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An Assessment of Air Force Data on Contract Expenditures

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Summary

More than a decade ago, commercial firms began to change the way they purchase goods and services to become more competitive in the marketplace. Through better management of their supply bases and supplier relationships and more sophisticated purchasing strategies, these firms have improved supplier performance and reduced the prices of their purchases for various categories of goods and services. A primary input to constructing the purchasing and supply-management strategies used by these firms is what is commonly called a “spend analysis” of a firm’s contract expenditures and supply base. This analysis can be used to identify potential targets of opportunity for change, which in turn enables firms to leverage their expenditures and design improved strategies for interacting with suppliers.

For several years, the Air Force has been working to incorporate widely accepted commercial purchasing and supply management practices into its purchases of equipment and supplies. These efforts are currently being expanded to include the purchase of services. To assist in these efforts, the Air Force Deputy Assistant Secretary for Contracting (SAF/AQC) asked RAND Project AIR FORCE to conduct an initial, high-level analysis of Air Force expenditures to determine how much the Air Force spends on different types of services.

The primary source of data on Air Force contract expenditures is the DD350 database. The DD350 database contains data from the Individual Contracting Action Report form (also known as the DD350 form). The DD350 database provides a good deal of information on contract transactions greater than \$25,000, but it was designed to support a variety of compliance-oriented analyses (e.g.,

analyses of purchases from small businesses or minority-owned businesses), rather than the types of detailed analyses of expenditures that are required for spend analyses.

In particular, the DD350 form does not allow for a detailed description of the various types of goods and services the Air Force purchases. The Product Service Codes (PSCs) used in the DD350 form to describe purchases are not detailed enough to capture the full range of goods and services purchased, and contracting officers are not trained in how to assign PSCs in a consistent way. Finally, many of the most important DD350 data fields from a spend analysis perspective are unaudited (i.e., they are not checked for completeness and accuracy).

Given these reasons for concern about the usefulness of the DD350 data for spend analyses, we undertook a formal assessment of the accuracy and completeness of key data fields that describe Air Force purchases. The possibility that purchases of services may be embedded in contract actions coded as purchases of goods (and vice versa) led us to examine data for both goods and services contracts.¹ We collected supplemental information on a sample of 306 contract actions from Air Force contracting officers. The sample was weighted more heavily toward larger-dollar-value contract actions because we hypothesized that those actions are more complex than lesser-value ones, and thus the information in the DD350 database on larger transactions may be less reliable than the information on smaller transactions.

To assess the accuracy and completeness of the information in the DD350 database, we interviewed the contracting officers responsible for entering the data on selected contract actions to learn more about the nature of each purchase. We then used statistical methods to extrapolate our findings from the sample to all contract actions in the Air Force fiscal year 2002 (FY02) DD350 database.

¹ A single contract between the Air Force and a supplier can have multiple contract actions associated with it. Such actions may represent incremental obligations of funds, deobligations, orders against indefinite delivery and indefinite quantity contracts, and other contract modifications.

Table S.1 summarizes our key findings on the accuracy and adequacy of Air Force FY02 DD350 data for spend analyses and our findings about the sufficiency of the current list of PSCs to describe Air Force purchases.

Although our analyses highlight serious problems with the DD350 data, we believe that the Air Force and the Department of Defense (DoD) could take steps over the short term and long term to improve the usefulness of these data for conducting spend analyses.

Over the short term, it would be helpful to communicate to the entire contracting workforce that these data now have an additional, important purpose—to aid in performing analyses to support implementation of new purchasing and supply management strategies. Our hope is that this message would encourage greater precision in describing the types of goods and services purchased. In addition, the Air Force could collect more detailed data to supplement DD350 data on contracts that fall within certain “problem” PSC areas that we identify in this report. With enough additional data, the Air Force may be able to use statistical analyses to develop guidelines for

Table S.1
Summary of Findings Regarding Accuracy and Adequacy of Air Force FY02 DD350 Data

Issue	Findings
Accuracy of the PSC coding in the DD350 forms (see pages 29–38)	The PSC for 50 percent of contract actions (39 percent of contract dollars) in the DD350 database is coded inaccurately. Services are undercounted.
Adequacy of using a single PSC to describe the contract action (see pages 38–44)	Eleven percent of contract actions (27 percent of contract dollars) include the purchase of more than one category of goods and/or services. Use of more than one PSC would allow for better description of 5 to 11 percent of contract dollars in the DD350 database.
How well the available PSCs describe Air Force purchases (see pages 22–26, 44)	Several important categories of activities are not fully captured in the current PSC codes. New PSCs could be used to better identify how at least 5 to 6 percent of contract dollars are spent.

adjusting the DD350 data to more accurately reflect the nature of the underlying purchases (see page 52).

Over the long term, the Air Force may be able to work with other branches of the military and federal agencies to refine the list of PSCs to include codes that better describe Air Force purchases, particularly for warranties on goods or services, special studies of Air Force operations or systems, and professional services. The Air Force may also want to consider recommending to the DoD that the DD350 form be modified to allow contracting officers to use more than one PSC to describe the goods and services purchased through contract actions (see page 52).

Based on our analyses, modifying the DD350 form to allow for additional PSCs and their corresponding dollar amounts would enable the Air Force to more accurately describe how 5 to 11 percent of DD350 contract dollars are spent, which translates to \$2 billion to \$5 billion worth of expenditures for FY02. However, before recommending that the DD350 form be modified to allow for multiple PSCs, the Air Force should evaluate the costs (e.g., the cost of making software changes, writing new manuals, conducting training on new systems, entering additional data in the form, and building a consensus for change within DoD) versus the benefits (i.e., the value added from improved purchasing strategies based on more accurate information on the full range of purchases) of such a change (see pages 52–53).

Finally, the Air Force may benefit from providing training in PSC coding to contracting officers, particularly those who work with technically complex contracts or contracts that include many different types of purchases (see page 53).