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Current Trends in Public Personnel Administration

Equity in Federal Contracting: Examining the Link between Minority Representation and Federal Procurement Decisions

The federal government increasingly relies on nongovernmental organizations for procuring goods and services. This long-term trend presents a significant challenge for administrators because it risks the egalitarian values of democracy by further distancing administrative action from direct, participative, democratic oversight. The authors put forward a theory of representative bureaucracy as a way to reconcile democracy with the reality of the contemporary policy process in which unelected officials are the principal decision makers. The theory is tested in the domain of federal procurement, specifically within the contract award decisions of 60 federal agencies over three years. The authors argue that increased minority representation in leadership positions results in an increased proportion of federal contracts awarded to small minority-owned firms.

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How to reconcile bureaucracy with American democracy has been a central concern for public administration and political science scholars. The fact that unelected public administrators exercise political power has inspired myriad creative arguments aimed at either controlling bureaucracy (Balla 1998; Finer 1941; Friedrich 1940; Key 1959; Wood and Waterman 1994) or granting it legitimacy as a component of government (Goodsell 1983; Lowi 1993; Marini 1971; Wise 1993). Making matters more complex, governance has broadened over the past three decades beyond the single, multitask public agency to include numerous partners outside the state, including for-profit and nonprofit organizations (Kettl 2002; Milward and Provan 2000; Pierre and Peters 2000; Salamon 2002). The line separating public agencies and private sector organizations has become blurred, as public organizations increasingly rely on contracting out for providing public services (Donahue 1989; Goldsmith and Eggers 2004; Savas 2000; Sclar 2000). This trend in governance presents a unique challenge. On the one hand, by contracting out, politicians and public managers are presumably responding to citizens' demands for improved efficiency and quality in public services and programs. Yet, on the other hand, administrators may risk the egalitarian values of democracy by further separating administrative action from direct participative democracy.[1]

The theory of representative bureaucracy has been forwarded as a way to reconcile bureaucracy with democracy (Krislov 1974; Long 1952; Thompson 1976; Van Riper 1958). According to this theory, when a public agency mirrors demographically the community it serves (passive representation), it is more likely to produce outputs favorable to the individuals in that community (active representation). Representative bureaucracy has received considerable empirical support in the literature. Much of the early research focused on passive representation in federal agencies. More recently, however, there is a growing body of empirical support for active representation at all levels of government (Hindera 1993; Meier 1993; Pitts 2007; Selden 1997). To date, there has been little research examining whether passive representation will lead to more active representation when governance is characterized by an increased reliance on governmental contracting for goods and services. In this article, we aim to fill this gap in the literature by examining the link between passive and active representation in the awarding of federal contracts to small disadvantaged businesses, which are minority-owned small businesses.

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Specifically, we test and find support for the proposition that federal agencies with more demographically representative leadership award a larger percentage of contracts to small disadvantaged businesses. Given the importance of business ownership to the vitality of minority communities, and the extent of federal contracting in contemporary American governance, we believe that this finding has important implications for public managers and policy analysts alike.

The remainder of the article proceeds as follows. First, we provide a general review of the representative bureaucracy literature, focusing primarily on previous empirical research linking passive and active representation. Second, we provide an overview of federal contracting with small disadvantaged businesses and discuss managerial discretion in procurement decisions. Third, we use federal contracting data to test our hypothesis that increased minority representation in agency leadership positions will result in a greater percentage of contracts awarded to small disadvantaged businesses. Finally, we discuss the implications of the findings.

The Theory of Representative Bureaucracy

The foundation of representative bureaucracy rests on the logic that if bureaucracy sufficiently represents the values and interests of the public it services, then it can be reconciled with the political reality of the policy process. The original idea—generally credited to Kingsley (1944)—provided the underlying rationale for integrating members of different social strata into the British Civil Service. Scholars examining the American context shifted the analysis to demographic diversity. Instead of focusing on barriers created by social class, they sought to understand whether race, ethnicity, and gender could add legitimacy to bureaucratic actions (Levitan 1946; Long 1952; Van Riper 1958). Krislov (1974), for instance, argued that diversity in the workforce links the values and beliefs of the citizenry with the bureaucracy through socialization. The mechanism underpinning the theory, therefore, is that bureaucrats and other members of an ethnic group undergo a similar socialization experience that results in similar attitudes about public policy. Because bureaucrats are assumed to rationally maximize their individual policy preferences, their decisions should be more responsive to the overall preferences of their demographic group. Put differently, an infusion of diversity may alter the pervasive beliefs and values of an agency on the whole and therefore render the agency more in step with the citizenry it serves.

Much of the recent research on representative bureaucracy seeks to indentify when passive representation leads to active representation—that is, to actual policy outputs that benefit citizens who are passively represented. As Mosher notes, passive representation alone has important symbolic effects, but it "is no guarantee of democratic decision-making" (1968, 13). However, some authors, including Mosher, have questioned the normative implications of active representation and the efficacy of a research program focusing primarily on establishing the link between passive and active representation (see Lim 2006).

