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The Impact of Contract Bundling on Small Business FY 1992 - FY 1999

*A report by Eagle Eye Publishers, Inc. to the
U.S. Small Business Administration's Office of Advocacy*

**The Impact of Contract Bundling on Small Business
FY 1992 – FY 1999**

**A Report Prepared for the
U.S. Small Business Administration's
Office of Advocacy
Under Contract #SBAHQ 97 M 0861**

by Eagle Eye Publishers, Inc., Fairfax, Virginia

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EXECUTIVE SUMMARY

The increasingly common practice of contract bundling is accelerating the concentration of larger and fewer federal contracts into the hands of larger and fewer companies. As this happens, the small business share of federal dollars is stagnating well below established agency small business contracting goals. Small businesses, unable to compete for larger contracts, are leaving the federal marketplace in increasing numbers.

Since FY 1995, the start of the new era of procurement reform, the share of all contracts that are bundled has risen 27.6 percent. The FY 1999 prime contract bundled dollar total of \$79 billion was the highest level in the last eight years. This total represented 43 percent of all prime contract dollars in FY 1999, also the highest level in eight years. Over the life of contracts active between FY 1989 and FY 1999, the average size of a bundled contract was \$8 million, or 11 times the size of an average unbundled contract. The average annual size of a contract, whether bundled or unbundled, has increased 21 percent in the last eight years.

In FY 1999, large businesses received 67 percent of all prime contract dollars and 74 percent of all bundled dollars. Small, Disadvantaged Businesses (SDBs) and Other Small Businesses (OSBs) received a combined 18.7 percent of all prime contract dollars, up just 2 percent since FY 1995 and a full 4.3 percentage points below the 23 percent small business contracting goal set by the U.S. Small Business Administration. At the same time, the small business share of bundled contracts stands at 15.7 percent, 19 percent below the small business share of all contracts. Overall, between FY 1989 and FY 1999 small businesses received 15 percent of all contract dollars, 23 percent of unbundled contract dollars, but only nine percent of bundled contract dollars, on average.

As a result of these trends, 36 percent of all small business contract dollars were awarded on bundled contracts in FY 1999, yet only a handful of small firms actually benefited. Just 16 percent of the small businesses that won bundled contracts in FY 1999 accounted for 84 percent of all small business bundled contract revenue. The five largest small business bundled contract recipients alone accounted for \$721 million, or six percent of all small business bundled dollars.

A regression showed that for every increase of 100 bundled contracts there was a decrease of 106 contracts to small business; and for every additional \$100 awarded on bundled contracts there was a decrease of \$33 to small business. At a level of \$79 billion in FY 1999, bundled contracts cost small businesses \$26 billion annually. This is driving small businesses from the federal marketplace.

The two market sectors fueling the growth in bundled contracting, Other Services (OS, excluding R&D) and Construction saw their small business participation rates fall while the two sectors that experienced drops in bundled contracts, Research and Development (R&D) and Manufacturing, saw their rates of small business participation rise. Between FY 1992 and FY 1999, Construction sector bundled dollars grew 170 percent to \$3.5 billion while OS bundled dollars grew 45 percent to \$33.2 billion. Yet the number of small businesses in the Construction sector fell 44.2 percent and the number of OS small businesses fell 4.9 percent. On the other hand, the R&D and Manufacturing sectors experienced a combined 15.1 percent decline in bundled dollars and a 3.2 percent rise in the number of small businesses.

The Department of Defense (DoD) still accounts for 82 percent of all bundled dollars, but civilian agencies are making increased use of bundled contracts. The Civilian agency share of all bundled dollars grew 28 percent between FY 1992 and FY 1999 to \$14.3 billion, the highest level in eight years. The General Services Administration (GSA) leads all civilian agencies in awarding bundled contracts (\$1.7 billion), followed by the Treasury Department (\$1.2 billion), The Justice Department (DOJ, \$924 million) and the Department of Veterans Affairs (\$697 million). Several civilian agencies, including Education (DED), the Office of Personal Management (OPM) and the Federal Emergency Management Agency (FEMA) awarded more than 10 times the number of bundled contract dollars in FY 1999 than they did in FY 1992.

Of the three major DoD bureaus, only the Army has grown their use of bundled contracts significantly. At \$15.8 billion, the Army's FY 1999 bundled dollar total is up 22 percent since FY 1992. The Navy leads all DoD bureaus in the awarding of bundled contracts with a \$22 billion total, however it is only 2 percent higher than Navy's FY 1992 bundled dollar total. The Air Force follows the Navy at \$18.8 billion, but the AF total is down 24 percent over eight years. Among the fastest growing users of bundled contracts at DoD are the Special Operations Command (USSOC, up 8,745 percent since FY 1992), the Defense Mapping Agency (DMA, up 913 percent), The CHAMPUS health organization (up 209 percent) and the Defense Logistics Agency (DLA, up 193 percent).

Taken as a whole, this study demonstrates that the practice of bundling is growing and that the negative impacts on small business are substantial. The diminishing diversity of the federal industrial base that contract bundling is fueling will have long term and detrimental consequences to the government's ability to procure needed services and supplies at competitive prices.

Recommendations

Some specific policy recommendations to address the problems bundled contracts pose to small business include:

1. Require more unbundled bidding opportunities for small businesses.
2. Fund agencies with sufficient budget resources to support adequate numbers of procurement personnel to handle larger numbers of solicitations and small business bidders.
3. Adopt a standard definition of contract bundling for all agencies.
4. Monitor contract bundling and its impact on small businesses more closely. Steps would include:
 - Require quarterly agency bundled contract reports detailing the distribution of bundled contracts and bundled contract dollars
 - Monitor bundled contract reporting requirements with FPDC data
 - Hold regular hearings and conferences on the topic of bundling to collect anecdotal information from small businesses
 - Restrict agency funds for those agencies not meeting bundled contract reporting requirements
5. Prohibit bundling under certain conditions, such as when certain kinds of goods and services are being procured, or when agency small business goals have not been met.
6. Publicize justifications for substantially-sized bundled contracts and solicit responses to the justifications from the contracting community. Elevate the justifications to the status of those required under OMB Circular A-76, which requires a rationale for contracting out in the first

place.

7. Set aside certain percentages of bundled contracts for small business.
8. Permit small businesses more time to respond to solicitations for bundled contracts in order to allow them more time to form ad hoc teams. Include a solicitation's due date in the justification for bundling.
9. Actively assist small businesses in identifying and qualifying teaming candidates for pursuing bundled contract opportunities.
10. Strictly enforce agency small business contracting goals.
11. Broaden existing definitions of bundling to include the accretion of dissimilar tasks (through modifications) to existing multiple award and IDIQ-type contracts and include these contracts in measures of bundling.

I. INTRODUCTION

The purpose of this study is to present evidence showing whether or not the practice of consolidating small, individual government purchases into larger, bundled contracts is having a negative impact on small business participation. This study further attempts to assess whether recent changes in federal procurement practices, such as the raising of the small purchase threshold to \$100,000, will accelerate contract consolidation and exacerbate the negative impacts of bundling on small business.

Despite clauses in the Federal Acquisition Regulations (FAR) calling on contract officers to make special efforts to sustain small business participation in procurement, budget cuts and directives to streamline the procurement process may be leading contracting officers to consolidate small purchases into larger contracts in the name of a limited efficiency.

These kinds of procurement “efficiencies” impact small businesses negatively because the requirements of larger, multi-faceted contracts can easily outstrip the financial or administrative capabilities of a small business, precluding them from competing. Furthermore, the opportunity for small businesses to subcontract from the larger companies winning the bundled contracts may also diminish because of a tendency for larger firms to use their own resources on the contracts they win.

Evidence of the negative impact of contract bundling on small business was first presented in the U.S. Small Business Administration’s 1993 report.¹ The study relied mainly on a survey of small business owners and others involved in the federal procurement process (that is, agency Offices of Small and Disadvantaged Business Utilization, contract officers, etc.). The study recommended more systematic and detailed analysis of prime contracts data to substantiate or disprove the claims of small business owners that umbrella contracts were harming their companies.

This led to the 1997 Eagle Eye study that developed new analytical techniques in an effort to fulfill the mandate of the SBA study and to analyze the impacts of bundled contracts.² This study found that “The practice of consolidating small requirements into larger, bundled contracts is gradually increasing and causing harm to many small businesses. The evidence of consolidation is contained in overall measures of contract size, numbers of bundled contracts, actions per contract, counts and shares of large versus small contracts and in the striking changes to annual small business revenues.”

The present study extends the analysis of bundling to FY 1999 and refines the previous study’s methodology. We provide justification for using dissimilar Standard Industrial Classification (SIC) Codes, Contract Types and Places of Performance (POP) as the basis for defining what we now refer to as “explicitly bundled contracts.” The most significant methodological improvement is that the year-by-year analysis now incorporates a three-year look-back period designed to control the tendency toward higher incidences of bundling as contracts age. By limiting our year-by-year analysis of bundled contracts to

¹ U.S. Small Business Administration, *Study of the Impact of Contract Bundling on Small Business Concerns and Practical Recommendations* (Report to the Committee on Small Business of the United States Senate and the Committee on Small Business of the United States House of Representatives, 14 May 1993) 77 pages.

² Eagle Eye Publishers, Inc., *Bundled Contract Study FY 1991-FY 1995*, prepared for the U.S. Small Business Administration, Office of Advocacy.

those showing bundling in the current year or in the three immediately prior years we can measure trends from fiscal year to fiscal year on an equal basis.

In this analysis we use Product/Service Codes (PSCs) exclusively to define market categories because including SIC codes might tend to distort counts of bundled contracts that became bundled because they incorporated dissimilar types of work. Taken as a whole, the combination of methodological and analytical improvements in this new study almost certainly generates a more conservative, stable and reliable estimate of bundling than has been available to date.

II. METHODOLOGY

This analysis builds upon lessons learned from Eagle Eye's initial bundled contract analysis for the SBA. Because the U.S. federal government still does not systematically collect information about bundling, Eagle Eye continues to define bundling in the context of available prime contract data from the U.S. General Services Administration.

As in the first study, this definition of bundling is based upon the notion of "dissimilar tasks," or the idea that contracts showing certain differences from obligation to obligation represent bundled requirements. We therefore begin our discussion of Methodology with a brief description of our data source. We go on to compare and contrast the key elements of our new analysis with the key elements of our old study, describing which concepts and data measures we have retained, modified and abandoned. Finally we explain the specific analytical procedures used in the current analysis. A full, detailed discussion of this study's methodology is presented in Appendix A.

A. The Data Source

The database used for this study is an enhanced version of the Form DD-350 (defense) and Form 279 (civilian) Individual Contract Action Report (ICAR) prime contracts data collected and compiled by the Federal Procurement Data Center (FPDC), a branch of the U.S. General Services Administration (GSA). The core data elements collected in this database describe various characteristics of contractual obligations made between the federal government and prime contractors. Neither subcontract nor budget data are part of the prime contracts database.

A prime contract obligation is a legally binding agreement between the government and a contractor that commits the government to acquire products or services at an agreed price. Obligated dollars are moved by the authorizing agency to a contractor's account at the federal buying activity responsible for the purchase. These obligated funds are then used by the purchasing personnel to make payments to the contractor on an agreed payment schedule. Obligations are therefore linked to, but do not necessarily match, contractor progress.

Every time the government makes an obligation on a contract of at least \$25,000 a purchasing officer must fill out either a DD-350 form (for defense agencies) or an SF-279 form (for civilian agencies). These forms describe the financial, competitive, statutory and other characteristics of the obligation. Smaller initial obligations can be made on an SF-279 or reported in bulk form on an SF-281.

Over the entire course of a contract's duration, a purchasing officer might fill out numerous DD-350 or SF-279 forms for a single contract. This is because the dollars contained in a single obligation may not represent the total value of a contract. In fact, there are about 500,000 annual contract obligations in the FPDC database spread over 170,000 - 200,000 contracts. This means there are on average about 2.7 obligations per contract per year. Some small contracts have only one obligation, but some large contracts can have over 100.

Each DD-350 or SF-279 report forms the basis of a separate record in the ICAR contracts database. A purchasing officer will fill out a separate procurement form every time there is an action, that is, a new obligation on the contract or a de-obligation. Each action shows a unique combination of the following

data elements: reporting agency, contract number, contract modification number, contracting office order number, contracting office code, action date, and amount of obligation (or de-obligation). Each time a new form is filled out a separate task has been documented.

Because the core database for this study describes each individual task on a contract, over time contracts with more than one obligation can display different codes for the same field of data. As contract requirements change or evolve, many contracts display different Contract Type, SIC and Place of Performance codes. These differences flag a contract as bundled for the purposes of this analysis.

B. Definitions

It is important to carefully define each variable of interest in terms of the available data. First and foremost, of course, is the definition of a bundled contract.

1. Bundled Contract

A bundled contract is a contract that incorporates requirements formerly distributed across several separate contracts into one larger contract. Bundled contracts may combine dissimilar activities or they may represent a consolidation of similar requirements. Past definitions used by the federal government have further characterized bundled contracts as being requirements that have become too large in size or scope to be suitable for small business competition. As we will see, small businesses do indeed win what Eagle Eye defines as bundled contracts, but not at similar rates to their large business counterparts or to the small business share of federal contracting as a whole.

2. Candidate Bundled Contract (CBC) Definition in the First Eagle Eye Study

With no official indication in the FPDC data of whether a contract represented a consolidation of prior requirements, Eagle Eye identified Candidate Bundled Contracts (CBCs) in the first study as those contracts displaying one or more indicators of dissimilar tasks on the same contract number. The indicators of bundling we selected included multiple Type of Contract codes, multiple Standard Industrial Classification (SIC) codes or multiple Places of Performance (POPs).

We reasoned that two different SIC codes indicate dissimilar tasks. We further determined that a contract action indicating a contract type (e.g. cost plus or fixed price) that is different from the original contract or other modifications involves tasks that are at the very least dissimilar administratively. Furthermore, it is likely that tasks performed at two different places are dissimilar. We reasoned that any difference in any of these three codes on the same contract was almost certainly an indication of a new task and thus a candidate for bundling.

After considerable analysis, Eagle Eye determined that, although conservative, this CBC definition withstood the demands of analysis. Testing confirmed that the selection of CBCs left no unexpected gaps when the data was broken down by market or type of contractor.

Adding to the complexity of analyzing CBCs however is the fact that when we select data according to a market definition, for example ADP Services, not only can the actions constituting an ADP Services contract be bundled within the ADP Services market definition but the ADP Services themselves could be

part of a larger bundled award for, say, a new, multi-faceted airport communications system. We know from the start that our definition of bundling would of necessity be conservative.

3. Explicitly Bundled Contract (EBC) Definition in This Study

In order not to confuse this study with the previous one, and in order to be explicit, we use here the notion of an Explicitly Bundled Contract (EBC), which again is a contract number that displays dissimilar SICs, Types of Contract or PoPs over the period of the analysis.

Still lacking any official indication of bundling, Eagle Eye used the same three indicators of dissimilar tasks to identify EBCs in the current study. We carefully considered adding dissimilar PSCs on the same contract number to our criteria for identifying bundled contracts (see Appendix A). This would have dramatically raised the count of bundled contracts in our study. We decided against including different PSCs as a measure of bundling, however, primarily because so many PSCs have been reclassified over the years we feared that coding discrepancies rather than bundling might be the true cause of the differences we measured. We also sought consistency from the first study to the second.

We recognize that EBCs may include some contracts that are in reality unbundled. But it should also be recognized that EBCs exclude a considerably larger number of contracts that are actually bundled, such as large, consolidated contracts displaying the same SIC, POP and Type of Contract codes. In terms of data, an error in data entry for SIC code,³ place of performance, or contract type that is not consistently wrong for the entire contract may result in “bundling” where bundling would not otherwise be indicated. On the other hand, since we are only including the portions of contracts during FY 1989 - FY 1999, bundling outside this period on the same contracts may not be reflected in bundling during the period.

Where does this leave us? By any reasonable definition of bundling, a contract of more than a billion dollars should be per se bundled. But as indicated below, only 67 percent of contracts involving more than a billion dollars are classified as EBCs and only 62 percent of the dollars in contracts involving more than a billion dollars are awarded on EBCs. This indicates that we continue to use an essentially conservative measure of bundling.

4. Markets

Markets are defined in terms of PSCs than SICs because this is a study of procurement rather than of the economy. As such, we need to break down procurement with a procurement classification rather than an economic one. The size of a market is defined as the sum of the dollar values of all actions in that market during the period in question. If a contract includes actions during that period in more than one market, only the actions in the market in question are included. Thus, contracts may be counted in more than one market, but dollar values are not. Contract counts for a market that encompasses other, more specifically defined markets do not have double counting, nor do contract counts for procurement as a whole.

5. Large Contracts

A bundled contract is by definition larger than the contracts it replaced. Conversely, large contracts in

³ SIC codes were used for the first time in FY 1989 and were likely less reliable during the first part of the period FY 1989 - FY 1999.

general are more likely to be bundled. The original study used a dollar threshold of \$100 thousand to define a large contract. In the present study, the dollar threshold has been changed to \$1 million. Even though \$100 thousand is the limit on small purchases, contracts between \$100 thousand and \$1 million are much less likely to be bundled than contracts over \$1 million. The figure of \$1 million is generally the threshold for the requirement of a subcontracting plan, and subcontracting means that the work can feasibly be split up; that is, the requirements may have been bundled.

6. Bundled Contract Rating Eliminated

The original study had a “Bundled Contract Rating”, which was the sum of four such ratings, which were the subjective estimates of the importance of a particular value of each of a number of indicators in each market. In this study, the percentage of explicitly bundled contracts will in effect be the bundled contract rating. Actions per contract will continue to be calculated but will serve as an indicator of the underlying situation, rather than as an additional indicator of bundling. (Certain kinds of actions are already included in the definition of explicitly bundled contracts.)

The share of large contracts in procurement will continue to be calculated but will serve as an indicator of the underlying situation, rather than as an additional indicator of bundling. Also, small business contracts that are large will no longer be used as an indicator of bundling, although they will continue to be calculated. The thinking behind their use as an indicator of bundling was that bundling would result in larger contracts to small business as well as large. But small businesses with large contracts could also be an indicator of success independent of bundling.

7. Harm to Small Business Rating Eliminated

In the original study, the “Harm to Small Business Rating” was the sum of five such ratings, which were the subjective estimates of the importance of particular values of each of five indicators in each market studied. The five indicators can be described without loss of generality as the small business shares of CBCs, large contracts, all contracts, establishments performing contracts, and new establishments. While all indicators will continue to be calculated, we focus in the current study on the small business share of all contracts and dollars as the essential indicator of any harm to small business.

While an increasing small business share of explicitly bundled contracts is good for small business, it might be at the cost of other small business contracts; the small business share of all contracts is more relevant. A similar statement can be made about the small business share of large contracts. While a declining small business share of establishments may be a warning sign, it might also merely indicate some consolidation of effort within the small business sector. And a greater number of new small business establishments might indicate vigor or a lack of barriers or it might indicate merely higher turnover in the market due to difficulties in satisfying the government at a profit. The bottom line as always is whether or not contracts and dollars are going to small businesses.

