MEASURING CHANGES IN SERVICE COSTS TO MEET THE REQUIREMENTS OF THE 2002 NATIONAL DEFENSE AUTHORIZATION ACT

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The National Defense Authorization Act for Fiscal Year 2002 sets forth a series of goals for the Department of Defense to reduce the cost of the services it buys over a ten-year period through changes in contracting practices and improvements in management techniques. This study investigates ways to measure whether the Air Force is achieving these cost-reduction goals and discusses the most important steps in the measurement process.

Successfully estimating changes in service costs over time first requires establishing a baseline, i.e., expenditures that occurred in the base year, for a clear universe of services that permits a consistent comparison of service purchases over time. The second step in the process is to estimate the expenditures on these services for the current fiscal year. A fundamental part of constructing the current-year expenditures is to control for any changes in the nature of services purchased over time, including changes in the scope of services, and, to the extent possible, changes in quantity and quality. The next step is to apply an appropriate measure of inflation to the baseline expenditures to estimate what those services would have cost in the current year in the absence of changes in contracting practices and management techniques. After the baseline, current year, and without-management-change costs have been estimated, the final step is to calculate the savings achieved and compare them with the goals.

Reporting requirements of the Act necessitate that the savings measurements not only include historical expenditures but that they also
forecast future expenditures. In fact, what is most difficult about satisfying the requirements of the Act is that forecasted expenditures are more important than historical expenditures: the final report required by the Act in March 2006 is supposed to estimate savings five years into the future, but it need not address whether the savings goals of earlier fiscal years were achieved.

Existing data sources offer either a detailed accounting of past service purchases or a more general forecast of future purchases, but no single source is sufficient for the entire task without further work or linkage.

Table S.1 presents each element of the legislative requirement, the potential source(s) of data to meet the requirement, and summarizes our recommendations on how best to implement each element.

While this research recognizes the difficulties inherent in systematically tracking and analyzing the effects of changes in practices on service costs, it highlights a general need for improvements in Air Force data collection and processing to better provide such capability. Other RAND research is exploring the adequacy of the DD350 data to identify a stable set of services over time and robustly characterize the Air Force’s service expenditures.

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1The annual report requires not only an estimate of savings in the current year that resulted from new management practices but also an estimate of savings for the next year deriving from new management practices.
### Table S.1
Summary of Reporting Requirements and Recommendations

<table>
<thead>
<tr>
<th>Steps to Estimate Service Cost Savings</th>
<th>Potential Data Source(s)</th>
<th>Implementation Recommendations</th>
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| 1. Establish FY00 cost savings baseline for procurement of services. | DD350 | A. Clearly define the universe of services governed by the Act; choose a set of services for which PBSA and other management innovations are appropriate.  
B. Sum FY00 expenditures for chosen services.  
(See p. 7) |
| 2. Estimate the amount that will be expended for procurement of services in the current FY. | DD350, ABIDES | A. Adjust for changes in scope.  
B. Where possible, adjust for changes in the quantity of services purchased.  
C. Assume that the quality remains constant instead of attempting to adjust prices for quality changes.  
(See p. 10) |
| 3. Estimate the amount that will be expended for procurement of services in the following FY. | ABIDES | A. Establish a link between PSC/NAICS codes in DD350 and EEIC codes in ABIDES.  
B. Use most current forecast for next FY expenditures for chosen services, adjusted as described above.  
(See p. 16) |
| 4. Establish the "hypothetical" expenditures for the current and following FYs (the amount that "otherwise would have been spent"). | DD350, OSD O&M Price Index, BLS National Service Wage Index | A. Establish the hypothetical cost for the current year by adjusting the base year expenditures to current year dollars through the chosen inflation index.  
B. Do the same for the following FY.  
(See p. 18) |
5. Estimate the amount of savings in the current FY and following FY that result from improved management practices.

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<tbody>
<tr>
<td><strong>A.</strong> Subtract expected expenditures for the current FY from the hypothetical for the current FY.</td>
<td><strong>B.</strong> Do the same for the following FY.</td>
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<td>(See p. 21)</td>
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<tr>
<td><strong>a</strong></td>
<td>Performance-Based Services Acquisition.</td>
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<td><strong>b</strong></td>
<td>Automatic Budget Interactive Data Environment System.</td>
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<tr>
<td><strong>c</strong></td>
<td>For the final report, the forecast is for five years into the future.</td>
</tr>
<tr>
<td><strong>d</strong></td>
<td>Product Service Code/North American Industry Classification System.</td>
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<tr>
<td><strong>e</strong></td>
<td>Element of Expense/Investment Code.</td>
</tr>
<tr>
<td><strong>f</strong></td>
<td>Office of the Secretary of Defense Operation and Maintenance.</td>
</tr>
<tr>
<td><strong>g</strong></td>
<td>Bureau of Labor Statistics.</td>
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