Despite these criticisms, there is a considerable body of empirical research examining this link—particularly the link between minority representation and policy outputs benefiting minority citizens and communities (Hindera 1993; Meier 1993; Meier and Stewart 1992; Selden 1997).[2] In general, scholars agree that active representation ensues when bureaucrats have considerable discretion in decision making, and when the policy issue is "salient to the demographic group in question" (Keiser et al. 2002, 556; Thompson 1976). Following this logic, contracting with small minority-owned businesses has the potential to infuse predominately minority communities with direct financial benefits, as well as to increase stability and continuity in communities by bolstering ongoing commercial activity.

While the consistency of the findings linking passive minority representation to active representation has been impressive, the breadth of government activity examined has been relatively limited. Education, in particular, has proved to be a fruitful policy field for examination. In practical terms, education is appealing because of the prevalence of standardized testing in public schools, a situation that allows scholars to assess the relative performance of different minority groups. Much of the research has centered on whether the representativeness of teachers has resulted in improved performance by the corresponding minority group—the assumption being that minority teachers are better able to relate to minority students and thus more effective at delivering the curriculum. Meier (1993), for example, found that a higher percentage of Latino teachers in Florida schools resulted in improved performance by Latino students on standardized tests (for a study of African American students, see Meier and Stewart 1992).

Research is by no means limited to education, however. Andrews et al. (2005) examine the role of representative bureaucracy in terms of perceived organizational performance. Interestingly, they find that more ethnically diverse local governments in England tend to score lower in consumer satisfaction. In an interesting examination of local survey data, Bradbury and Kellough (2008) find that African American administrators and African American citizens are more likely to support initiatives and programs targeting the African American community than their white counterparts. As such, their research identifies factors affecting the *potential* for active representation, not the actual policy outputs resulting from it.

Despite the relative consistency of the empirical findings, there is some debate about whether the theory can be applied generally, or whether it is more applicable to specific subsets within the bureaucracy at large. For instance, some have argued that agency socialization moderates active representation by encouraging adherence to agency values and norms. Thompson (1976), for example, contends that minorities rising to higher-level jobs within government agencies may be less likely than street-level bureaucrats to engage in any form of active representation because of the amount of time (corresponding to increased socialization) needed to ascend to such positions. The assumption is that agency norms and beliefs will eventually supersede individual values and beliefs. Wilkins and Williams (2008) found that a higher proportion of African Americans in law enforcement agencies actually increased the incidence of racial profiling. The authors hypothesize that agency socialization interferes with the link between passive and active representation. Contrarily, Selden's (1997) study linking minority representation to loans granted by the Farmers Home Administration provides evidence that agency socialization processes do not diminish the role of demographic background in influencing an individual's values and beliefs. Instead, the study suggests that some minority individuals perceive their role at the agency to include advocacy for minority rights.

In many ways, our study is a test of Thompson's hypothesis. Our focus is on minority representation in senior executive positions in federal agencies. We measure demographic representation at this level because professional and agency socialization should be at its strongest, presumably countering the effects of socialization derived from demographic background. Accordingly, we suggest that a positive relationship between minority representation in senior executive positions and the level of contracting with small disadvantaged businesses constitutes a more difficult test of the theory of representative bureaucracy. Moreover, our study helps to shed light on the role of diversity—especially in leadership positions—in *shaping* an organization's shared beliefs, values, and priorities, since minority representation in senior executive positions may lead to an increased awareness and willingness to participate in the federal programs established to help minority contractors. In the next section, we review these federal programs.

Federal Contracting and Minority-Owned Firms

The federal government created two programs to help small disadvantaged businesses (i.e., small businesses owned by members of socially and economically disadvantaged groups) gain a toehold in the lucrative world of federal procurement: the Small Disadvantaged Business (SDB) Certification Program and the Section 8(a) Program. These two programs represent an attempt to institutionalize social equity in government procurement of goods and services. The eligibility criteria for these two programs are listed in the appendix. Small Business Administration (SBA) representatives in federal agencies and the heads of procurement departments in these agencies work cooperatively to implement these two programs.

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The SDB Certification Program pertains strictly to benefits offered by the federal government to small disadvantaged businesses competing for federal contracts. From October 1998 through December 2004, the SDB Certification Program offered two benefits to qualifying small disadvantaged businesses competing for federal contracts: the price evaluation adjustment (PEA), and the evaluation factor or subfactor. The PEA was a 10 percent price benefit given to qualifying firms bidding as prime contractors on procurements when there was a competitive acquisition over the simplified acquisition threshold of $100,000 and when the three-digit NAICS subsector for the prime contract was one in which the U.S. Department of Commerce had authorized the use of this benefit (FAR Subpart 19.11).[3] The regulations identify a number of exceptions to the use of the PEA by federal agencies.[4] A change in policy occurred in December 2004, when federal civilian agencies were denied the authority to use the PEA. Later in 2005, the U.S. Department of Defense amended the Federal Acquisition Regulation to cancel use of the PEA in that department.