The statistical analysis is taken one step further in the current study by calculating the changes (in percentage points) in the small business shares of contracts (and dollars) in each market versus the changes (in percentage points) in explicitly bundled contracts (and dollars) as shares of each market, and relating the two variables in a cross section regression.

C. Key Analytical Procedures

This study incorporates several specific analytical procedures, including:

1. Determination of Explicit Bundling for the Entire Study Period

To determine explicit bundling for the entire FY 1989 - FY 1999 period, we group all prime contract obligations by contract number. The result is all contracts acted upon during these eleven years. Then, we flag all contracts that have a difference among actions (which may include the original contract) in the SIC, PoP or Type of Contract codes regardless of the year in which the difference occurred, including the years leading up to the study period. The result is a measure of all explicitly bundled contracts that were acted upon during these eleven years.

2. Explicit Bundling in the Analysis of One Fiscal Year at a Time

Our main statistical innovation in the new study is the use of a look-back period in the year-by-year analysis of bundled contract activity. In the original study, the only evidence of bundling used was that which occurred in the year being analyzed. However, in conducting analyses for this study using the original methodology, we saw a tendency for contracts to show more signs of bundling as they became older. This is relatively easy to understand: the older a contract became, the more ways contract officers saw they could expand the scope of existing contract vehicles.

However, this tendency toward higher rates of bundling on older contracts caused two biases in our analysis: actions on contracts in earlier years were more likely to be on contracts that were later bundled, and actions in later years were more likely to be on contracts that were bundled earlier. Since these two biases would in all probability not be perfectly offsetting, we decided that it was necessary to systematically remove each of them.

To render annual measures of bundling more accurately, we instituted a procedure that identified a contract as being bundled in any given year only if the three, key bundling indicators (PoP, SIC and Type of Contract codes) showed differences during the four-year period leading up to and including the year in which bundling was being measured. Once a contract became bundled, it remained bundled for the remainder of the study period. For example, to determine if a contract that was active in FY 1992 was explicitly bundled for the analysis of that year, all actions placed against that contract from FY 1989 up through the end of FY 1992 were analyzed for variations in the PoP, SIC and Type of Contract codes. Similarly, to determine if a contract active in FY 1999 was explicitly bundled, all actions placed against that contract starting in FY 1996 were studied.

This methodological refinement eliminated the artificial inflation of bundled contract counts in the later years of the study and lowered measures of bundling in the earlier years. Overall, our new measure of year-to-year bundling trends remained relatively conservative.

Note that if a contract's bundled status changed from unbundled to bundled over its life, indications of bundling were not made retroactive in the year-by-year analysis. For instance, a contract initially awarded in FY 1991 that first showed signs of bundling in FY 1993 was considered bundled starting in FY 1993 and thereafter, until it was closed out. The contract was not counted as bundled in FY 1991 and FY

1992. This eliminates any bias toward bundling that would otherwise tend to inflate the numbers of bundled contracts in the earlier years of this analysis.

We selected a four-year period in order to capture a good portion of bundling but still have eight years (FY 1992-FY 1999) to compare with each other. While this captures a good deal of bundling, it by no means captures all bundling. This is illustrated by an analysis of how bundling occurs as contracts age. This analysis looked at the 1,316,127 contracts that began⁴ during the period FY 1989 - FY 1999, or 94.7 percent of the 1,383,161 contracts acted upon during this period.

Of the 120,324 contracts that began during FY 1989, 3,843 contracts (3.19 percent) were bundled during the same year. By the end of FY 1990, another 3,574 contracts had been bundled, for a total of 7,417 contracts bundled (6.16 percent). By the end of FY 1999, a total of 10,593 contracts that began in FY 1989 had been bundled by the eleventh year, or 8.8 percent. Similar calculations were done for contracts that began in FY 1990, but the bundling could only be followed for ten years instead of eleven. As we looked at bundling that occurred on contracts that began later and later, the bundling histories that we could observe became shorter and shorter, until for contracts that began in FY 99 we could only look at bundling that occurred during the same year. Thus we had eleven observations on bundling that occurred during the same year as the beginning of a contract, ten observations on bundling that occurs within the year after that, and so on. We calculated the percentages of contracts that were bundled, and the averages of these percentages by the corresponding years in the life of the contract. These averages are shown in Table 2.1 (below).

The percentage of contracts that are bundled rises steadily as contracts age, reaching 8.8 percent of all contracts in the eleventh year that these contracts have existed. The percentage of dollars that are bundled rises steadily through the eighth year and then begins a three-year decline. This is partly the result of a quite large percentage (59.1) of dollars in contracts that began in FY 1991 that were bundled by FY 1995.

Because large contracts are more likely to be bundled, the percentage of dollars bundled in each year is much greater than the percentage of contracts bundled. The ratio of these percentages also increases with age from four to six. (As contracts get older, not only are more contracts bundled, but more dollars are put into the contracts already bundled.)

Because some new bundling will occur after the eleventh year, looking forward three years after the year of birth of a contract captures 75 percent of the contracts that are eventually bundled and less than 50 percent of the dollars that are eventually bundled. This suggests that a three-year look-back from an action leaves out considerable bundling, making our estimate of bundling more conservative. As stated above, however, the look-back was limited to three years in order to have eight years of data to analyze for trends.

**Table 2.1: Contracts Bundled by Age of Contract
(averages of percentages of all contracts)**

⁴ Defined as showing no actions in the period FY 1984 – FY 1988.

Year in Contract	Number of Observ Yrs	Bundled Contracts as % of All Contr	Index with Year 11 = 100	Bundled Dollars as % of All Dollars	Index with Year 11 = 100
1	11	2.57	29	22.66	44
2	10	5.07	58	38.22	75
3	9	6.10	69	45.17	88
4	8	6.62	75	48.7	95
5	7	6.88	78	51.49	101
6	6	7.02	80	52.97	104
7	5	7.24	82	55.06	108
8	4	7.56	86	55.45	109
9	3	7.93	90	55.14	108
10	2	8.35	95	51.43	101
11	1	8.8	100	51.1	100

In the original study, the procedure to determine bundling was quite limited: the only evidence of bundling used was that which occurred in the year of the action. Consequently, the number of explicitly bundled contracts in this study are properly greater than the number of “candidate” bundled contracts in the original study.

3. Markets in the Analysis of One Fiscal Year at a Time

For a given fiscal year, we first select all actions that have a product-service code in the market being analyzed. The sum of the obligations and de-obligations in these actions is the dollar size of the market in the given fiscal year. Note that this excludes actions on contracts acted upon during this year that had a product-service code in this market in an earlier year but not in the year being analyzed.

These actions in the given market are then grouped by contract number. The result is the number of contracts acted upon by actions in this market during this fiscal year. (The ratio of actions to contracts includes just the actions in the market and year being analyzed but not in other markets as well if they are actions upon the same contracts.) We then count the number of contracts that are flagged. The result is the number of explicitly bundled contracts acted upon by actions in this market during this fiscal year.

The original study at this point excluded contracts with negative or zero net dollar values in total actions in the fiscal year being analyzed, on the grounds that any bundling here may have actually been unbundling. But the size of the market is thus increased and is then greater than the size of the market in various tabulations of others. Keeping such contracts would facilitate cleaner comparisons with other studies. And a de-obligation in this case will still represent action upon a bundled contract.

4. Large Contracts in the Analysis of One Fiscal Year at a Time

The original study defined large contracts to be contracts acted upon in the fiscal year and market being analyzed that had a total value of actions in that year in that market (but not in another market) in excess of a dollar threshold. This excluded contracts that were large in a prior year but were acted upon in the current year in an aggregate amount less than the dollar threshold. It also excluded contracts that were large in another market but not in the market being analyzed. Since the indicator of bundling in this study can occur in a different market and/or an earlier year, the small and large breakdown should be on the comparable basis. Contract size is therefore defined to include the dollar value of all actions in any market

during the period used to determine bundling.

5. New Contractors

In the original study, a “new” contractor was defined as an establishment that had not received an award during any previous year. In the present study, we use instead a file that Eagle Eye has constructed linking establishments to their parent companies. A “new” contractor is defined as a parent company that had not previously received an award in the period used to determine bundling.

6. Type of Contractor

Contractors are grouped in the appendix into the following categories: small disadvantaged business, other small business, large business, and other (which consists of sheltered workshops, other nonprofits, other state/local government institutions, foreign contractors, domestic contractors performing outside the U.S., historically black colleges/universities or minority institutions,⁵ and unknown). Actions that do not have a code for type of contractor are not attributed to large business even though they are almost exclusively DoD actions with a firm specified by a foreign government or by an international organization, or DOD actions in some other special program. Counts of contractors by type will sometimes add to a total that is greater than the total for all performers if actions awarded to the same performer⁶ have been coded with more than one type of contractor on separate actions.

⁵ Contracts with historically black colleges/universities or minority institutions are undercounted in the overall (FY 1989 - FY 1999) tabulations because they were not indicated on the data form before May 1996.

⁶

III. OVERALL ANALYSIS

In this section we present the results and analysis of bundling in the entire eleven-year period FY 1989 to FY 1999 as a whole. Year-to-year comparisons of bundling occur in the next section.

A. All Contracts

There were 1,383,161 contracts acted on during the FY 1989 – FY 1999 period. The dollar value of all contract actions amounted to \$2.01 trillion, for an average contract size of \$1.454 million. Of these contracts 1,316,127 began in FY 1989 or later. The dollar value of the actions on these contracts amounted to \$1.6 trillion for an average contract size of \$1.247 million. There were thus 67,034 contracts that began before FY 1989 and were acted on in FY 1989 or later in the amount of \$ 369 billion for an average contract size after FY88 of \$5.498 million. Even though we only include the latter portions of these earlier contracts, the average dollar value of these contracts during the eleven-year period is still almost four times the average dollar value of contracts that began during the period. At the end of the period, the contracts that began during this period ranged in age from eleven years to birth at the end of the period, for an average age of 5.5 years. The average contract size in our data base is less than the average contract size in general for two reasons: (1) we only have the FY 1989 - FY 1999 portions of contracts that began before FY 1989, and (2) some of the contracts that began during FY 1989 - FY 1999 will have further modifications after FY 1999. Estimates of contract size and rates of bundling in this report are therefore conservative.

1. Bundling by Contract Size

Table 3.1 shows the bundling of contracts when each contract is classified by the total value of the contract during the period FY 1989 through FY 1999. Bundling increases rapidly with contract size, reaching a peak of 69 percent at contract sizes of \$100 million or more.

Of the 1,383,161 contracts, 118,299 or 8.6 percent were bundled. Of the \$2.01 trillion in these contracts, \$1.09 trillion or 54.2 percent were awarded as part of bundled contracts. Unbundled dollars totaled \$920 billion in 1.3 million contracts for an average unbundled contract size of \$721,021. The average bundled contract was \$7.971 million, or 11.1 times the size of the average unbundled contract.

Table 3.2 shows that, for each category of contract size less than \$1 billion, the percent of dollars bundled is greater than the percent of contracts bundled, since larger contracts are more likely to be bundled, even within a given contract size. The bundling of dollars increases rapidly with contract size, reaching 67 percent for contracts valued greater than \$100 million.

The 19,735 contracts with total values of less than \$1,000 (Table 3.1) are on the whole negative (Table 3.2). This can happen if a contract that began before FY 1989 showed de-obligations on the whole after FY88. Another possibility is, of course, an error in the data submitted to the FPDC in either the contract amount or the contract number, which would create a “contract” that should actually be combined with another contract. The fact that 25 percent of these contracts (and 55 percent of their dollars) are bundled suggests that these are part of large contracts.

**Table 3.1: Contracts Bundled by Size of Contract
FY 1989 – FY 1999**

Contract Size (Dollars)	All Contracts	Bundled Contracts	Percent Bundled	Unbundled Contracts
<1K	19,735	4,871	24.7%	14,864
1K-100K	845,430	19,825	2.3%	825,605
100K-1M	387,894	49,473	12.8%	338,421
1M-10M	108,616	32,563	30.0%	76,053
10M-100M	18,994	9,841	51.8%	9,153
100M-1B	2,310	1,604	69.4%	706
>1B	182	122	67.0%	60
TOTAL	1,383,161	118,299	8.6%	1,264,862

**Table 3.2: Dollars Bundled by Size of Contract
FY 1989 – FY 1999**

Contract Size (Dollars)	Dollars in All Contracts (\$000)	Bundled Contracts (\$000)	Percent of \$ Bundled
<1K	-8,595,014	-4,708,319	54.8%
1K-100K	33,158,817	999,195	3.0%
100K-1M	127,456,532	19,684,952	15.4%
1M-10M	323,397,913	108,000,000	33.4%
10M-100M	513,649,675	282,080,550	54.9%
100M-1B	561,088,157	397,638,716	70.9%
>1B	460,647,302	285,947,638	62.1%
TOTAL	2,010,803,382	1,090,574,082	54.2%

By any reasonable definition of bundling, a contract of more than a billion dollars should be per se bundled. But only 67 percent of contracts involving more than a billion dollars are explicitly bundled and only 62 percent of the dollars in contracts involving more than a billion dollars are explicitly bundled. This indicates that we are using an essentially conservative measure of bundling. Yet, more than one out of every two dollars (54%) was awarded as part of a bundled contract between FY 1989 and FY 1999.

2. Bundling by Number of Actions

Table 3.3 shows the bundling of contracts by the number of actions. Contracts with only one action are by definition not explicitly bundled, since more than one action is required for a change in the SIC, Type of Contract and/or Place of Performance Codes. The reason bundled contracts with only one action appear in this analysis is because these contracts have only one action during the FY 1989 - FY 1999 study period but meet the study's bundled criteria with other actions during the prior FY84-FY88 period.

**Table 3.3: Contracts Bundled by Number of Contract Actions
FY 1989 – FY 1999**

Number of Actions	All Contracts	Bundled Contracts	Percent Bundled
1	950,705	13,872	1.5%
2	152,584	20,294	13.3%
3	70,042	12,134	17.3%
4	44,125	8,906	20.2%
5	28,382	6,657	23.5%
6 – 10	65,876	20,488	31.1%
11 - 20	36,983	15,159	41.0%
21+	34,464	20,789	60.3%
Total	1,383,161	118,299	8.6%

The bundling of contracts and dollars clearly accelerates with larger numbers of contract actions. When the number of actions reaches 21 and above, more than 60 percent of contracts and more than 68 percent of their associated dollars are bundled.

**Table 3.4: Dollars Bundled by Number of Contract Actions
FY 1989 – FY 1999**

Number of Actions	All Dollars (\$000)	Bundled Dollars (\$000)	Percent Bundled
1	184,276,543	2,966,604	1.6%
2	75,031,907	14,807,967	19.7%
3	57,287,494	14,963,642	26.1%
4	48,865,274	14,603,131	29.9%
5	41,177,929	14,759,816	35.8%
6 – 10	161,765,177	70,174,768	43.4%
11 - 20	212,616,143	121,295,242	57.0%
21+	1,229,782,915	837,002,912	68.1%
Total	2,010,803,382	1,090,574,082	54.2%

B. Contracts by Type of Business

Table 3.5 (below) shows contract bundling by Type of Business.

The number of contracts counted in Table 3.5 is 29,938 greater than previous totals. This happens when more than one type of contractor is coded on different actions for the same contract. This can happen when a contractor changes status during the course of a contract or when companies are miscoded as two different types of business.

The percentage of contracts bundled is greatest the Not Reported/Not Available and the Domestic

Contractor Performing Outside the U.S. categories. Not Reported consists of contracts coded with blank business type codes. This category exhibits many of the same dollar and contract count characteristics as the Large Business category. Close scrutiny reveals that in fact the contractor names linked to contracts coded with blank business type codes are mostly large businesses. Often they are defense contractors working on contracts where a foreign government is the ultimate client.

**Table 3.5: Numbers of Contracts Bundled by Type of Contractor
FY 1989 – FY 1999**

Type of Business	All Contracts	Bundled Contracts	Unbundled Contracts	Percent Bundled
Not Reported / Not Available	27,322	7,853	19,469	28.7%
Total Small Business (SDB+Other)	864,316	63,886	800,430	7.4%
Small, Minority-Owned Business	137,434	14,923	122,511	10.9%
Other Small Business	726,882	48,963	677,919	6.7%
Large Business	378,910	48,963	329,947	12.9%
JWOD Nonprofit Agency	7,638	707	6,931	9.3%
Nonprofit Education Organization	16,416	1,880	14,536	11.5%
Nonprofit Hospital	1,824	122	1,702	6.7%
Other Nonprofit Organization	14,200	1,931	12,269	13.6%
State / Local Government – Educational	5,331	448	4,883	8.4%
State / Local Government – Hospital	1,682	111	1,571	6.6%
Other State / Local Government	17,577	1,659	15,918	9.4%
Foreign Contractor	66,692	7,280	59,412	10.9%
Domestic Contractor Performing Outside U.S.	10,822	1,940	8,882	17.9%
Historically Black College / University or Minority Institution	369	32	337	8.7%

The Domestic Contractor Performing Outside the U.S. category includes virtually all large businesses as international contracts have a marked tendency to be performed by larger firms. Many of these companies are multinational energy and engineering firms like Halliburton, Exxon and Raytheon.

Of the contracts acted upon during the eleven-year period FY 1989 to FY 1999, 12.9 percent of the contracts with an explicit large firm performer were bundled, 74 percent greater than the 7.4 percent of contracts going to small firms. A mathematically equivalent statement is that a bundled contract is 74 percent more likely to go to a large firm (as opposed to a small firm) as a contract in general. But a sharper comparison is between bundled contracts and unbundled contracts: a bundled contract is 86 percent more likely to go to a large firm (as opposed to a small firm) as an unbundled contract. The overall conclusion is that **compared to small firms, large firms are nearly twice as likely to have their contracts explicitly bundled, and nearly twice as likely to be recipients of explicitly bundled contracts as opposed to unbundled contracts.**

Table 3.6 shows the bundling of contract dollars by the type of contractor. Total contract dollars are the same as in previous tabulations, since even if the contractor type changes from one action to another on the same contract, the total number of dollars in the contract will not change.

The percentage of contract dollars bundled is greatest, 78 percent, for the \$95 billion awarded in the Not Reported category. This, as we have pointed out, is a category made up mainly of large firms. The percentage of contract dollars bundled is next greatest (60 percent) for the \$1.4 trillion awarded to large businesses. The third largest bundled dollar percentage, 51 percent, is associated with Domestic Contractors Performing Outside the U.S. Again, this category consists mainly of large businesses.

