
SUMMARY

The Air Force implemented stock funding to manage most depot-level reparable (DLRs) in FY 1992. The Air Force Working Capital Fund charges customers—wings and higher-level organizations in major commands and repair activities in air logistics centers—for their purchases of serviceable DLRs, pays customers for the return of items needing repair or replacement, and purchases depot-level repair and replacements. The introduction of stock funding for DLRs gave customer commands responsibility for obtaining budgets to purchase DLR repairs and replacements. These budgets were formerly the responsibility of the Air Force Materiel Command, and DLRs were supplied to customers free of charge.

This market-like system is intended to provide incentives for making cost-effective repair decisions at the local level. The establishment of transfer prices for DLRs has increased customer awareness of support system costs, and customers have increased utilization of local repair options to economize on their operations and maintenance funds. However, the influence of DLR prices extends beyond local execution decisions to long-run strategic decisions made by customer commands and the Air Staff.

DLR prices are structured to recover the costs associated with repairing/replacing DLRs plus the costs of overhead and selected nonrepair services, such as software support. The repair cost portions of prices reflect the average condition of items needing repair rather than the condition of individual items. The costs of overhead and nonrepair services are arbitrarily allocated to prices in a surcharge that is proportional to the acquisition cost of each DLR. Including

these costs in DLR prices rather than recovering them separately causes prices to be higher than the costs incurred through DLR transactions and gives the Air Force and customer commands incorrect information about specific DLR, weapon system, and command-related costs.

Although customers may recognize that DLR prices do not reflect the cost of depot-level repair, these prices are the charges that are debited against their budgets and, hence, are the relevant costs of DLRs to wings and commands. Wings and customer commands save operations and maintenance (O&M) funds that they can use for other purposes by reducing their number of transactions with the working capital fund, as long as the cost they incur to avoid these transactions is less than the sum of the DLR prices they avoid paying. However, the Air Force saves money only when the decrease in variable costs associated with the reduction in depot-level repair is greater than the increase in costs incurred by wings and commands. (The costs included in DLR prices that are not related to the rate of repair are incurred regardless.)

In the longer term, commands may seem to benefit from allocating costly repair resources to wings and purchasing fewer serviceable items from the working capital fund because DLR prices overstate the cost savings from doing so. Indeed, DLR prices provide incentives for customers to resist moving repair away from the customer to the depot.

The absence of a financial penalty for returning items in worse-than-average states of repair provides additional ways for customers to save O&M funds. They save when they can send only severely damaged items (i.e., with above-average repair costs) to the depot level and keep items with below-average repair costs at the local level. Customers also save when they can prolong their use of mechanical items or cannibalize to consolidate failures so that they will have fewer transactions with the working capital fund. However, the Air Force saves money only when the reduction in costs resulting from fewer repairs is greater than the increase in costs resulting from increased repair cost per item. DLR prices will ultimately reflect the higher average repair costs, but higher prices increase customer savings from degrading the condition of items repaired at depot level and thus strengthen customer incentives to do so.

The structure of DLR prices also works against accurately recovering costs from customers. Because costs unrelated to the rate of repair are recovered through the DLR surcharge, accurate recovery depends on accurate forecasts of DLR transactions. When the realization of customer demand for DLRs differs from demand forecasts, these costs are under- or overrecovered.

The structure of DLR prices should be changed to improve the compatibility of customer incentives and overall Air Force support goals and to be robust with respect to changes in those goals. The price system should cause customers to face the costs their decisions impose on the support system. That is, costs should be recovered through a series of charges to the customers responsible for generating those costs. In order of priority, our recommendations are:

- DLR prices should not include a surcharge. Costs unrelated to rate of repair should be recovered from customers, but not through DLR prices.
 - Fixed or sunk costs should be allocated to customer commands through periodic charges according to their source.
 - Prices should be established for customer services that are unrelated to the rate of repair.
- DLR prices should include all costs that vary with the number of transactions (e.g., repair resources, replacement items, Defense Logistics Agency issues and receipts charges, transportation, and pipeline inventory).
 - When customers cannot affect the condition of a returned carcass, the DLR price should equal the average cost of a transaction for the particular DLR and not reflect the condition of the returned carcass.
 - When customers can affect the condition of a returned carcass (e.g., through excess usage, cannibalization, or sorting), the DLR price should reflect the condition of the returned carcass.
 - The price of a DLR in excess supply should be discounted based on the length of time until repair or replacement is necessary.

- Headquarters U.S. Air Force should be the customer for services that may be undervalued by customer commands.
- Pipeline inventory fees should be used to penalize delays and reward reductions in pipeline times at wings and depot repair shops.

If customers were to face the costs they impose on the Air Force, they would recognize the cost advantage of depot-level repair when it exists. Similarly, customers would adversely affect the condition of carcasses only when it is cost-effective from the point of view of the Air Force. Establishing separate charges for nonrepair services would encourage customers to balance their costs against the benefits received and, in the presence of potential competition, will encourage suppliers to provide these services more efficiently. Finally, recovering fixed costs and costs of nonrepair services separately from DLR prices would better align working capital fund costs and revenues.

When changes in support strategies result from changes in costs, DLR prices will reflect the cost changes and reinforce the support strategy changes. For example, reduced commercial transportation times and costs may cause the Air Force to centralize the repair of broad classes of items at depot level. This reduction in the cost of depot-level repair would be reflected in DLR prices. However, if wing and higher-level organization support considerations differ (because the higher-level organizations have broader scopes of resource responsibilities), prices should be adjusted to provide wings with the correct incentives. That is, prices should be structured so that customers view the Air Force's preferred source of repair as the least expensive source of repair.

The efficacy of our pricing recommendations is limited in three ways. First, depot repair costs currently cannot be measured accurately. Without improved tools for cost analysis (such as activity-based costing) and a reduction in the time lag between estimating and realizing costs, the match between DLR prices and expected marginal costs will be imperfect; therefore, the decisions based on these prices may not always be best for the Air Force. Second, the financial management system is not currently able to implement all that is required to fully adopt the pricing strategy. However, eliminating the

DLR surcharge—recovering most of the costs through separate charges to commands and recovering the remaining costs through appropriate assignment to DLR prices—would yield the single largest improvement in customer incentives and is feasible given the current financial management system. Finally, restrictions on competition for repair among depots and between depots and commercial firms limit the incentives of depot repair shops to reduce their costs and limit customer opportunities to seek out lower cost repair alternatives.