The second benefit offered to small disadvantaged businesses qualifying for the SDB Certification Program is the evaluation factor or subfactor. Effective January 1, 1999, federal procurement regulations authorize agencies to grant qualified prime contractors a credit when proposing to use small disadvantaged businesses as subcontractors (FAR Subpart 19.12). This credit, known as the evaluation factor or subfactor, is given to all firms serving as prime contractors, including small disadvantaged businesses. The contracting officer for the agency has discretion in how much weight to apply to proposed participation by small disadvantaged businesses. The general rule is for the contracting officer to award the highest points to the prime contractor with the most dollars targeted to small disadvantaged businesses in the authorized three-digit NAICS subsectors. The evaluation factor applies only to competitive negotiated acquisitions of more than $500,000, or $1,000,000 in construction.[5] Prior to 2005, small disadvantaged businesses bidding as prime contractors were allowed to select this benefit instead of the PEA; they could not receive both.[6]

The Section 8(a) Program is the second federal program designed to assist small disadvantaged businesses compete for government contracts. Under the Section 8(a) Program, the SBA provides business development support to qualifying small disadvantaged businesses, including mentoring, procurement assistance, business counseling, training, financial assistance, surety bonding, and other management and technical assistance. In addition, Section 8(a) authorizes federal agencies to set aside acquisitions just for Section 8(a)–qualifying firms. The program also allows the SBA to enter into contracts with federal agencies and then subcontract the work to small disadvantaged businesses that are eligible under Section 8(a).

According to FAR Subpart 19.8, SBA staff and agency procurement officials are to work cooperatively to identify agency acquisitions that will be set aside for Section 8(a) businesses acting either as subcontractors for the SBA or prime contractors for the agency. The SBA may ask an agency to conduct a broad search for acquisition opportunities for a specific Section 8(a) qualified firm, or it may identify a specific acquisition requirement in an agency and ask the agency to offer the acquisition to a particular Section 8(a) firm. Moreover, agency procurement officials can and often do initiate the process themselves by identifying an acquisition requirement and then either offering it directly to a particular Section 8(a) firm on a sole-source basis or setting the acquisition requirement aside for competition only among Section 8(a) firms. Agency procurement officials can award contracts to Section 8(a) firms without competition (i.e., on a sole-source basis) for acquisitions that exceed the simplified acquisition threshold (usually $100,000) and those that are less than $5.5 million for manufacturing or less than $3.5 million for nonmanufacturing industry codes. Acquisitions above the threshold must be set aside for competition among Section 8(a) firms.[7]

Since 1998, the SBA, through a series of memoranda of understanding, has granted federal agencies considerable discretion to contract directly with Section 8(a) firms. These memoranda delegate contract execution responsibility to the agencies and require them to monitor certain requirements of the contracts. However, before the final awarding of contracts, agencies must seek and receive final approval from the relevant SBA district office. This increased authority, particularly in regard to the awarding of sole-source contracts to

Section 8(a)–eligible firms, offers agencies considerable flexibility to streamline the acquisition process and establish long-term relationships with Section 8(a) firms (Staresina 2005).

Public Procurement and Administrative Discretion

Active representation is more likely to occur in policy areas where public managers are granted a significant amount of administrative discretion. Today, federal procurement policy, enshrined in the Federal Acquisition Regulation, has become highly formalized. Despite the abundance of rules and regulations that federal officials must follow in order to procure goods and services, however, ample opportunities remain for the exercise of administrative discretion, including discretion in awarding contracts to small disadvantaged businesses.

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The procurement of goods and services under the Section 8(a) Program appears to create the greatest opportunity for active representation to occur. This program grants federal officials broad discretion in setting aside certain acquisitions for small disadvantaged businesses that are eligible under Section 8(a). Agency officials can procure goods and services under this program on a sole-source basis or by setting aside the acquisition for competition among only small disadvantaged businesses. Either type of acquisition—sole source or competitive among Section 8(a) firms—ensures that the contract will be awarded to a small disadvantaged business. Although the final awarding of a contract to a Section 8(a) eligible firm must be approved by the SBA, federal acquisition regulations state that, as a general rule, the SBA will accept the agency's recommendation for a contract award to a Section 8(a) firm (FAR 19.804-3).

Compared to set-asides, competitive acquisitions involving firms that are eligible for the SDB Certification Program provide fewer opportunities for the exercise of administrative discretion in the awarding of contracts. Competitive acquisitions are conducted either through competitive sealed bidding or competitive negotiations. Competitive sealed bidding limits administrative discretion by requiring public managers to evaluate bids on the basis of price, a highly objective decision criterion. Bids are submitted in a sealed envelope and opened at a preannounced public gathering. However, this procurement method still allows federal officials to exercise some discretion in making the final determination about contract award. The winning firm must not only offer the lowest price, but must also be deemed responsive and responsible by federal officials, a process that requires a reasonable amount of judgment and discretion on the part of federal officials, allowing for active representation to occur.[8] Federal officials also have the authority to cancel the acquisition altogether or disqualify a firm that offers an unreasonable price.

In an effort to achieve "best value" in the procurement of goods and services, federal agencies are using competitive negotiations with increasing frequency. This procurement method requires firms to submit proposals, including a technical proposal for meeting the federal agency's requirements. Proposals are assessed in terms of a range of evaluation criteria, including price but also past performance, technical excellence, management capability, personnel qualifications, and prior experience (FAR Part 15). By considering criteria other than price, this approach aims at achieving the federal government's need for goods and services that are of high quality and that are reasonably priced. Evaluating a technical proposal often involves considerable judgment on the part of federal officials, especially when evaluating aspects of quality, such as past performance, technical excellence, and management capacity, that can be ambiguous and difficult to measure. Competitive negotiations also allow federal officials latitude in negotiating with multiple providers the content of their proposals. Therefore, the administrative discretion involved in evaluating and negotiating proposals creates significant opportunities for active representation to occur in the awarding of federal contracts to small disadvantaged businesses.

