

DETAILED COST COMPARISONS

During our study, we selected 18 electronic data processing models and determined for each component the costs of leasing, purchasing, and maintenance and the interest applicable to these costs. For each component, we then compared the total cost of rental over a 5-year period with the cost of outright purchase plus the cost of maintenance. All comparisons were made for one-, two-, and three-shift operations. These comparisons are summarized in exhibit B and are set forth in detail for each machine system in exhibit C.

A condensed summary of the results of these comparisons is shown below.

Manufacturer	System Identification	Savings or losses (—) from purchasing instead of leasing		
		1 shift	2 shifts	3 shifts
International Business Machines Corp.....	7090.....	176 hours \$644,000	352 hours \$2,184,000	528 hours \$3,724,000
Philco Corp.....	2000.....	—143,000	1,181,000	2,505,000
International Business Machines Corp.....	7080.....	333,000	1,397,000	2,461,000
Control Data Corp.....	1604.....	923,000	1,830,000	2,737,000
Minneapolis-Honeywell Regulator Co.....	800.....	112,000	673,000	1,233,000
Burroughs Corp.....	5000.....	315,000	886,000	1,456,000
Univac, Division of Sperry Rand Corp.....	Univac-III.....	—15,000	276,000	566,000
International Business Machines Corp.....	7070.....	70,000	432,000	795,000
The National Cash Register Co.....	315.....	38,000	83,000	143,000
International Business Machines Corp.....	1410.....	67,000	323,000	579,000
Univac, Division of Sperry Rand Corp.....	Univac SS-90.....	—21,000	149,000	335,000
Minneapolis-Honeywell Regulator Co.....	400.....	23,000	171,000	318,000
International Business Machines Corp.....	1401 ¹	27,000	158,000	288,000
Do.....	1401 ²	7,000	137,000	267,000
Do.....	1401 ³	—11,000	41,000	94,000
Control Data Corp.....	160A.....	24,000	75,000	127,000
Radio Corp. of America.....	501.....	200 hours 80,000	484 hours 42,000	612 hours 45,000
Do.....	301.....	26,000	18,000	23,000

¹ Card and tape system operated as offline equipment to a larger system.

² Card and tape system.

³ Card system.

FACTORS CONSIDERED IN MAKING COST COMPARISONS

The factors considered in our computations were:

Time period: Five years.

Lease: Rentals and interest on rentals.

Purchase: Purchase price, interest on purchase price, maintenance costs, and interest on maintenance costs.

These factors are described more fully in the following sections. Other costs related to the acquisition and use of data processing systems, such as transportation, site preparation, and training costs, are identical under either lease or purchase arrangements and consequently for comparison purposes can be excluded.

Five-year period

Federal Government experience with electronic data processing devices over the past 12 years has shown that with proper maintenance this type of equipment has a useful lifespan of at least 5 to 10 years. Some of the machines installed in Federal agencies in the early and mid-1950's are still in service. Generally speaking the older machines that are still in use are those which were purchased outright by the Government. Also, despite the rapid changes that have taken place in equipment design, a large number of machines that were rented were used for periods of 5 years or more before being replaced by modern equipment.

It is generally agreed that the new "second generation" solid-state machines will have a considerably longer useful life than the "first generation" vacuum tube type of machines. The question of economic obsolescence versus technological obsolescence related to the useful life of electronic equipment is discussed briefly on page 13.