21)	
MINN *Nonminority Female		0.045 (0.15)	
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	.0524	.0524	.0524

Source and Notes: See Table 5.5.

Table 5.5. Self-Employment Rates in 2006–2008 for Selected Race and Sex Groups: United States and the City of Minneapolis Market Area, All Industries

Race/Sex	U.S. (%)	City of Minneapolis Market Area (%)	Percent Difference from Nonminority male (City of Minneapolis Market Area)
African American	5.38	4.65	-61.5
Hispanic	8.65	5.92	-51.0
Asian and Pacific Islander	10.58	7.23	-40.1
Native American	8.65	2.22	-81.6
Two or more races	8.96	4.52	-62.6
Minority	7.95	5.67	-53.1
Nonminority female	8.76	7.97	-34.0
M/WBE	8.38	7.34	-39.2
Nonminority male	14.22	12.08	

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

Table 5.6. Self-Employment Rates in 2006–2008 for Selected Race and Sex Groups: United States and the City of Minneapolis Market Area, Construction and CRS Sectors and Goods and Services Sectors

Race/Sex	U.S. (%)	City of Minneapolis Market Area (%)	Percent Difference from Nonminority male (City of Minneapolis Market Area)
Construction and CRS Sectors			
African American	16.61	0.00	-100.0
Hispanic	14.60	20.00	-25.3
Asian and Pacific Islander	17.68	10.53	-60.7
Native American	18.06	0.00	-100.0
Two or more races	18.93	24.74	-7.6
Minority	15.40	15.10	-43.6
Nonminority female	15.34	16.27	-39.2
M/WBE	15.39	15.79	-41.0
Nonminority male	26.17	26.77	
Goods and Services Sectors			
African American	4.81	4.76	-51.5
Hispanic	7.65	4.51	-54.1
Asian and Pacific Islander	10.26	7.15	-27.2
Native American	7.37	2.26	-77.0
Two or more races	8.01	3.46	-64.8
Minority	7.17	5.24	-46.6
Nonminority female	8.56	7.77	-20.9
M/WBE	7.93	7.10	-27.7
Nonminority male	11.99	9.82	

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

Table 5.7. Business Formation Regressions, All Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.042 (74.32)	-0.042 (74.31)	-0.042 (74.31)
Hispanic	-0.032 (64.63)	-0.032 (64.61)	-0.032 (64.63)
Asian and Pacific Islander	-0.018 (26.98)	-0.018 (26.92)	-0.018 (26.98)
Native American	-0.027 (15.07)	-0.027 (14.96)	-0.027 (15.07)
Two or more races	-0.020 (16.37)	-0.020 (16.33)	-0.020 (16.37)
Nonminority Female	-0.028 (80.31)	-0.028 (80.01)	-0.028 (80.31)
Age	0.010 (115.65)	0.010 (115.66)	0.010 (115.65)
Age^2	-0.000 (80.55)	-0.000 (80.55)	-0.000 (80.55)
MINN	-0.009 (4.93)	-0.011 (4.63)	-0.010 (5.14)
MINN*African American		0.030 (2.38)	0.029 (2.32)
MINN*Hispanic		0.014 (1.16)	
MINN* Asian/Pacific Islander		0.001 (0.15)	
MINN* Native American		-0.037 (1.29)	
MINN*Other Race		-0.001 (0.03)	
MINN*Nonminority Female		0.002 (0.55)	
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	.2195	.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 nonminority 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) "MINN" is shorthand for "City of Minneapolis Market Area," which is Minneapolis-St. Paul, MN Core Based Statistical Area.

Table 5.8. Business Formation Regressions, Construction and Related Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.092 (21.61)	-0.092 (21.54)	-0.092 (21.52)
Hispanic	-0.078 (27.91)	-0.078 (27.96)	-0.078 (27.91)
Asian/Pacific Islanders	-0.062 (10.16)	-0.062 (10.14)	-0.062 (10.16)
Native American	-0.079 (8.27)	-0.079 (8.27)	-0.079 (8.26)
Two or more races	-0.041 (5.46)	-0.042 (5.51)	-0.041 (5.46)
Nonminority Female	-0.096 (37.26)	-0.096 (37.19)	-0.096 (37.26)
Age	0.025 (46.81)	0.025 (46.81)	0.025 (46.80)
Age^2	-0.000 (32.55)	-0.000 (32.55)	-0.000 (32.55)
MINN	-0.003 (0.23)	-0.007 (0.64)	-0.001 (0.11)
MINN*African American		–	
MINN*Hispanic		0.106 (1.60)	
MINN* Asian/Pacific Islanders		-0.011 (0.11)	
MINN* Native American		–	
MINN*Other Race		0.117 (0.89)	
MINN*Nonminority female		0.035 (1.20)	
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (25 categories)	Yes	Yes	Yes
N	259606	259590	259590
Pseudo R^2	.0815	.0815	.0815

Source and Notes: See Table 5.11.

Table 5.9. Business Formation Regressions, Goods and Services Industries, 2006–2008

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.053 (77.98)	-0.053 (77.97)	-0.053 (77.97)
Hispanic	-0.030 (46.70)	-0.030 (46.72)	-0.030 (46.74)
Asian and Pacific Islander	-0.026 (33.46)	-0.027 (33.41)	-0.027 (33.47)
Native American	-0.028 (12.04)	-0.028 (11.98)	-0.028 (12.05)
Two or more races	-0.022 (14.53)	-0.022 (14.45)	-0.022 (14.54)
Nonminority Female	-0.027 (68.04)	-0.027 (67.97)	-0.027 (67.97)
Age	0.010 (92.15)	0.010 (92.15)	0.010 (92.15)
Age^2	-0.000 (61.68)	-0.000 (61.68)	-0.000 (61.68)
MINN	-0.008 (3.32)	-0.013 (4.35)	-0.013 (4.41)
MINN*African American		0.035 (2.51)	0.034 (2.49)
MINN*Hispanic		0.009 (0.66)	
MINN* Asian/Pacific Islander		0.006 (0.52)	
MINN* Native American		-0.023 (0.59)	
MINN*Other Race		-0.011 (0.53)	
MINN*Nonminority female		0.011 (2.70)	0.011 (2.67)
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	.0665	.0665

Source and Notes: See Table 5.11.

Table 5.10. Actual and Potential Business Formation Rates in the City of Minneapolis Market Area

Race/Sex	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
All Industries	(1)	(2)	(3)
African American	4.65	8.85	52.54
Hispanic	5.92	9.12	64.91
Asian and Pacific Islander	7.23	9.03	80.07
Native American	2.22	4.92	45.12
Two or more races	4.52	6.52	69.33
Minority	5.67	7.77	72.97
Nonminority female	7.97	10.77	74.00
M/WBE	7.34	10.74	68.34
Construction and CRS Sectors	(1)	(2)	(3)
African American	0.00	9.20	0.00
Hispanic	20.00	27.80	71.94
Asian and Pacific Islander	10.53	16.73	62.94
Native American	0.00	7.90	0.00
Two or more races	24.74	28.84	85.78
Minority	15.10	23.10	65.37
Nonminority female	16.27	25.87	62.89
M/WBE	15.79	24.79	63.70
Goods and Services Sectors	(1)	(2)	(3)
African American	4.76	10.06	47.32
Hispanic	4.51	7.51	60.05
Asian and Pacific Islander	7.15	9.85	72.59
Native American	2.26	5.06	44.66
Two or more races	3.46	5.66	61.13
Minority	5.24	6.74	77.74
Nonminority female	7.77	10.47	74.21
M/WBE	7.10	10.10	70.30

Source: 2006–2008 ACS Public Use Microdata Sample. *See* Tables 5.7-5.9. MBE and M/WBE results from similar regression analyses, not reported here.

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 5.7, 5.8, or 5.9, respectively. MBE and M/WBE figures were derived from similar regression analyses, not reported separately. Column (3) is the figure in column (1) divided by the figure in column (2), with the result multiplied by 100.

Table 5.11. 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
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%
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%
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.

Table 5.12. Disparity Indices from the 2002 Survey of Business Owners: Minnesota, 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						
MINNESOTA	431,939	189,049,347	104,345	176,565,268	1,128,404	33,419,480
Female	123,905	16,251,660	16,737	14,142,731	123,233	2,878,150
African American	7,837	682,442	525	550,440	4,990	183,806
Hispanic	3,984	462,777	643	361,805	4,596	97,826
Asian	7,700	1,775,531	1,828	1,560,982	16,887	402,333
Native Hawaiian/Pac. Islander	-	-	-	-	-	-
Am. Indian & Alaska Native	2,742	318,937	487	282,552	3,676	90,824
Panel B. Column Percentages						
MINNESOTA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Female	28.69%	8.60%	16.04%	8.01%	10.92%	8.61%
African American	1.81%	0.36%	0.50%	0.31%	0.44%	0.55%
Hispanic	0.92%	0.24%	0.62%	0.20%	0.41%	0.29%
Asian	1.78%	0.94%	1.75%	0.88%	1.50%	1.20%
Native Hawaiian/Pac. Islander	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Am. Indian & Alaska Native	0.63%	0.17%	0.47%	0.16%	0.33%	0.27%
Panel C. Disparity Indices						
Female		29.97%		49.94%	68.09%	53.69%
African American		19.90%		61.96%	87.89%	109.31%
Hispanic		26.54%		33.25%	66.10%	47.50%
Asian		52.68%		50.46%	85.42%	68.72%
Native Hawaiian/Pac. Islander		-		-	-	-
Am. Indian & Alaska Native		26.58%		34.29%	69.80%	58.23%

Source: See Table 5.11.

Table 5.13. 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
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%
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						
Female		46.19%		61.52%	74.79%	69.00%
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 5.11.

Table 5.14. Disparity Indices from the 2002 Survey of Business Owners: Minnesota, 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						
MINNESOTA	116,911	35,618,873	30,931	32,186,193	192,497	8,300,226
Female	21,671	2,667,839	4,076	2,220,780	16,032	614,500
African American	1,072	102,542	89	78,648	509	26,429
Hispanic	1,089	155,073	113	101,120	438	21,089
Asian	1,578	313,392	281	-	-	-
Native Hawaiian/Pac. Islander	5	-	-	-	-	-
Am. Indian & Alaska Native	373	65,431	71	58,697	446	17,071
Panel B. Column Percentages						
MINNESOTA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Female	18.54%	7.49%	13.18%	6.90%	8.33%	7.40%
African American	0.92%	0.29%	0.29%	0.24%	0.26%	0.32%
Hispanic	0.93%	0.44%	0.37%	0.31%	0.23%	0.25%
Asian	1.35%	0.88%	0.91%	0.00%	0.00%	0.00%
Native Hawaiian/Pac. Islander	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Am. Indian & Alaska Native	0.32%	0.18%	0.23%	0.18%	0.23%	0.21%
Panel C. Disparity Indices						
Female		40.41%		52.36%	63.20%	56.18%
African American		31.40%		84.92%	91.90%	110.66%
Hispanic		46.74%		86.00%	62.28%	69.55%
Asian		65.19%		0.00%	0.00%	0.00%
Native Hawaiian/Pac. Islander		0.00%		-	-	-
Am. Indian & Alaska Native		57.58%		79.45%	100.94%	89.60%

Source: See Table 5.11.

Table 5.15. 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
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%
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						
Female		34.36%		53.60%	70.05%	57.66%
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 5.11.

Table 5.16. Disparity Indices from the 2002 Survey of Business Owners: Minnesota, 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						
MINNESOTA	315,028	153,430,474	73,414	144,379,075	935,907	25,119,254
Female	102,234	13,583,821	12,661	11,921,951	107,201	2,263,650
African American	6,765	579,900	436	471,792	4,481	157,377
Hispanic	2,895	307,704	530	260,685	4,158	76,737
Asian	6,122	1,462,139	1,547	1,560,982	16,887	402,333
Native Hawaiian/Pac. Islander	(5)	-	-	-	-	-
Am. Indian & Alaska Native	2,369	253,506	416	223,855	3,230	73,753
Panel B. Column Percentages						
MINNESOTA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Female	32.45%	8.85%	17.25%	8.26%	11.45%	9.01%
African American	2.15%	0.38%	0.59%	0.33%	0.48%	0.63%
Hispanic	0.92%	0.20%	0.72%	0.18%	0.44%	0.31%
Asian	1.94%	0.95%	2.11%	1.08%	1.80%	1.60%
Native Hawaiian/Pac. Islander	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Am. Indian & Alaska Native	0.75%	0.17%	0.57%	0.16%	0.35%	0.29%
Panel C. Disparity Indices						
Female		27.28%		47.88%	66.42%	52.25%
African American		17.60%		55.02%	80.62%	105.49%
Hispanic		21.82%		25.01%	61.54%	42.32%
Asian		49.04%		51.31%	85.63%	76.01%
Native Hawaiian/Pac. Islander		0.00%		-	-	-
Am. Indian & Alaska Native		21.97%		27.36%	60.91%	51.82%

Source: See Table 5.11.

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. 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.[222]

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 nonminority-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 nonminorities, 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 nonminority-owned firms.

[222] 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.

- A larger proportion of minority-owned firms than nonminority-owned firms report that credit market conditions are a serious concern.

- A larger share of minority-owned firms than nonminority-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 West 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 nonminority 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.[223]

---

[223] 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

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.[224]

In his 2003 report for *Builders Association of Greater Chicago v. the City of Chicago*,[225] 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 nonminority stereotypes about suitable roles for minorities in society" (Bates, 1989; Bates, 1993; Bates, 1973). Indeed, as Bates points out, Gunner 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 nonminority 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 nonminority 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 nonminority

---

more likely to switch to self-employment from employment. Blanchflower and Oswald (1998) studied the 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.

[224] *See* Chapter V, above.

[225] 298 F.Supp.2d 725 (N.D. Ill. 2003).

rate and a African American transition rate out of self-employment that is twice the nonminority rate. He finds that capital constraints—measured by interest income and lump-sum cash 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 nonminority 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 nonminority-owned firms is consistent with discrimination, it is necessary to compare African American- and nonminority-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 nonminority-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 nonminority-owned firms are less likely to be approved, then it is appropriate to attribute such a difference to discrimination.

Following Munnell et al. (1996) we estimated the following loan denial equation:

$$(1) \qquad \text{Prob}(D_i = 1) = \Phi(\beta_0 + \beta_1 CW_i + \beta_2 X_i + \beta_3 R_i),$$

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.[226] 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.[227] Within the framework of this model, a positive estimate of β_3 is consistent with the presence of discrimination.[228]

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.[229] 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

---

[226] Additional discussion of Probit regression appears in Chapter V, Section C.1.

[227] 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.

[228] The Equal Credit Opportunity Act prohibits discrimination in access to credit by race and would apply to both Becker-type and statistical discrimination.

[229] 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.

individuals of other races (*i.e.* Asians, Pacific Islanders, American Indians, and Alaska Natives).[230]

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 times more likely to have a loan application rejected as are non-Hispanic White-owned firms (hereafter "nonminority") (65.9 percent versus 26.9 percent).[231] Other minority groups are denied at rates higher than non-minorities as well, but the magnitude of the African American-nonminority differential is especially striking.

Minority-owned firms, however, do have characteristics that are different from those of nonminority-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 nonminority counterparts. Minority firms were also less creditworthy, on average, than their nonminority 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 nonminority-owned firms, African American-owned firms were 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 nonminority-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 nonminority-owned firms; and Hispanic-owned firms, who requested loans about 42 percent smaller than those requested by nonminority-owned firms.

The NSSBF database does not identify the specific city or state where the 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 West North Central Census division (hereafter WNC), which includes all of the Minneapoli-St. Paul, Bloomington, MN CBSA.[232] The 1993 WNC sample includes the owners of 600 firms, of which 241 firms (40.2%) said that they had applied for a loan over the preceding three-year period.

---

[230] There were also two firms in the "Other race" category in 1993 that reported multiple or mixed race.

[231] 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.

[232] The West North Central division includes the states of Minnesota, Iowa, Kansas, Missouri, Nebraska, North Dakota, and South Dakota.

The overall denial rate in the WNC is lower than the national rate reported in Table 6.1, but this difference is not statistically significant. The difference in the denial rates between African American-owned and nonminority-owned firms is higher in the WNC (39.0 percentage points nationally and 46.5 percentage points in the WNC), but again this difference is not statistically significant. Indeed, in the large majority of cases, the weighted sample means are not statistically significantly different in the WNC than in the nation as a whole—either overall or by race, ethnicity or gender.

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 nonminority-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.[233] The finding that African American-owned and Hispanic-owned firms are largely indistinguishable from nonminority-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 WNC division—with African American firms being more likely than nonminority-owned firms to say that credit market conditions had been a serious problem in the preceding 12 months.

[233] 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.

Table 6.5 reports the views of NSSBF respondents for the U.S. as a whole and Table 6.6 reports views for the WNC 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 nonminority-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 WNC, credit availability is a far more important issues for African American-owned firms than for nonminority-owned firms. Over three times as many African American-owned firms reported credit availability as the most important issue than nonminority-owned firms.

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 nonminority male-owned firms. Hispanic-owned firms and other minority-owned firms also reported higher percentages than nonminority 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 nonminority 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 nonminority 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 nonminority 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.[234]

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.[235] 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 nonminority men and women was availability of credit: 19 percent of nonminority 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 nonminority women. In no other category is there more than a 10 percentage point difference for men or women.

---

[234] Bureau of the Census (1997), Table 5a, p. 46, Table 1, p. 21.

[235] 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.

In summary, African American-owned and Hispanic-owned firms in particular 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 reflect actual discrimination can be distinguished in 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 WNC division.[236] 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.[237] 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 nonminority male-owned firms.[238]

---

[236] 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.

