

TABLE 2.—RANKING OF STEEL IMPORTS BY COUNTRY OF ORIGIN IN 1966

	Percent of U.S. steel imports, 1966	Unit labor costs per ton, 1966	Percent of increase in hourly wage costs, 1964-66	Ratio of production workers to total labor force in steel, 1965
Japan.....	39.7	\$15	21.0	76.9
Belgium-Luxembourg.....	13.1	18-22	12.1	84.7
West Germany.....	10.7	19	14.8	82.3
France.....	6.5	20	5.5	79.3
United Kingdom.....	6.2	25	10.0	80.9
United States.....		33	3.1	82.3

¹ Rough estimate.

Source: American Iron and Steel Institute, International Federation of Metal Workers, and table 1.

The United States, although it has the second highest labor productivity per ton (the reciprocal of man-hours per ton) of steel, also has the highest unit labor costs (Table 1) because of its high wage rates. Japan is the worst of the group in labor productivity but has the second lowest unit labor costs. The relative ranking of the remaining countries' unit labor cost is approximately inversely related to their labor productivity ranking.

There is a rather close correlation of the ranking of the share of major steel producing countries in the U.S. import market and their unit labor costs (Table 2), which suggests that unit labor costs are a major determinant of the relative competitive ability of foreigners and that other factors such as material cost are of secondary importance. However, the relative position of Belgium, Germany and France, which have almost equal average unit labor costs, indicate that other factors than wage costs also enter into the market position of foreign producers.

Wage costs per man-hour between 1964-1966 have risen faster in foreign countries than in the United States as shown in Table 2 and, with the exception of the United Kingdom, have risen fastest in countries with lowest wages.

However, in 1966 Japan still had approximately \$16 a metric ton lower wage costs than the United States, and European producers \$5-13 a ton lower labor costs.

Foreign steel producers therefore have an average absolute labor cost advantage at the mill of somewhere in the neighborhood of 4-14%¹ of the unit price of steel, the exact amount depending on the price of the product, and the actual number of man-hours employed per ton to produce it. The advantage of European producers alone was in the neighborhood of 4-11%.

Fortunately for the domestic steel industry, labor costs comprise only 42 per cent of its production costs. Material costs in 1964 comprised 49 per cent of its cost and capital costs the remaining 9 per cent.² Both material and capital costs represent a higher percentage of total costs of the foreign steel producers, and both these costs are higher than those of the American industry. The question then in determining the cost competitiveness of the U.S. industry is to determine how much higher these other costs are.

MATERIAL COST DIFFERENTIALS

The amount of coke required to produce a ton of steel has fallen sharply in recent years as a result of improved technology. In 1966 only 1282 lbs. of coke were required to produce a ton of steel in the United States.³ To produce a ton of coke requires approximately 1.43 tons of coal,⁴ so that approximately 1833 lbs. of coal are required to produce one ton of steel. Japan imports all its coking coal, and Europe a very large percentage of its coke. It is known that coke produced from European coal is higher in cost and of inferior quality, so that if we assume all European and Japanese production is based on imported metallurgical coal

¹ Assuming an average price of steel of \$118 a metric ton which was approximately the average c.i.f. price of U.S. steel imports in 1966. U.S. Congress Senate Finance Committee, *Steel Imports* (Dec. 19, 1967), p. 73 (cited hereafter simply as "*Steel Imports*").

² Council of Economic Advisers, *Report to the President on Steel Prices* (Washington, April 1965), p. 60.

³ M. W. Lightner, "Developments in Iron and Steel Making," blast furnace and steel plant (November 1966), p. 1023. Cf. *Steel Imports*, p. 169 where a slightly higher rate of 1,312 lbs. is given.

⁴ The newest Japanese coke plants are slightly more efficient.