

part of value added is a good proxy for the first and the remainder of value added a good proxy for the second.

Though affected by various market imperfections, value added per employee has significant advantages as a measure of factor intensity in manufacturing. One is that this measure may be taken to reflect the flows of services into the manufacturing process from both human capital and physical capital, and permits their treatment on a common basis. Another advantage is that value added per employee is available in considerable industrial detail for the United States and a number of other countries from their censuses of manufactures. The use of this measure contrasts with the usual reliance on more infrequent statistics of stocks of physical capital as a measure of capital intensity, sometimes supplemented by verbal qualifications with regard to skill requirements.

To test the validity of this approach, value added per employee is broken down into its wage-and-salary component and the rest, and significant relations are found across industries between the first and other measures of skill and between the second and stocks of physical capital. It appears that value added per employee is a reasonably good, though not infallible, guide to the capital intensity of different industries.

By this criterion, the labor-intensive industries include such major industry groups in the census of manufactures as textiles, clothing, lumber and wood products, furniture, leather and leather products, and the broad group of miscellaneous manufactures. These main industry groups are relatively homogeneous in that very few of their component industries exceed the national average for wage and non-wage value added.

Industries which are extremely capital-intensive by both criteria employed here include chemical products and petroleum refining. Another industry which would fit into this category is the tobacco industry, ranking very high in nonwage value added though low on the wage scale. Here again there is a high degree of homogeneity in the component industries of these major groups.

The remaining major industry groups fall closer to the overall averages of wage and nonwage value added for all U.S. manufacturing. They are also much more diverse in composition by these criteria. Some of the latter fall well within the capital-intensive sector—for example, blast furnaces and steel mills, primary nonferrous metals, automobiles, tires and tubes, paper and paperboard mills, hydraulic cement, flat glass, alcoholic beverages, flour mills, sugar refining, and some other food processing industries. Other components fall well within the labor-intensive sector, including a number of items of interest in the present analysis—rubber shoes, motorcycles and bicycles, cutlery and various other metal products, pleasure craft and other small boats, glass containers, chinaware and pottery, ceramic tiles, canned seafood, canned fruit and vegetables, paper and paperboard containers, and various kinds of printed matter and printing services.

This allocation leaves a number of other industries and products near, or beyond, one or the other of the margins of the labor-intensive sector, among them being metal castings and stampings; hardware and tools; plumbing and heating equipment; household fans, automo-