[237] 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.

[238] 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.

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.[239] In Column (2) a 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 nonminority-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.[240] In total these three columns add 176 variables to the more parsimonious specification reported in Column (2).[241] 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 nonminority 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 nonminority 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

---

[239] 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 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.

[240] 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%).

[241] 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).

different from the denial rates of firms owned by nonminorities; or that denial rates for firms owned by nonminority women were significantly different from those for firms owned by nonminority men.

In Table 6.9, we see results for the WNC division 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 WNC, which includes the City's market area, are not substantially different from the nationwide results reported in Table 6.8. The indicator variable for the WNC division is insignificantly different from zero; as are the interaction terms between race/ethnicity/gender and the WNC division .[242]

Although the results provided so far strongly indicate that financial institutions treat African American-owned and nonminority 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.[243]

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.

---

[242] The number of Native Americans in the WNC sample was too small to yield statistical results.

[243] An example of a typical application form is presented as Appendix B in Blanchflower, Levine, and Zimmerman (2003).

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.[244] 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 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 nonminority 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.[245] 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.[246]

In order to determine whether the findings for the WNC division were different from those for the nation as a whole, in the second column of Table 6.10 we also report the coefficient and t-

---

[244] 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.

[245] 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 WNC, the figures are 5.5, 31.7, 16 percent, and 28 percent, respectively.

[246] 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.

statistics on an interaction term between the WNC division 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 WNC.

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 firms seeking credit for uses other than working capital, African American-owned firms are 20, 22, and 16 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 nonminority-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.[247]

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 for 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 16 percentage points more likely to have their loan applications denied compared to a 20 percent excess denial rate for firms selling primarily to regional, national, or international markets. There is no evidence that, the figures for the WNC are significantly different 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

[247] 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.

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 characteristics. In fact, the estimated differential in loan approval rates between African American- and nonminority-owned firms is statistically indistinguishable within each of these groups. Asian-owned firms and nonminority female-owned firms with clean credit histories, as well, are also at a significant disadvantage relative to nonminority-male owned firms.

Finally, we considered whether African American-owned firms are treated differently from nonminority-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 nonminority-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 nonminorities 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.[248]

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.[249] There is no evidence, either for the U.S. as a whole or for the WNC, that African American-owned firms are less likely to access either business or personal credit

[248] It appears that race may also rarely be known to those institutions that issue credit ratings. As we mentioned above, Cavalluzo, Cavalluzo, 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.

[249] 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 WNC the figures are 29 percent and 39 percent, respectively.

cards for business expenses. On the other hand, there is evidence in the WNC 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 nonminority-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 nonminority-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:

$$(2) \qquad I_i = \beta_0 + \beta_1 CW_i + \beta_2 X_i + \beta_3 R_i + \beta_4 LC_i + \varepsilon_i,$$

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 nonminority-owned firms. Row 2 shows that

even African American-owned firms with good credit histories are charged higher interest rates relative to nonminority-owned firms.[250]

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 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 WNC. 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 nonminority- 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 nonminorities 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 40 and 23 percentage points more likely than nonminority-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

[250] 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.

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 nonminority-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 nonminority-owned firms).[251] Results obtained in section (b) of Table 6.15 for the WNC division 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.[252]

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 nonminority- 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 nonminority- and minority-owned firms, respectively. Among the nonminority-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

---

[251] 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.

[252] It was not possible to report separate construction results in earlier tables because of small sample sizes.

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.[253]

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 WNC division, or in construction sub-samples, or for Asian-owned firms nationally or in the WNC. 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 has changed since 1993 using data from the 1998 SSBF conducted by the Board of Governors of the Federal Reserve System.[254] This section updates the several estimates obtained above using the

[253] 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.

[254] 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

1993 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.

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 nonminority 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.[255]

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.

---

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.

[255] 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 nonminority 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 nonminorities, 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 nonminorities 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 nonminority male-owned firms, even after controlling for a host of

variables included primarily to control for the possibility that minority-owned firms are smaller and less creditworthy than those owned by nonminority 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 nonminority 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 nonminority male-owned firms. In Table 6.8, by contrast, denial probabilities for Hispanic-owned firms were *not* significantly different from those of nonminority 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 WNC division yields similar results—showing significantly larger denial probabilities for African American- and Hispanic-owned firms than for nonminority male-owned firms. The WNC indicator was not significant in Table 6.19, nor were the interaction terms between WNC and race, ethnicity or gender, with the exception of African Americans, indicating that the 1998 loan denial results for the WNC 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.[256]

Despite the fact that these new variables do help to predict loan denials,[257] the estimated race differences including these variables are unchanged from those reported above.[258] This suggests

[256] 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.

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 nonminority females are all confirmed to face higher denial rates than nonminority 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 nonminority 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, geographic and industry indicators, and WNC interaction terms are included.

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.

---

[257] 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 risk= .391 (3.53), n=924 pseudo r^2=.0253. Excluded category 'low risk'. Results were essentially unchanged when a control for WNC was included.

[258] This confirms the findings of Cavalluzzo, Cavalluzzo and Wolken (1999) who performed a similar exercise with the 1993 data.

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.[259]

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 nonminority male-owned firms to have their application rejected. This is evident in the WNC as well and also in the construction and construction-related industries.[260]

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 WNC division (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, 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, such as Hispanics and Asians, as well. This is an important market failure, and one which governments such as the City of Minneapolis 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

More recently a new wave of the Survey of Small Business Finances was made available by the Board of Governors of the Federal Reserve System.[261] 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-subsidiary, 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.

---

[259] There is some indication that non-minority females nationally pay slightly less for their loans, but this difference is not quite statistically significant.

[260] 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.

[261] *See* www.federalreserve.gov/pubs/oss/oss3/ssbf03/ssbf03home.html .

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.[262]

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.[263] Although the population weights were adjusted to accommodate these changes, even these weighted percentages are significantly smaller for minorities in 2003 than in 1998.[264]

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.[265]

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, 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/nonminority difference was most pronounced—only slightly more than 5 percent of nonminority male business owners reported this as their major problem compared to almost 21 percent of African American business owners.

---

[262] See footnote 222, above.

[263] 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.

[264] 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.

[265] The data file provided by the Board of Governors includes five separate observations per firm. That is to say there are 4240*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 WNC using a regression model comparable to that which was used with the 1993 and 1998 survey waves.[266]

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 nonminority 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 nonminority 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 WNC division and yields similar results—showing significantly larger denial probabilities for African American-owned firms than for nonminority male-owned firms. The WNC gender interaction term is also significant, indicating that nonminority women were almost 16 percent more likely to be denied in the WNC in 2003.

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 nonminority 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 nonminority male business owners with identical characteristics. Hispanic business owners, as well, pay 0.99 percentage points more, nationally on average, than their nonminority male counterparts have to pay.

The loan price differential is present for African American and Hispanic business owners in the WNC as well. According to the results in Table 6.27, Hispanic business owners in the WNC may pay 1.49 percentage points more for their loans, on average, than comparable nonminority males. For African Americans, the differential is 1.27 percentage points.

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

[266] 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.

equations. There is some evidence nationally in 2003 that African Americans are less likely to 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 WNC division the phenomenon is evident as well—African American business owners are 18 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 nonminority female business owners as well in the nation as a whole.

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 Maryland[267] 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,[268] 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 nonminority male-owned firms are 29 percentage points higher—even when creditworthiness controls, other firm and owner characteristics, and interaction terms are included.

---

[267] Including the District of Columbia, the State of Delaware, and the portion of Virginia within the Baltimore-Washington Metropolitan Area.

[268] Including (again) the District of Columbia, the State of Delaware, and the portion of Virginia within the Baltimore-Washington Metropolitan Area.

Moreover, the NERA surveys found statistically significant loan denial disparities for Hispanic-owned firms and nonminority female-owned firms as well. Denial rates were 18-24 percentage points higher for Hispanic-owned firms and 5-9 percentage points higher for nonminority female-owned firms than for their nonminority 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 nonminority 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 nonminority 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 nonminority applicants meeting the acceptance standard used for nonminority 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 nonminority- 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.[269]

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 nonminority 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.[270]

Our analysis finds significant evidence that African American-owned businesses face impediments to obtaining credit that go beyond observable differences in their creditworthiness.

---

[269] 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).

[270] 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.

These firms are more likely to report that credit availability was a problem in the past and expect 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 nonminority 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 nonminority 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
Credit History of Firm/Owners					
% 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
Other Firm Characteristics					
% 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 $)	547.4	572.8	146.2	308.6	486.0
Owner's Years of Experience	18.3	18.7	15.3	15.9	14.9
Owner's Share of Business	77.1	76.5	86.4	83.9	77.1
% <= 8^{th} Grade Education	0.8	0.7	0.0	3.4	1.0
% 9^{th}-11^{th} Grade Education	2.2	2.2	3.7	1.8	1.2
% High School Graduate	19.6	19.7	12.8	27.7	14.9
% Some College	28.0	28.3	36.0	20.6	19.8
% College Graduate	29.2	29.2	28.0	24.1	36.5
% Postgraduate Education	20.2	19.9	19.5	22.3	26.6
% Line of credit	48.7	49.1	35.8	52.8	43.7
Total Full-time Employment in 1990	11.4	11.8	6.8	9.3	8.8
Total Full-time Employment in 1992	13.6	13.9	8.3	10.8	12.3
Firm age, in years	13.4	13.6	11.5	13.3	9.3
% New Firm Since 1990	9.4	9.4	13.0	6.4	9.5
% Firms Located in MSA	76.5	75.1	91.2	90.7	85.7
% Sole Proprietorship	32.8	32.3	48.6	38.2	24.2
% Partnership	7.8	7.8	7.7	6.7	7.9
% S Corporation	26.1	27.1	11.7	13.7	27.1
% C Corporation	33.4	32.8	32.1	41.4	40.8
% Existing Relationship with Lender	24.6	24.7	12.8	29.6	25.7
% Firms with Local Sales Market	54.1	54.7	42.9	55.0	47.4
Characteristics of Loan Application					
Amount Requested (in 1,000s of 1992$)	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.

Table 6.2. Selected Sample Means of Loan Applicants – WNC, 1993

	All	Non-minority	African American	Hispanic	Other Races
% of Firms Denied in the Last Three Years	21.1	20.8	67.3	22.1	-
Credit History of Firm/Owners					
% Owners with Judgments Against Them	3.2	2.8	43.0	-	-
% Firms Delinquent in Business Obligations	23.2	23.8	26.6	-	-
% Owners Delinquent on Personal Obligations	15.2	15.2	50.9	-	-
% Owners Declared Bankruptcy in Past 7yrs	3.1	3.2	-	-	-
Other Firm Characteristics					
% Female-Owned	12.8	13.1	16.4	-	-
Sales (in 1,000s of 1992 $)	1,426.8	1,452.2	950.9	243.2	1,037.8
Profits (in 1,000s of 1992 $)	(255.9)	(265.5)	(31.2)	29.3	12.1
Assets (in 1,000s of 1992 $)	564.6	576.6	270.6	84.4	358.4
Liabilities (in 1,000s of 1992 $)	374.4	382.0	158.0	58.3	291.8
Owner's Years of Experience	18.2	18.3	18.6	14.5	18.8
Owner's Share of Business	76.2	75.9	76.3	80.9	91.0
% <= 8^{th} Grade Education	-	-	-	-	-
% 9^{th}-11^{th} Grade Education	2.9	2.7	24.3	-	-
% High School Graduate	28.9	29.3	32.7	22.1	-
% Some College	32.0	32.5	16.4	41.3	-
% College Graduate	18.9	18.0	26.6	19.2	81.7
% Postgraduate Education	17.3	17.5	-	17.4	18.3
% Line of credit	51.7	51.6	49.1	19.2	100.0
Total Full-time Employment in 1990	9.1	9.1	6.6	4.8	13.2
Total Full-time Employment in 1992	11.7	11.7	5.5	11.9	16.0
Firm age, in years	13.9	13.9	14.6	7.2	19.0
% New Firm Since 1990	13.7	13.7	16.4	22.1	-
% Firms Located in MSA	59.2	58.7	100.0	100.0	18.3
% Sole Proprietorship	39.2	39.6	24.3	63.4	-
% Partnership	7.9	8.2	-	-	-
% S Corporation	23.6	24.3	10.2	-	-
% C Corporation	29.3	27.9	65.5	36.6	100.0
% Existing Relationship with Lender	26.7	27.1	32.7	17.4	-
% Firms with Local Sales Market	62.1	63.3	-	82.6	-
Characteristics of Loan Application					
Amount Requested (in 1,000s of 1992$)	196.7	200.2	175.1	52.9	83.5
% Loans to be Used for Working Capital	10.0	10.0	10.2	22.1	-
% Loans to be Used for Equipment/Machinery	0.8	0.8	-	-	-
% Loans to be Used for Land/Buildings	-	-	-	-	-
% Loan to be Backed by Real Estate	28.4	29.2	-	17.4	-
Total Sample Size (unweighted)	365	36	21	9	6

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
Credit Market Conditions					
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
Other Potential Problems (% reporting problem is serious)					
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 – WNC, 1993

	All	Non-minority	African American	Hispanic	Other Races
Credit Market Conditions					
Percent reporting not a problem	69.6	70.1	42.0	75.7	67.4
Percent reporting somewhat of a problem	20.8	20.3	39.6	15.9	32.6
Percent reporting serious problem	9.7	9.6	18.4	8.4	0.0
Other Potential Problems (% reporting problem is serious)					
Training costs	4.4	4.5	8.0	0.0	0.0
Worker's compensation costs	22.9	23.1	8.0	31.5	14.6
Health insurance costs	34.5	34.5	49.3	32.7	14.6
IRS regulation or penalties	14.2	13.5	28.3	19.0	37.1
Environmental regulations	9.2	9.4	4.0	15.6	0.0
Americans with Disabilities Act	2.8	2.8	0.0	8.0	0.0
Occupational Safety and Health Act	5.6	5.8	4.0	0.0	0.0
Family and Medical Leave Act	1.9	1.9	0.0	8.4	0.0
Number of observations (unweighted)	365	36	21	9	6

Source: See Table 6.1.

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 – WNC, 1993

	All	Non-minority	African American	Hispanic	Other Races
Credit availability	5.6	5.5	17.8	0.0	0.0
Health care, health insurance	27.3	28.0	13.3	24.6	0.0
Taxes, tax policy	7.4	7.4	9.0	13.6	0.0
General U.S. business conditions	7.4	7.3	4.5	12.9	15.7
High interest rates	4.6	4.7	4.5	4.2	0.0
Costs of conducting business	3.2	2.9	2.8	0.0	32.6
Labor force problems	3.0	3.0	6.7	0.0	0.0
Profits, cash flow, expansion, sales	8.5	8.6	4.5	29.8	0.0
Number of observations (unweighted)	365	36	21	9	6

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 (viewed 1 October 2010).

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.

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)
Nonminority 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 – WNC Region, 1993

	(1)	(2)	(3)	(4)	(5)
African American	0.438 (10.83)	0.280 (6.52)	0.230 (5.32)	0.234 (5.12)	0.240 (5.03)
Asian	0.225 (4.18)	0.168 (3.10)	0.139 (2.53)	0.126 (2.23)	0.124 (2.14)
Native American	0.004 (0.03)	-0.138 (1.00)	-0.092 (0.65)	-0.039 (0.25)	-0.074 (0.49)
Hispanic	0.132 (2.61)	0.066 (1.31)	0.073 (1.44)	0.047 (0.91)	0.045 (0.87)
Nonminority female	0.085 (2.49)	0.048 (1.41)	0.052 (1.54)	0.043 (1.24)	0.039 (1.09)
African American*WNC	0.058 (0.30)	0.075 (0.35)	0.101 (0.47)	0.092 (0.41)	0.067 (0.31)
Asian/Pacific*WNC	–	–	–	–	–
Native American*WNC	–	–	–	–	–
Hispanic*WNC	-0.090 (0.46)	-0.005 (0.02)	-0.126 (0.73)	-0.147 (0.94)	-0.166 (1.12)
Non-minority Female*WNC	0.012 (0.10)	-0.052 (0.40)	-0.098 (0.86)	-0.096 (0.82)	-0.080 (0.67)
WNC region	-0.041 (1.01)	-0.057 (1.42)	-0.034 (0.83)	0.004 (0.08)	0.009 (0.18)
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	2,005	2,005	2,004	1,983	1,971
Pseudo R^2	0.062	0.142	0.229	0.255	0.273
Chi^2	145.42	335.93	539.64	596.36	636.90
Log likelihood	-1,107.2	-1,011.9	-909.7	-873.6	-847.5

Source: See Table 6.1.

Note: Creditworthiness controls are those used in Table 6.8 above.