**Table 3.6: Dollars Bundled by Type of Contractor
FY 1989 – FY 1999**

Type of Business	All Contract		Unbundled	
	Dollars (\$000)	Bundled Dollars (\$000)	Dollars (\$000)	Percent Bundled
Not Reported / Not Available	95,374,631	74,155,642	21,218,989	77.8%
Total Small Business (SDB+Other)	343,320,067	120,324,545	222,995,522	35.0%
Small, Minority-Owned Business	102,860,304	38,203,984	64,656,320	37.1%
Other Small Business	240,459,763	82,120,561	158,339,202	34.2%
Large Business	1,370,075,503	823,675,944	546,399,559	60.1%
JWOD Nonprofit Agency	4,912,947	966,981	3,945,966	19.7%
Nonprofit Education Organization	33,416,573	14,780,793	18,635,780	44.2%
Nonprofit Hospital	2,266,270	52,299	2,213,971	2.3%
Other Nonprofit Organization	48,510,974	22,013,129	26,497,845	45.4%
State / Local Government - Educational	34,767,569	3,629,358	31,138,211	10.4%
State / Local Government - Hospital	545,078	95,360	449,718	17.5%
Other State / Local Government	7,974,039	920,403	7,053,636	11.5%
Foreign Contractor	50,581,001	20,322,899	30,258,102	40.2%
Domestic Contractor Performing Outside U.S.	18,830,493	9,586,193	9,244,300	50.9%
Historically Black College / University or Minority Institution	228,237	50,536	177,701	22.1%

Of the contracts acted upon during the eleven-year period FY 1989 to FY 1999, 60.1 percent of the contract dollars with an explicit large firm performer were bundled, 72 percent greater than the 35 percent of contract dollars going to small firms. A mathematically equivalent statement is that a bundled contract dollar is 72 percent more likely to go to a large firm (as opposed to a small firm) as a contract dollar in general. But a sharper comparison is between bundled contracts and unbundled contracts: a bundled contract dollar is almost three times as likely to go to a large firm (as opposed to a small firm) as an unbundled contract dollar. The overall conclusion here is that **compared to small firms, large firms are nearly twice as likely to have their contract dollars explicitly bundled, and almost three times as likely to be recipients of explicitly bundled contract dollars as opposed to unbundled contract dollars.**

Small firms had 7.4 percent of their contracts bundled and 35 percent of their contract dollars bundled. The ratio of these two percentages is 4.73, which is mathematically equivalent to the ratio of the average size of bundled small firm contracts to the average size of all small firm contracts. A sharper comparison is between bundled and unbundled contracts, leading to Table 3.7.

For procurement as a whole, this table implies that contracts active during FY 1989 - FY 1999 had an

average value of \$1.423 million during this period. This is slightly less than the true value of \$1.454 million because of the extra “contracts” due to multiple contractor type codes. The State and Local Government - Educational category showed the largest average contract size, 4.5 times the average size for procurement as a whole. The average large firm contract was 9.1 times the average small firm contract.

Table 3.7: Average Contract Size by Type of Contractor, FY 1989 – FY 1999

Type of Business	Average Contract Size (\$000)			
	All Contracts	Bundled Contracts	Unbundled Contracts	Bund/Unbund Size Ratio
Not Reported / Not Available	3,491	9,443	1,090	8.66
Total Small Business (SDB+Other)	397	1,883	279	6.76
Small, Minority-Owned Business	748	2,560	528	4.85
Other Small Business	331	1,677	234	7.18
Large Business	3,616	16,822	1,656	10.16
JWOD Nonprofit Agency	643	1,368	569	2.40
Nonprofit Education Organization	2,036	7,862	1,282	6.13
Nonprofit Hospital	1,242	429	1,301	0.33
Other Nonprofit Organization	3,416	11,400	2,160	5.28
State / Local Government - Educational	6,522	8,101	6,377	1.27
State / Local Government - Hospital	324	859	286	3.00
Other State / Local Government	454	555	443	1.25
Foreign Contractor	758	2,792	509	5.48
Domestic Contractor Performing Outside U.S.	1,740	4,941	1,041	4.75
Historically Black College / University or Minority Institution	619	1,579	527	2.99
Total	1,454	7,971	721	11.06

For all of procurement, the average bundled contract was 11.1 times the size of the average unbundled contract. This ratio was highest for the Large Business category, whose 48,963 bundled contracts averaged 8.7 times the average size of their 329,947 unbundled contracts. Again, note the high 8.7 bundled to unbundled ratio in the Not Reported category, which consists virtually entirely of large businesses.

Another way of looking at the effects of bundling by type of contractor is to examine the shares of bundled and unbundled contracts in Table 3.8 (below). Here, we see that small businesses receive 62 percent of all contracts, 63 percent of unbundled contracts, but only 54 percent of bundled contracts. The small business percentage share of bundled contracts is only 0.85 times their percentage share unbundled contracts. The ratio for large business is 1.6. The large firm share of bundled contracts is 41 percent, greater than the large firm share of unbundled contracts, which is 26 percent. A bundled contract is more likely to go to a large firm than an unbundled contract; the reverse is true for small firms. It is informative to compare these percentage contract shares with similar numbers for contract dollars.

Table 3.8: Contract Share by Type of Contractor, FY 1989 – FY 1999

Type of Business	Percentage Share of Contracts			Ratio of Bundled to Unbundled Contracts
	All Contracts	Bundled Contracts	Unbundled Contracts	
Not Reported / Not Available	1.98%	6.64%	1.54%	4.31
Total Small Business (SDB+Other)	62.49%	54.00%	63.28%	0.85
Small, Minority-Owned Business	9.94%	12.61%	9.69%	1.30
Other Small Business	52.55%	41.39%	53.60%	0.77
Large Business	27.39%	41.39%	26.09%	1.59
JWOD Nonprofit Agency	0.55%	0.60%	0.55%	1.09
Nonprofit Education Organization	1.19%	1.59%	1.15%	1.38
Nonprofit Hospital	0.13%	0.10%	0.13%	0.77
Other Nonprofit Organization	1.03%	1.63%	0.97%	1.68
State / Local Government - Educational	0.39%	0.38%	0.39%	0.98
State / Local Government - Hospital	0.12%	0.09%	0.12%	0.76
Other State / Local Government	1.27%	1.40%	1.26%	1.11
Foreign Contractor	4.82%	6.15%	4.70%	1.31
Domestic Contractor Performing Outside U.S.	0.78%	1.64%	0.70%	2.34
Historically Black College / University or Minority Institution	0.03%	0.03%	0.03%	1.02

Table 3.9 shows us that small businesses receive 17 percent of all contract dollars, 24 percent of unbundled contract dollars, but only 11 percent of bundled contract dollars on average from FY 1989 to FY 1999. The small business percentage share of bundled contract dollars is only 0.46 times their percentage share of unbundled contract dollars. The ratio for large business is 1.27. The large firm share of bundled contract dollars is 76 percent, greater than the large firm share of unbundled contract dollars, which is 59 percent. A bundled contract dollar is more likely to go to a large firm than an unbundled contract dollar; the reverse is true for small firms. While both the large firm and small firm ratios of bundled to unbundled dollar shares are less than the similar ratios for contracts, the small firm ratio is less still, reflecting again that average contract size has not gone up as much in comparing bundled vs. unbundled contracts for small business as for large business.

Table 3.9: Dollar Share by Type of Contractor, FY 1989 – FY 1999

Type of Business	Percentage Share of Dollars			Ratio of Bundled to Unbundled Contract \$
	All Contracts	Bundled Contracts	Unbundled Contracts	
Not Reported / Not Available	4.74%	6.81%	2.30%	2.95
Total Small Business (SDB+Other)	17.07%	11.04%	24.21%	0.46
Small, Minority-Owned Business	5.12%	3.51%	7.02%	0.50
Other Small Business	11.96%	7.54%	17.19%	0.44
Large Business	68.14%	75.59%	59.32%	1.27
JWOD Nonprofit Agency	0.24%	0.09%	0.43%	0.21
Nonprofit Education Organization	1.66%	1.36%	2.02%	0.67
Nonprofit Hospital	0.11%	0.00%	0.24%	0.02
Other Nonprofit Organization	2.41%	2.02%	2.88%	0.70
State / Local Government - Educational	1.73%	0.33%	3.38%	0.10
State / Local Government - Hospital	0.03%	0.01%	0.05%	0.18
Other State / Local Government	0.40%	0.08%	0.77%	0.11
Foreign Contractor	2.52%	1.87%	3.28%	0.57
Domestic Contractor Performing Outside the U.S.	0.94%	0.88%	1.00%	0.88
Historically Black College / University or Minority Institution	0.01%	0.00%	0.02%	0.24

Because shares by contractor type are so important, we present in Table 3.10 (below) a comparison of the percentage shares of dollars with the percentage shares of contracts.

The ratio of the small firm percentage share of dollars to their percentage of contracts is 0.27. This ratio is higher for unbundled contracts at 0.38 and lower for bundled contracts at 0.20. The large firm overall dollar to contract ratio is 2.49 and the bundled dollar to bundled contract ratio is 1.83. These ratios confirm the disparities between large and small firm contract sizes. Large firms are winning dollars at over twice the rate at which they are winning contracts and at nearly twice the rate for bundled contracts.

**Table 3.10: Dollar Share vs. Contract Share
By Type of Contractor, FY 1989 – FY 1999**

Type of Business	Ratio of % of Dollars to % of Contracts			Ratio of Bundled to Unbundled Contracts
	All Contracts	Bundled Contracts	Unbundled Contracts	
Not Reported / Not Available	2.40	1.03	1.50	0.69
Total Small Business (SDB+Other)	0.27	0.20	0.38	0.53
Small, Minority-Owned Business	0.51	0.28	0.72	0.38
Other Small Business	0.23	0.18	0.32	0.57
Large Business	2.49	1.83	2.27	0.80
JWOD Nonprofit Agency	0.44	0.15	0.78	0.19
Nonprofit Education Organization	1.40	0.85	1.76	0.48
Nonprofit Hospital	0.85	0.05	1.79	0.03
Other Nonprofit Organization	2.35	1.24	2.97	0.42
State / Local Government - Educational	4.49	0.88	8.76	0.10
State / Local Government - Hospital	0.22	0.09	0.39	0.24
Other State / Local Government	0.31	0.06	0.61	0.10
Foreign Contractor	0.52	0.30	0.70	0.43
Domestic Contractor Performing Outside U.S.	1.20	0.54	1.43	0.38
Historically Black College / University or Minority Institution	0.43	0.17	0.72	0.24

IV. YEAR-BY-YEAR ANALYSIS

In this section we present the results and analysis of bundling year-by-year during the period FY 1992 to FY 1999. In the analysis of one fiscal year at a time, we start with the actions during that fiscal year and their contracts. A contract is counted as explicitly bundled in this context only if the evidence of bundling occurs during an historical four-year period up to and including the fiscal year being analyzed. For instance, to determine if a contract that was active in FY 1992 was explicitly bundled for the analysis of that year, all actions placed against that contract from FY 1989 up through the end of FY 1992 are analyzed for variations in the SIC, type of contract and place of performance codes. Similarly, to determine if a contract active in FY 1999 was explicitly bundled, all actions placed against that contract starting in FY 1996 are studied. Since only four years are used as the basis for determining bundling, the bundling measured will in general be less than the bundling measured for the eleven-year period as a whole.

The classification of contracts as small or large in this analysis is defined comparably. Contract size is therefore defined to include the dollar value of all actions during the four-year period used to determine bundling.

A. All Markets

1. Overall Numbers

Table 4.1 shows a total of 1,434,096 “contracts” during the eight-year period FY 1992 - FY 1999. The reason this number is greater than the 1,383,161 contracts counted above as being active during FY 1989 – FY 1999 (see page 17 and subsequent tables) is that there is double counting of contracts when contract counts from individual years are added together. In the year-by-year analysis, each contract is counted in each year it shows actions. The fact that the number of contracts in the year-by-year analysis is higher in an eight-year period versus an eleven-year period indicates the extent to which contracts are being modified outside the year in which they were first awarded. There were a total of 164,661 bundled “contracts” during the eight-year period FY 1992 – FY 1999, as indicated in Table 4.1 below. This number is greater than the 118,299 contracts analyzed above for the eleven-year period FY 1989 - FY 1999. Again, the reason for this is the double counting that inevitably occurs in the year-by-year analysis. The double counting of contracts means that the contract totals of all the years in this analysis should be regarded primarily as check totals.

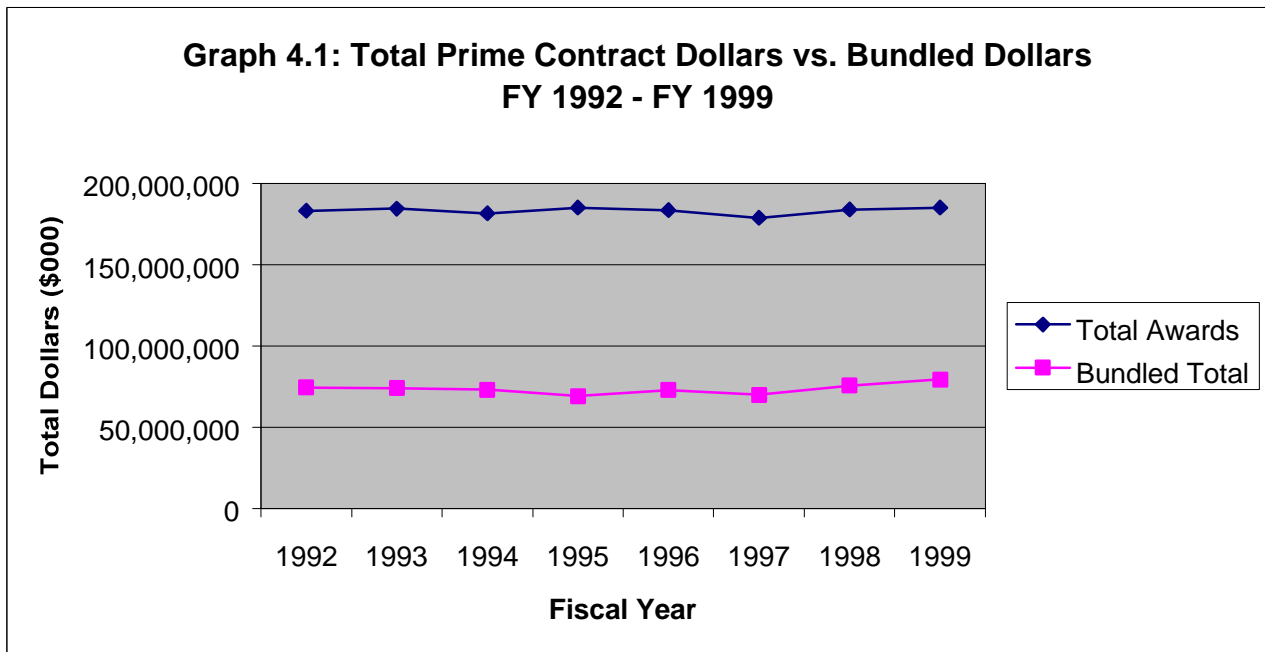
Dollars, on the other hand, include only the dollar values of the actions in the year in question so annual dollar totals can be meaningfully added. The FY 1992 – FY 1999 total spending figure of \$1.5 trillion is 73 percent of the FY 1989 – FY 1999 total analyzed above. However, the eight-year bundled total of \$588 billion is only 54 percent of the eleven-year bundled total. This illustrates how the four-year period used to determine bundling in the present analysis does not capture as much of the bundling as was captured in the analysis of the eleven-year period as a whole.

Table 4.1: Bundling by Fiscal Year, FY 1992 – FY 1999

Fiscal Year	Total	Bundled	Percent
	Number of Contracts		
1992	200,198	23,142	11.56%
1993	190,118	20,628	10.85%
1994	180,479	18,619	10.32%
1995	176,069	17,607	10.00%
1996	177,686	20,093	11.31%
1997	173,334	21,453	12.38%
1998	169,003	21,791	12.89%
1999	167,209	21,328	12.76%
Total	1,434,096	164,661	11.48%
	Contract Dollars (\$000)		
1992	183,081,207	74,346,422	40.61%
1993	184,426,948	74,101,220	40.18%
1994	181,500,339	72,937,974	40.19%
1995	185,101,960	69,124,249	37.34%
1996	183,418,403	72,925,611	39.76%
1997	178,817,245	69,960,609	39.12%
1998	183,883,073	75,635,848	41.13%
1999	185,124,691	79,290,234	42.83%
Total	1,465,353,866	588,322,167	40.15%

The start of the new era of procurement reform in FY 1995 appears to mark renewed growth in bundling. The percentage of contracts that are bundled declined each year from FY 1992 to FY 1995 at a slowing rate, and then increased sharply from FY 1995 to FY 1996 with another sizeable increase from FY 1996 to FY 1997. After reaching a peak of 12.9 percent in FY 1998 the rate declined slightly to 12.8 percent in FY 1999. Nonetheless, this was 10.4 percent greater than the beginning level of 11.6 percent in FY 1992.

The percentage of dollars that are bundled is at the highest level in eight years. The eight-year bundled dollar share pattern is more complex than counts of contracts. After declining eight percent between FY 1992 – FY 1995 to an eight-year low of 37.3 percent, the share of bundled dollars jumped sharply in FY 1996, declined in FY 1997 and then jumped sharply again in FY 1998 - FY 1999 to finish at a new high of 42.8 percent.



2. Average Contract Size

Because the annual number of “contracts” declined by 16.5 percent while annual dollars grew slightly, the average size of a contract increased 21 percent and the average bundled contract increased 15.7 percent over eight years. Average bundled contract size in FY 1999 is still below the peak value of \$3.9 million in FY 1995 but it has been climbing steadily for the last three years. Taken together, the information in charts 4.1 and 4.2 tell us that not only are contracts greater in value after adjusting for inflation over the last eight years, there are also fewer of them.

**Table 4.2: Average Contract Size by Fiscal Year,
FY 1992 – FY 1999**

FY	Average Contract Size (\$000)	Average Bundled Contract Size (\$000)
1992	915	3,213
1993	970	3,592
1994	1,006	3,917
1995	1,051	3,926
1996	1,032	3,629
1997	1,032	3,261
1998	1,088	3,471
1999	1,107	3,718
Average	1,022	3,573

3. Large vs. Small Contracts

An analysis of bundling by size of contract confirms observed trends about the growing size and consolidation of federal contracts. Between FY 1992 and FY 1999, large contracts valued \$1 million or more grew in absolute size and in their share of awarded contracts and dollars. Simultaneously, small contracts grew in size but shrank in overall share of contracts and dollars.

Table 4.3 shows the size of an average, large contract grew 12 percent in eight years, roughly in keeping with inflation. An average small contract grew nearly 18 percent during the same period. Yet while the large contract share of all contracts was growing from 19 percent to 21 percent over the FY 1992 – FY 1999 period, the small contract share declined from over 80 percent to just under 79 percent. There was also a one percentage point shift in the large and small contract dollar share, with large contracts growing to account for 93 percent of all awarded dollars in FY 1999 and small contracts shrinking from 8 percent to 7 percent.

