22 1977

STATEMENT BY
SEYMOUR MELMAN
PROFESSOR OF INDUSTRIAL ENGINEERING
COLUMBIA UNIVERSITY, NEW YORK, NEW YORK

The following paper indicates that a major decline in the rate of U.S. productivity growth, and of allied technological competence, are a consequence of a transformation in the internal character of the American industrial firm that is associated with a long period of concentration of capital and technology in military as against civilian economy.

From 1965 to 1970 the average annual rate of change in U.S. productivity was 2.1% in manufacturing. This was the lowest rate of productivity growth of any industrialized country in the western world.

As the hourly wages of industrial workers have risen, managers of manufacturing firms found that the prices of machinery did not tend to rise to the same degree. The consequent purchase and installation of new types of manufacturing machinery had the effect of raising the average level of out-put per worker. In this way the growing alternative cost of labor to machinery had the effect of inducing mechanization and consequent productivity growth, accounting for 78% of the observed variation.

In military industry cost-minimizing has been replaced by a combination of cost-maximizing and subsidy-maximizing. As this infection proceeds the primary causal mechanism that has been responsible for U.S. productivity growth is abridged in the tendency of many machinery prices to rise as rapidly as, or more rapidly than, the wages of labor.

As a consequence of the diminution of the alternative cost incentive to mechanize, there is evidence of an aging stock of production machinery in critical industries.

From 1951 until the present day the fresh military funds alloted by the Congress each year have exceeded the total after tax profits of all U.S. corporations. Plainly, the government of the United States and the military establishment in particular have become the prime controllers of the principal capital resources in the American economy.

From 1967 to 1969, A United Nations study reports that military budget expenditure as a percentage of gross domestic, fixed investment, was 52.8 in the United States; 14.0 in the Federal Republic of Germany; and 2.3 in Japan.

Technology resources are critically represented by the manpower and the money expended for research and development purposes. For the last quarter century, the United States has concentrated its research and development expenditures in the military sphere. By 1974, the Department of Defense and the Space Agency accounted for 65% of all federally funded research activity.

With respect to both R&D expenditures and the employment of scientists and engineers, it is clear that the ordnance and missile industry dominated the scene as against other manufacturing industries.

The manufacturing industries of the United States have been clearly disadvantaged in relation to the manufacturing industries of other countries with respect to the availability of research and development resources. There is a persistent pattern of developing disadvantage for the United States.

These differences in productivity between the most productive quartile and the least productive quartile of steel industry factories within the United States exceeds by far the difference in price between Japanese produced and American produced steel products. The reasonable inference is that there is a competitive difficulty for the least productive of U.S. steel industry factories.

The steel industry, like many other manufacturing industries of the United States, has been pressed by the relative shortage of capital and shortage of fresh technology resources owing to the quarter century pre-emption of capital and technology by the federal government's military establishment.