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Data and Measures

Our empirical analysis relies on federal-level data obtained from three sources. We use contract award data collected from the Federal Procurement Data System (FPDS) to measure our dependent variables. The FPDS was established in 1978 for the purpose of promoting transparency in federal procurement. It has since been transformed into an open database accessible to the public via the Internet. In addition, we use data from the U.S. Office of Personnel Management and the Office of Federal Procurement Policy to measure our primary independent variables and controls. Together, the data set consists of a pooled cross-section of 150 observations from the three-year period from 2004 to 2006.[9] The unit of analysis is the federal agency. Our observations include nearly all cabinet-level departments and most of the larger independent agencies in the federal bureaucracy.[10]

Dependent Variables

We measure our dependent variables, *SDB* and *S8A*, as the proportion of an agency's contracts awarded to firms participating in the SDB Certification Program and the Section 8(a) Program, respectively. On average, the proportion of agency contracts with firms participating in the SDB program is roughly 9 percent, and the proportion of contracts with qualified Section 8(a) firms is slightly more than 3 percent (see table 1). Our independent variables are measured using data from the year prior to the year of the dependent variable in order to establish a more plausible cause and effect relationship.

Representation

Our main independent variable, *MINORITY*, is constructed by computing the percentage of minority individuals in senior executive leadership positions by agency. The logic of using percentages—as opposed to the total number of minorities—is to enable us to make reasonable comparisons across agencies. On average, minorities occupy nearly 15 percent of the senior executive leadership positions in the agencies included in the analysis.

Controls

While our analysis is not focused directly on gender representation, there is reason to believe that agencies with a larger percentage of women in leadership positions may be more inclined to contract with socially and economically disadvantaged businesses given the difficulties they may have experienced en route to their high-level positions. We include the variable *FEMALE*, which represents the percentage of females in senior executive leadership positions for each agency.

We recognize that some agencies may be more open to contracting with small disadvantaged businesses because of the nature of their missions, the different goals they set, ex ante, and the different levels of program institutionalization within each agency. To capture these effects, we include three additional variables: *SOCIAL*, *GOAL*, and *OFFICE*. First, the variable *SOCIAL* refers to the proportion of the agency's total outlays spent to redress social injustices.[11] We include this variable in order to control for the fact that some agencies may be more willing to contract with socially disadvantaged businesses, in general, because it is more in line with the agency's mission (see Cornwall and Kellough 1994). Without accounting for this fact, our causal explanation could be construed as spurious. Second, we include the *GOAL* variable to control for the different goals that each agency sets for contracting with small disadvantaged businesses.[12] Presumably, agencies that set higher initial goals may be more likely to contract with SDB Certification and Section 8(a) firms. Third, some agencies have an SBA office housed within the agency to oversee the small disadvantaged business program. It is reasonable to assume that agencies with an SBA office will be more likely to recognize, as well as prioritize, opportunities to contract with small disadvantaged businesses. To account for this possibility, we include the dichotomous variable *OFFICE* (presence of an SDB office = 1).

Finally, we add a series of control variables to account for agency heterogeneity in general. First, we include two variables, *BUDGET* and *EMPLOYEES*, to control for size differences between the agencies.[13] Second, cabinet-level agencies may be more highly scrutinized in procurement because of their relative closeness to the executive. Depending on the priorities of the administration in power, however, cabinet-level secretaries may emphasize or deemphasize contracting with socially and economically disadvantaged businesses. To account for this possibility, we include the dichotomous measure *CABINET* (1 = cabinet-level agency). Finally, we include the dummy variables *2004* and *2005* (2006 base case) to control for the possibility of serial correlation (see table 1).

Table 1 Descriptive Statistics

Variable	Obs	Mean	S.D.	Min	Max
SDB (proportion of all contracts)	124	0.093	0.083	0	0.518
S8A (proportion of all contracts)	124	0.031	0.045	0	0.278
MINORITY (% of SES)	150	14.623	14.864	0	100
WOMEN (% of SES)	150	27.142	11.903	0	75
OFFICE	150	0.467	0.501	0	1
SDBGOAL	123	5.553	4.782	1	24.560
S8AGOAL	123	4.619	3.304	1.230	20
SOCIAL	142	0.330	0.446	0	1
BUDGET (ln, $)	150	13.057	4.718	0	20.181
EMPLOYEES (ln)	150	7.897	2.618	2.773	13.407
CABINET	150	0.293	0.457	0	1
2003	150	0.213	0.411	0	1
2004	150	0.367	0.484	0	1
2005	150	0.420	0.495	0	1

Model and Methodology

The empirical specification for our analysis is relatively straightforward. We are testing the impact of minority representation in leadership positions on the level of contracting with SDB Certification and Section 8(a) firms in federal agencies. More formally,

$$SDB = \beta_0 + \beta_1 MINORITY + \beta_{2\ldots n}\, CONT + \varepsilon \qquad (1)$$

$$S8A = \alpha_0 + \alpha_1 MINORITY + \alpha_{2\ldots n}\, CONT + \varepsilon \qquad (2)$$

where *SDB* and *S8A* are the proportions of an agency's total contracts awarded to SDB Certification and Section 8(a) businesses, respectively; *MINORITY* is the percentage of minorities in leadership positions for each agency in the year prior to the contract awards; and *CONT* represents the set of control variables from the year prior to the contract awards. Because each program has its own rules and implementation system, the programs are modeled separately.