Table 6.10. Alternative Models of Loan Denials, 1993

Specification	African American	African American* WNC	Asian	Hispanic	Non-minority Female	Sample Size
All	0.230 (5.32)	0.101 (0.47)	0.139 (2.53)	0.073 (1.44)	0.052 (1.54)	2,004
Organization Type						
1) Proprietorships and Partnerships	0.250 (3.17)	–	0.254 (2.29)	0.053 (0.61)	0.025 (0.36)	536
2) Corporations	0.201 (3.84)	0.074 (0.35)	0.113 (1.75)	0.072 (1.11)	0.061 (1.54)	1,454
Age of Firm						
3) 12 Years or Under	0.271 (4.45)	-0.192 (0.66)	0.207 (2.76)	0.048 (0.61)	0.038 (0.73)	1,074
4) Over 12 Years	0.178 (2.86)	–	-0.002 (0.03)	0.109 (1.55)	0.109 (2.18)	922
1993 Firm Size						
5) Fewer than 10 Employees	0.224 (3.74)	0.163 (0.60)	0.138 (1.71)	0.044 (0.62)	0.003 (0.07)	868
6) 10 or More Employees	0.222 (3.32)	–	0.127 (1.57)	0.129 (1.58)	0.107 (2.24)	1,130
Intended Use of Loan						
7) Working Capital	0.256 (4.68)	0.121 (0.42)	0.079 (1.14)	0.003 (0.04)	0.069 (1.45)	1,086
8) Other Use	0.164 (2.30)	0.149 (0.44)	0.255 (2.8)	0.157 (2.01)	0.041 (0.85)	915
Scope of Sales Market						
9) Local	0.162 (2.41)	–	0.181 (2.40)	0.005 (0.07)	0.059 (1.17)	875
10) Regional, National, or international	0.196 (5.08)	0.045 (0.37)	0.042 (0.91)	0.097 (1.96)	0.031 (1.21)	1,126
Creditworthiness						
11) No Past Problems	0.232 (4.23)	–	0.184 (3.22)	0.027 (0.57)	0.071 (2.18)	1,374
12) One Past Problem	0.287 (2.95)	–	-0.019 (0.12)	0.239 (1.70)	0.093 (0.96)	374
13) More Than One Problem	0.295 (2.79)	–	0.246 (1.57)	0.051 (0.29)	-0.139 (0.91)	226

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 WNC 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 – WNC, 1993

Specification	African American	Asian	Native American	Hispanic	Non-minority Female	Sample Size
1) Business Credit Card	0.042 (1.59)	-0.096 (3.23)	0.081 (0.94)	0.030 (0.97)	0.024 (1.06)	4,633
2) Personal Credit Card	0.029 (1.08)	-0.013 (0.41)	0.019 (0.22)	-0.033 (1.07)	0.035 (1.49)	4,633

Source: See Table 6.1.

Notes: See Table 6.11. Control for WNC included.

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
Creditworthiness						
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
Organization Type						
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
1993 Firm Size						
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
Scope of Sales Market						
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 – WNC, 1993

Specification	African American	African American * WNC	Asian	Native American	Hispanic	Non-minority Female	Sample Size
1) All loans (controls as in Column 5, Table 6.8)	1.122 (3.97)	-1.720 (1.23)	0.245 (0.81)	-0.331 (0.46)	0.625 (2.33)	0.039 (0.22)	1,454
Creditworthiness							
2) No credit problems	1.374 (3.68)	-2.145 (1.52)	0.227 (0.62)	1.422 (1.50)	0.584 (1.94)	0.142 (0.71)	1,137
Organization Type							
3) Proprietorships and Partnerships	1.750 (2.56)	–	0.841 (1.04)	2.535 (0.88)	1.062 (1.76)	-0.237 (0.51)	364
4) Corporations	0.729 (2.19)	-1.348 (1.02)	0.116 (0.34)	-0.571 (0.78)	0.557 (1.72)	0.123 (0.63)	1,090
1993 Firm Size							
5) Fewer than 10 Employees	1.426 (2.97)	-3.175 (1.62)	-0.215 (0.36)	-0.016 (0.01)	0.931 (1.99)	-0.219 (0.69)	574
6) 10 or More Employees	0.409 (1.07)	–	0.060 (0.16)	0.223 (0.25)	0.687 (1.83)	0.153 (0.71)	880
Scope of Sales Market							
7) Local	0.770 (1.59)	–	-0.055 (0.10)	1.825 (1.15)	0.898 (2.22)	0.390 (1.25)	633
8) Regional, National, or International	1.715 (4.56)	-2.324 (1.70)	0.830 (2.02)	-1.376 (1.71)	0.460 (1.10)	-0.175 (0.76)	821

Source: See Table 6.1.

Notes: See Table 6.13

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) WNC					
No Other Control Variables, except for WNC dummy and race*WNC interactions (n=4,635)	0.404 (16.15)	0.094 (3.38)	0.148 (1.84)	0.230 (8.00)	0.033 (1.55)
Full Set of Control Variables (same as Table 6.8, Column 3 except for loan characteristics) (n=4,631)	0.256 (9.75)	0.048 (1.76)	0.024 (0.33)	0.159 (5.45)	-0.008 (0.39)
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 (1.00)	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) WNC					
No Other Control Variables (n=2,647)	0.448 (14.18)	0.294 (6.62)	0.211 (1.71)	0.300 (7.66)	0.119 (3.65)
Full Set of Control Variables (same as Table 6.8, Column 3 except for loan characteristics) (n=2,644)	0.259 (6.34)	0.172 (3.24)	-0.005 (0.03)	0.170 (3.53)	0.046 (1.24)
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.

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)
Nonminority 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.

Table 6.19. Determinants of Loan Denial Rates – WNC, 1998

	(1)	(2)	(3)	(4)	(5)
African American	0.384 (7.09)	0.217 (4.67)	0.176 (4.25)	0.150 (3.70)	0.177 (4.01)
Asian	0.138 (2.38)	0.119 (2.37)	0.045 (1.17)	0.020 (0.57)	0.023 (0.66)
Hispanic	0.328 (5.98)	0.240 (4.93)	0.185 (4.23)	0.160 (3.81)	0.151 (3.64)
Non-minority Female	0.094 (2.32)	0.051 (1.58)	0.024 (0.95)	0.016 (0.65)	0.010 (0.42)
African American*WNC	0.532 (2.07)	0.582 (1.84)	0.832 (2.47)	0.834 (2.48)	0.775 (2.17)
Asian*WNC	–	–	–	–	–
Hispanic*WNC	–	–	–	–	–
Nonminority female*WNC	–	–	–	–	–
WNC region	-0.103 (1.82)	-0.078 (1.80)	-0.051 (1.49)	-0.055 (1.54)	-0.055 (1.55)
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	910	910	910	910	891
Pseudo R^2	0.1128	0.2907	0.3807	0.3986	0.407
Chi^2	94.78	244.25	319.8	334.89	338.91
Log likelihood	-372.7	-297.9	-260.1	-252.6	-246.9

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)
	Denylast	*Denylast*	*Denylast*	*Denylast*
African American	0.457 (8.00)	0.246 (4.76)	0.422 (7.20)	0.202 (4.04)
Asian	0.185 (2.81)	0.027 (0.65)	0.176 (2.68)	0.025 (0.60)
Hispanic	0.360 (6.28)	0.171 (3.67)	0.336 (5.83)	0.147 (3.26)
Nonminority female	0.083 (2.00)	0.005 (.20)	0.091 (2.13)	0.005 (0.18)
African American*WNC			0.495 (1.89)	0.793 (2.22)
Asian*WNC				
Hispanic*WNC				
Nonminority female*WNC				
WNC			-0.111 (1.78)	-0.059 (1.31)
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	832	832
Pseudo R^2	0.1112	0.4265	0.1172	0.4324
Chi^2	90.94	348.71	94.8	349.73
Log likelihood	-363.3	-234.5	-357	-229.6

Source: See Table 6.17.

Table 6.21. Models of Interest Rate Charged, 1998

Specification	African American	African American * WNC	African American * Construc-tion	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	1.064 (2.38)	-0.798 (0.33)	0.348 (0.35)	0.467 (1.11)	0.198 (0.45)	-0.267 (0.92)
1c) All Loans (as in Column 5 of Table 6.18), WNC only n=72	-1.607 (0.13)	–	–	-3.358 (0.41)	–	0.466 (0.43)

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) WNC region				
No Other Control Variables (n=272)	0.414 (3.77)	0.424 (2.42)	0.046 (0.88)	
Full Set of Control Variables (n=253)	0.052 (2.20)	0.349 (2.95)	0.004 (0.83)	-0.002 (0.0)
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.

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 WNC	0.104 (0.64)	-0.064 (0.29)	0.012 (0.05)	-0.046 (0.54)	284
4) Personal Credit Card WNC	0.232 (1.34)	-0.196 (0.98)	0.320 (1.45)	-0.043 (0.5)	284
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.

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.

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)
Nonminority 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 – WNC, 2003

	(1)	(2)	(3)	(4)	(5)
African American	0.453 (8.23)	0.128 (5.35)	0.095 (4.69)	0.087 (4.99)	0.088 (4.91)
Asian	0.047 (1.38)	0.016 (1.44)	0.006 (0.84)	0.002 (0.44)	0.000 (0.12)
Hispanic	0.061 (1.66)	0.006 (0.70)	0.003 (0.44)	0.001 (0.24)	0.000 (0.16)
Native and Other	0.164 (2.09)	0.050 (1.81)	0.023 (1.31)	0.017 (1.34)	0.016 (1.41)
Nonminority female	0.028 (1.44)	0.001 (0.29)	0.000 (0.14)	0.000 (0)	0.000 (0.18)
African American*WNC	–	–	–	–	–
Asian*WNC	–	–	–	–	–
Hispanic-Other*WNC	–	–	–	–	–
Native-Other*WNC	–	–	–	–	–
Nonminority female*WNC	0.294 (2.30)	0.142 (1.98)	0.158 (2.01)	0.147 (2.06)	0.157 (2.00)
WNC region	-0.060 (2.30)	-0.013 (2.09)	-0.009 (2.16)	-0.006 (2.14)	-0.005 (2.22)
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	1,657	1,649	1,649	1,649	1,599
Pseudo R^2	0.0992	0.2377	0.3018	0.3396	0.3738
Chi^2	86.4	201.99	256.49	288.53	314.81
Log likelihood	-392.5	-323.9	-296.6	-280.6	-263.7

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.

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	1.267 (2.20)	0.419 (1.04)	1.494 (3.33)	0.509 (0.54)	-0.230 (1.04)

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, WNC	0.274 (1.20)	0.054 (0.18)	0.354 (1.43)	–	0.182 (1.91)	299
4) Personal Credit Card, WNC	-0.372 (1.47)	0.003 (0.01)	-0.051 (0.15)	0.010 (0.11)	-0.218 (0.0)	309

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.

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) WNC region					
No Other Control Variables (n=3,694)	0.405 (9.66)	0.050 (1.62)	0.144 (4.11)	0.143 (2.19)	0.076 (4.55)
Full Set of Control Variables (n=3,666)	0.180 (4.92)	0.031 (1.12)	0.057 (1.99)	0.055 (1.05)	0.040 (2.69)
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 WNC were all insignificant.

Table 6.30. Determinants of Loan Denial Rates – Nine Jurisdictions

	(1)	(2)
	Most Recent Application	*Last Three Years*
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)
Nonminority 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.

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)
Nonminority 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 City's Market Area

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 City'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 Minneapolis.

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, Minneapolis has had a longstanding policy of pursuing affirmative action programs in contracting and procurement.[271]

Given the history of the City's M/WBE policy, its own data might not show evidence of underutilization, even if such underutilization exists in the private sector. Instead, the City'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 Minneapolis M/WBE utilization still turns out to be significantly less than M/WBE availability in certain procurement categories, then the City's data will still provide evidence of adverse disparities.

The statistical evidence reported in Chapter III has already established from which specific industries Minneapolis 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 City's geographic and product markets are M/WBEs.

[271] *See* Chapter IX for an historical summary of the City's M/WBE policy.

This Chapter will document:

- To what extent Minneapolis 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.

B. M/WBE Utilization

For this Study, we examined 701 prime contracts and 1,795 associated subcontracts covering a five-year time period and with a total value of approximately $959 million. NAICS codes, M/WBE status, and detailed race and sex status for the prime contractors and subcontractors included in the master contract/subcontract database[272] 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,[273] (b) Dun & Bradstreet[274] (c) company profiles drawn from American Business Information, Hoover's, Standard & Poors, and other sources, and (d) the results of our race/sex misclassification/non-classification surveys.[275]

During the study period, as a group, we found that M/WBEs earned 7.43 percent of all Minneapolis contract and subcontract dollars awarded in Construction, 7.57 percent of all Minneapolis contract and subcontract dollars paid in Construction; 12.19 percent of all Minneapolis contract and subcontract dollars awarded in CRS, 13.65 percent of all Minneapolis contract and subcontract dollars paid in CRS; 2.66 percent of all Minneapolis contract and subcontract dollars awarded in Services, 2.82 percent of all Minneapolis contract and subcontract dollars paid in Services; 3.20 percent of all Minneapolis contract and subcontract dollars awarded in Commodities, 3.90 percent of all Minneapolis contract and subcontract dollars paid in Commodities. Combined, M/WBEs earned 5.05 percent of all awarded and 5.56 percent of all paid contract and subcontract dollars during the five-year study period.

Tables 7.1 and 7.2 detail the key results of our analysis of M/WBE participation at the City of Minneapolis. For minority-owned M/WBEs (i.e. M/WBEs other than nonminority women), utilization was 3.62 percent in Construction award dollars, 3.62 percent in Construction payments; 8.62 percent in CRS award dollars, 10.68 percent in CRS payments; 0.78 percent in Services award dollars, 0.83 percent in Services payments; 3.06 percent in Commodities award

---

[272] *See* Chapter III.

[273] *See* Chapter IV.

[274] *Ibid.*

[275] *Ibid.*

dollars, 3.80 percent in Commodities payments; 2.50 percent in overall award dollars, and 2.78 percent in overall payments. For nonminority women-owned M/WBEs utilization was 3.81 percent in Construction award dollars, 3.95 percent in Construction payments; 3.57 percent in CRS award dollars, 2.96 percent in CRS payments; 1.88 percent in Services award dollars, 1.99 percent in Services payments; 0.14 percent in Commodities award dollars, 0.10 percent in Commodities payments; 2.55 percent in overall award dollars, and 2.78 percent in overall payments.

Overall, among M/WBEs, firms owned by nonminority women earned the largest fraction of Minneapolis contracting and subcontracting dollars (2.55 percent of awards, 2.78 percent of payments), followed in descending order by firms owned by Asians (1.09 percent of awards, 1.19 percent of payments), firms owned by Native Americans (0.76 percent of awards, 0.85 percent of payments), firms owned by Hispanics (0.32 percent of awards, 0.38 percent of payments), and firms owned by African Americans (0.32 percent of awards, 0.35 percent of payments).

Tables 7.3 through 7.6 provide utilization statistics by NAICS Industry Sub-Sector group (three-digit NAICS code) for each race and sex group in the Study. Tables 7.7 through 7.10 provide similar utilization statistics by NAICS Industry Group (four-digit NAICS code).[276]

C. Disparity Analysis

We turn next to a comparison between our estimates of M/WBE utilization in the City's own contracting and subcontracting activities and our estimates of M/WBE availability in the City's geographic and product market area.

Table 7.11 presents the results of this comparison, overall and by major procurement category, using dollars awarded as the basis for the utilization measure. Table 7.12 presents comparable results using dollars paid as the basis for the utilization measure.

The figures in the utilization column in Tables 7.11 and 7.12 are the same as those from Table 7.1 or 7.2, respectively, and include both prime contract and subcontract dollars. The figures in the availability column are the same as those in Table 4.15.

The disparity ratio, in the final column of Tables 7.11 and 7.12, 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 Minneapolis contracting and subcontracting at a level that is less than their estimated availability in the relevant market area. A disparity ratio of 80 or lower is considered to be large.

For Minneapolis, disparity ratios are substantively significant (*i.e.* less than or equal to 80) in 29 of 35 cases examined in Table 7.11 and 29 of 35 cases examined in Table 7.12. Disparities are statistically significant for nonminority women in Construction, M/WBES as a group in

[276] 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.

Construction, nonminority women in Commodities, M/WBES as a group in Commodities, and for M/WBEs overall across all four procurement categories.[277]

D. Current versus Expected Availability

Finally, Table 7.13 provides a comparison between current levels of M/WBE availability for Minneapolis 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 4.15, by the disparity ratios documented in column (3) of Table 5.10. 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 all 35 cases examined in Table 7.13, expected M/WBE availability in the City's market area exceeds current M/WBE availability.

[277] It would be a mistake to interpret the lack of statistical significance (as opposed to substantive significance) in many of the categories in Tables 7.11 and 7.12 as a lack of adverse disparity. While tests for statistical significance are very useful for assessing whether chance can explain disparities that we observe, they do have important limitations. First. the fact that a disparity is not statistically significant does not mean that it *is* due to chance. It merely means that we cannot rule out chance. Second, there are circumstances under which tests for statistical significance are not helpful for distinguishing disparities due to chance from disparities due to other reasons (*e.g.*, discrimination). In the particular statistical application presented in this chapter, the chance that a test for statistical significance will incorrectly attribute to chance disparities that are due to discrimination becomes greater when (a) we examine a relatively small number of procurements for example, of 1,555 contracts and subcontracts in Construction, only 23 involved African Americans), (b) the expected utilization of particular race/ethnic/gender groups-measured by their availability—is relatively small, and (c) there are large variations in the relative dollar size of contracts and subcontracts.

E. Tables

Table 7.1. M/WBE Utilization at City of Minneapolis, 2003-2007 (Award Dollars)

M/WBE Type	Procurement Category				
	Construction	CRS	Services	Commodities	Overall
	(%)	(%)	(%)	(%)	(%)
African American	0.15	4.87	0.28	0.00	0.32
Hispanic	0.73	0.00	0.02	0.00	0.32
Asian Pacific	1.00	3.71	0.47	2.99	1.09
Native American	1.73	0.04	0.01	0.07	0.76
MBE	3.62	8.62	0.78	3.06	2.50
Nonminority Female	3.81	3.57	1.88	0.14	2.55
M/WBE Total	7.43	12.19	2.66	3.20	5.05
Non-M/WBE Total	92.57	87.81	97.34	96.80	94.95
Total (%)	100.00	100.00	100.00	100.00	100.00
Total ($)	*412,112,047*	*27,633,866*	*405,018,324*	*114,233,858*	*958,998,095*

Source: NERA Master Contract/Subcontract Database.