Between FY 1992 and FY 1999 large, bundled contracts grew from 53 percent to 60 percent of all bundled contracts. Large, bundled contracts also represented a growing percentage of all large contracts. With the average size of a large, bundled contract growing only 2.5 percent over the study period, it appears that a number of small, bundled contracts that were relatively large have grown into large bundled contracts that are relatively small. Indeed, while the average bundled contract has grown 15.7 percent, the average large bundled contract only grew 2.5 percent. Small bundled contracts, on the other hand, are lower in value as a result of a significant drop in overall dollar value of in FY 1999. This is consistent with the observation that the larger small bundled contracts are crossing the \$1 million threshold and growing into large bundled contracts.

Table 4.3: Bundling of Small and Large Contracts, FY 1992 and FY 1999

Contract Size	FY 1992 Contract Counts			FY 1999 Contract Counts		
	All	Bundled	Bundled %	All	Bundled	Bundled %
De-obligations	676	90	13.3%	169	40	23.7%
Large (> \$1 mil)	38,557	12,283	31.9%	35,143	12,919	36.8%
Small (< \$1 mil)	160,965	10,769	6.7%	131,897	8,369	6.3%
Total	200,198	23,142	11.6%	167,209	21,328	12.8%

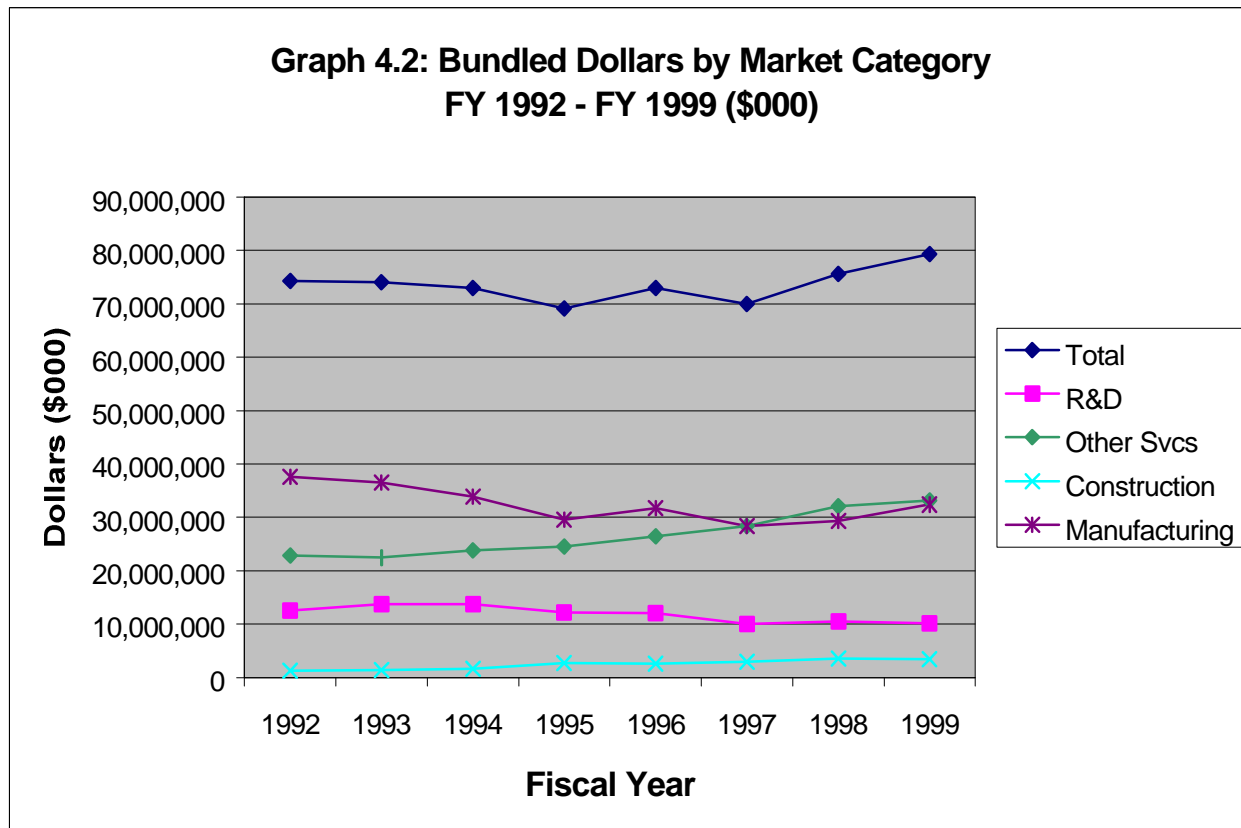
	FY 1992 Contract Sums (\$000)			FY 1999 Contract Sums (\$000)		
	All	Bundled	Bundled %	All	Bundled	Bundled %
De-obligations	-292,493	-99,979	34.2%	-1,206,330	-51,893	4.3%
Large (> \$1 mil)	168,797,511	73,209,666	43.4%	172,279,974	78,925,921	45.8%
Small (< \$1 mil)	14,576,189	1,236,735	8.5%	14,051,047	416,206	3.0%
Total	183,081,207	74,346,422	40.6%	185,124,691	79,290,234	42.8%

	FY 1992 Average Contract Size (\$000)			FY 1999 Average Contract Size (\$000)		
	All	Bundled	Bundled %	All	Bundled	Bundled %
De-obligations	-433	-1,111	256.7%	-7,138	-1,297	18.2%
Large (> \$1 mil)	4,378	5,960	136.1%	4,902	6,109	124.6%
Small (< \$1 mil)	91	115	126.8%	107	50	46.7%
Total	915	3,213	351.3%	1,107	3,718	335.8%

B. Four Perspectives on Bundled Contract Trends

In this section we analyze federal contract spending in general and bundled contract spending in particular by several key data groupings in order to pinpoint where bundling is occurring, what bundled contract trends look like over time and to assess how extensive and potentially harmful to small business the practice of bundling has become. The four perspectives include looking at bundled contract data by Market, by Agency, by Type of Business and by Size of Contract.

1. Market-By-Market Analysis



The modest 2.2 percentage point rise in the bundled dollar share of total federal contracts between FY 1992 and FY 1999 masks a dramatic 13 percent jump in overall bundled contract spending since FY 1997, from \$70 billion to \$79.3 billion. As part of this rapid rise over the last three years there has been a dramatic shift in the composition of bundled contract dollars. Bundling has moved away from the R&D and Manufacturing sectors and into Other Services and Construction.

While government contract spending rose only 1 percent between FY 1992 and FY 1999, spending in the R&D and Manufacturing sectors declined 17 percent and 12 percent respectively. This is mirrored in the respective 19 percent and 14 percent bundled dollar drops in these sectors. Yet over this period, total spending in Other Services rose 18 percent and Construction spending rose 25 percent. Bundled spending growth in these sectors was even more dramatic: 45 percent for Other Services and 170 percent for Construction. In Graph 4.2 above, note that in FY 1998 bundled dollars in the Other Services Sector

surpassed the Manufacturing sector for the first time. Clearly, the Other Services and the Construction sectors have been the main drivers behind the increase in bundled contract spending. A \$3 billion jump in bundled dollars in the Manufacturing sector in FY 1999 may portend additional contract consolidation there.

Table 4.4: Overall and Bundled Spending by Market FY 1992 – FY 1999

	1992	1993	1994	1995	1996	1997	1998	1999
Overall Spending								
Total (\$000)	183,081,207	184,426,948	181,500,339	185,101,960	183,418,403	178,817,245	183,883,073	185,124,691
R&D	29,472,608	29,861,006	27,861,389	28,477,050	28,334,352	26,105,713	25,752,111	24,595,627
Other Svcs	67,319,180	67,515,790	72,987,115	72,948,808	74,272,284	72,938,630	77,289,945	79,586,660
Construction	13,043,069	13,580,246	16,434,012	17,066,800	15,976,970	16,134,800	15,589,791	16,248,018
Manufacturing	73,246,350	73,469,906	64,217,823	66,609,302	64,834,797	63,638,102	65,251,226	64,694,386
Bundled Total (\$000)	74,346,422	74,101,220	72,937,974	69,124,249	72,925,611	69,960,609	75,635,848	79,290,234
Bundled Share	40.6%	40.2%	40.2%	37.3%	39.8%	39.1%	41.1%	42.8%
R&D	12,500,911	13,716,752	13,711,548	12,216,234	12,106,786	10,075,751	10,518,129	10,161,332
Other Svcs	22,888,851	22,486,929	23,762,717	24,543,541	26,456,971	28,409,846	32,126,763	33,205,809
Construction	1,288,938	1,422,447	1,633,126	2,739,930	2,577,228	3,023,875	3,575,685	3,479,273
Manufacturing	37,667,722	36,475,092	33,830,583	29,624,544	31,784,626	28,451,137	29,415,271	32,443,820
Market Share of Bundled Total								
R&D	16.8%	18.5%	18.8%	17.7%	16.6%	14.4%	13.9%	12.8%
Other Svcs	30.8%	30.3%	32.6%	35.5%	36.3%	40.6%	42.5%	41.9%
Construction	1.7%	1.9%	2.2%	4.0%	3.5%	4.3%	4.7%	4.4%
Manufacturing	50.7%	49.2%	46.4%	42.9%	43.6%	40.7%	38.9%	40.9%
Bundled Share of Overall Market								
R&D	42.4%	45.9%	49.2%	42.9%	42.7%	38.6%	40.8%	41.3%
Other Svcs	34.0%	33.3%	32.6%	33.6%	35.6%	39.0%	41.6%	41.7%
Construction	9.9%	10.5%	9.9%	16.1%	16.1%	18.7%	22.9%	21.4%
Manufacturing	51.4%	49.6%	52.7%	44.5%	49.0%	44.7%	45.1%	50.1%

In FY 1992, Other Services and Construction accounted for only 32.5 percent of all bundled dollars. By FY 1999, these two sectors represented over 46 percent of the bundled dollar total, a 42 percent share increase. Between FY 1992 and FY 1999 bundled dollars in Other Services grew as a share of all Other Services dollars from 34 percent to 42 percent. In Construction, bundled dollars were only 10 percent of total Construction spending in FY 1992 but grew to 21 percent of the dollars in FY 1999. With the Manufacturing sector's \$3 billion jump in bundled dollars from FY 1998 – FY 1999, one out of every two Manufacturing contract dollars is now bundled.

What do these market shifts mean for small business? Table 4.5 (below) shows that since FY 1992 large firms have grown as a share of all federal contractors from 22.3 percent to 23.8 percent. Given the increase in contract size and consolidation this is not too surprising. Notice, however that between FY 1992 and FY 1999 the small business share of the Other Services (OS) and Construction (CON) sectors fell, while the small business share of the R&D and Manufacturing sectors rose. Small business participation fell in the two market sectors driving the growth in bundled contract spending over the last

eight years and rose in the two sectors where bundled contract dollars fell. This data links declines in small business participation with increased rates of bundling and rises in small business participation with the growth of unbundled awards.

Table 4.5: Count of Firms in R&D, Other Services, Construction & Manufacturing With Breakouts by Large, Small Disadvantaged, Other Small and Other Business FY 1992 - FY 1999

Type of Business	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
Research & Development								
Large	1,577	1,659	1,433	1,497	1,702	1,454	1,295	1,203
Small Disadv	505	564	597	701	776	677	634	603
Other Small	2,504	2,691	2,692	2,890	3,303	2,972	2,798	2,866
Other	1,202	1,237	1,138	1,296	1,410	1,223	1,118	1,076
Total	5,788	6,151	5,860	6,384	7,191	6,326	5,845	5,748
SB Sector Share	52.0%	52.9%	56.1%	56.3%	56.7%	57.7%	58.7%	60.4%
Other Services								
Large	10,547	11,482	10,913	11,512	12,903	11,307	11,167	10,775
Small Disadv	3,661	3,924	3,932	4,479	5,079	4,261	4,418	4,657
Other Small	20,609	18,827	17,260	17,940	19,141	17,646	18,146	18,421
Other	7,031	7,369	6,942	7,502	7,586	6,985	6,841	6,848
Total	41,848	41,602	39,047	41,433	44,709	40,199	40,572	40,701
SB Sector Share	58.0%	54.7%	54.3%	54.1%	54.2%	54.5%	55.6%	56.7%
Construction								
Large	2,045	2,415	2,243	2,311	2,549	2,158	2,099	2,047
Small Disadv	2,754	3,244	3,151	3,082	3,116	2,511	2,302	2,253
Other Small	16,809	17,369	15,929	13,244	13,071	10,610	9,469	8,664
Other	1,131	1,033	989	1,000	1,206	1,100	969	1,062
Total	22,739	24,061	22,312	19,637	19,942	16,379	14,839	14,026
SB Sector Share	86.0%	85.7%	85.5%	83.1%	81.2%	80.1%	79.3%	77.8%
Manufacturing								
Large	9,508	9,214	8,240	8,728	10,185	8,588	8,322	8,331
Small Disadv	1,588	1,661	1,577	1,852	2,257	2,072	2,070	2,095
Other Small	15,005	13,742	12,501	13,239	16,484	15,289	14,421	14,666
Other	3,181	3,121	2,824	3,106	3,734	3,819	3,516	3,636
Total	29,282	27,738	25,142	26,925	32,660	29,768	28,329	28,728
SB Sector Share	56.7%	55.5%	56.0%	56.0%	57.4%	58.3%	58.2%	58.3%
All Firms	92,326	92,112	85,369	86,946	96,815	84,709	81,330	80,643
Small Firms	60,264	58,836	54,467	54,001	59,836	52,261	50,273	50,008
Small Firm Share	65.3%	63.9%	63.8%	62.1%	61.8%	61.7%	61.8%	62.0%
Large Firms	20,575	21,610	19,988	21,081	24,113	20,448	19,757	19,194
Large Firm Share	22.3%	23.5%	23.4%	24.2%	24.9%	24.1%	24.3%	23.8%

2. Agency Analysis

The year-by-year agency analysis reveals an intensified usage of bundling by civilian agencies. Defense agencies still dominate the awarding of bundled contracts and their share of overall bundled dollars remains significantly out of proportion to their share of total prime contract dollars. However the DoD share of bundled contract dollars declined over the study period by 3.9 percentage points, from 85.9 percent to 82 percent, while the Civilian Agency share grew from 14.1 percent to 18 percent. This 27.6 percent bundled dollar share growth for civilian agencies over the eight years was tempered in FY 1999 by a nearly 2 percentage point drop from FY 1998 as DoD bundled spending rose.

Table 4.6: Total and Bundled Prime Contract Spending With Defense vs. Civilian Bundled Dollar Breakout FY 1992 - FY 1999
(all dollars in thousands)

	1992	1993	1994	1995	1996	1997	1998	1999
Total Dollars	183,081,207	184,426,948	181,500,339	185,101,960	183,418,403	178,817,245	183,883,073	185,124,691
All Bundled	74,346,422	74,101,220	72,937,974	69,124,249	72,925,611	69,960,609	75,635,848	79,290,234
DoD Bundled Total	63,844,800	64,037,992	61,959,757	57,038,700	60,452,233	55,913,223	60,610,040	64,986,122
DoD Bundled Share	85.9%	86.4%	84.9%	82.5%	82.9%	79.9%	80.1%	82.0%
Civilian Bundled Total	10,501,622	10,063,228	10,978,217	12,085,549	12,473,378	14,047,386	15,025,808	14,304,112
Civilian Bundled Share	14.1%	13.6%	15.1%	17.5%	17.1%	20.1%	19.9%	18.0%

As shown in Table 4.7 below, 21 civilian agencies more than doubled their bundled contract spending between FY 1992 and FY 1999. The Department of Education (DED) and the Equal Employment Opportunity Commission (EEOC) grew their bundled dollars nearly 30 times. Between the two largest civilian agencies, the Department of Energy's (DOE's) bundled dollars grew 19.2 percent while the National Aeronautics and Space Administration's (NASA's) total fell by 16.4 percent.

In terms of absolute dollars, the largest growth by far occurs in the General Services Administration (GSA), where Federal Schedule contracting vehicles have grown significantly in importance over the last seven years. Between FY 1992 and FY 1999 GSA's bundled dollar expenditures grew over \$1.7 billion. Treasury was next with \$1.2 billion, followed by Justice (\$925 million), Veterans (\$697 million) and Education (\$388 million). The Social Security Administration (SSA) spent \$300 million in bundled awards in FY 1997 and \$260 million in each of the last two fiscal years. However SSA did not exist as a separate agency in FY 1992 so their growth figures would be misleading.

As shown in Table 4.8 below, in FY 1998, the Navy surpassed the Air Force in total bundled contract dollar awards for the first time and continues to lead all DoD bureaus in the awarding of bundled contracts through FY 1999. The Navy now accounts for 34 percent of all DoD bundled dollars. Army bundling grew a dramatic 25 percent from FY 1998 to FY 1999 and the Army now accounts for 24 percent of all DoD bundled dollars. The Army's 22 percent bundled dollar growth outpaces the Navy's growth by 10 times. Air Force bundled dollars increased for the first time since FY 1996. The Air Force accounts for 29 percent of the DoD's FY 1999 bundled dollar total, however Air Force bundled dollars fell 24 percent in the last eight years. The Special Operations Command (USSOC), the Defense Mapping Agency (DMA), the Defense Nuclear Agency (DNA) and the Defense Finance and Accounting Service (DFAS), once relatively small DoD bureaus, now spend hundreds of millions of bundled dollars each year at rates two to eight times higher than in FY 1992.