The dependent variables used in this analysis are the proportions of contracts awarded to firms qualifying for the SDB Certification and Section 8(a) programs. Researchers often utilize ordinary least squares (OLS) regression to estimate the effect of covariates on proportions (see Paolino 2001). The problem with such an approach is that proportions violate several of the assumptions underlying OLS estimation. First, proportions are not normally distributed because they are not defined over the domain of the normal distribution. Second, because proportions are observed on a closed interval, the conditional expectations function is nonlinear. Third, the variance will be heteroscedastic because of the bounded nature of the interval (Kieschnick and McCullough 2003; Paolino 2001). Finally, and perhaps most importantly, OLS regression is likely to predict values outside the (0, 1) interval, an occurrence similar to the linear probability model for binary data.

To correct for these violations, some researchers have transformed the dependent variable using a log-odds ratio:

$$\ln\left[\frac{Y}{(1-Y)}\right] \qquad (3)$$

The utility of the log-odds ratio is that it can take on a real value as the dependent variable varies between 0 and 1. As such, linear estimation—like OLS—makes sense. One drawback of the approach described by equation 3, however, is that log-odds transformation is not possible when the observed value of y takes on either of the boundary points, 0 or 1. Therefore, it is necessary to make an adjustment to these observed values prior to transforming the dependent variable.

Because some of the observations for our dependent variables are zeros, we are less inclined to follow the traditional log-odds ratio transformation. An alternative solution is to follow Papke and Wooldridge (1996), who suggest quasi-maximum likelihood estimation using a fractional logit technique. The utility of the fractional logit technique is that all of the predicted values of y fall in the interval (0, 1). Moreover, the observed values 0 and 1 are included in the analysis without having to adjust the observations prior to estimation, a situation that often leads to clumsy post estimation interpretations. In practical terms, the fractional logit is estimated by using a generalized linear model (family—binomial, link—logit). The estimation is based on the following functional form:

$$E(y|X) = G(X\beta) = \frac{\exp(X\beta)}{[1+\exp(X\beta)]} \quad (4)$$

where G is a function that ensures that all of the predicted values lie within the expected interval (0, 1).

Results

To begin, we provide a correlation matrix of the interval-level variables to provide some initial support for our main hypothesis (see table 2). Our main independent variable, *MINORITY*, is positively correlated with both the proportion of contracts awarded to SDB Certification businesses and the proportion awarded to Section 8(a) businesses ($p < 0.01$ and $p < 0.05$, respectively).[14] Table 3 presents the results of the fractional logit estimation using a generalized linear model. The first set of regressions (1 and 2) present the results of a more parsimonious model that includes the representation variables and a limited set of controls that capture the different missions, goals, and institutional variation between the agencies. The second set of regressions (3 and 4) is a more fully specified model that includes controls to capture additional—less theoretically driven—heterogeneity. We find support across each of the specifications for our primary hypothesis: increased minority representation in agency leadership positions increases the proportion of contracts awarded to small disadvantaged businesses. Specifically, the coefficient for *MINORITY* is positive and statistically significant ($p < 0.01$) in both sets of regressions (see table 3).

While not the primary focus of our analysis, a discussion of the control variables is interesting and warranted. We find that agencies that have an SBA office on site to implement the SDB Certification and Section 8(a) programs are more likely to contract with small disadvantaged businesses. Having SBA representatives working in close proximity with agency personnel may facilitate cooperation among actors implementing these programs, making it easier for them to identify contracting opportunities with small disadvantaged businesses. In addition, the presence of an SBA office on site may allow SBA officials to be more directly involved in the implementation of these two programs and to ensure that they are implemented faithfully. Next, we find that the goals that agencies set for awarding contracts to Section 8(a) firms have a positive effect on the proportion of contracts awarded to such firms. However, the agency's goal for awarding contracts to firms qualifying for the SDB program has no statistically significant effect on contracting decisions. These results are not entirely surprising given that agencies are allowed to set aside contracts for Section 8(a) firms, but not SDB firms, making it easier for agencies to achieve goals for the Section 8(a) program. A somewhat more surprising finding is that, with the exception of regression 1 (the parsimonious SDB specification), agencies with more socially driven missions (i.e., more money spent to redress social injustices) are not more likely to contract with small disadvantaged firms.