Table 7.2. M/WBE Utilization at City of Minneapolis, 2003-2007 (Paid Dollars)

M/WBE Type	Procurement Category				
	Construction	CRS	Services	Commodities	Overall
	(%)	(%)	(%)	(%)	(%)
African American	0.15	6.35	0.30	0.00	0.35
Hispanic	0.76	0.00	0.02	0.00	0.38
Asian Pacific	0.99	4.28	0.49	3.76	1.19
Native American	1.71	0.05	0.01	0.04	0.85
MBE	3.62	10.68	0.83	3.80	2.78
Nonminority Female	3.95	2.96	1.99	0.10	2.78
M/WBE Total	7.57	13.65	2.82	3.90	5.56
Non-M/WBE Total	92.43	98.52	97.18	96.10	94.76
Total (%)	100.00	100.00	100.00	100.00	100.00
Total ($)	*394,076,904*	*20,869,074*	*298,459,060*	*87,057,003*	*800,462,041*

Source: NERA Master Contract/Subcontract Database.

Table 7.3. Construction—M/WBE Utilization by Industry Sub-Sector (Percentages), 2003-2007

Industry Sub-Sector	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Specialty Trade Contractors (NAICS 238)	0.12	0.17	1.66	3.81	4.55	10.32	89.68
Construction of Buildings (NAICS 236)	0.28	2.21	0.68	0.00	1.65	4.82	95.18
Heavy and Civil Engineering Construction (NAICS 237)	0.00	0.89	0.00	0.00	9.90	10.79	89.21
Merchant Wholesalers, Durable Goods (NAICS 423)	0.09	0.04	0.00	0.00	1.51	1.65	98.35
Machinery Manufacturing (NAICS 333)	0.00	0.00	0.00	0.00	1.30	1.30	98.70
Professional, Scientific, and Technical Services (NAICS 541)	0.00	0.08	4.30	0.15	3.12	7.65	92.35
Fabricated Metal Product Manufacturing (NAICS 332)	0.05	0.00	0.00	0.00	0.32	0.37	99.63
Miscellaneous Manufacturing (NAICS 339)	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
Nonmetallic Mineral Product Manufacturing (NAICS 327)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Administrative and Support Services (NAICS 561)	0.97	0.49	0.00	0.69	0.00	2.14	97.86
Furniture and Related Product Manufacturing (NAICS 337)	0.00	0.00	0.00	0.00	0.04	0.04	99.96
Electronics and Appliance Stores (NAICS 443)	2.94	0.00	0.00	0.00	0.00	2.94	97.06
Religious, Grantmaking, Civic, Professional, and Similar Organizations (NAICS 813)	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
Building Material and Garden Equipment and Supplies Dealers (NAICS 444)	0.00	0.00	0.00	0.00	63.56	63.56	36.44
Waste Management and Remediation Services (NAICS 562)	0.00	0.00	1.23	6.00	7.28	14.51	85.49
Truck Transportation (NAICS 484)	0.00	0.00	2.82	39.34	53.95	96.11	3.89
Crop Production (NAICS 111)	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	0.00	0.00	100.00
Warehousing and Storage (NAICS 493)	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	26.25	26.25	73.75

Industry Sub-Sector	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Plastics and Rubber Products Manufacturing (NAICS 326)	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	0.00	0.00	100.00
Couriers and Messengers (NAICS 492)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Textile Mills (NAICS 313)	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	0.00	0.00	100.00
Computer and Electronic Product Manufacturing (NAICS 334)	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
Museums, Historical Sites, and Similar Institutions (NAICS 712)	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
Primary Metal Manufacturing (NAICS 331)	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	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
Repair and Maintenance (NAICS 811)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Mining (except Oil and Gas) (NAICS 212)	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
Petroleum and Coal Products Manufacturing (NAICS 324)	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
Utilities (NAICS 221)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Apparel Manufacturing (NAICS 315)	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.

Table 7.4. CRS—M/WBE Utilization by Industry Sub-Sector (Percentages) , 2003-2007

Industry Sub-Sector	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Professional, Scientific, and Technical Services (NAICS 541)	5.90	0.00	4.55	0.00	4.14	14.59	85.41
Heavy and Civil Engineering Construction (NAICS 237)	0.00	0.00	0.00	0.00	0.86	0.86	99.14
Specialty Trade Contractors (NAICS 238)	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	0.00	0.00	100.00
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)	0.00	0.00	0.00	32.41	33.80	66.20	33.80
Educational Services (NAICS 611)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Museums, Historical Sites, and Similar Institutions (NAICS 712)	100.00	0.00	0.00	0.00	0.00	100.00	0.00
Printing and Related Support Activities (NAICS 323)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Amusement, Gambling, and Recreation Industries (NAICS 713)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Merchant Wholesalers, Durable Goods (NAICS 423)	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
Fabricated Metal Product Manufacturing (NAICS 332)	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
Telecommunications (NAICS 517)	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
Warehousing and Storage (NAICS 493)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

Table 7.5. Services—M/WBE Utilization by Industry Sub-Sector (Percentages), 2003-2007

Industry Sub-Sector	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Insurance Carriers and Related Activities (NAICS 524)	0.00	0.00	0.00	0.00	0.03	0.03	99.97
Personal and Laundry Services (NAICS 812)	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
Professional, Scientific, and Technical Services (NAICS 541)	1.92	0.11	3.10	0.00	13.18	18.32	81.68
Administrative and Support Services (NAICS 561)	1.05	0.00	1.08	0.27	6.03	8.44	91.56
Publishing Industries (except Internet) (NAICS 511)	0.00	0.00	1.59	0.00	0.00	1.59	98.41
Computer and Electronic Product Manufacturing (NAICS 334)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Support Activities for Transportation (NAICS 488)	0.11	0.19	0.83	0.00	0.00	1.13	98.87
Social Assistance (NAICS 624)	1.38	0.00	0.00	0.00	0.76	2.13	97.87
Funds, Trusts, and Other Financial Vehicles (NAICS 525)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Waste Management and Remediation Services (NAICS 562)	0.53	0.00	0.00	0.00	4.27	4.81	95.19
Utilities (NAICS 221)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Specialty Trade Contractors (NAICS 238)	0.00	0.04	0.00	0.00	0.88	0.92	99.08
Construction of Buildings (NAICS 236)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Merchant Wholesalers, Durable Goods (NAICS 423)	0.00	0.00	8.77	0.00	1.81	10.58	89.42
Machinery Manufacturing (NAICS 333)	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
Amusement, Gambling, and Recreation Industries (NAICS 713)	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	11.77	11.77	88.23
Securities, Commodity Contracts, and Other Financial Investments and Related Activities (NAICS 523)	0.00	0.00	0.00	0.00	48.50	48.50	51.50
Educational Services (NAICS 611)	0.00	0.00	0.00	0.00	14.52	14.52	85.48

Industry Sub-Sector	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Real Estate (NAICS 531)	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	59.66	59.66	40.34
Couriers and Messengers (NAICS 492)	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
Merchant Wholesalers, Nondurable Goods (NAICS 424)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Telecommunications (NAICS 517)	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
Repair and Maintenance (NAICS 811)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Warehousing and Storage (NAICS 493)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Museums, Historical Sites, and Similar Institutions (NAICS 712)	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	8.49	8.49	91.51
Electronics and Appliance Stores (NAICS 443)	0.00	0.00	0.00	0.00	99.93	99.93	0.07
Nursing and Residential Care Facilities (NAICS 623)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Gasoline Stations (NAICS 447)	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
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	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
Electrical Equipment, Appliance, and Component Manufacturing (NAICS 335)	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
Food Services and Drinking Places (NAICS 722)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Motion Picture and Sound Recording Industries (NAICS 512)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Industry Sub-Sector	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Beverage and Tobacco Product Manufacturing (NAICS 312)	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
Building Material and Garden Equipment and Supplies Dealers (NAICS 444)	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
Nonstore Retailers (NAICS 454)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

Table 7.6. Commodities—M/WBE Utilization by Industry Sub-Sector (Percentages), 2003-2007

Industry Sub-Sector	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Machinery Manufacturing (NAICS 333)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Merchant Wholesalers, Durable Goods (NAICS 423)	0.00	0.00	21.72	0.00	0.72	22.44	77.56
Telecommunications (NAICS 517)	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	0.71	0.00	0.71	99.29
Merchant Wholesalers, Nondurable Goods (NAICS 424)	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
Specialty Trade Contractors (NAICS 238)	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
Professional, Scientific, and Technical Services (NAICS 541)	0.00	0.00	0.00	0.00	0.80	0.80	99.20
Mining (except Oil and Gas) (NAICS 212)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Publishing Industries (except Internet) (NAICS 511)	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
Petroleum and Coal Products Manufacturing (NAICS 324)	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
Other Information Services (NAICS 519)	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	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
Credit Intermediation and Related Activities (NAICS 522)	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
Furniture and Related Product Manufacturing (NAICS 337)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Warehousing and Storage (NAICS 493)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Industry Sub-Sector	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Repair and Maintenance (NAICS 811)	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
Real Estate (NAICS 531)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Educational Services (NAICS 611)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

Table 7.7. Construction—M/WBE Utilization by Industry Group (Percentages), 2003-2007

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Nonresidential Building Construction (NAICS 2362)	0.30	2.33	0.00	0.00	0.53	3.16	96.84
Building Equipment Contractors (NAICS 2382)	0.13	0.02	2.63	1.53	1.82	6.13	93.87
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	0.06	0.36	0.00	3.29	8.77	12.48	87.52
Other Specialty Trade Contractors (NAICS 2389)	0.32	0.67	1.42	18.22	9.28	29.91	70.09
Building Finishing Contractors (NAICS 2383)	0.02	0.03	0.57	1.23	4.33	6.18	93.82
Highway, Street, and Bridge Construction (NAICS 2373)	0.00	0.00	0.00	0.00	16.55	16.55	83.45
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Utility System Construction (NAICS 2371)	0.00	1.98	0.00	0.00	1.82	3.79	96.21
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	0.00	0.00	0.00	0.00	1.77	1.77	98.23
Architectural and Structural Metals Manufacturing (NAICS 3323)	0.05	0.00	0.00	0.00	0.00	0.05	99.95
Residential Building Construction (NAICS 2361)	0.00	0.00	12.30	0.00	20.85	33.15	66.85
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 Manufacturing (NAICS 3399)	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	0.00	0.00	100.00
Management, Scientific, and Technical Consulting Services (NAICS 5416)	0.00	0.00	3.55	0.34	0.94	4.83	95.17
Architectural, Engineering, and Related Services (NAICS 5413)	0.00	0.00	7.39	0.00	6.76	14.15	85.85
Offices of Real Estate Agents and Brokers (NAICS 5312)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	0.00	0.41	0.00	0.00	0.00	0.41	99.59
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	0.00	0.00	0.00	0.00	2.61	2.61	97.39

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Cement and Concrete Product Manufacturing (NAICS 3273)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Services to Buildings and Dwellings (NAICS 5617)	1.30	0.65	0.00	0.92	0.00	2.87	97.13
Electronics and Appliance Stores (NAICS 4431)	2.94	0.00	0.00	0.00	0.00	2.94	97.06
Social Advocacy Organizations (NAICS 8133)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Advertising, Public Relations, and Related Services (NAICS 5418)	0.00	0.54	0.00	0.00	0.77	1.31	98.69
Lessors of Real Estate (NAICS 5311)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Wood Product Manufacturing (NAICS 3219)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Glass and Glass Product Manufacturing (NAICS 3272)	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
Remediation and Other Waste Management Services (NAICS 5629)	0.00	0.00	1.42	0.00	6.16	7.59	92.41
Building Material and Supplies Dealers (NAICS 4441)	0.00	0.00	0.00	0.00	90.36	90.36	9.64
Greenhouse, Nursery, and Floriculture Production (NAICS 1114)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	3.07	0.00	0.00	0.00	14.10	17.17	82.83
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	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	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
General Freight Trucking (NAICS 4841)	0.00	0.00	4.10	57.19	38.71	100.00	0.00
Office Administrative Services (NAICS 5611)	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
Other Professional, Scientific, and Technical Services (NAICS 5419)	0.00	0.00	0.00	0.00	2.48	2.48	97.52

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)	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	6.96	6.96	93.04
Consumer Goods Rental (NAICS 5322)	0.00	0.00	0.00	0.00	46.00	46.00	54.00
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Specialized Freight Trucking (NAICS 4842)	0.00	0.00	0.00	0.00	87.53	87.53	12.47
Other Fabricated Metal Product Manufacturing (NAICS 3329)	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
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 Electrical Equipment and Component Manufacturing (NAICS 3359)	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	100.00	100.00	0.00
Fabric Mills (NAICS 3132)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Business Support Services (NAICS 5614)	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	0.00	0.00	100.00
Boiler, Tank, and Shipping Container Manufacturing (NAICS 3324)	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
Electric Lighting Equipment Manufacturing (NAICS 3351)	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
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Waste Collection (NAICS 5621)	0.00	0.00	0.00	86.14	13.86	100.00	0.00
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)	0.00	0.00	0.00	0.00	32.86	32.86	67.14
Waste Treatment and Disposal (NAICS 5622)	0.00	0.00	0.00	0.00	15.13	15.13	84.87
Museums, Historical Sites, and Similar Institutions (NAICS 7121)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Independent Artists, Writers, and Performers (NAICS 7115)	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	0.00	0.00	100.00
Nonferrous Metal (except Aluminum) Production and Processing (NAICS 3314)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Legal Services (NAICS 5411)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Office Furniture (including Fixtures) Manufacturing (NAICS 3372)	0.00	0.00	0.00	0.00	3.82	3.82	96.18
Sporting Goods, Hobby, and Musical Instrument Stores (NAICS 4511)	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
Automotive Repair and Maintenance (NAICS 8111)	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
Computer and Peripheral Equipment Manufacturing (NAICS 3341)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Spring and Wire Product Manufacturing (NAICS 3326)	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
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)	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 Support Services (NAICS 5619)	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
Electrical Equipment Manufacturing (NAICS 3353)	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

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Personal and Household Goods Repair and Maintenance (NAICS 8114)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Water, Sewage and Other Systems (NAICS 2213)	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
Insurance Carriers (NAICS 5241)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Furniture Related Product Manufacturing (NAICS 3379)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Apparel Accessories and Other Apparel Manufacturing (NAICS 3159)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Employment Services (NAICS 5613)	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
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

Table 7.8. CRS—M/WBE Utilization by Industry Group (Percentages), 2003-2007

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Architectural, Engineering, and Related Services (NAICS 5413)	6.18	0.00	4.42	0.00	2.28	12.88	87.12
Utility System Construction (NAICS 2371)	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	7.73	0.00	42.97	50.70	49.30
Building Equipment Contractors (NAICS 2382)	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	0.00	0.00	100.00
Other Specialty Trade Contractors (NAICS 2389)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	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	100.00	100.00	0.00
Colleges, Universities, and Professional Schools (NAICS 6113)	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	99.05	99.05	0.95
Other Professional, Scientific, and Technical Services (NAICS 5419)	0.00	0.00	0.00	0.00	30.65	30.65	69.35
Museums, Historical Sites, and Similar Institutions (NAICS 7121)	100.00	0.00	0.00	0.00	0.00	100.00	0.00
Facilities Support Services (NAICS 5612)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Business Support Services (NAICS 5614)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Computer Systems Design and Related Services (NAICS 5415)	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	100.00	0.00	100.00	0.00
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	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	100.00	100.00	0.00
Specialized Design Services (NAICS 5414)	0.00	0.00	0.00	0.00	100.00	100.00	0.00

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Other Amusement and Recreation Industries (NAICS 7139)	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	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
Architectural and Structural Metals Manufacturing (NAICS 3323)	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 Telecommunications (NAICS 5179)	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
Warehousing and Storage (NAICS 4931)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

