

The current structure of DLR exchange prices creates incentives for customers to take actions that are not cost-effective for the Air Force. The fact that prices are greater than the marginal costs associated with DLR transactions biases customers toward local repair, away from transacting with the working capital fund. When the cost of local repair is less than the exchange price but greater than the cost of depot-level repair, customers save O&M funds, but Air Force costs increase. In the long term, customer commands may overallocate repair resources to their wings. The fixed, average cost nature of DLR prices creates opportunities for customers to save O&M funds by altering the condition of returned carcasses so as to reduce the number of transactions with the fund. Air Force costs can increase because of duplicate repair facilities at the local level and through higher depot repair costs. Prices increase in the future to reflect higher repair costs, strengthening incentives for customers to take avoidance actions. The current structure of prices bundles fixed costs associated with repair and the costs of nonrepair services into DLR exchange prices. The reduced visibility of costs distorts customer decisionmaking and provides no incentives to reduce the cost of providing support services. Finally, the fact that recovery of costs that do not vary with the number of transactions depends on demand forecasts and the fact that prices are based on two-year-old costs work against recovery of costs, preventing the fund from breaking even each year.

To lessen these problems, we recommend implementing a two-part price structure in which costs unrelated to the rate of repair are recovered from customers separately from DLR exchange prices. Our

recommendations should increase the compatibility of DLR stock funding with Air Force support goals and should lead to a price system that will not need to be changed as support strategies change. At command and wing level, the recommended price structure should eliminate customer disincentives for initiating or supporting changes that would move repair *to* the depot level. The current system, for example, is biased against two-level maintenance, which the Air Force may need to use more extensively if active duty personnel reductions lead to reductions in base-level manning. Including only marginal repair costs in DLR exchange prices (thereby reducing the exchange prices of most DLRs) and charging other repair-related costs directly to commands should eliminate this bias without causing the reverse bias in favor of depot-level repair.¹

At the depot, the recommendations support other initiatives intended to improve depot effectiveness. RAND has developed product-oriented “motivational metrics” to provide stronger incentives for reducing repair cycle times and costs while maintaining or increasing the quality of repair. The depot shop motivational metric includes the same pipeline inventory credit for beating the repair time standard and debit for exceeding it as our recommendation. Also, eliminating the surcharge reduces incentives for unrecorded job routing of SRUs, thereby improving data on failure rates used for developing the bill of materials (BOM). Finally, improved visibility of repair costs should lead to more efficient resource allocation decisions within the depot.

There are factors that limit the benefits that can be achieved by changing the current price system structure. One is the inaccuracy of depot cost information. As discussed in Chapter Three, many elements of the depot repair cost for a DLR are allocations from more aggregated cost measures rather than costs directly related to the repair of that DLR. Thus, it is not currently possible to accurately associate the indirect and overhead costs with the repair of each NSN.

¹That is, it should not lead to a general shift from local to depot-level repair unless it is less costly to perform these repairs at the depot level. In the absence of a depot advantage unrelated to cost—e.g., configuration control—depot repair is more attractive than local repair only when depot repair costs reflect economies of scale. Otherwise, the responsiveness of local repair plus the costs associated with depot-level repair that are not associated with local repair—transportation and pipeline inventory—will maintain the attractiveness of local repair.

Ultimately, accurate depot repair costs need to be determined through cost analyses to improve the Air Force's ability to assign indirect and overhead costs to the factors that drive them.² Similarly, customer commands need accurate information about the cost of local repair to make sound decisions about the provision of repair resources to their wings.

Restrictions on competition for repair also limit the gains from restructuring prices because the incentive effects of prices are limited when choice is limited. Wings cannot officially substitute local for depot-level repair without permission from the cognizant ALC; thus, the skewed incentives associated with the current price have smaller effects on decisions than they would if wings were free to substitute. However, if commands and wings were provided with the right information to make cost-effective support decisions from the Air Force point of view, it would be to the advantage of the Air Force to allow them more choice. Similarly, absent competition from private contractors or other repair depots, depot repair shops have less motivation to seek ways to reduce their costs and improve their rate of output.

²Poor identification of costs with products is also a problem in the private sector—especially for organizations that produce diverse products. See Cooper (1989), pp. 77–82. Many private sector firms have turned to activity-based costing to help match costs with end products. See O'Guin (1991) and Ostrenga et al. (1992).