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Accounting for Military Human Resource Costs*

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INTRODUCTION

Euske and Rock demonstrated the use of a human resource accounting model to provide a systematic analysis of the costs associated with human resource policy decisions affecting the training of regular Army officers.[1] Though the approach used provides the policymaker with the present value of the budgeted costs of an alternative, the approach does not provide information regarding the annual accrual of benefits or the expiration of costs. Identifying both the costs and benefits on an annual basis would permit the identification of the annual contribution of the human resources. The annual contribution would provide an additional means for public-policy decision-makers to evaluate the relative value of specific types of human resources. To develop an annual contribution figure, the human resource accounting model must have two attributes which the model in the Euske–Rock study did not have:

(1) it must allow for matching costs with the annual period in which the benefits occurred,

(2) it must account for the benefit attributable to the individual during that annual period.

This paper addresses the first attribute. The paper has four major elements:

(1) The human resource costs associated with a cohort of officers are identified.

(2) The expense and investment components of the costs are categorized.

(3) The costs are allocated to the periods in which the benefits are received.

(4) The annualized costs associated with a cohort are compared to budgeted costs.

The analysis in this paper is not presented as definitive. It is an example of steps necessary to arrive at an estimate of the annual cost of human resources.

OFFICER DEVELOPMENT AND COSTS OF HUMAN RESOURCES

In this paper the analysis of human resource costs focuses on the professional development and promotions of a cohort of US Navy unrestricted line (URL) officers. The professional development and promotions of the cohort can provide information for identifying human resource costs incurred and the associated benefits. For example, even though there is not a unique path for career progression for URL officers either as a whole or by discrete warfare category, certain standards are applicable across warfare categories and are considered as generally required for all URL officers.[2]

Given the generalized career advancement pattern, policies for the professional development of naval officers can be analyzed to determine if it is possible to categorize costs associated with human resources as either expenses or investments. Expenses are costs that expire in the current period and assets are costs that expire in some future period. Assets become expenses at the time future benefits are realized.[3]

The source of these costs was defined as the military compensation system and training program. Generally the military compensation system is broken into the following categories: (1) regular military compensation, (2) incentive pays and allowances, (3) other compensation elements, and (4) nondisability military retirement.[4] To insure consistency between Navy policy and promotion prerequisites and the broader environment with respect to officer management within the Armed Forces, some referent should be used. Within our example, the provisions of the Defense Officer Personnel Management Act (1980) were also analyzed in conjunction with the Navy's policy objectives.

EXPENSES AND INVESTMENTS

In this section the human resource costs as they relate to URL officers are categorized as expenses or investments. In general, an item should be expensed in the period the corresponding benefit is received or when there is no potential benefit.

Basic pay is the primary means for compensating military personnel for services rendered. However, the professional development of URL officers is based upon a closed personnel system without lateral entry. Each grade of URL officers must be selected from the grade below.[5] Basic pay, therefore, represents both a payment for current benefits and an investment in maintaining a human asset base for the future.

Incentive pays are designed to supplement basic pay and to aid personnel managers in obtaining sufficient numbers of volunteers to serve in designated careers. Given the purpose of the career incentive pays that are directly tied to one of the three warfare categories of the URL officer community, the incentive pays constitute investments.

Responsibility pay is paid to commanding officers holding positions of "unusual responsibility," which is one of the primary indicators of potential for promotion to higher grades. Therefore, responsibility pay can be categorized as an investment.

Military benefits are a part of the military compensation system. Two of the benefits, medical care and nondisability retirement, are associated with the career and professional development of URL officers. Medical care provides a dual function as does basic pay: to maintain a physically capable officer corps and to provide officers who are physically capable of assuming greater responsibilities required with promotion to higher grades. The cost of

medical care therefore represents both an expense and an investment.

Nondisability retirement represents an incentive to remain on active duty. Given that vesting is at 20 years, no costs expire for this incentive until the member has served a minimum of 20 years on active duty. Nondisability retired pay represents an investment for those on active duty with more than 20 years of service and an expense for those who retire after serving for more than 20 years.

Training costs associated with initial entry into the three URL warfare categories are a necessary prerequisite for future professional development and promotions to any higher grades. Initial entry training costs and warfare training represent investments. Not only the initial training costs but also the other training and education costs represent an investment cost for the Navy. Training and education costs associated with the long-term professional development of naval officers in the three URL warfare categories are also considered as investments. However, the resources expended on training will only have value to the organization if the person who is trained remains with the organization and uses the knowledge gained for the benefit of the organization. If the individual leaves the organization before the full benefits are realized, the organization suffers the loss of a resource. This lost resource can be identified as the cost associated with the training not used.

In general, costs should be identified as expenses if they can be matched with a specific benefit period. In this paper, any cost that could not be identified as an investment for one of the three URL warfare categories was considered as an expense representing an expired cost in the period of payment.

COST ALLOCATION

The discussion above provides a general identification of expenses and investments. However, the discussion is not specific enough to permit the actual allocation of costs to expense and investment categories. Therefore, a set of specific cost allocation rules are suggested. The allocation of the costs is based on the assumption that the career of an individual naval officer can provide the basis for estimating current benefits as well as future benefits to be derived at some time in the future.

This basic characteristic of the career progression and promotion opportunity for an individual naval officer leads to the first cost allocation rule:

> All investments become an expense under the following circumstances: (1) termination of duty as a naval officer (includes death, retirement, noncontinuation or reversion to permanent enlisted status); (2) failure to be selected for the next higher rank; and (3) change from a URL officer to another officer status.