Table 7.9. Services—M/WBE Utilization by Industry Group (Percentages), 2003-2007

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Insurance Carriers (NAICS 5241)	0.00	0.00	0.00	0.00	0.03	0.03	99.97
Other Personal Services (NAICS 8129)	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	0.00	0.00	100.00
Computer Systems Design and Related Services (NAICS 5415)	0.00	0.00	8.76	0.00	29.76	38.52	61.48
Legal Services (NAICS 5411)	2.75	0.00	0.00	0.00	2.72	5.47	94.53
Investigation and Security Services (NAICS 5616)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Software Publishers (NAICS 5112)	0.00	0.00	1.59	0.00	0.00	1.59	98.41
Management, Scientific, and Technical Consulting Services (NAICS 5416)	4.37	0.00	0.00	0.00	5.94	10.31	89.69
Computer and Peripheral Equipment Manufacturing (NAICS 3341)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Support Activities for Road Transportation (NAICS 4884)	0.12	0.21	0.94	0.00	0.00	1.27	98.73
Insurance and Employee Benefit Funds (NAICS 5251)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Vocational Rehabilitation Services (NAICS 6243)	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	0.00	0.00	100.00
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Electric Power Generation, Transmission and Distribution (NAICS 2211)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Architectural, Engineering, and Related Services (NAICS 5413)	0.00	1.22	0.00	0.00	1.27	2.49	97.51
Employment Services (NAICS 5613)	5.90	0.00	0.00	1.54	19.65	27.10	72.90
Services to Buildings and Dwellings (NAICS 5617)	0.00	0.00	5.74	0.00	15.10	20.84	79.16
Building Equipment Contractors (NAICS 2382)	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	0.00	0.00	100.00
Residential Building Construction (NAICS 2361)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
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 Amusement and Recreation Industries (NAICS 7139)	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
Remediation and Other Waste Management Services (NAICS 5629)	0.00	0.00	0.00	0.00	24.85	24.85	75.15
Individual and Family Services (NAICS 6241)	9.47	0.00	0.00	0.00	5.20	14.67	85.33
Support Activities for Rail Transportation (NAICS 4882)	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
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	0.00	0.00	19.88	0.00	0.00	19.88	80.12
Building Finishing Contractors (NAICS 2383)	0.00	0.00	0.00	0.00	4.31	4.31	95.69
Specialized Freight Trucking (NAICS 4842)	0.00	0.00	0.00	0.00	7.95	7.95	92.05
Other Professional, Scientific, and Technical Services (NAICS 5419)	0.00	0.00	15.21	0.00	53.27	68.48	31.52
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	0.00	0.00	0.00	0.00	6.13	6.13	93.87
Other Specialty Trade Contractors (NAICS 2389)	0.00	0.29	0.00	0.00	0.22	0.51	99.49
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Waste Collection (NAICS 5621)	7.51	0.00	0.00	0.00	0.00	7.51	92.49
Other Financial Investment Activities (NAICS 5239)	0.00	0.00	0.00	0.00	54.46	54.46	45.54
Business Support Services (NAICS 5614)	0.00	0.00	14.78	0.00	26.26	41.04	58.96
Child Day Care Services (NAICS 6244)	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	24.33	24.33	75.67
Offices of Real Estate Agents and Brokers (NAICS 5312)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Other Schools and Instruction (NAICS 6116)	0.00	0.00	0.00	0.00	15.78	15.78	84.22
Water, Sewage and Other Systems (NAICS 2213)	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
Community Food and Housing, and Emergency and Other Relief Services (NAICS 6242)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Independent Artists, Writers, and Performers (NAICS 7115)	0.00	0.00	0.00	0.00	77.84	77.84	22.16
Advertising, Public Relations, and Related Services (NAICS 5418)	0.00	0.00	0.00	0.00	0.15	0.15	99.85
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Telecommunications (NAICS 5179)	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
Other Miscellaneous Manufacturing (NAICS 3399)	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
Museums, Historical Sites, and Similar Institutions (NAICS 7121)	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	39.03	39.03	60.97
Personal and Household Goods Repair and Maintenance (NAICS 8114)	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	1.17	0.00	0.00	1.17	98.83
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
Utility System Construction (NAICS 2371)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Securities and Commodity Exchanges (NAICS 5232)	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	99.93	99.93	0.07
Offices of Other Health Practitioners (NAICS 6213)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Nondepository Credit Intermediation (NAICS 5222)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Nursing Care Facilities (NAICS 6231)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Gasoline Stations (NAICS 4471)	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	0.00	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
Business Schools and Computer and Management Training (NAICS 6114)	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
Automotive Parts, Accessories, and Tire Stores (NAICS 4413)	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
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
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)	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	0.00	0.00	100.00
Clothing Stores (NAICS 4481)	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 Heavy and Civil Engineering Construction (NAICS 2379)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Support Activities for Water Transportation (NAICS 4883)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Depository Credit Intermediation (NAICS 5221)	0.00	0.00	0.00	0.00	100.00	100.00	0.00
Special Food Services (NAICS 7223)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Shoe Stores (NAICS 4482)	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
Sound Recording Industries (NAICS 5122)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Beverage Manufacturing (NAICS 3121)	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
Health and Personal Care Stores (NAICS 4461)	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	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	100.00
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Spring and Wire Product Manufacturing (NAICS 3326)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Motor Vehicle Body and Trailer Manufacturing (NAICS 3362)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	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
Offices of Physicians (NAICS 6211)	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	100.00	100.00	0.00
Medical and Diagnostic Laboratories (NAICS 6215)	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 Ambulatory Health Care Services (NAICS 6219)	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

Source: See Table 7.1.

Table 7.10. Commodities—M/WBE Utilization by Industry Group (Percentages), 2003-2007

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Other General Purpose Machinery Manufacturing (NAICS 3339)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Wireless Telecommunications Carriers (except Satellite) (NAICS 5172)	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	27.24	0.00	0.42	27.66	72.34
Computer and Peripheral Equipment Manufacturing (NAICS 3341)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Motor Vehicle Body and Trailer Manufacturing (NAICS 3362)	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	0.00	0.00	100.00
Highway, Street, and Bridge Construction (NAICS 2373)	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	0.92	0.92	99.08
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)	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
Software Publishers (NAICS 5112)	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
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	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
Communications Equipment Manufacturing (NAICS 3342)	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	0.00	0.00	100.00
Other Wood Product Manufacturing (NAICS 3219)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Wired Telecommunications Carriers (NAICS 5171)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Information Services (NAICS 5191)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Industry Group	African American	Hispanic	Asian Pacific	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
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Cable and Other Subscription Programming (NAICS 5152)	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
Nondepository Credit Intermediation (NAICS 5222)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Telecommunications (NAICS 5179)	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
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Office Furniture (including Fixtures) Manufacturing (NAICS 3372)	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	0.00	0.00	100.00
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	0.00	0.00	0.00	0.00	38.70	38.70	61.30
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	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	100.00
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	0.00	0.00	0.00	59.29	0.00	59.29	40.71
Warehousing and Storage (NAICS 4931)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Architectural, Engineering, and Related Services (NAICS 5413)	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
Nonresidential Building Construction (NAICS 2362)	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

Industry Group	African American	Hispanic	Asian Pacific	Native American	Non-minority female	M/WBE	Non-M/WBE
Management, Scientific, and Technical Consulting Services (NAICS 5416)	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
Offices of Real Estate Agents and Brokers (NAICS 5312)	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
Junior Colleges (NAICS 6112)	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Source: See Table 7.1.

Table 7.11. Disparity Results for City of Minneapolis Contracting, Overall and By Procurement Category (Award Dollars), 2003-2007

Procurement Category / M/WBE Type	Utilization	Availability	Disparity Ratio	
Construction				
African American	0.15	2.54	6.00	
Hispanic	0.73	3.96	18.42	
Asian Pacific	1.00	1.37	73.37	
Native American	1.73	0.91	.	
Minority-owned	3.62	8.78	41.24	
White female	3.81	10.72	35.50	*
M/WBE total	7.43	19.50	38.08	**
CRS				
African American	4.87	2.16	.	
Hispanic	0.00	1.98	0.14	
Asian Pacific	3.71	3.16	.	
Native American	0.04	0.64	6.30	
Minority-owned	8.62	7.95	.	
Non-minority female	3.57	11.18	31.90	
M/WBE total	12.19	19.13	63.73	
Services				
African American	0.28	4.59	6.05	
Hispanic	0.02	3.44	0.45	
Asian Pacific	0.47	3.27	14.53	
Native American	0.01	0.61	2.02	
Minority-owned	0.78	11.91	6.56	
Non-minority female	1.88	15.62	12.05	
M/WBE total	2.66	27.52	9.67	
Commodities				
African American	0.00	3.93	0.00	
Hispanic	0.00	3.54	0.00	
Asian Pacific	2.99	3.28	91.03	
Native American	0.07	0.72	9.29	
Minority-owned	3.06	11.47	26.63	
Non-minority female	0.14	14.05	1.02	*
M/WBE total	3.20	25.53	12.53	**
All Procurement				
African American	0.32	3.08	10.48	
Hispanic	0.32	3.72	8.61	
Asian Pacific	1.09	2.02	54.29	
Native American	0.76	0.82	92.98	
Minority-owned	2.50	9.63	25.93	
Non-minority female	2.55	12.09	21.09	
M/WBE total	5.05	21.73	23.23	**

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.

Table 7.12. Disparity Results for City of Minneapolis Contracting, Overall and By Procurement Category (Paid Dollars), 2003-2007

Procurement Category / M/WBE Type	Utilization	Availability	Disparity Ratio	
Construction				
African American	0.15	2.54	5.94	
Hispanic	0.76	3.97	19.22	
Asian Pacific	0.99	1.37	72.35	
Native American	1.71	0.92	.	
Minority-owned	3.62	8.80	41.11	
White female	3.95	10.75	36.78	
M/WBE total	7.57	19.54	38.73	**
CRS				
African American	6.35	2.15	.	
Hispanic	0.00	1.98	0.18	
Asian Pacific	4.28	3.19	.	
Native American	0.05	0.64	8.34	
Minority-owned	10.68	7.96	.	
Non-minority female	2.96	11.12	26.65	
M/WBE total	13.65	19.08	71.51	
Services				
African American	0.30	4.71	6.47	
Hispanic	0.02	3.40	0.62	
Asian Pacific	0.49	3.33	14.87	
Native American	0.01	0.62	1.26	
Minority-owned	0.83	12.05	6.87	
Non-minority female	1.99	15.44	12.90	
M/WBE total	2.82	27.49	10.26	
Commodities				
African American	0.00	3.86	0.00	
Hispanic	0.00	3.72	0.00	
Asian Pacific	3.76	3.38	.	
Native American	0.04	0.71	6.18	
Minority-owned	3.80	11.67	32.60	
Non-minority female	0.10	14.41	0.69	
M/WBE total	3.90	26.08	14.97	**
All Procurement				
African American	0.35	3.00	11.77	
Hispanic	0.38	3.76	10.19	
Asian Pacific	1.19	1.92	62.00	
Native American	0.85	0.84	.	
Minority-owned	2.78	9.52	29.20	
Non-minority female	2.78	11.84	23.45	*
M/WBE total	5.56	21.37	26.01	**

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.

Table 7.13. Current Availability and Expected Availability

Procurement Category	M/WBE Type	Current Availability	Expected Availability
All			
	African American	3.08	5.86
	Hispanic	3.72	5.73
	Asian Pacific	2.02	2.52
	Native American	0.82	1.82
	Minority total	9.63	13.20
	Non-minority female	12.09	16.34
	M/WBE total	21.73	31.80
Construction			
	African American	2.54	n/a
	Hispanic	3.96	5.50
	Asian Pacific	1.37	2.18
	Native American	0.91	n/a
	Minority total	8.78	13.43
	Non-minority female	10.72	17.05
	M/WBE total	19.50	30.61
CRS			
	African American	2.16	n/a
	Hispanic	1.98	2.75
	Asian Pacific	3.16	5.02
	Native American	0.64	n/a
	Minority total	7.95	12.16
	Non-minority female	11.18	17.78
	M/WBE total	19.13	30.03
Services			
	African American	4.59	9.70
	Hispanic	3.44	5.73
	Asian Pacific	3.27	4.50
	Native American	0.61	1.37
	Minority total	11.91	15.32
	Non-minority female	15.62	21.05
	M/WBE total	27.52	39.15
Commodities			
	African American	3.93	8.31
	Hispanic	3.54	5.90
	Asian Pacific	3.28	4.52
	Native American	0.72	1.61
	Minority total	11.47	14.75
	Non-minority female	14.05	18.93
	M/WBE total	25.53	36.32

Source: See Tables 4.15 and 5.10.

Note: A dash indicates the corresponding disparity ratio from Table 5.10 was 0 and expected availability could therefore not be calculated (i.e. cannot divide by zero). "n/a" indicates that expected M/WBE availability could not be calculated since the associated was disparity ratio was zero.

VIII. Anecdotal Evidence of Disparities in the City'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 City's contracting and procurement activities. Chapters V and VI in particular have documented large and statistically significant adverse disparities in the City'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 City's marketplace. 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 City'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 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 Minneapolis and other public entities in the Minneapolis market area shows that business discrimination continues to fetter M/WBE business opportunities in the City's relevant markets. We conclude that the statistical evidence presented in this report is consistent with these anecdotal accounts of contemporary business discrimination.

The remainder of this Chapter is organized as follows. 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 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.

A. Business Experience Surveys

1. Survey Questionnaire, Sample, and Responses

The survey questionnaire 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 City'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.[278] Of 9,100 businesses that received the questionnaire,[279] 685 (7.5 percent) provided usable responses.[280] 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.

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 Minneapolis 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 Minneapolis 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, almost three-fifths of non-M/WBEs and almost two-thirds of M/WBEs have worked or attempted to work for Minneapolis 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, CRS, and Commodities.

---

[278] *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.

[279] These figures exclude surveys that were returned undelivered or were otherwise undeliverable.

[280] The total number of valid responses to any particular survey question, however, was sometimes lower than this due to item non-response.

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, 44 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 nonminority women than for nonminority males, casting doubt on claims of widespread "reverse discrimination." Reports were highest among African Americans, with an overall rates in excess of 70 percent. Rates for Asians and Hispanics were both approximately 60 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 large. In applying for commercial loans, for example, M/WBEs reported being discriminated over three times more frequently than nonminority males. In obtaining price quotes from suppliers it was almost four times more frequent. For African Americans in these two categories, the incidence of reported disparate treatment was approximately eight and nine times higher, respectively.[281]

The figures for M/WBEs are between 2 and 3 times higher than for non-M/WBEs in applying for surety bonds, working or attempting to work private sector prime contracts, working or attempting to work private sector subcontracts, receiving timely payment for work performed, functioning without hindrances at work sites, having to do inappropriate or extra work not required of non-M/WBEs, and double standards in quality and performance.

Evidence of the impact of public sector M/WBE programs is seen in that some of 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 and subcontracts—although even here the figures are still 1.26 and 1.13 times higher, respectively, for M/WBEs than for non-M/WBES.

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 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.[282]

The worst problem overall, in terms of frequency of reports, 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 public sector subcontracts,

---

[281] 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.

[282] In the case of ties, not all 14 ranks will be present.

working or attempting to work on private sector prime contracts, and working or attempting to work on private 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 (Wainwright and Holt, 2010, 65-67; Wainwright, 2000, 86-87). 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 African American-, Hispanic-, Asian-, nonminority women-owned businesses, MBEs as a group, and M/WBEs as a group, 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.[283] 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 0.171 on the M/WBE indicator indicates that the likelihood of experiencing disparate treatment for M/WBE firms is 17.1 percentage points higher than that for non-M/WBE firms.[284] 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 14.2 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 Minneapolis market area.

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 nonminority-

[283] *See* Chapter V for a description of Probit regression.

[284] 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.

female owned firms. The results in column (3) indicate that minority-owned firms in the City's market area are 33.8 percentage points more likely to experience disparate treatment than non-M/WBE firms. When controls are added in column (4), this difference decreases slightly to 31.9 percentage points, indicating that disparate treatment is occurring even when other capacity-type factors are accounted for. Nonminority female-owned firms are 11.9 and 8.9 percentage points more likely to experience disparate treatment, respectively, and these differences are statistically significant as well.

The exercise is repeated again in columns (5) and (6) with separate indicators for each type of M/WBE. The results for nonminority females are nearly identical to those in columns (3) and (4). For African American-owned firms, the differential is 46.8 percentage points in column (5), falling slightly to 45.8 percentage points once controls are added. For Hispanic-owned firms, the differentials are 31.3 and 30.1 percentage points, respectively. For Asian-owned firms, the differentials are 35.6 and 35.1 percentage points, respectively. For Native American-owned firms, the differentials were not significantly different from zero. For all but Native Americans, these differences are statistically significant.

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.[285] 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 13 of 14 categories the differences for African American-owned firms are both large and statistically significant. For Hispanic-owned firms, this is true in 5 of 14 cases. For Asian-owned firms, this is true in 12 of 14 cases. For Native American-owned firms, this is true in 12 of 14 cases. For Native American-owned firms, this is true in 1 of 14 cases. For nonminority female-owned firms, this is true in 7 of 14 cases. For M/WBEs as a group it is true in 8 of 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 "Obtaining working capital" and "Large project sizes," make it harder or impossible for firms to obtain contracts. Among non-M/WBEs, for example, 32.6 percent

[285] 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.

reported that obtaining working capital made it harder or impossible for them to win contracts, and 32.4 percent reported that large project sizes made it harder or impossible for them to win contracts. The figures for M/WBEs, however, at 43.0 percent and 46.4 percent, respectively, are much greater than for non-M/WBEs. Indeed, as Table 8.7 shows, M/WBEs reported more difficulty all 9 factors about which they were polled.

To control for firm and owner characteristics, we used a regression technique known as ordered Probit.[286] 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, all nine of the 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 "bonding requirements," "insurance requirements," "cost of bidding or proposing," "large project size," "obtaining working capital," and "late notice of bid/proposal deadlines," are all 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, more than 85 percent of African American-owned firms, 67 percent of Hispanic-owned firms, 53 percent of Asian-owned firms, 43 percent of Native American-owned firms, and 66 percent of nonminority female-owned firms responded that this seldom or never occurs. Similar results were observed in each major procurement category as well.

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.[287] Among the evidence relied upon for this holding was a

[286] For a textbook discussion of ordered Probit, see, for example, Greene (1997).

[287] *Builders Association of Greater Chicago v. Authority of Chicago*, 298 F.Supp.2d 725, 737 (N.D. Ill. 2003).

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.[288]

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, 92 percent of African American-owned firms, 71 percent of Hispanic-owned firms, 56 percent of Asian-owned firms, 43 percent of Native American-owned firms, and 62 percent of nonminority female-owned firms responded that this seldom or never occurs. Similar results were also observed in each major procurement category .

6. 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 public 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 the City of Minneapolis 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 City would be a passive participant in a discriminatory marketplace without affirmative interventions.

[288] *Id.*

B. Tables

Table 8.1. Race, Sex and Procurement Category of Mail Survey Respondents

Group	Construction	CRS	Services	Commodities	Total
African American	3	0	17	2	22
Hispanic	6	0	7	2	15
Asian	7	1	20	0	28
Native American	5	0	3	2	10
Minorities with unknown Race/Ethnicity	2	0	1	0	3
Nonminority women	65	15	130	12	222
Total M/WBE	88	16	178	18	300
Nonminority Men	160	37	156	32	385
Total	248	53	334	50	685

Source: NERA Minneapolis mail surveys.