Table 4.7: Top 25 Civilian Agencies⁷
Ranked By Bundled Contract Dollar Growth FY 1992 - FY 1999
(all dollars in thousands)

Rank	Agency	FY 92-99								Diff	% Growth
		FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999		
1	DED	13,092	5,111	4,384	21,212	29,058	47,127	472,740	401,089	387,997	2963.6%
2	EEOC	462	3,287	1,254	2,482	5,355	5,801	4,934	13,988	13,526	2927.7%
3	OPM	3,064	294	150	829	5,171	21,757	86,228	83,657	80,593	2630.3%
4	FEMA	7,675	3,991	4,926	11,247	110,513	132,010	86,241	131,345	123,670	1611.3%
5	FTC	855	1,633	2,160	3,668	2,554	2,601	2,256	6,845	5,990	700.6%
6	DOC	79,080	66,310	187,650	123,702	208,695	194,378	378,542	443,953	364,873	461.4%
7	PEACE	1,415	1,929	3,389	357	2,041	5,188	8,059	7,791	6,376	450.6%
8	DOJ	423,721	366,964	542,595	849,400	963,197	1,156,802	1,306,869	1,348,491	924,770	218.2%
9	USDA	118,273	104,929	134,191	100,271	245,953	208,614	273,803	376,278	258,005	218.1%
10	SEC	6,433	7,716	5,341	5,586	13,766	7,666	7,310	19,439	13,006	202.2%
11	TREAS	609,754	786,932	575,507	555,868	679,393	874,683	1,509,372	1,818,477	1,208,723	198.2%
12	SMITH	1,360	866	7,406	1,165	3,002	3,610	2,357	3,899	2,539	186.7%
13	SSS	118	78	137	0	0	0	550	308	190	161.0%
14	NRC	12,012	5,597	3,621	27,645	28,583	17,815	40,641	29,105	17,093	142.3%
15	ITC	577	501	327	508	25	1,433	926	1,379	802	139.0%
16	HUD	138,246	110,884	89,166	114,451	141,928	186,591	45,562	319,392	181,146	131.0%
17	AID	128,480	119,683	76,600	102,548	64,001	4,277	205,953	295,986	167,506	130.4%
18	NARA	5,892	6,748	5,414	7,792	2,326	2,585	9,245	12,442	6,550	111.2%
19	CPSC	537	1,779	1,789	975	261	1,179	1,957	1,129	592	110.2%
20	STATE	245,305	278,705	283,670	366,733	221,052	307,111	306,411	500,763	255,458	104.1%
21	DVA	689,511	785,606	567,599	972,084	1,036,533	1,476,828	1,354,299	1,386,630	697,119	101.1%
22	EOP	10,434	9,035	13,302	10,906	15,270	16,872	20,448	19,071	8,637	82.8%
23	GSA	2,150,870	1,961,754	3,050,957	1,629,760	3,280,594	3,905,217	4,427,133	3,895,146	1,744,276	81.1%
24	NLRA	2,804	1,466	2,796	2,389	2,574	2,470	2,451	4,440	1,636	58.3%
25	HHS	317,186	256,012	88,520	371,940	211,610	274,983	343,733	499,495	182,309	57.5%

⁷ See Appendix A.2, page 60 for Agency Acronym Translations

Table 4.8: Top Defense Bureaus⁸
Ranked By Bundled Contract Dollar Growth FY 1992 - FY 1999
(all dollars in thousands)

Rank	Bureau	FY 92-99									
		FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	Diff	Growth
1	USSOC	2,783	14,204	364,894	145,962	172,800	148,293	228,694	246,165	243,382	8745.3%
2	AFIS	1,974	2,064	5,794	24,320	26,947	24,781	32,314	34,656	32,682	1655.6%
3	WHS	4,621	4,650	5,275	4,723	2,697	10,479	8,905	52,448	47,827	1035.0%
4	DMA	24,966	29,030	21,756	33,947	54,685	129,806	152,012	252,977	228,011	913.3%
5	DNA	53,994	35,633	40,623	27,752	104,784	183,279	81,873	192,936	138,942	257.3%
6	CHAMPUS	782,421	880,192	552,980	550,520	485,427	1,559,470	2,275,122	2,422,279	1,639,858	209.6%
7	DLA	655,934	932,766	894,069	1,065,657	1,157,220	1,422,341	1,568,669	1,921,791	1,265,857	193.0%
8	USUHS	1,133	1,578	989	1,281	452	1,315	2,248	3,204	2,071	182.8%
9	DISA	899,013	738,431	785,995	999,706	1,276,829	1,229,055	1,443,333	1,391,959	492,946	54.8%
10	COE-CPF	591,103	509,608	663,199	889,904	695,266	648,771	628,840	732,721	141,618	24.0%
11	DOA	12,938,235	12,856,895	11,091,191	11,364,520	13,488,141	11,781,771	12,852,257	15,804,961	2,866,726	22.2%
12	NAVY	21,510,484	19,872,300	18,664,186	17,431,312	18,043,079	17,646,915	21,650,219	22,111,603	601,119	2.8%
13	AF	24,695,242	26,683,028	28,043,677	23,620,379	24,020,959	20,095,275	18,480,615	18,803,760	-5,891,482	-23.9%
14	DARPA	78,268	84,870	90,181	53,931	52,137	51,968	43,371	55,669	-22,599	-28.9%
15	SDIA	349,315	115,672	20,542	26,662	15,488	15,019	129,240	205,753	-143,562	-41.1%
16	DCA	683,231	719,937	548,459	602,841	628,466	729,602	661,366	314,392	-368,839	-54.0%
17	DODSEC	562,636	548,533	160,069	174,483	163,785	158,000	153,677	207,369	-355,267	-63.1%
18	OSIA	9,447	8,601	5,878	8,187	22,930	24,883	29,520	0	-9,447	-100.0%
19	DFAS	0	0	0	0	0	0	137,332	203,368	203,368	N/A
20	ODS	0	0	0	12,613	40,141	52,200	50,433	28,111	28,111	N/A

3. Type of Business Analysis

A. Dollar Analysis

In FY 1999, Large Businesses (LBs) still received three-quarters of all bundled contract dollars, but between FY 1992 and FY 1999 Small, Disadvantaged Businesses (SDBs) and Other Small Businesses (OSBs) grew their bundled share from 9 percent to 16 percent. Despite receiving a larger share of bundled dollars, SDBs and OSBs received a disproportionately small share of these dollars. In FY 1999, SDBs and OSBs received 18.7 percent of all prime contract dollars, leaving a three percentage point gap between the small business share of bundled dollars and their share of overall dollars.

In FY 1999 large firms received 74 percent of all bundled dollars, down from 77 percent in FY 1998. Note, however, the growth in bundled dollars awarded in the “Other” category. Two of the largest components of this category, Domestic Contractors Performing Outside the US and company records with blank business codes, consist mainly of large businesses. This means the apparent decline in large business bundled dollars is smaller than it appears.

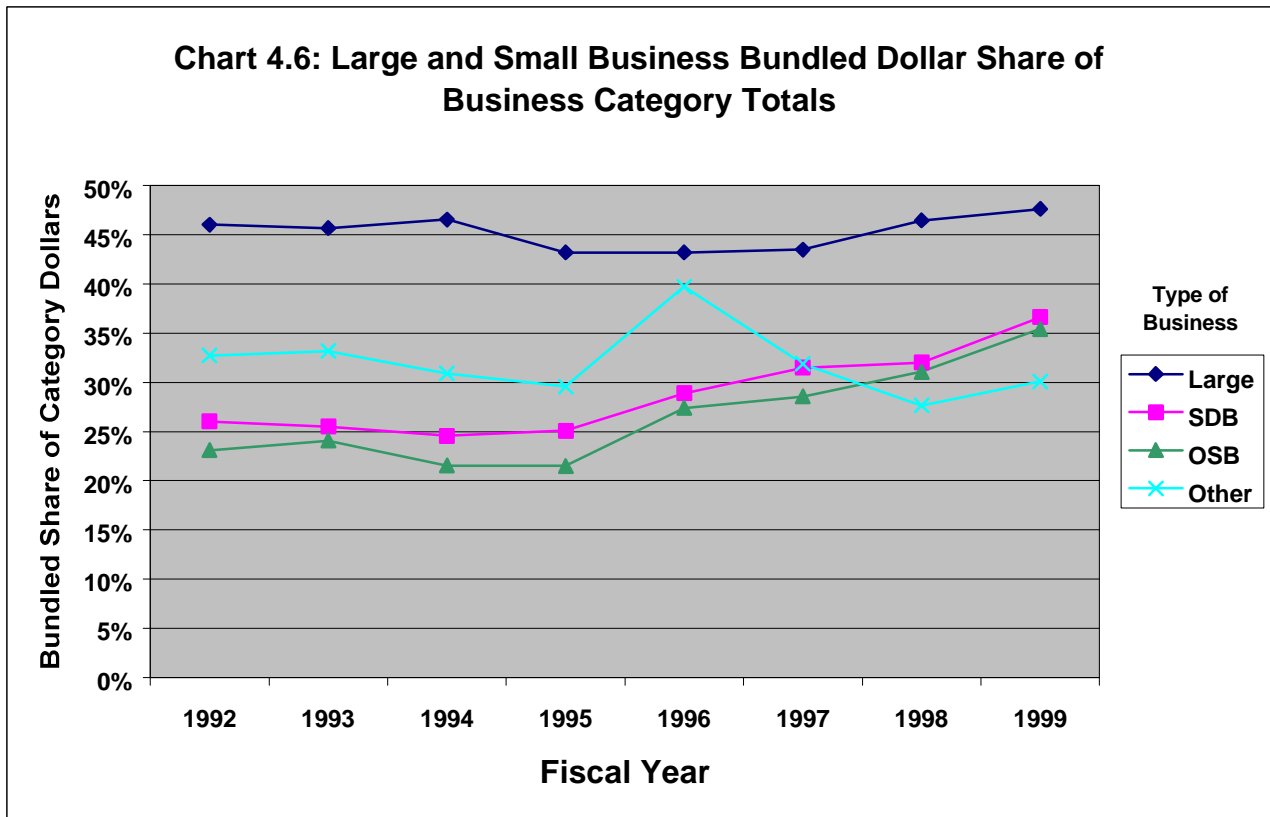
⁸ See Appendix A.2, page 60 for bureau acronym translations.

Table 4.9: Total Dollars, Bundled Dollars and Shares Broken Out by Business Category, FY 1992 - FY 1999

Size	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
Overall Dollars	183,081,207	184,426,948	181,500,339	185,101,960	183,418,403	178,817,245	183,883,073	185,124,691
Large	128,340,826	124,786,275	124,238,328	122,974,725	117,537,976	118,559,185	125,208,392	123,458,215
SDB	8,304,926	9,525,288	10,051,383	11,350,897	10,920,323	10,790,139	11,396,554	11,560,128
OSB	21,218,703	21,023,633	20,266,898	22,558,386	22,789,127	22,280,685	22,737,705	23,104,207
Other	25,216,752	29,091,752	26,943,730	28,217,952	32,170,977	27,187,236	24,540,422	27,002,141
Bundled Dollars	74,346,422	74,101,220	72,937,974	69,124,249	72,925,611	69,960,609	75,635,848	79,290,234
Large	59,031,221	56959681	57783750	53084006	50756352	51531546	58142747	58750930
SDB	2162406	2430820	2467370	2847073	3154441	3398627	3648506	4232925
OSB	4900300	5058180	4363455	4853655	6237912	6363250	7062670	8181965
Other	8252495	9652539	8323399	8339515	12776906	8667186	6781925	8124414
Sector Share of Overall Dollars								
Large	70.10%	67.66%	68.45%	66.44%	64.08%	66.30%	68.09%	66.69%
SDB	4.54%	5.16%	5.54%	6.13%	5.95%	6.03%	6.20%	6.24%
OSB	11.59%	11.40%	11.17%	12.19%	12.42%	12.46%	12.37%	12.48%
Other	13.77%	15.77%	14.85%	15.24%	17.54%	15.20%	13.35%	14.59%
Bundled Share of All Bundled Dollars								
Large	79.40%	76.87%	79.22%	76.80%	69.60%	73.66%	76.87%	74.10%
SDB	2.91%	3.28%	3.38%	4.12%	4.33%	4.86%	4.82%	5.34%
OSB	6.59%	6.83%	5.98%	7.02%	8.55%	9.10%	9.34%	10.32%
Other	11.10%	13.03%	11.41%	12.06%	17.52%	12.39%	8.97%	10.25%
Bundled Share of Sector Dollars								
Large	46.00%	45.65%	46.51%	43.17%	43.18%	43.46%	46.44%	47.59%
SDB	26.04%	25.52%	24.55%	25.08%	28.89%	31.50%	32.01%	36.62%
OSB	23.09%	24.06%	21.53%	21.52%	27.37%	28.56%	31.06%	35.41%
Other	32.73%	33.18%	30.89%	29.55%	39.72%	31.88%	27.64%	30.09%

SDBs and OSBs received a combined \$12.4 billion in bundled contract dollars in FY 1999, a jump of nearly 16 percent in one year. Over the last eight years the small business bundled dollar share has grown 64 percent.

Small business's growing dependency on bundled contracts is illustrated by the fact that between FY 1992 and FY 1999 both SDB and OSB bundled dollars grew from about one-quarter to one-third of the combined SDB and OSB sector dollars. The SDB bundled dollar share grew from 26 percent to 37 percent while the OSB sector grew from 23 percent to 35 percent. The LB share of bundled contracts remained relatively stable, rising only from 46 percent to 48 percent over the same period.



Although on the whole small businesses have become more dependent upon bundled contracts, relatively few small businesses actually benefit. There is a high degree of stratification among small businesses receiving bundled dollars. Table 4.10 displays a decile dollar breakdown of bundled contract recipients in FY 1999. It shows that the 1,168 small businesses in the first two dollar deciles received 84.3 percent of all the small business bundled dollars that year. In other words, 16.1 percent of all small, bundled dollar recipients received 4.2 out of every five small business bundled dollars.⁹

A further illustration of this stratification is the fact that only seven small businesses are among the top 100 recipients of bundled contracts during FY 1999, yet these small businesses received \$885 million, or 13 percent of all small business bundled awards. The seven small businesses include: GTSI (\$278 million); ITC (\$127 million); Integrity Management (\$110 million); McBride & Associates (\$109 million); Signal Corp. (\$106 million); Intelligent Decisions (\$79 million); and Comteq Federal (\$75 million). For a ranked list of the Top 100 bundled contract recipients in FY 1999, see Appendix 3, page 62.

Table 4.10: FY 1999 Bundled Contract Dollar and Company Decile Analysis

⁹ Note that for the decile analysis Eagle Eye corrected for companies that had multiple Type of Business Codes by assigning a single Business Category to a Parent Company based on which Business Category held the majority of a company's bundled dollars. This was done to correct for the fact that numerous large businesses had divisions coded as small businesses. This lowered the small business dollar total from the \$12.4 billion in Chart 4.9 to the \$11.9 billion in Chart 10, a difference of \$461 million.

All Dollars in Thousands

Business Type	Decile 1		Decile 2		Decile 3		Decile 4		Decile 5	
	Bund \$	Firms	Bund \$	Firms	Bund \$	Firms	Bund \$	Firms	Bund \$	Firms
Large	61,501,799	525	1,125,815	391	372,763	322	178,278	300	87,600	260
Other Small	5,412,757	322	1,113,687	400	628,383	535	338,268	571	215,140	635
Small/Disadv	2,786,587	190	773,181	256	236,878	200	111,347	184	58,195	172
Other	4,459,597	122	318,452	113	118,289	103	62,593	105	30,698	93
Total	74,160,740	1,159	3,331,135	1,160	1,356,313	1,160	690,486	1,160	391,633	1,160
	Decile 6		Decile 7		Decile 8		Decile 9		Decile 10	
	Bund \$	Firms	Bund \$	Firms	Bund \$	Firms	Bund \$	Firms	Bund \$	Firms
Large	54,622	271	34,021	283	22,758	326	12,397	337	-1,049,965	277
Other Small	127,525	634	80,247	655	45,474	635	22,575	619	-26,441	603
Small/Disadv	29,487	145	13,602	112	7,332	101	3,352	95	-23,365	165
Other	21,402	110	13,578	110	7,129	98	3,975	109	-39,778	108
Total	233,036	1,160	141,448	1,160	82,693	1,160	42,299	1,160	-1,139,549	1,153

B. Business Counts

Contract bundling appears to have a negative impact on new, small business formation. As bundled contracts have grown in total value and have become concentrated in the hands of large business and the larger small businesses, the number of vendors in the federal marketplace has fallen.

Between FY 1992 and FY 1999, the number of unique parent companies fell 16.3 percent, from 74,202 to 62,104. The count of OSBs fell 1.5 times more than the overall count, dropping 23 percent to 36,799, the lowest OSB count in eight years. SDBs rose 2 percent, from 6,802 to 6,966 over the same period.¹⁰

Table 4.11: Overall Counts of Unique Parent Companies In the Federal Marketplace, FY 1992 - FY 1999

¹⁰ Eagle Eye uses a count of parent company names in this table rather than a count of DUNS numbers because it more accurately reflects the number of unique players entering and leaving the federal marketplace. Large firms can be made up of many DUNS numbers, while small companies typically hold only one or a few DUNS numbers. By consolidating related DUNS numbers into one parent entity, the resulting count removes the tendency to over- and under-state the actual number of firms present. Eagle Eye has been tracking parent companies in the federal contractors database for 15 years and used its historical data files to create this table.

Bus Type	1992	1993	1994	1995	1996	1997	1998	1999
Large	11,728	11,055	10,253	10,726	11,380	10,624	10,498	10,329
Other Small	47,572	44,150	41,072	39,500	40,276	38,649	37,199	36,799
Small/Disadv	6,802	7,226	7,132	7,438	7,708	6,979	6,854	6,966
Other	8,100	8,438	8,003	8,455	8,641	7,965	7,719	8,010
Total	74,202	70,869	66,460	66,119	68,005	64,217	62,270	62,104

These overall trends are further supported by observed trends in the four major markets, R&D, Other Services, Construction and Manufacturing. As detailed on page 63, between FY 1992 and FY 1999 the small business share of the Other Services (OS) and Construction (CON) sectors fell, while the small business share of the R&D and Manufacturing sectors rose. Small business participation fell in the two market sectors driving the growth in bundled contract spending over the last eight years and rose in the two sectors where bundled contract dollars fell.

4. Size of Contract Analysis

An analysis of bundling by contract size confirms the growing concentration of contract dollars in fewer contract and larger vehicles. Table 4.12 below shows that large, bundled contracts greater than \$1 million are more numerous and larger on average, while small bundled contracts are less numerous and smaller.

The total for large, bundled contracts grew from \$73 billion to \$79 billion between FY 1992 and FY 1999, while the sum of all small, bundled contracts dropped by 2/3, from \$1.2 billion to \$416 million. With total large contract bundled dollars growing 8 percent and the count of large, bundled contracts only growing five percent, the average size of a large, bundled contract rose from \$4.3 million in FY 1992 to \$4.9 million in FY 1999. This is the largest size of a large, bundled contract since FY 1995. Between FY 1998 and FY 1999 large, bundled contract size jumped 14 percent.

Overall counts of large and small, unbundled contracts declined, driving up average contract sizes in both categories. Between FY 1992 and FY 1999, an average, large unbundled contract grew from \$3.6 million to \$4.2 million, an average small, unbundled contract shot up from \$89,000 to \$110,000. Despite this increase, the size of a large, bundled contract is 1.5 times greater than a large, unbundled contract in FY 1999.

