

Technical Note 2

PRODUCTIVITY AND OUTPUT IN THE POSTWAR PERIOD

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I. INTRODUCTION

Chapter 3 of the "Staff Report on Employment, Growth, and Price Levels" includes a discussion of the relationship between productivity and output in the economy.¹ Much of that analysis focuses on the effects of intersectoral labor movements upon the rate of growth of aggregate productivity. The underlying data for that portion of the analysis are presented in the report.

Conclusions drawn about the relationship between output and productivity within the major sectors of the economy, however, were partly based upon new data gathered and analyzed by the committee staff. This paper's purpose is to present and discuss the productivity and output data obtained by the committee staff, together with an analysis of the relationship between output and productivity within the manufacturing sector of the economy.

II. THE ESTIMATES

A. MAJOR SECTOR ESTIMATES

Table 1 presents output, man-hour input, and productivity indexes for the major sectors of the economy. The reader must be forewarned, however, that productivity estimates are only as reliable as the output indexes on which they are based. Before using the productivity indexes for analytical purposes, the output source materials, discussed below, should be consulted.

(1) Manufacturing estimates A: The output index is a Federal Reserve output index for manufacturing, based upon 1954 value added weights.² The man-hours index is based upon Bureau of Labor Statistics (BLS) data, and is an estimate of total man-hours.³ Estimate A was presented in order to compare a productivity estimate based upon an output index with a productivity estimate based upon a real-value-added index. Estimate B is the published BLS index of real value added per man-hour in manufacturing. These two estimates show general agreement. Estimate B is the better of the two, and was therefore used in the staff report.

(2) Mining: Output is a Federal Reserve index for mining based upon 1954 value-added weights. The man-hours index is based upon BLS data, and is a total man-hours index.

(3) Public utilities: The output index is the Schultze⁴ output index. The man-hours index is based upon BLS data.

(5) Railroads: Revenue traffic, man-hours, and productivity are based upon the published BLS indexes.

(6) Other transportation: Output is an adjusted Schultze output index. Employment data is from BLS. No adjustment was made for possible changes in average weekly hours.

(7) Contract construction: Output is an adjusted Schultze index. The man-hours index is based upon BLS data, and is a total man-hours index.

(8) Agriculture: The productivity index is that published by BLS. The man-hours index is based upon Commerce data for persons engaged in production, and Census data for average weekly hours. The output index was obtained by multiplying productivity by man-hours.

¹ See pp. 88-94.

² It must be stressed that these are not official Federal Reserve output indexes.

³ Employment multiplied by average weekly hours, both as published in Employment and Earnings. For manufacturing, mining, and contract construction, total man-hour estimates were constructed by adding production workers, man-hours, and non-production-worker man-hours (assuming that nonproduction workers worked a 40-hour week).

⁴ All Schultze output indexes are from Charles L. Schultze, "Prices, Costs, and Output for the Postwar Decade: 1947-57" New York, Committee for Economic Development, 1959, table 2, p. 29.