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 Minneapolis	57.1%	60.0%	50.0%	60.0%	55.4%	38.0%	42.4%	32.0%
	(21)	(15)	(28)	(10)	(74)	(221)	(295)	(381)
With Other Public Entity in Market Area	86.4%	73.3%	71.4%	70.0%	76.0%	57.3%	62.0%	55.9%
	(22)	(15)	(28)	(10)	(75)	(220)	(295)	(383)
With any Public Entity in Market Area	86.4%	80.0%	75.0%	70.0%	78.7%	59.5%	64.4%	57.6%
	(22)	(15)	(28)	(10)	(75)	(220)	(295)	(382)
CONSTRUCTION								
With Minneapolis	100.0%	50.0%	85.7%	80.0%	76.2%	67.7%	69.8%	36.1%
	(3)	(6)	(7)	(5)	(21)	(65)	(86)	(158)
With Other Public Entity in Market Area	100.0%	66.7%	85.7%	80.0%	81.0%	82.8%	82.4%	60.1%
	(3)	(6)	(7)	(5)	(21)	(64)	(85)	(158)
With any Public Entity in Market Area	100.0%	66.7%	85.7%	80.0%	81.0%	87.5%	85.9%	61.4%
	(3)	(6)	(7)	(5)	(21)	(64)	(85)	(158)
CRS								
With Minneapolis	-	-	100.0%	-	100.0%	33.3%	37.5%	48.6%
	(0)	(0)	(1)	(0)	(1)	(15)	(16)	(37)
With Other Public Entity in Market Area	-	-	100.0%	-	100.0%	60.0%	62.5%	81.1%
	(0)	(0)	(1)	(0)	(1)	(15)	(16)	(37)
With any Public Entity in Market Area	-	-	100.0%	-	100.0%	60.0%	62.5%	81.1%
	(0)	(0)	(1)	(0)	(1)	(15)	(16)	(37)

Table 8.2. Survey Respondents Indicating They Had Worked or Attempted to Work for Public Sector Agencies in the Last Five Years, cont'd

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
OTHER SERVICES								
With Minneapolis	47.1%	57.1%	35.0%	66.7%	44.7%	23.3%	29.0%	21.4%
	(17)	(7)	(20)	(3)	(47)	(129)	(176)	(154)
With Other Public Entity in Market Area	82.4%	85.7%	65.0%	66.7%	74.5%	43.4%	51.7%	44.2%
	(17)	(7)	(20)	(3)	(47)	(129)	(176)	(156)
With any Public Entity in Market Area	82.4%	85.7%	70.0%	66.7%	76.6%	45.0%	53.4%	46.5%
	(17)	(7)	(20)	(3)	(47)	(129)	(176)	(155)
COMMODITIES								
With Minneapolis	100.0%	100.0%	-	0.0%	60.0%	41.7%	47.1%	43.8%
	(1)	(2)	(0)	(2)	(5)	(12)	(17)	(32)
With Other Public Entity in Market Area	100.0%	50.0%	-	50.0%	66.7%	66.7%	66.7%	62.5%
	(2)	(2)	(0)	(2)	(6)	(12)	(18)	(32)
With any Public Entity in Market Area	100.0%	100.0%	-	50.0%	83.3%	66.7%	72.2%	65.6%
	(2)	(2)	(0)	(2)	(6)	(12)	(18)	(32)

Source: NERA calculations from Minneapolis mail surveys. Note: Total number of valid responses in parentheses.

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	40.0%	20.0%	29.4%	11.1%	28.3%	12.4%	17.0%	5.1%
	(15)	(5)	(17)	(9)	(46)	(113)	(159)	(216)
Applying for surety bonds	18.2%	0.0%	25.0%	0.0%	13.5%	3.3%	6.2%	2.5%
	(11)	(7)	(12)	(7)	(37)	(92)	(129)	(201)
Applying for commercial or professional insurance	20.0%	0.0%	20.0%	0.0%	14.0%	0.0%	3.5%	2.4%
	(15)	(7)	(20)	(8)	(50)	(152)	(202)	(255)
Hiring workers from union hiring halls	25.0%	25.0%	0.0%	0.0%	11.1%	4.3%	6.2%	7.6%
	(8)	(4)	(9)	(6)	(27)	(70)	(97)	(144)
Obtaining price quotes from suppliers or subcontracts	35.7%	0.0%	28.6%	25.0%	24.4%	11.9%	15.0%	3.8%
	(14)	(9)	(14)	(8)	(45)	(135)	(180)	(238)
Working or attempting to obtain work on public-sector prime contracts	56.3%	57.1%	46.7%	25.0%	47.8%	15.5%	24.7%	19.5%
	(16)	(7)	(15)	(8)	(46)	(116)	(162)	(210)
Working or attempting to obtain work on public-sector subcontracts	50.0%	42.9%	37.5%	12.5%	38.3%	18.5%	24.1%	21.4%
	(16)	(7)	(16)	(8)	(47)	(119)	(166)	(215)
Working or attempting to obtain work on private-sector prime contracts	35.7%	37.5%	41.2%	25.0%	36.2%	18.5%	22.8%	9.2%
	(14)	(8)	(17)	(8)	(47)	(146)	(193)	(239)
Working or attempting to obtain work on private-sector subcontracts	42.9%	25.0%	44.4%	25.0%	37.5%	17.6%	22.6%	10.0%
	(14)	(8)	(18)	(8)	(48)	(142)	(190)	(239)
Receiving timely payment for work performed	43.8%	40.0%	40.0%	14.3%	37.7%	26.9%	29.6%	12.4%
	(16)	(10)	(20)	(7)	(53)	(160)	(213)	(259)
Functioning without hindrance or harassment on the work site	37.5%	14.3%	44.4%	0.0%	30.6%	12.7%	17.3%	6.0%
	(16)	(7)	(18)	(8)	(49)	(142)	(191)	(250)
Joining or dealing with construction trade associations	20.0%	16.7%	27.3%	0.0%	17.1%	7.1%	9.8%	6.4%
	(10)	(6)	(11)	(8)	(35)	(98)	(133)	(204)
Having to do inappropriate or extra work not required of comparable non-M/WBEs	29.4%	28.6%	33.3%	12.5%	28.0%	15.0%	18.4%	7.6%
	(17)	(7)	(18)	(8)	(50)	(140)	(190)	(238)
Double standards not required of comparable non-M/WBEs	25.0%	33.3%	52.9%	12.5%	34.0%	8.0%	14.9%	6.9%
	(16)	(9)	(17)	(8)	(50)	(138)	(188)	(247)
In any one of the business dealings listed above	72.2%	58.3%	60.0%	33.3%	59.4%	38.1%	43.5%	28.7%
	(18)	(12)	(25)	(9)	(64)	(189)	(253)	(296)

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.

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	5	8	8	4	7	7	8
Applying for surety bonds	12	11	11	5	12	12	12
Applying for commercial or professional insurance	11	11	12	5	11	13	14
Hiring workers from union hiring halls	10	7	13	5	13	11	12
Obtaining price quotes from suppliers or subs	7	11	9	1	9	8	9
Working or attempting to obtain work on public sector prime contracts	1	1	2	1	1	4	2
Working or attempting to obtain work on public sector subcontracts	2	2	6	3	2	2	3
Working or attempting to obtain work on private sector prime contracts	8	4	4	1	4	2	4
Working or attempting to obtain work on private sector subcontracts	4	7	3	1	3	3	5
Receiving timely payment for work performed	3	3	5	2	3	1	1
Functioning without hindrance or harassment on the work site	6	10	3	5	6	6	7
Joining or dealing with trade associations	11	9	10	5	10	10	11
Having to do extra work not required of others	9	6	7	3	8	5	6
Having to meet quality or performance standards not required of others	10	5	1	3	5	9	10

Source: See Table 8.2.

Table 8.5. Prevalence of Disparate Treatment Facing M/WBEs

	(1)	(2)	(3)	(4)	(5)	(6)
M/WBE	0.171 (4.07)	0.142 (3.10)				
Minority			0.338 (4.97)	0.319 (4.25)		
Nonminority Female			0.119 (2.56)	0.089 (1.77)	0.121 (2.60)	0.092 (1.82)
African American					0.468 (3.87)	0.458 (3.53)
Hispanic					0.313 (2.17)	0.301 (1.98)
Asian/Pacific Islanders					0.356 (3.43)	0.351 (3.12)
Native American					0.041 (0.25)	(0.077) (-0.47)
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	552.00	516.00	552.00	516.00	552.00	515.00
Pseudo R^2	0.03	0.07	0.04	0.09	0.05	0.10
Chi^2	21.40	50.17	31.04	59.08	36.02	65.28
Log likelihood	(348.99)	(312.22)	(344.16)	(307.76)	(341.67)	(303.64)

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.

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	**32.6%** **(3.91)**	5.6% (0.89)	**13.7%** **(2.77)**	-0.1% (-0.03)	**12.1%** **(3.69)**	***2.6%*** ***(1.79)***	**4.2%** **(3.00)**
Applying for surety bonds	**7.9%** **(1.96)**	0.0% (0.00)	**13.5%** **(2.68)**	0.0% (0.00)	**5.9%** **(2.42)**	-0.2% (-0.20)	1.5% (1.27)
Applying for commercial or professional insurance	**0.1%** **(2.26)**	0.0% (0.00)	**0.0%** **(2.14)**	0.0% (0.00)	**0.0%** **(2.25)**	0.0% (0.00)	0.0% (0.17)
Hiring workers from union hiring halls	**21.1%** **(2.59)**	***16.2%*** ***(1.66)***	0.0% (0.00)	0.0% (0.00)	3.7% (1.59)	-0.6% (-0.97)	-0.2% (-0.19)
Obtaining price quotes from suppliers or subcontracts	**53.5%** **(4.01)**	0.0% (0.00)	**36.5%** **(3.35)**	**31.4%** **(2.11)**	**30.2%** **(4.33)**	**9.0%** **(2.76)**	**11.0%** **(3.74)**
Working or attempting to obtain work on public sector prime contracts	**31.6%** **(2.35)**	**40.5%** **(2.12)**	**29.8%** **(2.26)**	1.9% (0.12)	**26.6%** **(3.24)**	-8.0% (-1.55)	1.3% (0.28)
Working or attempting to obtain work on public sector subcontracts	**33.6%** **(2.45)**	23.2% (1.25)	16.9% (1.37)	-14.1% (-1.03)	**16.6%** **(2.09)**	-3.7% (-0.71)	1.6% (0.34)
Working or attempting to obtain work on private sector prime contract	**37.6%** **(2.93)**	**42.0%** **(2.44)**	**42.1%** **(3.57)**	11.2% (0.76)	**34.0%** **(4.43)**	**10.5%** **(2.48)**	**13.8%** **(3.65)**
Working or attempting to obtain work on private sector subcontracts	**40.5%** **(3.15)**	24.2% (1.47)	**37.3%** **(3.37)**	14.3% (0.94)	**31.1%** **(4.23)**	***8.0%*** ***(1.91)***	**12.0%** **(3.20)**
Receiving timely payment for work performed	**35.7%** **(2.76)**	***27.7%*** ***(1.87)***	**30.5%** **(2.70)**	-7.1% (-0.52)	**25.0%** **(3.44)**	**14.6%** **(3.25)**	**15.6%** **(3.91)**
Functioning without hindrance or harassment on the work site	**37.2%** **(3.25)**	16.1% (1.03)	**44.5%** **(4.06)**	0.0% (0.00)	**27.1%** **(3.98)**	***6.4%*** ***(1.73)***	**9.8%** **(2.92)**
Joining or dealing with construction trade associations	15.0% (1.43)	13.8% (0.89)	**24.8%** **(2.17)**	0.0% (0.00)	**13.6%** **(2.08)**	-0.2% (-0.07)	2.8% (0.91)
Having to do inappropriate or extra work not required of comparable non-M/WBEs	**27.2%** **(2.37)**	18.2% (1.15)	**27.8%** **(2.64)**	-3.8% (-0.36)	**19.7%** **(2.89)**	**9.0%** **(2.16)**	**10.4%** **(2.83)**
Having to meet quality, inspection, or performance standards not required of comparable non-M/WBEs	***18.0%*** ***(1.87)***	**29.8%** **(2.03)**	**43.3%** **(4.03)**	0.5% (0.06)	**26.7%** **(4.17)**	0.8% (0.24)	**6.8%** **(2.16)**
In any one of the business dealings listed above	**45.8%** **(3.53)**	**30.1%** **(1.98)**	**35.1%** **(3.12)**	-7.7% (-0.47)	**31.9%** **(4.25)**	***8.9%*** ***(1.77)***	**14.2%** **(3.10)**

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. Results with T-statistics of 1.96 or higher are **boldfaced**. Results with T-statistics of 1.64 or higher are ***boldfaced italicized***.

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	**70.0% (10)**	50.0% (10)	***57.1% (14)***	42.9% (7)	**56.1% (41)**	***42.6% (94)***	**46.7% (135)**	**32.1% (190)**
Insurance Requirements	***33.3% (18)***	***36.4% (11)***	***33.3% (21)***	12.5% (8)	31.0% (58)	**32.0% (128)**	**31.7% (186)**	**16.5% (254)**
Previous Experience Requirements	***25.0% (20)***	***30.0% (10)***	20.0% (20)	12.5% (8)	**22.4% (58)**	**18.4% (147)**	**19.5% (205)**	**10.4% (259)**
Cost of Bidding or Proposing	25.0% (16)	27.3% (11)	**54.5% (22)**	14.3% (7)	35.7% (56)	***36.6% (134)***	***36.3% (190)***	***27.8% (248)***
Large Project Sizes	**60.0% (15)**	27.3% (11)	42.1% (19)	62.5% (8)	***47.2% (53)***	**46.2% (130)**	**46.4% (183)**	**32.4% (238)**
Price of Supplies or Materials	16.7% (12)	0.0% (12)	15.0% (20)	0.0% (8)	9.6% (52)	33.1% (118)	25.9% (170)	25.3% (245)
Obtaining Working Capital	58.3% (12)	45.5% (11)	36.4% (22)	42.9% (7)	44.2% (52)	***42.5% (113)***	***43.0% (165)***	***32.6% (224)***
Late Notice of Bid/Proposal Deadlines	50.0% (14)	33.3% (9)	52.6% (19)	**87.5% (8)**	54.0% (50)	***58.1% (117)***	***56.9% (167)***	***47.7% (214)***
Prior Dealings with Owner	11.8% (17)	**10.0% (10)**	35.0% (20)	0.0% (7)	***18.5% (54)***	8.0% (138)	10.9% (192)	8.9% (246)

Source: See Table 8.2.

Note: Total number of valid responses in parentheses. Figures in **boldface** type are adverse and 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 adverse and significant within a 90% confidence interval.

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.

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	85.7% (14)	66.7% (3)	- (0)	88.9% (9)	100.0% (2)
Hispanic	66.7% (6)	100.0% (2)	- (0)	33.3% (3)	100.0% (1)
Asian	52.9% (17)	40.0% (5)	- (0)	58.3% (12)	- (0)
Native American	42.9% (7)	25.0% (4)	- (0)	100.0% (2)	0.0% (1)
Total Minority	64.4% (45)	50.0% (14)	- (0)	70.4% (27)	75.0% (4)
Nonminority female	66.3% (95)	59.6% (47)	55.6% (9)	80.6% (36)	33.3% (3)
Total M/WBE	65.7% (140)	57.4% (61)	55.6% (9)	76.2% (63)	57.1% (7)

Source: See Table 8.2.

Note: Total number of valid responses in parentheses.

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	92.3% (13)	66.7% (3)	- (0)	100.0% (9)	100.0% (1)
Hispanic	71.4% (7)	66.7% (3)	- (0)	66.7% (3)	100.0% (1)
Asian	56.3% (16)	40.0% (5)	- (0)	63.6% (11)	- (0)
Native American	42.9% (7)	25.0% (4)	- (0)	100.0% (2)	0.0% (1)
Total Minority	68.9% (45)	50.0% (16)	- (0)	80.8% (26)	66.7% (3)
Nonminority female	61.9% (97)	57.4% (47)	75.0% (8)	68.4% (38)	25.0% (4)
Total M/WBE	64.1% (142)	55.6% (63)	75.0% (8)	73.4% (64)	42.9% (7)

Source: See Table 8.2.

Note: Total number of valid responses in parentheses.

IX. The City of Minneapolis Minority- and Women-Owned Business Enterprise Program

In this Chapter, we provide a general overview of City's Small Underutilized Business Program. This review is to assist the City in evaluating its current race- and gender-conscious efforts to ensure that future initiatives are narrowly tailored.

A. History of the City of Minneapolis' Contracting Affirmative Action Programs

The City of Minneapolis has a long history of working to reduce barriers to full and fair opportunities for minority- and women-owned business enterprises (M/WBEs) that seek work on its projects. The City first established a setaside program in 1976 for "economically disadvantaged" firms with no specific race or gender classification. The program provided a 5-10 percent M/WBE overall bid preference and a 5 percent bid preference for certain contracts.[289]

The Associated General Contractors of Minnesota challenged this race- and gender-conscious program in 1989. In settlement of this lawsuit, the City dropped its race-and gender-conscious program and established the Emerging Small Business (ESB) Program. The ESB Program set a 20 percent ESB goal on construction and professional services contracts over certain dollar amounts. In 1990, the City and Ramsey County established a Targeted Vendor Development Program with a 25 percent goal for targeted vendors

To meet the requirements of strict constitutional scrutiny, Minneapolis commissioned a disparity study in conjunction with the Minneapolis Community Development Agency, the Minneapolis Public Housing Authority and Hennepin County.[290] Completed in 1995, the study found quantitative evidence of disparities for African American-, Asian-, Hispanic-, Native American-, and women-owned firms in the marketplace. The consultants concluded there was a "strong basis in evidence" of discrimination for African American-, Asian-, Hispanic-, and women-owned firms.