**Table 4.12: Large and Small Unbundled and Bundled Contracts
With Annual Counts and Average Contract Size FY 1992 - FY 1999
Large = Greater than or equal to \$1 million. All dollars in thousands (\$000).**

	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
Count of All Contracts								
Large Contracts	38,557	40,599	40,281	41,602	41,481	40,927	39,719	35,143
Small Contracts	160,965	148,815	139,747	134,116	135,947	131,962	129,075	131,897
Count of All Bundled Contracts								
Large Contracts	12,283	12,160	11,347	10,718	12,820	13,556	13,780	12,919
Small Contracts	10,769	8,381	7,204	6,840	7,235	7,853	7,958	8,369
Count of All Unbundled Contracts								
Large Contracts	26,274	28,439	28,934	30,884	28,661	27,371	25,939	22,224
Small Contracts	150,196	140,434	132,543	127,276	128,712	124,109	121,117	123,528
Sum of All Contracts								
Large Contracts	168,797,511	170,399,207	168,153,629	171,414,750	169,341,853	166,270,667	171,015,941	172,279,974
Small Contracts	14,576,189	14,299,638	13,410,783	13,935,512	14,206,586	12,812,565	12,964,055	14,051,047
Sum of All Bundled Contracts								
Large Contracts	73,209,666	73,271,057	72,064,995	68,400,345	71,971,477	69,079,441	74,631,363	78,925,921
Small Contracts	1,236,735	879,068	874,680	909,949	990,864	940,955	1,035,038	416,206
Sum of All Unbundled Contracts								
Large Contracts	95,587,845	97,128,150	96,088,634	103,014,405	97,370,376	97,191,226	96,384,578	93,354,053
Small Contracts	13,339,454	13,420,570	12,536,103	13,025,563	13,215,722	11,871,610	11,929,017	13,634,841
Average of All Contracts								
Large Contracts	4,378	4,197	4,175	4,120	4,082	4,063	4,306	4,902
Small Contracts	91	96	96	104	105	97	100	107
Average of All Bundled Contracts								
Large Contracts	5,960	6,026	6,351	6,382	5,614	5,096	5,416	6,109
Small Contracts	115	105	121	133	137	120	130	50
Average of All Unbundled Contracts								
Large Contracts	3,638	3,415	3,321	3,336	3,397	3,551	3,716	4,201
Small Contracts	89	96	95	102	103	96	98	110

The number of small, bundled contracts shrank over the study period along with their average size. Note, however, that since FY 1995, the number of both large and small bundled contracts has grown significantly, climbing a combined 21 percent in the last five years. The drop between FY 1998 and FY 1999 in the number of large, bundled contracts may be the result of growth in their size.

C. Bundled Contract Regression Analysis

A standard regression analysis of bundled contract statistics reveals that bundling is associated with harm to small business. The analysis confirms observed trends that as bundled contracts increase in number and size, small business contract and dollar shares decline.

Specifically, our analysis shows that if the number of bundled contracts increases by 100:

- the number of total small business contracts decreases by 106
- the number of small disadvantaged business contracts increases by 38
- the number of other small business contracts decreases by 144
- the number of large business contracts increases by 75, and

- the number of contracts to other performers increases by 31.

Our analysis also shows that if the amount of bundled dollars increases by 100:

- the number of total small business dollars decreases by 33
- the number of small disadvantaged business dollars increases by 8
- the number of other small business dollars decreases by 41
- the number of large business dollars increases by 24, and
- the number of dollars to other performers increases by 8.

1. Contract Analysis

For each general market and fiscal year, Table 4.13 gives the percentage of contracts going to each performer, as well as the percentage of contracts that are bundled.

Table 4.14 shows the results of regressions of each performer's share vs. the overall bundling share. In performing these regressions it was necessary to take into account that the e.g. small business share by general market is influenced not only by bundling but also by the general market itself. For example, in FY99 the highest small firm share was in construction, as was the smallest bundling share. Now it may be that the high small business share is the result of the low bundling share, but it may also be that there is something about construction that lends itself to small business but at the same time is (independently) not conducive to bundling. (For example, a large business contract might also be less likely to be bundled if it is in construction.)

We have dealt with this by introducing three dummy variables: one for construction, one for other services, and one for manufacturing. (Having a dummy variable for R&D would be redundant.) The results are as follows: If the number of bundled contracts increases by 100, the number of small disadvantaged business contracts increases by 38, the number of other small business contracts decreases by 144, the number of total small business contracts thus decreases by 106, the number of large business contracts increases by 75, and the number of contracts to other performers increases by 31. R-squared varies from 91 percent to 96 percent.

**TABLE 4.13: Percent of Contracts By Performer,
by General Market and Fiscal Year**

	FY	SDB	OSB	Total SB	LB	OTHER	BUNDLED
R&D	1992	6.05	34.22	40.26	36.01	23.72	14.63
	1993	6.76	36.3	43.06	34.8	22.14	13.31
	1994	7.56	38.12	45.68	32.81	21.51	12.85
	1995	8.27	39.1	47.37	30.24	22.39	11.7
	1996	8.59	40.77	49.36	29.59	21.05	11.29
	1997	8.48	42.21	50.69	28.84	20.47	11.73
	1998	8.36	43.42	51.78	27.99	20.23	11.57
	1999	8.23	44.91	53.14	26.77	20.09	12.48
	Const	1992	14.16	73.29	87.45	7.71	4.84
1993		15.96	70.98	86.94	8.45	4.61	4.03
1994		16.96	69.02	85.97	9.15	4.88	3.44
1995		19.85	63.97	83.82	10.44	5.74	3.77
1996		18.55	63.02	81.57	11.09	7.34	4.09
1997		19.6	59.77	79.38	12.93	7.7	5.62
1998		21.11	56.67	77.78	13.95	8.27	7.66
1999		22.21	53.3	75.51	14.23	10.26	8.67
OS		1992	11.18	41.67	52.85	29.31	17.85
	1993	12.42	38.18	50.59	30.96	18.44	17.63
	1994	13.02	37.43	50.45	31.68	17.88	16.76
	1995	14.27	36.47	50.74	31.51	17.74	15.5
	1996	14.17	36.74	50.91	31.87	17.21	19.51
	1997	14.18	37.07	51.25	31.68	17.07	21.16
	1998	14.61	37.47	52.08	31.74	16.18	21.34
	1999	15.24	38.01	53.25	30.7	16.05	21
	MFG	1992	5.07	47.18	52.25	40.45	7.3
1993		6.11	42.78	48.89	43.12	7.99	12.07
1994		6.45	42.91	49.36	41.41	9.23	12.07
1995		6.73	44.58	51.31	38.78	9.91	11.83
1996		6.63	48.95	55.58	33.86	10.56	11.03
1997		6.25	49.49	55.74	33.6	10.66	11.44
1998		6.52	48.09	54.61	34.76	10.63	11.79
1999		6.78	46.79	53.58	35.48	10.94	11.96

Table 4.14: Regression Results

	SDB	OSB	Total SB	LB	OTHER
R Squared	0.93	0.91	0.96	0.95	0.96
Constant	3.12	57.76	60.88	21.58	17.54
Coefficient:					
Bundled	0.38	-1.44	-1.06	0.75	0.31
Const.	13.48	13.45	26.94	-14.47	-12.47
OS	3.35	7.57	10.92	-4.68	-6.24
Man.	-1.17	5.34	4.17	7.38	-11.55
t-stats:					
Bundled	2.09	-3.32	-2.91	2.42	1.94
Const.	8.97	3.71	8.8	-5.59	-9.16
OS	2.37	2.22	3.8	-1.92	-4.88
Man.	-1.53	2.88	2.66	5.57	-16.59

2. Dollar Analysis

For each general market and fiscal year, Table 4.15 gives the percentage of dollars going to each performer, as well as the percentage of dollars that are bundled.

Table 4.16 shows the results of regressions of each performer's share vs. the overall bundling share. In performing these regressions it was necessary to again take into account that the e.g. small business share by general market is influenced not only by bundling but also by the general market itself. For example, in FY99 the highest small firm share was in construction, as was the smallest bundling share. It may be that the high small business share is the result of the low bundling share, but it may also be that there is something about construction that lends itself to small business but at the same time is (independently) not conducive to bundling. (For example, a large business contract might also be less likely to be bundled if it is in construction.)

We have again dealt with this by introducing three dummy variables: one for construction, one for other services, and one for manufacturing. (Having a dummy variable for R&D would be redundant.) The results are as follows: If the number of bundled dollars increases by 100, the number of small disadvantaged business dollars increases by 8, the number of other small business dollars decreases by 41, the number of total small business dollars thus decreases by 33, the number of large business dollars increases by 24, and the number of dollars to other performers increases by 8. R-squared varies from 80 percent to 98 percent.

3. Regression Analysis Summary

To summarize the above estimates: the contract effect of bundling on small business is more than one-for-one in that an increase of 100 bundling contracts is associated with a net decrease of 106 small business contracts. But an increase of 100 bundled dollars is associated with a net decrease of 33 small business dollars. The reason for the difference in the effects is that the bundled contracts

won by small business are larger than the contracts they replaced that were previously going to small business. In short, the contract effect of bundling on small business is more than one-for-one; the dollar effect is one-for-three. At \$79 billion in FY 1999, the current level of bundled contracts may be costing small businesses \$26 billion annually. But no matter how one looks at it, the net effects of bundling are detrimental and substantial.

**Table 4.15: Percent Of Dollars By Performer,
by General Market and Fiscal Year**

		SDB	OSB	Total SB	LB	OTHER	BUNDLED
R&D	1992	2.23	6.34	8.56	70.3	21.14	42.42
	1993	2.34	7.25	9.59	69.79	20.62	45.94
	1994	2.14	8.11	10.25	74.33	15.42	49.21
	1995	2.6	8.74	11.34	71.57	17.1	42.9
	1996	2.7	9.55	12.25	71.65	16.1	42.73
	1997	2.86	10.35	13.21	67.47	19.32	38.6
	1998	2.52	9.76	12.28	69.82	17.9	40.84
	1999	2.55	11.75	14.31	67.21	18.48	41.31
	Const.	1992	12.55	35.87	48.42	45.99	5.59
1993		15.34	33.23	48.57	45.13	6.3	10.47
1994		16.11	27.69	43.8	50.77	5.43	9.94
1995		16.6	27.1	43.7	50.19	6.11	16.05
1996		15.15	28.81	43.96	48.55	7.49	16.13
1997		16.04	23.59	39.63	51.91	8.46	18.74
1998		16.86	24.99	41.85	50.71	7.45	22.94
1999		16.39	22.01	38.4	51.61	9.99	21.41
OS		1992	6.61	11.19	17.8	66.08	16.13
	1993	7.11	10.63	17.75	66.09	16.17	33.31
	1994	6.83	9.21	16.04	66.98	16.98	32.56
	1995	7.91	10.57	18.48	64.97	16.55	33.64
	1996	7.5	10.7	18.2	64.58	17.22	35.62
	1997	7.81	10.58	18.39	64.86	16.74	38.95
	1998	7.84	10.36	18.19	65.57	16.24	41.57
	1999	8.16	11.03	19.19	63.12	17.69	41.72
	Man.	1992	2.13	9.75	11.88	78.01	10.1
1993		2.64	9.76	12.4	72.41	15.19	49.65
1994		2.83	10.49	13.33	72.1	14.58	52.68
1995		3.01	11.61	14.62	70.01	15.37	44.48
1996		3.33	11.62	14.96	64.03	21.01	49.02
1997		2.76	12.66	15.42	71.12	13.46	44.71
1998		3.16	12.76	15.92	74.55	9.53	45.08
1999		2.74	12.15	14.89	74.66	10.45	50.15

Table 4.16: Regression Results

	SDB	OSB	Total SB	LB	OTHER
R Squared	0.98	0.94	0.98	0.93	0.8
Constant	-0.87	26.42	25.55	59.77	14.68
Coefficient:					
Bundled	0.08	-0.41	-0.33	0.24	0.08
Const.	15.27	7.86	23.13	-14.24	-8.88
OS	5.49	-1.11	4.38	-3.38	-1
Man.	-0.09	4.56	4.47	0.53	-5
t-stats:					
Bundled	2.26	-4.06	-3.67	1.95	0.75
Const.	15.1	2.69	8.86	-3.88	-2.73
OS	12.87	-0.9	3.97	-2.18	-0.73
Man.	-0.22	3.88	4.26	0.36	-3.82

V. CONCLUSION & RECOMMENDATIONS

Even by what is almost certainly a conservative definition of bundled contracts, the practice of bundling on federal prime contracts is on the rise and is harming small business.

The definition of bundling used in this analysis limits bundled contracts to those showing changes in the SIC Code, the Type of Contract Code or the Place of Performance Code over the FY 1989 – FY 1999 period. This definition includes only 67 percent of the contracts valued at least \$1 billion and only 62 percent of the dollars awarded on contracts worth at least \$1 billion, so the measure is almost certainly conservative. Furthermore, in order to avoid the tendency to over-count bundled contracts in the latter years of the analysis, the year-by-year study of bundling limits the time period within which bundling can occur to the current fiscal year and the three most recent fiscal years.

In terms of dollars, bundling is at its highest rate in the last eight years. The bundled dollar share of all prime contract dollars rose from 40.6 percent in FY 1992 to 42.8 percent in FY 1999 (Table 4.1, p. 27). Since the low point of bundling in FY 1995, the share of all dollars that are bundled has grown 15 percent. Although the overall share of contracts that are bundled is down slightly from FY 1998 to FY 1999, the bundled share of all contracts rose 10 percent over the last eight years. Since the low point of bundling in FY 1995, the share of all contracts that are bundled has risen 27.6 percent (Table 4.1, page 27).

Rates of contract bundling increase rapidly as contracts grow in size. Over one-half of all contracts valued at least \$10 million show signs of bundling. Bundled contracts account for 54 percent of the dollars awarded on contracts of this size (Table 3.2, page 18). Over the study period, large (> \$1 million) bundled contracts became more numerous but grew only 3 percent in value, on average. Small bundled contracts fell in number and their average size shrank dramatically (Table 4.12 page 40). This suggests strong growth in the number and size of bundled contracts in the \$800,000 - \$5 million range.

Growth in bundled contracts in this range may help explain the rise in small business bundled dollars during the FY 1992 – FY 1999 period. Over the eight years, SDBs and OSBs grew their dollar share of bundled contracts 64 percent, from 9.5 percent in FY 1992 to 15.7 percent in FY 1999, a growth of \$5.3 billion in real dollars. Large businesses lost bundled dollar share during this period, falling from over 79 percent to just over 74 percent (see Table 4.9, page 36). Yet the shift in bundled dollars was concentrated in relatively few hands.

Between FY 1992 and FY 1999, the overall count of unique parent companies in the contracts database fell 16.3 percent and the count of OSBs fell even faster at 22.6 percent (see Table 4.11, page 39). A decile dollar breakdown shows that 1,168 small businesses in the first two dollar deciles accounted for 84.3 percent of all small business bundled dollars in FY 1999. In other words, 16.1 percent of all small, bundled dollar recipients in FY 1999 received 4.2 out of every five small business bundled dollars (Table 4.10, p. 38). Overall, the Top 100 bundled dollar recipients in FY 1999 received 70 percent of all bundled dollars. Only five of the top 100 bundled dollar recipients were small businesses and these five companies alone received 6 percent of all small business bundled dollars.

Bundled contract growth is being fueled by the Other Services and Construction sectors. Between FY 1992 and FY 1999, Construction sector bundled dollars grew 170% to \$3.5 billion while OS

bundled dollars grew 45% to 33.2 billion. Bundled contract spending in the R&D and Manufacturing sectors fell a combined 15% during the same period. Between FY 1992 and FY 1999 Other Services and Construction saw their combined bundled dollar share grow from 32.5 percent to 46.3 percent, a hefty 42 percent share increase (Table 4.4, page 31). By FY 1998, two of every five Other Services dollars and one of every five Construction dollars were awarded on bundled contracts. In FY 1998, Other Services surpassed Manufacturing in total bundled dollars for the first time (Graph 4.2, page 27).

Significantly, the two market sectors showing growth in bundled dollars also experienced a decline in the number of small business participants. Between FY 1992 and FY 1999, the number of small businesses in the Construction sector fell 44.2 percent and the number of small businesses in Other Services fell 4.9%. Despite the combined 15 percent decline in bundled dollars in R&D and Manufacturing, these sectors saw a 3.2 percent rise in the number of small business participants (Table 4.5, page 32). As bundled dollars increase along with average contract size, we see increased stratification as the number of small businesses decline.

Eagle Eye's bundled contract regression analysis supports these observed trends. Statistics demonstrate that an increase of 100 bundled contracts is associated with a net decrease of 106 small business contracts. Furthermore, an increase of 100 bundled dollars is associated with a net decline of 33 small business dollars. In short, the contract effect of bundling on small business is over one-for-one; the dollar effect is one-for-three. At \$79 billion in FY 1999, the current level of bundled contracts is costing small businesses \$26 billion annually.

The Defense Department remains the predominant source of bundled dollars. DoD awarded 82 percent of all bundled dollars in FY 1999, an increase of 2 percentage points from FY 1998. Overall, since FY 1992 the DoD share of bundling has remained relatively stable, only falling a total of 3.9 percentage points (Table 4.6, page 33).

The Army has grown their use of bundled contracts significantly. At \$15.8 billion, the Army's FY 1999 bundled dollar total is up 22 percent since FY 1992. The Navy leads all DoD bureaus in the awarding of bundled contracts with a \$22 billion total, however it is only 2 percent higher than Navy's FY 1992 bundled dollar total. At \$18.8 billion, Air Force bundled dollars are down 24 percent over eight years. Among the fastest growing users of bundled contracts at DoD are the Special Operations Command (USSOC, up 8,745 percent since FY 1992), the Defense Mapping Agency (DMA, up 913 percent), The CHAMPUS health organization (up 209 percent) and the Defense Logistics Agency (DLA, up 193 percent) (Table 4.8, page 35).

Civilian bundled dollars are up 28 percent since FY 1992 to \$14.3 billion, the highest level in eight years. The General Services Administration (GSA) leads all civilian agencies in awarding bundled contracts (\$1.7 billion), followed by the Treasury Department (\$1.2 billion), The Justice Department (DOJ, \$924 million) and the Department of Veterans Affairs (\$697 million). Several civilian agencies, including Education (DED), the Office of Personal Management (OPM) and the Federal Emergency Management Agency (FEMA) awarded more than 10 times the number of bundled contract dollars in FY 1999 than they did in FY 1992. The Department of Energy's bundled dollars have grown only modestly in eight years and NASA's have declined (Table 4.7, page 34).

Taken as a whole, this study demonstrates that the practice of bundling is growing and that the negative consequences for small business are substantial. Furthermore, the growing lack of diversity

and stratification in the federal industrial base being fueled by bundling will have long term and detrimental consequences to the government's ability to procure needed services and supplies at competitive prices.

Recommendations

Some policy recommendations to address the problems bundled contracts pose to small business include:

1. Require more unbundled bidding opportunities for small businesses.
2. Fund agencies with sufficient budget resources to support adequate numbers of procurement personnel to handle larger numbers of solicitations and small business bidders.
3. Adopt a standard definition of contract bundling for all agencies.
4. Monitor contract bundling and its impact on small businesses more closely. Steps would include:
 - a. Require quarterly agency bundled contract reports detailing the distribution of bundled contracts and bundled contract dollars
 - b. Monitor bundled contract reporting requirements with FPDC data
 - c. Hold regular hearings and conferences on the topic of bundling to collect anecdotal information from small businesses
 - d. Freeze agency funds for those agencies not meeting bundled contract reporting requirements
5. Prohibit bundling under certain conditions, such as when certain kinds of goods and services are being procured, or when agency small business goals have not been met.
6. Publicize justifications for substantially-sized bundled contracts and solicit responses to the justifications from the contracting community. Elevate the justifications to the status of those required under OMB Circular A-76, which requires a rationale for contracting out in the first place.
7. Set aside certain percentages of bundled contracts for small business.
8. Permit small businesses more time to respond to solicitations for bundled contracts in order to allow them more time to form ad hoc teams. Include a solicitation's due date in the justification for bundling.
9. Actively assist small businesses in identifying and qualifying teaming candidates for pursuing bundled contract opportunities.
10. Strictly enforce agency small business contracting goals.