Turning to the other control variables, we find marginal support for the proposition that cabinet-level agencies tend to contract more with SDB Certification firms. The coefficient for this variable is positive and statistically significant ($p < 0.05$), but only in the Section 8(a) equation. Interestingly, the size of an agency (*EMPLOYEES*) has a negative and statistically significant effect on the proportion of contracts awarded to SDB Certification and Section 8(a) firms. The results suggest that larger federal agencies generally do less contracting with small disadvantage businesses, perhaps because they make larger purchases that are beyond the capacity of the typical small firm. Finally, the *FEMALE* variable is statistically significant and negative in each of the regressions. While this finding is certainly intriguing, it is difficult to account for the multiple identities (i.e., female *and* minority) of female leaders, which could lead to erroneous conclusions. However, the possibility that women and minorities may be in competition for contracts warrants future research.

We report the marginal effects in table 4 in order to render the results more substantively significant. The model predicts that roughly 8.7 percent of an agency's contracts will be awarded to SDB Certification firms, and that 1.9 percent will be awarded to Section 8(a) firms when all of the independent variables are held at their means. As illustrated in table 4, the marginal effect of a 10 percent increase in minority representation is a 3.5 percent increase in an agency's contracts awarded to SDB Certification firms, on average. While this is a seemingly small increase, a move from 8.7 percent to 12.2 percent (8.7 percent plus the marginal effect of 3.5 percent) is

Table 2 Correlation Matrix

	Variable	1	2	3	4	5	6	7	8	9
1	*SDB*	1								
2	*S8A*	0.886	1							
3	*MINORITY*	0.330	0.364	1						
4	*FEMALE*	−0.110	−0.128	0.306	1					
5	*SDBGOAL*	0.064	0.051	0.256	−0.015	1				
6	*S8AGOAL*	0.359	0.318	0.366	0.017	0.420	1			
7	*SOCIAL*	0.162	0.139	0.049	0.120	0.072	0.121	1		
8	*BUDGET(ln)*	0.228	0.241	0.240	−0.192	0.093	0.195	0.226	1	
9	*EMPLOYEES(ln)*	0.122	0.212	0.137	−0.378	0.072	0.245	−0.051	0.607	1

Table 3 Results of Generalized Linear Model (Fractional Logit) Estimation, Dependent Variable = Proportion of Contracts Awarded to Small Disadvantaged Businesses

	(1)	(2)	(3)	(4)
	SDB	S8A	SDB	S8A
MINORITY	0.041	0.077	0.045	0.074
	[3.16]***	[5.51]***	[3.68]***	[6.79]***
WOMEN	–0.037	–0.075	–0.051	–0.096
	[3.28]***	[4.27]***	[4.14]***	[5.31]***
OFFICE	0.338	1.388	0.552	1.726
	[1.71]*	[4.99]***	[2.06]**	[5.57]***
SOCIAL	0.36	0.271	0.268	0.176
	[1.97]**	[1.20]	[1.44]	[0.82]
SDBGOAL	–0.01		-0.01	
	[0.59]		[0.58]	
S8AGOAL		0.073		0.103
		[3.35]***		[5.30]***
BUDGET (ln)			0.024	0.007
			[0.66]	[0.17]
EMPLOYEES (ln)			–0.198	–0.323
			[2.89]***	[3.58]***
CABINET			0.335	0.672
			[1.52]	[2.41]**
CONSTANT	–2.14	–4.216	–0.627	–1.406
	[6.23]***	[7.39]***	[1.02]	[1.87]*
Observations	110	110	110	110

Robust z statistics in brackets
* Significant at 10%; ** significant at 5%; *** significant at 1%.
Note: Dummy variables for the years 2004 and 2005 are included in each specification (base case = 2003)

Table 4 Marginal Effects of Coefficients (Table 3, regressions 1 and 2)

	SDB		*S8A*	
	dy/dx	S.E.	dy/dx	S.E.
MINORITY	0.358	0.098	0.140	0.018
WOMEN	–0.420	0.091	–0.182	0.028
OFFICE*	4.200	1.882	3.01	0.565
SOCIAL	0.021	0.015	0.335	0.409
SDBGOAL	–0.080	0.139		
S8AGOAL			0.196	0.037
BUDGET (ln)	0.190	0.288	0.014	0.085
EMPLOYEES (ln)	–1.579	0.536	–0.615	0.177
CABINET*	2.754	1.838	1.388	0.630

*Discrete change from 0 to 1.
** The marginal effects have been multiplied by 100 to aide in interpretation; thus the reported coefficients represent percentage changes as opposed to changes in the proportion.

equivalent to roughly a 40 percent change in the awarding of contracts to firms qualifying for the SDB Certification Program. Moreover, because many agencies award thousands of contracts in any given year, that 3.5 percent increase can represent a substantial number. The Section 8(a) Program represents a much smaller percentage of total federal contracts, making it more difficult to put these results into context. Based on marginal effects, a 10 percent increase in minority representation will result in a 1 percent increase in an agency's contracts that are awarded to Section 8(a) firms. Despite the fact that increasing the overall predicted value of 1.9 percent by 1 represents a sizable change (roughly 50 percent), the scale is so low as to render such a comparison misleading.

> Many good ideas in public organizations go undeveloped because they deviate from the normal ways of doing things.