BBC made several recommendations for race-neutral and race-conscious programs. Race-neutral suggestions included:

---

[289] Ramsey County introduced a MBE/WBE setaside program in 1979 to be consistent with the joint City and County purchasing process. In 1989, the program was changed to a race- and gender neutral-program as a result of the *Croson* decision.

[290] A similar study was performed for the City of St. Paul, Ramsey County and Independent School District No. 625. St. Paul established a setaside program in 1976 for "economically disadvantaged" firms with no specific race or gender classification. This program had a 10 percent goal for small businesses on goods and services contracts. In 1980, the program began defining the disadvantaged firms as those owned by "women and ethnic minorities, and…the handicapped." This program had a 10 percent goal for small businesses, a 5percent goal for WBEs, and a 5 percent goal for MBEs. It further provided for a Set-Aside Business Advisory Committee. In 1989, St. Paul replaced this program with the race- and gender-neutral Targeted Vendor Development program.

- Increase outreach efforts;
- Provide feedback to unsuccessful bidders;
- Implement processes to monitor bid specifications;
- Raise the state bonding level;
- Provide bidders more time to respond to opportunities; and
- Apply stricter enforcement of anti-discrimination laws.

The consultants listed six race-conscious program recommendations:

- Contact at least one MBE or WBE on smaller contracts;
- Award additional points on bids for professional services contracts to WBEs;
- Create and promote opportunities for mentor/protégé and joint venture relationships;
- Participate in financing programs for M/WBEs;
- Provide certain M/WBEs with price preferences in bidding on certain purchases; and
- Establish a subcontractor outreach program.

B. Studies and programs for other Twin Cities Governments

1. Disparity studies

In addition to the joint 1995 study with Minneapolis, the City of St. Paul and the St. Paul Housing and Redevelopment Authority (HRA) completed a Disparity Study in 2008.[291] The study included five business categories: construction, architecture and engineering, professional services, other services and goods, equipment and supplies. Electronic data to assess utilization were collected for procurement activity between 2002 and 2006. Only firms that had either done business with the City or submitted a bid to perform were counted as "available".

[291] "A Disparity Study for the City of St. Paul and the St. Paul Housing and Redevelopment Authority, St. Paul, Minnesota," MGT of America, Inc., 2008.

For St. Paul, MGT found the following availability:

African Americans	0.48%
Hispanics	0.48%
Asians	0.33%
Native Americans	0.00%
Non-minority females	1.67%
Total (67 firms)	3.62%

For HRA, MGT found the following availability:

African Americans	4.92%
Hispanics	0.00%
Asians	1.64%
Native Americans	0.00%
Non-minority females	1.64%
Total (5 firms)	8.20%

The study found disparities for prime contractors for all M/WBE groups except for Asian-owned firms in construction. MGT found disparities for subcontractors in all M/WBE groups for the City and for Hispanic- and Asian-owned firms for the HRA. It recommended race- and gender-neutral measures, such as increased outreach, bidders rotation, increased focus on small purchases, prompt payment of subcontractors, a small business setaside, *etc*. A race-conscious program, with aspirational annual goals and project goals (whether based upon the Study's availability estimates is unclear) was further recommended.

2. Disadvantaged Business Enterprise programs

The Metropolitan Airport Commission (MAC), as a recipient of federal transportation funds, must set a Disadvantaged Business Enterprise goal on its federally assisted contracts and airport concession contracts.[292] For federal fiscal year 2010, MAC established an 11 percent DBE goal; one percent of the goal will be achieved through race-neutral means and 10 percent through race-conscious means.[293] The adjusted goal of 11 percent was calculated by adding the base figure (12.4 percent) to the median of past participation (8.2 percent) and dividing by two (10.3 percent).[294]

The Metropolitan Council (MC) has established a 15 percent DBE goal for federal fiscal year 2010 through 2013 for its USDOT-assisted contracts. MC will achieve one percent of the goal

[292] 49 C.F.R. Part 26 and 49 C.F.R. Part 23.

[293] 49 C.F.R. § 26.51.

[294] 49 C.F.R. § 26.45.

through race-neutral means and 14 percent through race-conscious means. The adjusted goal of 15 percent was calculated by averaging the base figure, past participation and the MAC goal.

C. City of Minneapolis' Current Program

In 1999, Minneapolis enacted a new Small and Underutilized Business Program (SUBP).[295] This Program seeks to remedy the effects of past discrimination and prevent future discrimination against women-owned and minority-owned business enterprises contracting with the City and the Minneapolis Community Development Agency, and to assist small, women-owned and minority-owned business enterprises in becoming viable and permanent participants in the regional economy. The ordinance was enacted pursuant to information and evidence of past and ongoing discrimination against qualified and available women-owned and minority-owned business enterprises in the awarding of City of Minneapolis construction and development contracts and contracts for the provision of goods and services, as documented in the 1995 study.

The policy seeks to increase the level of participation of qualified and available small business enterprises ("SBEs"), WBEs and MBEs through setting project goals for their participation, based upon their "qualifications and availability". The Program's remedies are to reach "no more than the effects of past discrimination;… [and are] not to become an entitlement or quota program for any group."

"Minority" is defined as "Asian-American, Native-American, African American or Hispanic". Marketplace means the Minnesota counties of Anoka, Benton, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Stearns, Washington and Wright. A "small business enterprise" is defined as "a qualified and available" business with its principal place of business in the marketplace and that is a small business as defined by the Minnesota Department of Administration.

The City does not certify firms. Instead, it accepts certifications issued by the Central Certification Program (CERT), a "one stop" certification program for the small business assistance programs of Hennepin County, Minneapolis, Ramsey County, and Saint Paul. The City of St. Paul administers the program on behalf of all the agencies. CERT certifications are valid for 24 months.

The ordinance applies to any construction contract or development project, or any combination thereof, in excess of $100,000.00 in a 12 month period, and any contract for goods and services in excess of $50,000.00 in a 12 month period.

The SUBP Manager is authorized to review the level of participation by certified businesses certified by the City on an annual basis on covered contracts. The Manager promulgates rules, regulations and forms needed to implement the Program. The rules set forth program methods for establishing participation goals, all outreach requirements for prime contractors and developers to eligible SBEs, WBEs and MBEs, and all other requirements for demonstrating

[295] Ordinance No. 99-Or-069, Chapter 423.

good faith attempts at compliance with Program requirements. The Manager reports to the Director of the Minneapolis Department of Civil Rights. There are also four Contract Compliance Officers (CCOs), whose responsibilities include verifying M/WBE participation and bidders' good faith efforts to meet contract goals. They also handle affirmative action plan development, employment participation and prevailing wage payments and complaints. There is one SUBP technician, whose main function is setting MBE and WBEs contract goals.

The Program has rules for considering bidders' or proposers' good faith efforts to meet MBE and WBE contract goals. M/WBE prime bidders or proposers cannot count their own participation towards meeting the contact goal. A firm owned by a minority female can be certified as both a MBE and a WBE, and be counted in either category on a specific contract or have her firm's utilization split between the goals. The CCOs review bids and proposals for compliance, and a bid or proposal that fails to meet these standards will be rejected. Failure to comply during contract performance is a breach of such contract; and the City may seek remedies for such breach.

At the time a contract has been awarded, the COOs follow up with listed M/WBEs to confirm the scope and amount of the subcontract. There is no contract performance monitoring.[296]

SUBP does not conduct its own outreach or assistance component for emerging businesses. It works with the other local agencies through CERT to provide information to M/WBEs on opportunities.

[296] Minneapolis has purchased a contract compliance and monitoring software program, which could be used to monitor contract performance.

Table of Authorities

1. Cases

Northern Contracting, Inc. v. Illinois Department of Transportation, 2005 U.S. Dist. LEXIS 19868 (Sept. 8, 2005) ("*Northern Contracting II*").

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

O'Donnell Construction Co., Inc, v. District of Columbia, 963 F.2d 420 (D.C. Cir. 1992).

Rothe Development Corp. v. U.S. Department of Defense et al, 499 F.Supp.2d 775, 847 (W.D. Tex. 2007) ("*Rothe VI*").

Rothe Development Corporation v. U.S. Department of Defense, 545 F.3d 1023 (Fed. Cir. 2008) ("*Rothe VII*").

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

South Florida Chapter of the Associated General Contractors v. Broward County, 2008 U.S. Dist. Lexis 8630 (S.D. Fla. 2008).

Thompson Building Wrecking Co., Inc. v. City of Augusta, Georgia, 2007 U.S. Dist. Lexis 27127 (S.D. Ga. 2007).

United States v. Paradise, 480 U.S. 149 (1987).

United States v. Virginia, 518 U.S. 515 (1996).

Virdi v. DeKalb County School District, 2005 U.S. App. LEXIS 11203 (11th Cir. 2005).

W.H. Scott Construction Co., Inc. v. City of Jackson, 199 F.3d 206 (5th Cir. 1999).

Webster v. Fulton County, Georgia, 51 F.Supp.2d 1354 (N.D. Ga. 1999).

West Tennessee Chapter of Associated Builders and Contractors, Inc. v. City of Memphis, 302 F.Supp.2d 860, 864 (W.D. Tenn. 2004).

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

Wygant v. Jackson Board of Education, 476 U.S. 267 (1986).

2. Statutes

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

3. Regulations

49 C.F.R. Part 26.

References

Acs, Z. and D. Evans (1994), "The determinants of variations in self-employment rates across countries and over time," working paper.

Alba-Ramirez, A. (1994), "Self-employment in the midst of unemployment; the case of Spain and the United States," Applied Economics, 2, pp.189-204.

Arai A. B. (1997), "The road not taken, The transition from unemployment to self-employment in Canada, 1961-1994," Canadian Journal of Sociology 22, Summer, pp. 365-382.

Aronson, R. L. (1991), Self-employment. ILR Press, Ithaca, NY, ILR Press.

Bates, T. (1973), Black capitalism, a quantitative analysis. New York, Praeger.

Bates, T. (1989), "The changing nature of minority business, a comparative analysis of Asian, non-minority, and black-owned businesses," The Review of Black Political Economy, pp. 25-42.

Bates, T. (1991a), "Discrimination and the capacity of Chicago metropolitan area minority and women-owned businesses," Report to the City of Chicago Department of Law.

Bates, T. (1991b), "Commercial bank financing of white- and black-owned small business startups," Quarterly Review of Economics and Business, 31(1), pp. 64-80.

Bates, T. (1993), "Banking on black enterprise, the potential of emerging firms for revitalizing urban economies," Washington D.C., Joint Center for Political and Economic Studies.

Bauer, P. W. and B. A. Cromwell (1994), "A Monte Carlo examination of bias tests in mortgage lending," Federal Reserve Bank of Cleveland Economic Review, 30(3), pp. 27-40.

Becker, G. S. (1957), The economics of discrimination, University of Chicago Press, Chicago, Illinois,.

Bernhardt, I. (1994) "Comparative advantage in self-employment and paid work," Canadian Journal of Economics, May 1994, pp. 273-289.

Black, J., D. de Meza, and D. Jeffreys (1996), "House Price, the Supply of Collateral and the Enterprise Economy," Economic Journal, 106(434), January, pp. 60-75.

Blanchflower, D.G. (2000), "Self-employment in OECD countries," Labour Economics, 7, September, pp. 471-505.

Blanchflower, D.G. (2009), "Minority self-employment in the United States and the impact of affirmative action programs," Annals of Finance, (5)3-4, pp. 361-396.

References

Blanchflower, D.G., D. S. Evans, and A. J. Oswald (1998a), "Credit cards and entrepreneurs," working paper, National Economic Research Associates, Cambridge, Massachusetts, 1998a.

Blanchflower, D.G., D. S. Evans, and A. J. Oswald (1998b), "Credit cards and consumers," working paper, National Economic Research Associates, Cambridge, Massachusetts, 1998b.

Blanchflower, D.G., P. Levine and D. Zimmerman (2003), "Discrimination In The Small Business Credit Market," Review of Economics and Statistics, 85(4), pp. 930-943.

Blanchflower, D.G. and B. Meyer (1994), "A longitudinal analysis of the young self-employed in Australia and the United States," Small Business Economics, 6, pp.1-20.

Blanchflower, D.G. and A. J. Oswald (1990), "Self-employment and the enterprise culture," British Social Attitudes, the 1990 Report. Edited by R. Jowell, and S.

Blanchflower, D.G. and A. J. Oswald (1994), The Wage Curve. Cambridge, MIT Press, 1994.

Blanchflower, D.G. and A. J. Oswald (1998), "What makes an entrepreneur?," Journal of Labor Economics, 16(1), January, pp. 26-60.

Blanchflower, D.G. and A.J. Oswald (2008), "What makes a young entrepreneur?", International Handbook on Youth and Young Adulthood edited by Andy Furlong, in the Routledge International Handbook series.

Blanchflower, D.G., A. J. Oswald, and A. Stutzer (2001), "Latent entrepreneurship across nations," European Economic Review, 45, no.4-6, May, pp.680-691.

Blanchflower, D.G. and C. Shadforth (2007), "Entrepreneurship in the UK," Foundations and Trends in Entrepreneurship, 3(4), pp. 257-364.

Blanchflower, D.G. and J. S. Wainwright (2005), "An Analysis of the Impact of Affirmative Action Programs on Self-Employment in the Construction Industry?," National Bureau of Economic Research Working Paper Series, #11793, November.

Blau, D. (1987), "A time-series analysis of self-employment in the United States," Journal of Political Economy, 95, 445-467.

Bogenhold, D. and U. Staber (1991), "The decline and rise of self-employment," Employment and Society, 5, 223-239.

Borjas, G.J. and S. Bronars (1989), "Consumer discrimination and self-employment," Journal of Political Economy 97, 581-605.

Broussard, N., R. Chami, and G. Hess (2003), "(Why) do self-employed parents have more children?" working paper, September.

Browne, L.E. and G. M. B. Tootell (1995), "Mortgage Lending in Boston-A Response to the Critics," New England Economic Review, September-October, pp. 53-78.

Cagetti, M., and M. DeNardi (2006), "Entrepreneurship, frictions and wealth," Journal of Political Economy, 114(5), 835-70.

Cavalluzzo, K. S. and L. C. Cavalluzzo (1998), "Market Structure and Discrimination, The Case of Small Businesses," Journal of Money, Credit, and Banking, 30(4), November, pp. 771-792.

Cavalluzzo, K. S., L. C. Cavalluzzo, and J. Wolken (1999), "Competition, Small Business Financing, and Discrimination, Evidence from a New Survey," unpublished manuscript, Georgetown University, February.

Cloud, C. and G. Galster (1993), "What Do We Know about Racial Discrimination in Mortgage Markets," Review of Black Political Economy, 22(1), Summer, pp. 101-120.

Coate, S. and S. Tennyson (1992), "Labor market discrimination, imperfect information and self-employment," Oxford Economic Papers, 44, 272-288.

Cole, R. A. (1998), "Availability of Credit to Small and Minority-Owned Businesses, Evidence from the 1993 National Survey of Small Business Finances," unpublished manuscript, Employment Policies Institute, Washington, DC. April 13, 1998.

Cowling, M. and P. Mitchell (1997), "The evolution of UK self-employment, A study of government policy and the role of the macroeconomy," Manchester School of Economic and Social Studies, 65 no.4, September, 427-442.

Day, T. S. and S. J. Liebowitz (1998), "Mortgage lending to minorities, where's the bias?," Economic Inquiry, XXXVI, January, pp. 3-28.

DeWit, G. and F. A. Van Winden (1990), "An empirical analysis of self-employment in the Netherlands," Economics Letters, 32, 97-100.

Dunn, T. A. and D.J. Holtz-Eakin (2000), "Financial capital, human capital, and the transition to self-employment: evidence from intergenerational links," Journal of Labor Economics, 18 (2): 282-305.

Evans, D. and B. Jovanovic (1989), "An estimated model of entrepreneurial choice under liquidity constraints," Journal of Political Economy, 97, pp. 808-827.

Evans, D. and Linda Leighton (1989), "Some empirical aspects of entrepreneurship," American Economic Review, 79, pp. 519-535.

Fairlie, R. W. (1999), "The absence of the African American owned business, an analysis of the dynamics of self-employment," Journal of Labor Economics, 17(1), pp. 80-108.

References

Fairlie R. W. and B. D. Meyer (1996), "Ethnic and Racial Self-Employment Differences and Possible Explanations," Journal of Human Resources, 31(4), pp. 757-793.

Fairlie, R.W. and B.D. Meyer (2000), "Trends in self-employment among white and black men during the twentieth century," Journal of Human Resources, XXXV(4), pp. 643-669.

Fairlie, R.W. (2006), "Entrepreneurship among Disadvantaged Groups: An Analysis of the Dynamics of Self-Employment by Gender, Race and Education," Handbook of Entrepreneurship, Volume 2, eds. Simon C. Parker, Zoltan J. Acs, and David R. Audretsch, New York: Springer Verlag.

Fairlie, R.W. and H.A. Krashinsky (2006), "Liquidity constraints, household wealth and entrpreneurship revisited," Working Paper, University of California, Santa Cruz.

Fairlie R. W. and B. D. Meyer (1998), "Does immigration hurt Black self-employment?" Help or Hindrance? The Economic Implications of Immigration for Blacks. Edited by D. S. Hamermesh and F. D. Bean. New York, Russell Sage Foundation.