APPENDIX 1: DETAILED METHODOLOGY FOR BUNDLED CONTRACT IDENTIFICATION

The main challenge in performing bundled contract analysis is that the government does not track data that specifically distinguish bundled contracts from unbundled contracts. Before any data processing can begin, it is first necessary to identify bundled contracts and related trends using available data. This requires making certain assumptions about the contracts database that serves as the core of this analysis.

A. The Data Source

The database used for this study is an enhanced version of data issued by the Federal Procurement Data Center (FPDC), a branch of the U.S. General Services Administration (GSA). The FPDC is responsible for collecting, editing and disseminating prime contracts data to Congress, the executive branch and the private sector so that government officials and the general public can monitor the government's dealings with contractors. With this data the federal government measures the impact of federal procurement on the nation's economy, monitors the distribution of contracts to large, small and small disadvantaged businesses, and periodically assesses the effectiveness of federal procurement policies.

The core data elements collected in this database describe various characteristics of contractual obligations made between the federal government and prime contractors doing business directly with a federal agency. Neither subcontract nor budget data are part of the prime contracts database.

A prime contract obligation is a legally binding agreement between the government and a contractor that commits the government to acquire products or services at an agreed price. Obligated dollars are moved by the authorizing agency to a contractor's account at the federal buying activity responsible for the purchase. These obligated funds are then used by the purchasing personnel to make payments to the contractor on an agreed payment schedule. Obligations are therefore linked to, but do not necessarily match, contractor progress.

Every time the government makes an obligation on a contract of at least \$25,000 a purchasing officer must fill out either a DD-350 form (for defense agencies) or an SF-279 form (for civilian agencies). These forms describe the financial, competitive, statutory and other characteristics of the obligation. Smaller initial obligations can be made on an SF-279 or reported in bulk form on an SF-279. Only the SF-279 data are used in this study because only this form has indicators of bundling.

Over the entire course of a contract's duration, a purchasing officer might fill out numerous DD-350 or SF-279 forms for a single contract. This is because the dollars contained in a single obligation may not represent the total value of a contract. In fact, there are about 500,000 annual contract obligations in FPDC involving approximately 170,000-200,000 contracts. This means there are on average about 2.7 obligations per contract per year. Some small contracts have only one obligation, but some large contracts can have over 100.

Each DD-350 or SF-279 report forms the basis of a separate record in the FPDC contracts database. A purchasing officer will fill out a separate procurement form every time there is an action, that is, a new obligation on the contract or a de-obligation. Each action shows a unique combination of the following data elements: reporting agency, contract number, contract modification number, contracting office order number, contracting office code, action date, and amount of obligation (or de-obligation). Each time a

new form is filled out, a separate task has been documented.

B. Definitions

It is important to carefully define each variable of interest in terms of the available data. First and foremost, of course, is the definition of a bundled contract.

1. Bundled Contract

A bundled contract is a contract that, originally or by modification, incorporates dissimilar activities. While it is possible that the overall costs to the contractor may have been reduced, a majority of the savings from such combination may only be in general and administrative (G&A) costs, that is, the costs of administering the contract. The government's administrative costs may also be less.

This does not mean that the total cost to the government is less, for bundling increases contract size and may lessen competition for the contract, which may in turn increase the size of the winning bid, even though the cost to the contractor may be less. However, the government may be forced into contract bundling if procurement personnel are too few to let contracts in more economically efficient amounts.

2. Previous Definitions of Bundled Contracts

The earliest definition of contract bundling that we are aware of can be found in Section 208 of the SBA Reauthorization and Amendments Act of 1990, which became Public Law 101-574 on 15 November 1990: "If a proposed procurement includes in its statement of work goods or services currently being performed by a small business, and if the proposed procurement is in a quantity or estimated dollar value the magnitude of which renders small business prime contract participation unlikely, or if a proposed procurement for construction seeks to package or consolidate discrete construction projects..."¹¹ This definition is codified as 15 USC 644(a) and is incorporated in Section 19.202-1(e) of the Federal Acquisition Regulation (FAR), with the addition that the construction consolidation as a trigger of bundling is also restricted that "the magnitude of this consolidation makes it unlikely that small businesses can compete for the prime contract".

In addition to being awkwardly stated, the 1990 statutory definition has at least two deficiencies. The first is that bundling, presumably a characteristic of a contract, also includes the impact of that characteristic, namely that the bundling has caused small business participation to be "unlikely". The second deficiency is that it ignores a contract that had not previously been performed by a small business even though it could have been performed by a small business. In addition to being a compound definition mixing "apples and oranges", each deficiency makes the definition unduly restrictive as a description of contracts. As far as construction is concerned, we are not sure what is meant by "discrete" projects. But the idea of dissimilar requirements is one that we pursue below in the definition we develop for this study.

The next definition was in Section 321 of the Small Business Credit and Business Opportunity Act of 1992, which became Public Law 102-366 on 4 September 1992: "For the purpose of this section, the term 'contracting bundling' or 'bundling of contract requirements' refers to the practice of consolidating into a single large contract solicitation multiple procurement requirements that were previously solicited and

¹¹ Quoted in U.S. General Accounting Office National Security and International Affairs Division, "Extent and Impact of Contract Bundling is Unknown", Letter Report of 14 April 1994, page 11.

awarded as separate smaller contracts, generally resulting in a contract opportunity unsuitable for award to a small business concern due to the diversity and size of the elements of performance specified and the aggregate dollar value of the anticipated award.”³

This was the definition used in the SBA study of contract bundling. This 1992 definition properly ignores who had the contracts before bundling, but still retains the idea that a bundled contract is generally unsuitable for award to a small business concern. This definition imposes an additional restriction on what has happened to the contract: in addition to the contract growing in size, there is also a greater “diversity” of the “elements of performance”. While it is possible for the idea of bundling to include a simple increase in the size of a contract, it may not be possible to measure such an occurrence in any meaningful way. Indeed, we pursue the idea of diverse requirements in the definition we develop for this study. All in all, this definition is superior to the one of 1990.

A third definition was in Section 847 of the National Defense Authorization Act for Fiscal Year 1994, which became Public Law 103-160 on 30 November 1993: “For the purposes of this section, the terms ‘contract bundling’ and ‘bundling of contract requirements’ means the practice of consolidating two or more procurement requirements of the type that were previously solicited and awarded as separate smaller contracts into a single large contract solicitation likely to be unsuitable for award to a small business concern due to: (1) the diversity and size of the elements of performance specified; (2) the aggregate dollar value of the anticipated award; (3) the geographical dispersion of the contract performance sites; or (4) any combination of the factors described in paragraphs (1), (2), and (3).”¹²

This 1993 definition retains the idea that a bundled contract is “likely to be unsuitable for award to a small business concern”. It has an important difference, however, from the definition of 1992. The 1993 definition introduces the possibility that “dispersion of the contract performance sites” can constitute bundling, an idea that we developed in the definition we developed for this study.

A fourth definition was adopted in an SBA Procedural Notice (Control Number 6000-582) on 9 July 1993: “Bundling is the consolidation of two or more requirements, descriptions, specifications, line items or statements of work; which individually were or could be performed by small business; resulting in a contract opportunity for supplies, services or construction which may be unsuitable for award to a small business concern due to the diversity and size of the performance elements, and/or the aggregate dollar value of the anticipated award, and/or the geographical dispersion of the contract performance sites.”¹³

This definition has two differences from the statutory definition of 1993: it broadens the concept of bundling by only requiring that the bundled contract “may be unsuitable for award to a small business concern” instead of “likely to be unsuitable for award to a small business concern”. However, it is more limiting in that it adds the restriction that the original contracts “individually were or could be performed by small business”, which on the other hand is broader than the restriction in the 1990 statutory definition that the original contracts were for “goods or services currently being performed by a small business”. Our comments on these features have already been made.

3. Candidate Bundled Contracts in the First Study

The definition of a bundled contract involves determining whether or not “dissimilar” tasks have been

¹² *ibid*, p. 11

¹³ *ibid*, p. 11

combined. This can only be determined by examining a contract's file, and even that might be insufficient. At any rate, such a definition is not useful for a large-scale analysis of many contracts. Given the limitations of reported contract data, no definition of bundled contracts will be perfect. But after considerable analysis and testing, Eagle Eye has developed a definition of bundled contracts that meet the demands of analysis.

In the original study, Eagle Eye first attempted to define a bundled contract using multiple Standard Industrial Classification (SIC) codes on a single contract number as the distinguishing feature of a Candidate Bundled Contract (CBC). Since only one SIC code is entered for each contract action, we reasoned that different SIC codes on different actions were clear signs of distinct tasks. After selecting and analyzing these CBC data in thirteen markets, we determined that too many potentially bundled contracts were being eliminated. Many contracts with numerous, small obligations and the same SIC code were being filtered out of the analysis, eliminating almost all dollars in some market categories and many contractor categories. The limited nature of the CBC data became particularly evident when comparing these CBC trends with other measures of contract counts and totals.

Eagle Eye then tried broadening the definition of a bundled contract by calling any contract with more than one obligation a CBC. We analyzed data using this definition and found the counts and totals of CBCs grew so high that it was unlikely so much bundling would be occurring.

Eagle Eye finally settled on the following CBC definition. Since each contract action report indicates only one SIC code, only one type of contract, and only one place of performance, CBCs were defined as any contract with additional actions showing multiple SIC codes, multiple types of contract (cost plus, fixed price, etc.) or multiple places of performance. We reasoned that two different SIC codes indicate dissimilar tasks, that a contract action that indicates a contract type (e.g. cost plus or fixed price) that is different from the original contract or another modification involves tasks that are at the very least dissimilar administratively, and that it is unlikely that tasks performed at two different places are not dissimilar. We reasoned that any difference in any of these three codes on the same contract was almost certainly an indication of a new task and thus a candidate for bundling. Testing confirmed that the selection of CBCs left no unexpected gaps when the data was broken down by market or type of contractor.

Adding to the complexity of analyzing CBCs is the fact that when we select data according to a market definition, for example ADP Services, not only can the actions constituting an ADP Services contract be bundled within the ADP Services market definition but the ADP Services themselves could be part of a larger bundled award for, say, a new, multi-faceted airport communications system.

4. Explicitly Bundled Contracts in This Study

For the present study, we analyzed the effects of the different indicators of a bundled contract and simultaneously made a preliminary investigation of the possibility of using a difference in PSC codes as an additional indicator of bundling. Product-service codes are the traditional indicator of what is bought by the government. A product code is the federal supply class, which is the first four digits of the federal stock number. SIC codes denote the industry supplying the product or service and were developed by economists. The two codes measure different things. For example, there is one PSC code for containers, but glass containers come from one industry, plastic containers from another, metal containers from another industry, and cardboard containers from still another industry, all with different SIC codes. Conversely, one industry can supply products with different PSC codes. For example, the "wire bending"

industry can produce both paper clips and bird cages.¹⁴

Because FY 1989 was the first year SIC codes were used, this methodological analysis covers contracts that had actions during the period FY 1989 through FY 1999. All actions on these contracts during this ten-year period were grouped according to the 1,274,609 contracts they represented, which amounted to \$1,831,913,533 for an average contract size of \$1,437,000. For each contract with more than one action, we then looked for differences in product-service codes (PSC), SIC codes, places of performance, and contract types. The differences could be in any of the eleven years. The results are given in Tables 2.1 and 2.2.

Table A.1: Indicators of Contract Bundling, FY 1989 – FY 1999
(numbers of contracts showing differences)

Different	PSC Codes	SIC Codes	Places	Contract Types
PSC Codes	78,693	25,355	34,907	13,307
SIC Codes	25,355	47,185	18,795	9,942
Places	34,907	18,795	77,288	11,183
Contract Type	13,307	9,942	11,183	28,123

Table A.1 indicates the number of contracts that had actions during FY 1989 – FY 1999 and that had differences from one action to another in PSC code, SIC code, place of performance, or contract type. The diagonal entries in the table are the numbers of contracts with differences when the indicators of bundling are taken one at a time. For example, there were 78,693 contracts with changes in the PSC code from one action to another, 47,185 with differences in the SIC code, 77,288 with differences in the Place of Performance, and 28,123 with differences in the Type of Contract. The off-diagonal elements are the numbers of contracts with differences when the indicators of bundling are taken two at a time. For example, the second number in the first row indicates there were 25,355 contracts showing differences in both the PSC code and the SIC code. Note that this number also is the first number of the second row, since the number of contracts with a difference in the SIC code and also a difference in the PSC code is the same as the number of contracts with a difference in the PSC code and also a difference in the SIC code. The same holds true for the other indicators; that is, the table is symmetric.

Table A.2 indicates the thousands of dollars in contracts that had actions during FY 1989 – FY 1999 and that had differences from one action to another in PSC code, SIC code, place of performance, or Contract Type.¹⁵ The diagonal entries in the table are the thousands of dollars in contracts with differences when the indicators of bundling are taken one at a time. For example, there were \$777 billion in contracts with changes in the PSC code from one action to another, \$616 billion with differences in the SIC code, \$541 billion with differences in the Place of Performance, and \$691 billion with differences in the type of contract. The off-diagonal elements are the thousands of dollars in contracts with differences when the indicators of bundling are taken two at a time. For example, the second number in the first row indicates there were \$491 billion in contracts showing differences in both the PSC code and the SIC code. Note that this number also is the first number of the second row, since the thousands of dollars in contracts with

¹⁴ SBA's Office of Size Standards used these examples during the discussion leading up to the incorporation of SIC codes into SF 279.

¹⁵ Any dollars in actions on these contracts before FY 1989 are excluded.

a difference in the SIC code and also a difference in the PSC code are the same as the thousands of dollars in contracts with a difference in the PSC code and also a difference in the SIC code. The same holds true for the other indicators; that is, the table is symmetric.

Of the 1,383,161 contracts that had actions during this period, 118,299 (8.5 percent) show a difference in the SIC code or place of performance or contract type. The bundled dollar total is \$1.1 trillion or 54 percent of the value of all contracts acted upon during the FY 1989 – FY 1999 period. The average bundled contract was worth \$9.2 million, or 6.3 times the \$1.4 million size of an overall average contract overall.

Table A.2: Indicators of Dollar Bundling, FY 1989 – FY 1999
(thousands of dollars in contracts showing differences)

Different	PSC Codes	SIC Codes	Places of Performance	Contract Types
PSC Codes	777,709,09	491,553,17	358,036,71	459,382,67
	2	1	7	0
SIC Codes	491,553,17	616,326,80	284,141,86	391,603,62
	1	1	8	0
Places of Perf	358,036,71	284,141,86	541,745,30	281,924,92
	7	8	0	0
Contract Types	459,382,67	391,603,62	281,924,92	691,720,94
	0	0	0	2

If a difference in the PSC code is added to the list of bundled contract discriminators, then the number of contracts showing differences rises by 29,444 to 147,743 contracts (10.82 percent of the total). The dollar amount rises to \$1,080,459,918 or 59 percent of the total. This suggests that adding a difference in the PSC code as an additional indicator of bundling would significantly expand the scope of contract bundling beyond the current definition. Before adding PSCs to the bundled contract definition, however, a significant amount of additional work would be required that is beyond the scope of this study. For instance, we would want to study the extent of spurious PSC data in the database. A number of contracts remain coded with PSCs beginning with R3 even though use of the R3 codes ended several years ago. Also, many PSCs within a common federal supply group make relatively subtle distinctions between the types of work being performed on a contract compared to their SIC counterparts.

While we feel the analysis and use of the PSC code as an indicator of bundling should be postponed to a later study, these two tables bolster the existing definition of bundling. The indicators of bundling overlap but are not redundant. For example, of the 47,185 contracts showing a difference in the SIC code, 18,795 (40 percent) also show a difference in the place of performance. Of the \$616 billion in contracts showing a difference in the SIC code, \$284 billion (46 percent) also show a difference in the place of performance. This is not unreasonable. Similarly, of the 77,299 contracts showing a difference in the place of performance, the same 18,795 contracts (this time 24 percent) also show a difference in the SIC code. Of the \$541 billion in contracts showing a difference in the place of performance, the same \$284 billion (52 percent) also show a difference in the SIC code, indicating that it is mainly larger contracts that show differences in both SIC codes and places of performance, as compared to differences in only the place of performance. This also is not unreasonable. Similar statements could be made in comparing SIC code with contract type and contract type with place of performance. While the three indicators overlap, they are not redundant. Eliminating any one of them would result in a loss of useful information.

In the original study, the only evidence of bundling used was that which occurred in the year being analyzed. In this study we broaden that considerably. In the overall tables (which are for the entire period FY 1989 through FY 1999) we include any evidence of bundling during the eleven years. In the analysis of one fiscal year at a time, we include any evidence of bundling during a “look back” period. In order not to confuse this study with the previous one, and in order to be explicit, we use here the notion of an “explicitly” bundled contract (EBC), which again is a contract that has an action with the Standard Industrial Classification (SIC) code and/or the type of contract code and/or the place of performance code that is different from another action on the same contract, during the period of analysis.

We recognize that “explicitly bundled contracts” may include some contracts that are in reality unbundled. But it should also be recognized that “explicitly bundled contracts” exclude a considerably larger number of contracts that are actually bundled, such as large contracts with the same SIC code but with non-spurious differences in the PSC code. Also excluded are contracts bundled before the look-back period and bundled contracts that have not been modified in any way or that have only one action (we only capture bundled contracts showing modifications). In terms of data, an error in data entry for SIC code,¹⁶ place of performance, or contract type that is not consistently wrong for the entire contract may result in “bundling” where bundling would not otherwise be indicated. On the other hand, since we are only including the portions of contracts during FY 1989 – FY 1999, bundling outside this period on the same contracts may not be reflected in bundling during the period.

Where does this leave us? By any reasonable definition of bundling, a contract of more than a billion dollars should be per se bundled. But as indicated below, only 67 percent of contracts involving more than a billion dollars are explicitly bundled and only 62 percent of the dollars in contracts involving more than a billion dollars are explicitly bundled. This indicates that we are using an essentially conservative measure of bundling.

5. Markets

Markets are defined in terms of Product-Service Codes (PSCs) rather than SIC codes because this is a study of procurement rather than of the economy. As such, we need to break down procurement with a procurement classification rather than an economic one. The size of a market is defined as the sum of the dollar values of all actions in that market during the period in question. If a contract includes actions during that period in more than one market, only the actions in the market in question are included. Thus, contracts may be counted in more than one market, but dollar values are not. However, contract counts for a market that includes other markets do not have double counting, nor do contract counts for procurement as a whole.