We were able to determine that in fiscal year 2005, 80 federal agencies made a total of 2,183,967 contract awards, for an average of 27,300 contract awards per agency. Our model predicts that a 10 percent increase in minority representation results in a 3.5 percent increase in an agency's contracts that are awarded to SDB Certification firms; this translates into an average increase of 830 additional contracts awarded to SDB Certification firms. Because the average dollar amount per contract awarded to a small disadvantaged business was $146,187 in fiscal year 2005, a 10 percent increase in minority representation results in an increase of $139,681,679 awarded by an agency, on average, to small disadvantaged firms participating in the SDB Certification Program. A 10 percent increase in minority representation will result in a 1.0 percent increase in an agency's contracts that are awarded to Section 8(a) firms; this translates into 273 additional contracts awarded to Section 8(a) firms. Using the same average of $146,187 per contract awarded to a small disadvantaged business in fiscal year 2005, a 10 percent increase in minority representation results in an increase of $39,909,051 awarded by an agency, on average, to small disadvantaged firms participating in the Section 8(a) Program. Insofar as these are only averages, the amount of additional dollars paid to small disadvantaged firms by a particular agency will vary considerably. Nevertheless, our estimates indicate that the substantive effect of increasing minority representation is far from trivial and for many federal agencies represents an increase of tens of millions of dollars paid out to small disadvantaged firms.

Discussion and Conclusion

In this article, we find evidence that minority representation in senior executive positions in federal agencies increases the amount of contracting with small disadvantaged businesses. This is an important finding, as small disadvantaged businesses qualifying for the SDB Certification and Section 8(a) programs are minority-owned firms. Accordingly, this article represents a first test of representative bureaucracy as it relates to federal procurement. We believe that this finding is substantively significant given that nearly $400 billion is awarded to contractors by the federal government; even small increases in minority representation among senior executives can result in millions of additional dollars paid out to small disadvantaged firms. In predominantly minority communities, these federal dollars may help open the door to more business development and activity which could, in turn, have a positive impact on the community as a whole.

The primary assumption underlying research on representative bureaucracy—including this study—is that bureaucrats have considerable discretion in their actions. The theory holds when minority bureaucrats exercise their discretion to the benefit of individuals of similar minority status. On the flip side of the same general argument, Meier (1993) and others have argued that active representative bureaucracy is less likely in highly institutional environments where managers' hands are tied by rules and regulations. In this study, we examine a context that does not fit neatly into either domain. As we have pointed out, bureaucrats do have discretion in awarding contracts, even in competitive acquisitions. Despite this fact, it is also clear that the federal government has developed a procurement system specifically designed to limit subjective judgment by managers in an effort to protect against corruption and to promote equity (Cooper 2003).

We believe that by examining the representation of senior executives, we are not only relating minority representation to discretion, but also examining how diversity in leadership positions helps shape the priorities of individual agencies. In other words, the actions of minority leaders may also affect the discretionary actions of street-level bureaucrats. Previous researchers have hypothesized that high-level managers are socialized by the agency over time and thus lose their willingness or inclination to represent minority groups in the public (Thompson 1976). The results of this study suggest the opposite—that minority leaders may well maintain their beliefs and values throughout agency socialization, and may even alter the values and priorities of the organization in the process. Consequently, our research stands in contrast to similar studies in education, where the minority representativeness of principals (managerial representation) is less important than the representativeness of teachers (street-level representation) in determining performance of minority students (see Meier 1993; Pitts 2007).

While we find that increasing minority representation at the senior executive level helps to promote equity in government contracting, it is not the only lever available to policy makers who are interested in promoting this value. Equity in contracting can be advanced further by establishing within agencies an SBA office responsible for overseeing the implementation of small disadvantaged business programs, as well as by setting goals that encourage bureaucratic behavior in the desired policy direction. This is a finding of significance to states and localities that have established their own programs for promoting contracting with small disadvantaged businesses. A related question worth exploring is whether the influence of minority representation on contracting decisions is greater at the state and local levels than at the federal level. We have reason to believe that indeed it would be, given that many state governments and localities have less formalized procurement processes that should grant greater bureaucratic discretion and create additional opportunities for active representation to occur.

A primary limitation of this study is our inability to disaggregate the proportion of contracts to individual minority groups. Because of our inability to make direct comparisons between the percentage of African American representation, for example, and the number of contracts awarded to African American businesses, we have to rely more heavily on comparing aggregate minority representation to an aggregate measure of the number of contracts awarded to minorities. By doing so, we are implicitly assuming that minority preferences are somewhat homogenous and that one minority community will act in the best interest of another minority community. On its face, this seems like a reasonable assumption; but even a cursory analysis of recent election data tends to disavow this notion. Despite this limitation, we believe that, overall, minority representation is a useful variable, especially at the senior executive level. It may be that higher-level officials have no choice but to diffuse their values and beliefs across a broader plane because of the rank of their position. Using discretion to help minority groups, in general, may be the most effective avenue to benefiting their own demographic group because of the more visible and institutionalized environment in which senior executive in the federal government operate.