Many of the costs associated with a naval officer may also represent an investment in future benefits to the Navy whether or not the officer remains as a URL officer. However, the emphasis here is on the continued performance of duty as a URL officer.

The second cost rule is complementary to the first:

> Costs will continue to be considered as an investment for as long as the following two conditions are met: (1) the individual naval officer remains competitive for promotion to a higher rank (i.e. the officer has been promoted at each flow point), and (2) the benefits are either to be provided while serving in a higher rank or are considered as a prerequisite for a higher rank.

For costs that provide benefits in more than one period some method to determine the expense and investment elements and the period for the allocation of the investment cost

must be used. For example, initial flight training for a naval aviator represents, on the one hand, a short-term investment in terms of developing a new pilot. On the other hand, the training is a long-term investment with the expected benefit of the flying conducted by the aviator throughout the officer's career. Additionally, the training is an investment in a prerequisite necessary to provide a group of qualified naval officers from which to select future senior naval officers who have had previous experience in operational billets.[5] The investment cost relates to each of the periods in which benefits accrue. One method for allocating the costs is the straight-line method using the expected career period of the human resource as the base. This proportional allocation clearly does not perfectly match how the benefits accrue. However, it is a closer approximation of the matching of costs and benefits than expressing the total amount as an expense in the year of training.

DISCUSSION AND CONCLUSION

How would such an approach affect the cost structure for a cohort? To answer that question constructed costs for the 1963–1992 period were analyzed for the 1962 Year Group of US Navy URL officers. First a "traditional" analysis of the costs associated with a cohort was conducted. In the "traditional" analysis, essentially all items were expensed in the year they were budgeted. A second analysis was then conducted based upon the discussion in this paper. The cost analysis is intended to be illustrative of the application of specific decision rules for allocating costs. The cost analysis is based upon aggregate costs associated with the cohort. For actual decision-making purposes the use of more refined cost data would be beneficial.

A direct cost comparison between the "traditional" analysis and the method described in this paper is shown in Table 1. The costs resulting from the human resource accounting

Table 1. Direct cost comparison of "traditional" analysis and the proposed method for the 1962 year group ($,000,000)

	"Traditional" analysis	Proposed method
1963	1390.2	313.4
1964	1670.5	758.2
1965	138.2	751.9
1966	155.1	574.1
1967	127.0	376.5
1968	69.0	196.9
1969	72.1	150.9
1970	56.0	78.9
1971	58.1	72.6
1972	49.5	69.1
1973	49.4	86.6
1974	53.7	75.6
1975	237.7	122.7
1976	73.9	135.3
1977	95.2	84.0
1978	63.0	91.9
1979	46.0	85.2
1980	48.0	78.6
1981	42.8	83.2
1982	33.5	110.1
1983	27.7	54.5
1984	28.0	42.3
1985	25.0	49.3
1986	21.5	46.8
1987	17.8	44.1
1988	14.9	41.5
1989	12.0	37.5
1990	9.5	33.0
1991	7.5	27.9
1992	5.7	25.9

approach discussed in this paper are higher for all years except the first two years and the thirteenth (1975) and fifteenth (1977) years. This reflects the allocation of costs into future periods when benefits are to be received.

This discussion illustrates that human resource costs can have more lasting effects than would at first appear. The allocation of the costs over time offers the public-policy decision maker additional information for human resource decisions. Specifically, the impact of expenditures in different categories such as training or incentive pays can be more

realistically planned, based upon their long-run impact rather than the simple budgeted expenditure.

Specific problems do exist with the method of analysis. The first, and perhaps the most important problem, relates to the lack of specific guidelines that define what a career path should look like for a population of interest. While no specific guidelines may exist, a general career progression can provide the human resource decisionmaker with a general idea of the effects of the cost allocations. Second, allocations, which are arbitrary by definition, are necessary to accomplish the analysis. Though arbitrary, the allocations may more closely reflect the economic reality than the "traditional approach." Third, the decisionmaker needs prospective information. If the decisionmaker is willing to make assumptions regarding the structure of costs (such as future pay scales), the approach discussed in this paper may be useful for the evaluation of future expenditures.

NOTES

1. K. J. Euske and C. T. Rock, Jr., Integrating human resource accounting into the public policy process: an illustration. *Journal of Accounting and Public Policy* 2 (2), 99–113.
2. Chief of Naval Operations, *Unrestricted Line Officer Career Planning Guidebook* (OP-13). Washington, DC (1983).
3. E. G. Flamholtz, *Human Resource Accounting*. Dickenson, Encino, CA (1974).
4. Office of the Secretary of Defense, *Military Compensation Background Papers, Compensation Elements and Related Manpower Cost Items, Their Purpose and Legislative Background*. Washington, DC (1983).
5. Chief of Naval Operations, *Unrestricted Line Officer Career Planning Guidebook*.

Maritime Security

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What once seems to have been an act within the annals of history, piracy, is still alive today but in a new form — maritime terrorism. Over recent years it has even seen a dramatic increase. However, no longer are gunboats dispatched and recourse to international law does not help, since modern pirates often take refuge in a sympathetic country. Today pirate operations have expanded, and include the world's airlines.

Between 1973 and 1982 almost 6500 international terrorist incidents were recorded, resulting in over 11,000 casualties. A third of these were fatal. Since 1982 these figures have increased dramatically. Whilst hijacking aircraft is a not infrequent event, the maritime industry is now fast becoming a favored target.

An early modern incident of maritime piratical terrorism was in 1972 when the liner *Queen Elizabeth* II was in mid-Atlantic. A ransom demand was made by a caller ashore, stating that unless a large sum of money was paid, a number of pre-positioned bombs aboard would be remotely detonated, threatening the lives of