6. Large Contracts

A bundled contract is by definition larger than the contracts it replaces. Conversely, large contracts in general are more likely to be bundled. The original study used a dollar threshold of \$100 thousand to define a large contract. In the present study, the dollar threshold has been changed to \$1 million. Even though \$100 thousand is the limit on small purchases, contracts between \$100 thousand and \$1 million are much less likely to be bundled than contracts over \$1 million. The figure of \$1 million is generally the

¹⁶ SIC codes were used for the first time in FY 1989 and were likely less reliable during the first part of the period FY 1989 – FY 1999.

threshold for the requirement of a subcontracting plan, and subcontracting means that the work can feasibly be split up; that is, the requirements may have been bundled.

7. Bundled Contract Rating

The original study had a “Bundled Contract Rating”, which was the sum of four such ratings, which were the subjective estimates of the importance of a particular value of each of a number of indicators in each market studied. In this study, the percentage of contracts that are explicitly bundled will in effect be the bundled contract rating. Actions per contract will continue to be calculated but will serve as an indicator of the underlying situation, rather than as an additional indicator of bundling. (Certain kinds of actions are already included in the definition of explicitly bundled contracts.)

The share of large contracts in procurement will continue to be calculated but will serve as an indicator of the underlying situation, rather than as an additional indicator of bundling. Also, small business contracts that are large will no longer be used as an indicator of bundling, although they will continue to be calculated. The thinking behind their use as an indicator of bundling was that bundling would result in larger contracts to small business as well as large. But small businesses with large contracts could also be an indicator of success independent of bundling.

8. Harm to Small Business Rating

In the original study, the “Harm to Small Business Rating” was the sum of five such ratings, which were the subjective estimates of the importance of particular values of each of five indicators in each market studied. The five indicators can be described without loss of generality as the small business shares of CBCs, large contracts, all contracts, establishments performing contracts, and new establishments. While all indicators will continue to be calculated, we focus in the current study on the small business share of all contracts and dollars as the essential indicator of any harm to small business.

While an increasing small business share of explicitly bundled contracts is good for small business, it might be at the cost of other small business contracts; the small business share of all contracts is more relevant. A similar statement can be made about the small business share of large contracts. While a declining small business share of establishments may be a warning sign, it might also merely indicate some consolidation of effort within the small business sector. And a greater number of new small business establishments might indicate vigor or a lack of barriers or it might indicate merely higher turnover in the market due to difficulties in satisfying the government at a profit. The bottom line as always is whether or not contracts and dollars are going to small businesses.

The statistical analysis is taken one step further in the current study by calculating the changes (in percentage points) in the small business shares of contracts (and dollars) in each market versus the changes (in percentage points) in explicitly bundled contracts (and dollars) as shares of each market, and relating the two variables in a cross section regression.

9. Regression Analysis

The statistical analysis is taken one step further in the current study by calculating the changes (in percentage points) in the small business shares of contracts (and dollars) in each market versus the changes (in percentage points) in explicitly bundled contracts (and dollars) as shares of each market. The two variables are related in a cross section regression for the four sectors of Research and Development,

Construction, Other Services and Supplies and Equipment.

C. Procedures

The results of this study are affected by a number of specific procedures.

1. Determination of Explicit Bundling for the Entire Period

For the period FY 1989 – FY 1999, group all actions by contract number. The result is all contracts acted upon during these eleven years. Flag all contracts that have a difference among actions (which may include the original contract) in the SIC code and/or the contract type and/or the place of performance, regardless of the year in which the difference occurred. The result is all explicitly bundled contracts that were acted upon during these eleven years.

2. Explicit Bundling in the Analysis of One Fiscal Year at a Time

In the analysis of one fiscal year at a time, we could have simply looked at the number of contracts acted upon during a given fiscal year, and then looked at how many of these contracts were ever bundled. But such an approach would have two biases in the data: actions in earlier years would be more likely to be on contracts that were later bundled, and actions in later years would be more likely to be on contracts that were bundled earlier. Since these two biases would in all probability not be perfectly offsetting, we decided that it was necessary to systematically remove each of the two biases in the following manner.

Actions in later years would be more likely to be on bundled contracts because the contracts would, on average, have longer histories; a few of them might go back to the first year in our data base, FY 1989. Therefore, in the analysis of one fiscal year at a time, a contract is counted as explicitly bundled only if the evidence of bundling occurs during an historical four-year period up to and including the fiscal year being analyzed. For instance, to determine if a contract that was active in FY 1992 was explicitly bundled for the analysis of that year, all actions placed against that contract from FY 1989 up through the end of FY 1992 are analyzed for variations in the SIC, type of contract and place of performance codes. Similarly, to determine if a contract active in FY 1999 was explicitly bundled, all actions placed against that contract starting in FY 1996 are studied.

Also note that even though a contract's bundled status may change from unbundled to bundled over the life of the contract, indications of bundling are not retroactive in the year-by-year analysis. If a contract is bundled only after the year being analyzed, it should not be and is not counted as bundled for that year. For instance, a contract initially awarded in FY 1991 that showed no signs of bundling in FY 1991 or FY 1992 could have become a bundled contract in FY 1993. Such a contract would be considered bundled in FY 1993 and thereafter, until it is closed out. The contract would not be counted as bundled in FY 1991 and FY 1992. This eliminates any bias toward bundling that would otherwise tend to inflate the numbers of bundled contracts in the earlier years of this analysis.

We selected a four-year period in order to capture a good portion of bundling but still have eight years (FY 1992-FY 1999) to compare with each other. While this captures a good deal of bundling, it by no means captures all bundling. This is illustrated by an analysis of how bundling occurs as contracts age. This analysis looked at the 1,316,127 contracts that began¹⁷ during the period FY 1989 - FY 1999, or

¹⁷ Defined as showing no actions in the period FY 1984 – FY 1988.

94.7 percent of the 1,383,161 contracts acted upon during this period.

Of the 120,324 contracts that began during FY 1989, 3,843 contracts (3.19 percent) were bundled during the same year. By the end of FY 1990, another 3,574 contracts had been bundled, for a total of 7,417 contracts bundled (6.16 percent). By the end of FY 1999, a total of 10,593 contracts that began in FY 1989 had been bundled by the eleventh year, or 8.8 percent. Similar calculations were done for contracts that began in FY 1990, but the bundling could only be followed for ten years instead of eleven. As we looked at bundling that occurred on contracts that began later and later, the bundling histories that we could observe became shorter and shorter, until for contracts that began in FY 99 we could only look at bundling that occurred during the same year. Thus we had eleven observations on bundling that occurred during the same year as the beginning of a contract, ten observations on bundling that occurs within the year after that, and so on. We calculated the percentages of contracts that were bundled, and the averages of these percentages by the corresponding years in the life of the contract. These averages are shown in Table A.1 (below).

The percentage of contracts that are bundled rises steadily as contracts age, reaching 8.8 percent of all contracts in the eleventh year that these contracts have existed. The percentage of dollars that are bundled rises steadily through the eighth year and then begins a three-year decline. This is partly the result of a quite large percentage (59.1) of dollars in contracts that began in FY 1991 that were bundled by FY 1995.

Because large contracts are more likely to be bundled, the percentage of dollars bundled in each year is much greater than the percentage of contracts bundled. The ratio of these percentages also increases with age from four to six. (As contracts get older, not only are more contracts bundled, but more dollars are put into the contracts already bundled.)

Because some new bundling will occur after the eleventh year, looking forward three years after the year of birth of a contract captures 75 percent of the contracts that are eventually bundled and less than 50 percent of the dollars that are eventually bundled. This suggests that a three-year look-back from an action leaves out considerable bundling, making our estimate of bundling more conservative. As stated above, however, the look-back was limited to three years in order to have eight years of data to analyze for trends.

**Table A.1: Contracts Bundled by Age of Contract
(averages of percentages of all contracts)**

Year in Contract	Number of Observ Yrs	Bundled Contracts as % of All Contr	Index with Year 11 = 100	Bundled Dollars as % of All Dollars	Index with Year 11 = 100
1	11	2.57	29	22.66	44
2	10	5.07	58	38.22	75
3	9	6.10	69	45.17	88
4	8	6.62	75	48.7	95
5	7	6.88	78	51.49	101
6	6	7.02	80	52.97	104

7	5	7.24	82	55.06	108
8	4	7.56	86	55.45	109
9	3	7.93	90	55.14	108
10	2	8.35	95	51.43	101
11	1	8.8	100	51.1	100

In the original study, the procedure to determine bundling was quite limited: the only evidence of bundling used was that which occurred in the year of the action. Consequently, the number of explicitly bundled contracts in this study are properly greater than the number of “candidate” bundled contracts in the original study.

3. Markets in the Analysis of One Fiscal Year at a Time

For a given fiscal year, we first select all actions that have a product-service code in the market being analyzed. The sum of the obligations and de-obligations in these actions is the dollar size of the market in the given fiscal year. Note that this excludes actions on contracts acted upon during this year that had a product-service code in this market in an earlier year but not in the year being analyzed.

These actions in the given market are then grouped by contract number. The result is the number of contracts acted upon by actions in this market during this fiscal year. (The ratio of actions to contracts includes just the actions in the market and year being analyzed but not in other markets as well if they are actions upon the same contracts.) We then count the number of contracts that are flagged. The result is the number of explicitly bundled contracts acted upon by actions in this market during this fiscal year.

The original study at this point excluded contracts with negative or zero net dollar values in total actions in the fiscal year being analyzed, on the grounds that any bundling here may have actually been unbundling. But the size of the market is thus increased and is then greater than the size of the market in various tabulations of others. Keeping such contracts would facilitate cleaner comparisons with other studies. And a deobligation in this case will still represent action upon a bundled contract.

4. Large Contracts in the Analysis of One Fiscal Year at a Time

The original study defined large contracts to be contracts acted upon in the fiscal year and market being analyzed that had a total value of actions in that year in that market (but not in another market) in excess of a dollar threshold. This excluded contracts that were large in a prior year but were acted upon in the current year in an aggregate amount less than the dollar threshold. It also excluded contracts that were large in another market but not in the market being analyzed. Since the indicator of bundling in this study can occur in a different market and/or an earlier year, the small and large breakdown should be on the comparable basis. Contract size is therefore defined to include the dollar value of all actions in any market during the period used to determine bundling.

5. New Contractors

In the original study, a “new” contractor was defined as an establishment that had not received an award during any previous year. In the present study, we use instead a file that Eagle Eye has constructed linking establishments to their parent companies. A “new” contractor is defined as a parent company that had not previously received an award in the period used to determine bundling.

6. Type of Contractor

Contractors are grouped in the appendix into the following categories: small disadvantaged business, other small business, large business, and other (which consists of sheltered workshops, other nonprofits, other state/local government institutions, foreign contractors, domestic contractors performing outside the U.S., historically black colleges/universities or minority institutions,¹⁸ and unknown). Actions that do not have a code for type of contractor are not attributed to large business even though they are almost exclusively DoD actions with a firm specified by a foreign government or by an international organization, or DOD actions in some other special program. Counts of contractors by type will sometimes add to a total that is greater than the total for all performers if actions awarded to the same performer have been coded with more than one type of contractor on separate actions.

¹⁸ Contracts with historically black colleges/universities or minority institutions are undercounted in the overall (FY 1989 - FY 1999) tabulations because they were not indicated on the data form before May 1996.

APPENDIX 2: AGENCY AND BUREAU ACRONYM TRANSLATIONS FOR TABLES 4.8 AND 4.9

The following table provides translations of agency acronyms appearing in Civilian Agency Table 4.8, page 33:

Rank	Acronym	Agency
1	DED	U.S. Department of Education
2	EEOC	U.S. Equal Employment Opportunity Commission
3	OPM	Office of Personnel Management
4	FEMA	Federal Emergency Management Agency
5	FTC	Federal Trade Commission
6	DOC	U.S. Department of Commerce
7	PEACE	Peace Corps
8	DOJ	U.S. Department of Justice
9	USDA	U.S. Department of Agriculture
10	SEC	Securities and Exchange Commission
11	TREAS	U.S. Department of the Treasury
12	SMITH	Smithsonian Institution
13	SSS	Social Security Administration
14	NRC	Nuclear Regulatory Commission
15	ITC	International Trade Commission
16	HUD	U.S. Department of Housing and Urban Development
17	AID	Agency for International Development
18	NARA	National Archives and Records Administration
19	CPSC	Consumer Product Safety Commission
20	STATE	U.S. State Department
21	DVA	U.S. Department of Veterans Affairs
22	EOP	Executive Office of the President
23	GSA	U.S. General Services Administration
24	NLRA	National Labor Relations Board
25	HHS	U.S. Department of Health and Human Services

The following table provides translations of Defense bureau acronyms appearing in Table 4.9, page 34:

Rank	Acronym	Bureau
1	USSOC	U.S. Special Operations Command
2	AFIS	Armed Forces Information Service
3	WHS	Washington Headquarters Service
4	DMA	Defense Mapping Agency
5	DNA	Defense Nuclear Agency
6	CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
7	DLA	Defense Logistics Agency
8	USUHS	Uniformed Services University of the Health Sciences
9	DISA	Defense Information Systems Agency
10	COE-CPF	Corps of Engineers -- Civilian Programs
11	DOA	Department of the Army
12	NAVY	Department of the Navy
13	AF	Department of the Air Force

14	DARPA	Defense Advanced Research Projects Agency
15	SDIA	Strategic Defense Initiatives Agency (BMDO)
16	DCA	Defense Commissary Agency
17	DODSEC	Office of the Secretary of Defense
18	OSIA	On Site Inspection Agency
19	DFAS	Defense Finance and Accounting Service
20	ODS	Office of Dependents Schools

APPENDIX 3: TOP 100 BUNDLED CONTRACT RECIPIENTS FY 1999

Rank	Parent Company	Total \$000	Rank	Parent Company	Total \$000
1	LOCKHEED MARTIN CORP	8,551,298	47	LUCENT TECHNOLOGIES INC	192,595
2	BOEING CO.	6,141,976	48	KPMG PEAT MARWICK	192,558
3	RAYTHEON CO.	4,672,154	49	AZIMUTH TECHNOLOGIES, INC.	191,829
4	GENERAL DYNAMICS CORP.	3,107,695	50	CACI INTERNATIONAL INC	189,805
5	NORTHROP GRUMMAN CORP.	2,014,562	51	FOUNDATION HEALTH CORP.	189,127
6	UNITED TECHNOLOGIES CORP.	1,540,251	52	BURSON-MARSTELLER INC	187,766
7	CLASSIFIED DOMESTIC CONTRACTOR	1,477,477	53	MANTECH INTERNATIONAL CORP	185,774
8	TRW, INC.	1,394,438	54	JOHNSON CONTROLS, INC.	183,859
9	SCIENCE APPLICATIONS INTL CORP	1,365,978	55	URS CORP.	175,166
10	GENERAL ELECTRIC COMPANY	1,260,982	56	HOLZMANN PHILIPP AG	171,762
11	TEXTRON, INC.	1,108,730	57	BINDLEY WESTERN INDUSTRIES	170,827
12	LITTON INDUSTRIES, INC.	1,102,928	58	AMS	170,573
13	COMPUTER SCIENCES CORP.	859,695	59	COMPAQ COMPUTER CORP.	168,272
14	CARLYLE GROUP	802,742	60	HARRIS CORP.	161,049
15	HALLIBURTON CO.	654,259	61	TYCO INTERNATIONAL LTD	157,396
16	HUMANA, INC.	619,800	62	GATEWAY	155,824
17	HONEYWELL, INC.	560,870	63	RENCO GROUP	153,770
18	UNISYS	531,734	64	ARINC, INC.	152,544
19	ELECTRONIC DATA SYSTEMS CORP.	528,363	65	CH2M HILL COMPANIES LTD	150,206
20	AMERISOURCE DISTRIBUTION CORP	524,571	66	ROLLS ROYCE P.L.C.	149,480
21	ANTHEM, INC.	510,807	67	TETRA TECH, INC.	148,228
22	BECHTEL GROUP, INC.	504,076	68	JACOBS ENGINEERING GROUP INC	142,530
23	BATTELLE MEMORIAL INSTITUTE	499,425	69	VSE CORP.	141,704
24	DYNCORP	475,295	70	ADVANCED COMMUNICATION SYSTS	141,279
25	IT GROUP, INC.	444,574	71	AT&T	139,283
26	BAE SYSTEMS	419,007	72	SPRINT CORP.	139,055
27	MITRE CORP.	417,288	73	PRIMEX TECHNOLOGIES, INC	137,842
28	TRIWEST HEALTHCARE ALLIANCE CO	413,509	74	SRA INTERNATIONAL, INC.	136,743
29	DELL COMPUTER CORPORATION	395,178	75	ORACLE CORP.	130,646
30	RAYTHEON/MARTIN JAVELIN JV	394,958	76	BTG INC	128,619
31	OCCUPATIONAL HEALTH SERVICES	391,110	77	FOSTER WHEELER CORP.	127,912
32	GOLDMAN SACHS & COMPANY	387,490	78	ITC	127,128
33	MOTOROLA, INC.	363,619	79	OLIN CORP.	124,902
34	IBM CORP.	342,246	80	MCKESSON CORPORATION	123,543
35	BOEING/UNITED TECHNOLOGY JV	316,038	81	OAO CORP	122,985
36	BOOZ ALLEN & HAMILTON, INC.	304,197	82	ITALY, GOVERNMENT OF	122,341
37	JOHNS HOPKINS UNIVERSITY	292,808	83	MICRON TECHNOLOGY INC	122,236
38	GTSI	278,600	84	COMPUTER ASSOCIATES INTL	120,949
39	HIGHMARK, INC.	273,655	85	TELOS CORP.	116,058
40	ITT INDUSTRIES	266,940	86	DAY & ZIMMERMANN, INC.	115,876
41	ALLIANT TECHSYSTEMS, INC.	262,589	87	PEMCO AVIATION GROUP	114,644
42	BELL ATLANTIC CORP.	239,735	88	OGILVY GROUP INC	112,493
43	AFFILIATED COMPUTER SYSTEMS	232,664	89	XEROX CORP.	111,217
44	ROCKWELL INTERNATIONAL CORP.	229,624	90	INTEGRITY MANAGEMENT INTL	110,047
45	OSHKOSH TRUCK CORP.	218,711	91	MCI WORLDCOM	110,041
46	U.S. MARINE REPAIR, INC.	197,783	92	PRICE WATERHOUSE COOPERS LLP	109,522

APPENDIX 3: TOP 100 BUNDLED CONTRACT RECIPIENTS FY 1999 (CTD)

Rank	Parent Company	Total
93	MCBRIDE & ASSOCIATES INC	109,351
94	GETRONICS	106,289
95	SIGNAL CORP	105,518
96	ANTARCTIC SUPPORT ASSOCIATES	102,707
97	MORGAN GUARANTY TRUST OF NY	102,390
98	INTERGRAPH CORP.	97,671
99	VERIDIAN CORP.	96,324
100	OAK RIDGE ASSOC UNIVERSITIES	95,600
Total, Top 100 Bundled Contract Recipients		55,436,284
Total Bundled Dollars, FY 1999		79,290,234
Top 100 Share of Bundled Dollars FY 1999		69.9%

Note: Bolded Entries are small businesses.

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