In September 2008, the SBA suspended the receipt of new applications for the SDB Certification Program. This was the result of many civilian agencies refusing to pay for the SDB Certification process in light of their inability to apply the price evaluation adjustment. Two months later, the ruling of the U.S. Court of Appeals for the Federal Circuit in *Rothe Development Corp. v. Department of Defense, No. 2008–1017* challenged the constitutionality of the PEA. Given these developments and the fact that most federal agencies were meeting their SDB goals without much use of the PEA before 2004, the future of the SDB Certification Program

Appendix 1 Eligibility Criteria for the Small Disadvantaged Business Certification and Section 8(a) Programs

Small Disadvantaged Business Certification Program	Section 8(a) Program
• Firm must be at least 51 percent owned and controlled by a socially and economically disadvantaged individual or individuals, including African Americans, Hispanic Americans, Asia-Pacific Americans, Subcontinent Asian Americans, and Native Americans. Other individuals can also qualify if they can show a "preponderance of evidence" that they are disadvantaged.	• Firm must be a small business with at least 51 percent ownership by a socially and economically disadvantaged individual or individuals.
• Owners of the firms must have a net worth of less than $750,000, excluding the equity of the business and primary residence.	• Firm must have been in business for at least two years and must demonstrate a reasonable prospect for success.
• Firm must meet the standard for the size of small businesses in their industry.	• Owners of the firms must have a net worth of less than $250,000, excluding the equity of the business and primary residence.
• Qualifying firms can participate in the program for a maximum of three years.	• Firm must meet the standard for the size of small businesses in their industry. • Qualifying small disadvantages businesses can participate in the program for up to nine years. • All firms eligible under Section 8(a) automatically qualify for SDB certification.

appears to be in doubt. It is also unclear how this affects the Section 8(a) Program and all other federal procurement set-asides. What is clear, however, is that the evolution of federal procurement policy in the coming years will create valuable opportunities for studying the effects of active representation on federal contracting decisions.

Notes

1. Mosher (1982) suggests that nonappointed agency employees are three steps removed from direct participative democracy. Following this logic, nongovernmental agents of the state are four steps removed.
2. The link between gender representation and active representation has also been examined, but the findings have been less consistent when compared to minority representation (see Kaiser et al. 2002; cf. Meier and Nicholson-Crotty 2006).
3. The price benefit entailed adding up to 10 percent to the price of bids and offers received from firms that did not qualify for the SDB Certification Program but that where competing with qualifying firms for the same acquisition. Small disadvantaged businesses that received the PEA and went on to win contract awards were subject to the "limitations in subcontracting" rule and had to perform no less than the following percentages of the contract itself: 50 percent for supplies and services, 15 percent for general construction, and 25 percent for special trade construction.
4. The PEA could not be used for acquisitions in which price was not a selection factor, acquisitions in which all fair and reasonable offers were accepted, and acquisitions in which the use of PEA would have caused the award to be made at a price exceeding the fair market price by more than 10 percent. In addition, the PEA could not be used in noncompetitive acquisitions, especially set-aside acquisitions for small businesses, HUBZone small businesses, service disabled veteran–owned small businesses, and Section 8(a)–qualifying small disadvantaged businesses.
5. Exceptions to the use of the evaluation factor include sealed bidding, small business and Section 8(a) set-aside acquisitions, contracts performed entirely outside the United States, and negotiated acquisitions in which the "lowest price, technically acceptable" source selection process is used.
6. A small disadvantaged business waiving the PEA and seeking evaluation credit for proposed small disadvantaged business participation would receive credit for any work in the targeted NAICS subsectors that it proposed doing in house and/or that it proposed subcontracting to other small disadvantaged businesses.
7. The competitive threshold can be waived by the SBA's associate administrator for the Section 8(a) Program if agency procurement officials can justify that there is not a reasonable expectation that at least two Section 8(a) firms will compete for the contract.
8. A responsive bid is one that complies in all respects with the invitation to bid, including being complete, in the correct format, without errors, and submitted on time (FAR Subpart 14.3). Responsible bids are those that demonstrate that the bidder has the capacity to perform the work requested by the agency (FAR Subpart 9.1). A responsible bid demonstrates that the provider has the technology, production capacity, and human and financial resources to perform the work satisfactorily and that it has integrity, experience, and a good reputation.
9. Because of missing data on the dependent variables, our final analysis includes 110 observations.
10. Of the 63 agencies included in the analysis, 30 agencies have observations for all three years, 27 have observations for 2005 and 2006, and 3 have observations for only 2006.
11. We constructed the *SOCIAL* variable using 2003 fiscal expenditure data from obtained from the Office of Personnel Management. First, we aggregated the following six outlay categories: (1) community and regional development; (2) education, training, employment, and social services; (3) health; (4) Medicare; (5) income security; and (6) social security. Next, we divided this aggregate total by the total of all outlays, thus calculating the proportion of all outlays going to these six categories. Our strategy is similar to that of Cornwall and Kellough (1994).
12. There are actually two goal variables—the SDB Certification goal and the Section 8(a) goal—depending on the program.
13. We take the natural log of *BUDGET* and *EMPLOYEES* so that they will be more normally distributed.
14. For our dichotomous variables (*OFFICE* and *CABINET*), we ran independent sample *t*-tests with the dependent variables. In each case, the mean proportion of contracts (*SDB* and *S8A*) was higher for agencies with an SBA office and cabinet-level agencies.

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