Fairlie R. W. and B. D. Meyer (2000), "Trends in self-employment among White and black men during the twentieth century," Journal of Human Resources, XXXV, no.4, 643-669.

Fairlie R. W. and B. D. Meyer (2003), "The effect of immigration on native self-employment," Journal of Labor Economics, 21(3), pp.619-650.

Fairlie, R.W. and A. Robb (2007a), "Why are black-owned businesses less successful than white-owned businesses? The role of families, inheritances, and business human capital," Journal of Labor Economics, 25(2), pp. 289-323.

Fairlie, R.W. and A. Robb (2007b) "Families, human capital, and small business: evidence from the Characteristics of Business Owners Survey," Industrial and Labor Relations Review, 60(2), pp. 225-245.

Ferri, G. and P. Simon (1997), "Constrained consumer lending, exploring business cycle patterns using the Survey of Consumer Finances," working paper, Princeton University.

Foti, A. and M. Vivarelli (1994), "An econometric test of the self-employment model - the case of Italy," Small Business Economics, 6, no.2, April, 81-93.

Fuchs, V. (1982), "Self-employment and labor force participation of older males," Journal of Human Resources 17, Fall, 339-357.

Goldstein, R., "Friedman's ANOVA & Kendall's Coefficient of Concordance," Stata Technical Bulletin Reprints, Vol. 1, College Station, Texas: Stata Corporation, 1991, pp. 157–158.

Greene, W. H., Econometric Analysis, Third Edition, New Jersey, Prentice-Hall, 1997, pp. 926-931

Hall, R. E. and F. Mishkin (1982), "The Sensitivity of Consumption to Transitory Income, Estimates from Panel Data on Households," Econometrica, 50(2), pp 461-81.

Harrison, G. W. (1998), "Mortgage lending in Boston, a reconsideration of the evidence," Economic Inquiry, XXXVI, January, pp. 29-38.

Hayashi, F. (1985), "The effect of liquidity constraints on consumption, a cross-sectional analysis," Quarterly Journal of Economics, 100(1), February, pp. 183-206.

Heckman, J. J. (1998), "Detecting discrimination," Journal of Economic Perspectives, 12(2), Spring, pp. 101-116.

Holmes T. J. and J. A. Schmitz, "A theory of entrepreneurship and its application to the study of business transfers," Journal of Political Economy 89 (1990), 265-294.

Holtz-Eakin, D. D. Joulfaian, and R. S. Harvey (1994a), "Entrepreneurial decisions and liquidity constraints," Journal of Political Economy, 102, pp. 53-75.

Holtz-Eakin, D. D. Joulfaian, and R. S. Harvey, (1994b),"Sticking it out, entrepreneurial survival and liquidity constraints," Rand Journal of Economics, 25(2), Summer, pp. 334-347.

Horne, D. (1994), "Evaluating the role of race in mortgage lending," FDIC Banking Review, 7(1), Spring/Summer, pp. 1-15.

Hout, M. and H. Rosen (2000), "Self-Employment, family background, and race," Journal of Human Resources, 35 no.4, Fall, 670-92.

Hurst, E. and A. Lusardi (2004), "Liquidity Constraints, Household Wealth, and Entrepreneurship," Journal of Political Economy, April, Vol. 112(2), pp. 319-347.

Jappelli, J. (1990), "Who is credit constrained in the U.S. economy?," Quarterly Journal of Economics, 105(1), February, pp. 219-234.

Kanbur, S.M.R. (1990), "Entrepreneurial risk taking, inequality, and public policy, an application of inequality decomposition analysis to the general equilibrium effects of progressive taxation," Journal of Political Economy, 90, 1-21.

Kidd, M. (1993) "Immigrant wage differentials and the role of self-employment in Australia," Australian Economic Papers, 32, no.60, June, 92-115.

Kihlstrom, R.E. and J. J. Laffont (1979), "A general equilibrium entrepreneurial theory of firm formation based on risk aversion," Journal of Political Economy, 87, 719-848.

King, Miriam, Steven Ruggles, Trent Alexander, Donna Leicach, and Matthew Sobek (2009), Integrated Public Use Microdata Series, Current Population Survey: Version 2.0. [Machine-readable database]. Minneapolis, MN: Minnesota Population Center [producer and distributor].

Kuhn, P.J. and H. J. Schuetze (1998), "The dynamics of self-employment in Canada," working paper, McMaster University.

Ladd, H.F. (1998), "Evidence on discrimination in mortgage lending," Journal of Economic Perspectives, 12(2), Spring, pp. 41-62.

Laferrere, A. and P. McEntee, "Self-employment and intergenerational transfers of physical and human capital, An empirical analysis of French data," Economic and Social Review 27 no.1 (October 1995), 43-54.

Lentz, B. F. and D. N. Laband (1990), "Entrepreneurial success and occupational inheritance among proprietors," Canadian Journal of Economics, 23, 563-579.

Lindh, T. and H. Ohlsson (1996), "Self-employment and windfall gains, Evidence from the Swedish lottery," Economic Journal, 106(439), November, pp. 1515-1526.

Long, J. E., (1982), "The income tax and self-employment," National Tax Journal 35, March, pp. 31-42.

Mach, T.L. and J.D. Wolken (2006). "Financial services used by small businesses: evidence from the 2003 Survey of Small Business Finances," Federal Reserve Bulletin, October 2006.

Maddala, G. S. and R. P. Trost (1994), "On measuring discrimination in loan markets," United Kingdom, Elgar, G.S. Maddala (ed.), Econometric Methods and Applications, 2, pp. 267-290.

Meager, N. (1992)"Does unemployment lead to self-employment?" Small Business Economics, 4, 87-103.

Mora, M.T. and A. Dávila (2006), "Mexican immigrant self-employment along the U.S.-Mexico border: an analysis of 2000 Census data", Social Science Quarterly, 87(1), March.

Munnell, A. G., M. B. Tootell, L. E. Browne, and J. McEneaney (1996), "Mortgage lending in Boston, interpreting HMDA data," American Economic Review, March 1996, 86(1), pp. 25-53.

Myrdal, G. (1944), An American dilemma, the negro problem and modern democracy, Volume 1, New York, Harper & Row.

Oaxaca, R. L. (1973), "Male-female wage differences in urban labor markets," International Economic Review, 14(3), October, pp. 693-709.

Olson, P.D., V. S. Zuiker and C.P. Montalto (2000), "Self-employed Hispanics and Hispanic wage earners: differences in earnings," Hispanic Journal of Behavioral Sciences, 22, pp. 114-130.

Parker, S. C. (2004), The Economics of Self-Employment and Entrepreneurship. Cambridge: Cambridge University Press.

Pickles, A. R. A. R. and P. N. O'Farrell (1987), "An analysis of entrepreneurial behavior from male work histories," Regional Studies, 21, 425-444.

Quinn, J. F. (1980), "Labor force participation patterns of older self-employed workers," Social Security Bulletin, 43, 17-28.

Reardon, E. (1998), "Are the self-employed misfits or superstars?" working paper, Rand Corporation.

Rees, H. and A. Shah (1986), "An empirical analysis of self-employment in the UK," Journal of Applied Econometrics, 1, 95-108.

Robles, B.J. and H. Cordero-Guzmán (2007), "Latino self-employment and entrepreneurship in the United States: an overview of the literature and data sources," The Annals of the American Academy of Political and Social Science, 613; pp. 18-31.

Robson, M. T. (1998), "The rise in self-employment amongst UK males," Small Business Economics, 10, no.3, 199-212

Robson, M. T. (1998), "Self-employment in the UK regions," Applied Economics, 30, no.3, March, pp. 313-322.

Schuetze, H.J. (1998), "Taxes, economic conditions and recent trends in male self-employment; a Canada-U.S. comparison," working paper, McMaster University, Hamilton, Ontario, Canada.

Taylor, M. P. (1996), "Earnings, independence or unemployment; why become self-employed?" Oxford Bulletin of Economics and Statistics, 58, 2, 253-265.

Tootell, G. M. B. (1996), "Turning a critical eye on the critics," Mortgage lending, racial discrimination and federal policy, edited by J. Goering and R. Wienk, Urban Institute Press, Washington, D.C.

U.S. Chamber of Commerce (2005), Access to capital, what funding sources work for you? U.S. Chamber of Commerce, Washington DC.

Yezer, M. J., R. F. Phillips, and R. P. Trost (1994), "Bias in estimates of discrimination and default in mortgage lending; the effects of simultaneity and self-selection," Journal of Real Estate Finance and Economics, 9(3), pp. 196-215.

References

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.

Wainwright, J. S. (2000), "Racial discrimination and minority business enterprise, evidence from the 1990 Census," Studies in Entrepreneurship Series. Edited by S. Bruchey. New York, Garland Publishing.

Appendix A. Master Directory Sources

A. Entities whose lists of M/WBE firms that were duplicative of previously collected lists

Dakota County

Duluth International Airport

Duluth Transit Authority

Fairmont Airport

Falls International Airport

Grand Rapids Airport

Hennepin County

Intermediate School District Northeast Metro 916

Koochiching County

Mankato Heartland Express Transit System

Metro Transit

Metropolitan Airports Commission

Metropolitan Council of St. Paul

Minneapolis Community and Technical College

Minneapolis Public Schools

Minneapolis-St. Paul International Airport

Minneapolis-St. Paul Airport Commission

Minnesota State Colleges and University System

Minnesota Valley Transit Authority

Minnesota Business Finance Corp.

National Association of Minority Contractors – Upper Midwest

Olmsted County

Ramsey County

Rochester City Lines

Rochester International Airport

Scott County

Sherburne County

Southwest Metro Transit Commission

St. Cloud Regional Airport

St. Louis County

St. Paul Public Schools

Stearns County

Thief River Falls

Thief River Falls Airport

University of Minnesota System

Wabasha County

Wright County

Warren County

Waterloo Regional Airport

Austin Straubel International Airport

Brown County

Central Wisconsin Airport

Chippewa Valley Regional Airport

City of Appleton

City of Green Bay

City of Milwaukee

City of Rhinelander

City of Waukesha

Columbia County

Dane County Regional Airport

General Mitchell International Airport

Kenosha County

La Crosse Municipal Airport

Mead & Hunt, Inc.

Milwaukee County

Milwaukee Urban Entrepreneur Partnership

Oneida County

Outagamie County

Outagamie County Regional Airport

Ozaukee County

Racine County

Rhinelander-Oneida County Airport

University of Wisconsin System

State of Wisconsin Bureau of Procurement

Washington County

Waukesha County

Waukesha County Airport/Crites Field

Wisconsin Dept. of Administration

Wisconsin Manufacturers & Commerce

City of Des Moines

City of Sioux City

Des Moines Area Regional Transportation Authority

Des Moines International Airport

Dubuque Regional Airport

Eastern Iowa Airport

Mason City Municipal Airport

B. Entities who had no directory, or their directory did not identify race and sex

Academy College

American Indian Development Associates

Ames Community School District

Arrowhead Transit

Asian American Chamber of Commerce of Minnesota

Association for the Advancement of Hmong Women of Minnesota

Benton College

Bethany Lutheran College

Bethel University

Brooklyn Center Schools

Carlton County

Cedar Rapids Community Schools

Chisago County

Chisago Lakes School District

City of Golden Valley

City of Hudson

City of Maple Grove

City of Racine

City of St. Louis Park

City of Superior

City of West Allis

College of St. Benedict/St. John's University

College of Visiual Arts

Concordia University-St. Paul

Crossroads College

Crown College

Dakota Area Resources and Transportation for Seniors

Davenport Community Schools

Des Moines Public Schools

Dodge County

Douglas County

Dubuque Community Schools

Eau Claire County

Fairbault Public Schools

Forest Lake Area Schools

Gustavus Adolphus College

Guthrie County

Minnesota Independent School Districts 191, 196, 200, 622 and 833

Iowa City Community School District Isanti County

Madison County

Mahtomedi Public Schools

Metropolitan State University

Minnesota Department of Employment and Economic Development

Minnetonka Public Schools #276

Minnesota Spokesman Recorder

North Central University

ONABEN-A Native American Business Network

Pierce County

Polk County

Prior Lake-Savage Area Schools

Richfield Public Schools

Robbinsdale Area Schools

Rochester Area Chamber of Commerce

Rochester Area Economic Development, Inc.

Sioux Gateway Airport

South Washington County Schools

St. Anthony-New Brighton Public School District

St. Croix County

St. Louis Park Public Schools

St. Mary's University of Minnesota

Stillwater Area Public Schools

Waterloo Community Schools

Wisconsin Department of Natural Resources

Dane County

Greater Dallas County Development Alliance

C. Entities that were non responsive to repeated contacts

African American Black Business Association

Carleton College

Carver County

City of Bemidji

City of International Falls

City of Plymouth

College of St. Scholastica

Dunwoody College of Technology

Farmington Public Schools

Hispanic Chamber of Commerce of Minnesota

Hopkins Public Schools

Hormel Foods

Insight News

Latino Chamber of Commerce of Wisconsin

Milwaukee Indian Economic Development Agency

Milwaukee Minority Business Opportunity Center

National Association of Minority Contractors-Wisconsin Chapter

Orono Public Schools

University of Minnesota

U.S. Pan Asian Chamber of Commerce

Women Venture.

Some entities refused to provide the information we asked for including: 3M Co. African American Contractors Association-Milwaukee Chapter

D. Entities that refused to provide the requested information

Black Heart ,Inc.

Hispanic Business & Professionals Association-Racine, WI

Midwest Minority Supplier Development Council

The Business Forum-Madison, WI

Wisconsin Small Business Development Center

Wisconsin Women's Business Initiative Corporation

Women's Business Enterprise

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.

Baseline Business Population: The underlying universe of business establishments that is used in an availability analysis. The denominator in a DBE availability measure.

But-for: A term that refers to a hypothetical market that is unaffected by the presence of business discrimination. Often used to describe what level of DBE availability would be expected to be observed in a perfectly race-neutral marketplace.

Capacity: This term has no single definition. See Appendix B for discussion.

Chi^2 or Chi-squared: In this report, the Chi^2 statistic provides an assessment of the goodness-of-fit of a given statistical model, compared to the null hypothesis that all coefficients are zero. A statistically significant Chi^2 value indicates that the model as a whole fits significantly better than an empty model.

Confidence level: In statistics, a confidence interval is an estimate of a particular parameter. Rather than providing a single value, an interval likely to contain the parameter is provided. How likely the interval is to contain the parameter is given by the confidence level. In this study, when we say that a particular parameter, such as the coefficient estimate in from a regression analysis, has a "95% confidence level," we are saying that there is only a 1-in-20 chance that the parameter is actually zero.

Decennial: Refers to the census conducted every decade by the U.S. Census Bureau. The last decennial census was conducted in 2000. The next will be conducted in 2010.

Denominator: The bottom number in a fraction. In an availability measure, the denominator is the number of all businesses in a particular category. See also "Numerator."

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 (*e.g.* job promotion) occurs significantly less often than expected given that group's relative size, or when a "bad" outcome (*e.g.* job termination) occurs significantly more often than expected.

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."

Empirical: Originating in or based on observation or experience.

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."

Enjoin: A legal term requiring a person, business, or government entity to desist or abstain from some act.

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."

FFY: Federal Fiscal Year. The Federal Fiscal Year runs from October 1 through September 30.

First-tier subcontractors: Subcontractors or suppliers hired directly by the prime contractor.

Homogeneous: Of the same or a similar kind or nature. Of uniform structure or composition throughout.

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, American Indians, or Alaska Natives).

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.

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 Nonminority female-owned is actually nonminority male-owned. See also "Nonclassification."

MSA: Metropolitan Statistical Area. As defined by the federal Office of Management and Budget, an urban area that meets specified size criteria: either it has a core city of at least 50,000 inhabitants within its corporate limits, or it contains an urbanized area of at least 50,000 inhabitants and has a total population of at least 100,000.

N: The number of observations on which a particular regression result is based. For example, in Table 5.1 on page 137, N is equal to 3,510,329.

NAICS: North American Industry Classification System. The standard system for classifying industry-based data in the U.S. Superceded 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."

Numerator: The top number in a fraction. In an availability measure, the numerator is the number of DBEs in a particular category. See also "Denominator."

Plurality opinion: When no single opinion in a case in an appellate court or the Supreme Court is supported by a majority of the Justices, the opinion in support of the Judgment that has the most votes is called the "plurality opinion."

Probative: A legal term synonymous with "proof" or "proving."

Pseudo R^2 or Pseudo R-squared: A measure analogous to R^2 used in logistic regression. See also "R^2."

PUMS: Public Use Microdata Samples. These are microdata drawn from, for example, the decennial census or the American Community Survey.

R^2 or R-squared: Also known as the Coefficient of Determination, R^2 indicates the proportion of variation in a data set that is accounted for by the statistical model. R^2 varies between zero and one.

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."

SBO: The Census Bureau's *Survey of Business Owners* statistical data series. Part of the five-year *Economic Census* series. Additional information about the SBO is available from the Census Bureau at their web site, http://www. census.gov/csd/sbo.

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. Superceded 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.

Sunset provision, sunset date: Refers to a legislative practice whereby certain ordinances or enactments expire if they are not renewed and/or revised within a certain time period. For example, some public entities' race-conscious M/WBE programs sunset after five years unless a new disparity study is performed that shows a continuing compelling interest.

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.

t-statistic, t-test, 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.

WBE: Women-Owned Business Enterprise: A business establishment that is 51% or more owned and controlled by women.

NERA
Economic Consulting

NERA Economic Consulting
1006 East 39th St.
Austin, Texas 78751
Tel: +1 512 371 8995
Fax: +1 512 371 9612
www.nera.com