# Maintaining Employment in the Iron and Steel Industry

by

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At its Fourth Session in May 1952 the I.L.O. Iron and Steel Committee expressed the wish that a study should be prepared by the International Labour Office "on the problem of maintaining a high and stable level of employment in the iron and steel industry in the event of any recession in the present high level of demand for iron and steel". In accordance with this request the Office asked Dr. Morris to prepare the following article on the causes and remedies of unemployment in this industry.

IN 1953 the focus of attention of steel producers in the Western nations shifted from increasing production to expanding demand. The basic problem facing the iron and steel industries of Western Europe and the United States in the post-war period has been that of turning out enough products to satisfy the needs for durable goods in order to repair the devastations of war and to service expanding economies. The outbreak of the Korean War in 1950 and the related build-up of military strength delayed the possibility of a balance being reached and fostered large expansions in iron and steel facilities. Production of crude steel in the United Kingdom, the United States, and the Schuman Plan countries increased by 38.5 per cent., between 1949 and 1953, and a further increase of over 21 per cent. over 1953 levels was planned for 1960.<sup>2</sup> Capacity was more than adequate to meet consumption needs in 1953, however—actual production was below the production

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<sup>&</sup>lt;sup>2</sup> Computed from data in *The European Steel Market in 1953* (Geneva, United Nations Economic Commission for Europe, Jan. 1954), table 1.

planned in both Western Europe and the United States, with firms operating at below capacity rates during the second half of the year. Expansion continued in the United Kingdom, although only certain flat products were still in short supply. The general opinion in the industry is that production rates should level off by the end of 1954. In these circumstances close attention is being paid to

Country or area	Average 1937/38	1948	1951	1952	1953 <sup>1</sup>	Forecast 1958
British Commonwealth : United Kingdom Other	11.68 3.67	14.88 6.19	15.64 7.11	16.42 7.66	17.61 8.22	20.5 11.0
Eastern Europe : U.S.S.R Other	17.62 4.42	18.60² 5.61²	30.81² 9.32²	33.95 <sup>2</sup> 10.47 <sup>2</sup>	37.30² 11.89²	52.0 16.5
Latin America	0.15²	0.95²	1.71 <sup>2</sup>	1.87²	2.04 <sup>2</sup>	3.0
Western Europe : E.C.S.C Other	35.04 2.38	22.82 3.36	37.09 4.42	41.13 4.79	39.01 5.18	49.0 7.0
United States	39.46	79.14	93.93	83.18	99.65	108.0
Other Countries .	6.58	1.78	7.43²	8.37²	9.50²	11.0
Totals	121.00	153.39	207.46²	207.84²	230.40²	278.0

## WORLD PRODUCTION OF CRUDE STEEL (Millions of long tons)

Source: World Steel Production and Consumption (British Iron and Steel Federation, 1954). 1 Preliminary.

<sup>2</sup> Estimated.

methods of stimulating the consumption of steel products, and the problem of maintaining employment at high levels assumes great importance. The subject with which we are concerned here is the possibility of moderating the wide cyclical swings in production and employment in the iron and steel industry, within the framework of general efforts toward greater economic stability.

# THE CYCLE AND STEEL

Historically, the iron and steel industries have experienced more violent fluctuations in production and employment than industry as a whole. The consumption of steel in the United Kingdom, for example, fell from 8.4 million tons in 1929 to approximately 5 million in 1932; it exceeded 11.6 million in 1937 but fell to 9.2 million the next year. Employment in the iron and steel industry in the United States from 1930 to 1935 varied between 53.8 and 86.6 per cent. of 1929 levels; for Germany the figures were 54.1 and 82.9, and for the United Kingdom 60.3 and 88.4. In the period from May 1937 to June-July 1938 the number of production workers employed in the basic part of the United States iron and steel industry dropped from 532,000 to 350,000, a decline of 34 per cent.<sup>1</sup> In addition there was a fall in the average weekly hours worked by those employed.

In view of the present reduced demand after more than a decade of expanding production it seems pertinent to investigate what techniques are available to maintain high levels of employment in this basic industry. Attention will be directed primarily to the problem of cyclical fluctuations of traditionally wide amplitude rather than to technological or seasonal effects. Technological change, including the displacement of hand rolling by continuous rolling mills, has proceeded rapidly in the post-war period. No great difficulty has been experienced in absorbing displaced workers, however, and, granted a continued secular increase in the demand for steel, the problem of technological unemployment should be manageable. Similarly, though seasonal variations in steel production exist, they are less severe than in many other industries and are by no means as critical as the problem of cyclical fluctuation.

The broad issue of maintaining high levels of income and employment on the national and international planes has been the subject of analysis for many years, and a kit of tools is now available that affords some prospect of at least moderating economic swings. The practicable objective in free enterprise economies is to promote stability by minimising fluctuations around a rising trend of production. Even with relative stability it can be expected that the productive activity of the individual business and the employment prospects of individual workers will vary from time to time, as these are essential in a growing, efficient, free economy. What is sought here is an approach to the problem of cyclical unemployment in the iron and steel industry in the context of general attempts to maintain employment in the economy.

At the same time, steel producers in Europe and the United States are currently faced with the problem of finding markets for their greatly expanded production facilities. A recent report of the Economic Commission for Europe contends that there is a need for more and better-directed investment in the steelconsuming industries in order to raise output and increase efficiency

<sup>&</sup>lt;sup>1</sup> Regularisation of Production and Employment at a High Level, Report II, I.L.O. Iron and Steel Committee, Second Session, Stockholm, 1947 (Geneva, 1947), pp. 8, 9.

and thereby reduce the prices of their products.<sup>1</sup> Such investment, directed towards simplification and standardisation, would tend to broaden the market for steel. It is also suggested that, while stimulation of the demand for steel depends more on action by the steelconsuming industries and the governments concerned, the steel industry could be more aggressive in market research and more rational in the field of price policy. It is clear that a large market potential exists, since steel consumption per head of population is considerably lower in Europe than in the United States, and underdeveloped countries require steel for their expanding industries.<sup>2</sup> On the other hand, iron and steel plants are being constructed in these underdeveloped countries, and steel consumption per head in Europe can rise only as the whole level of economic activity expands. The building of an enlarged common market in Western Europe, with an attendant reduction in barriers to trade, may well prove a major step in the direction of expanding activity.

## CAUSES OF MAGNIFIED FLUCTUATIONS

Since a suitable prescription is dependent upon an accurate diagnosis, it is desirable to analyse the causes of instability of production and employment in the iron and steel industry. Severe fluctuations in the demand for steel are the result of the industry's dependence upon the capital goods industries, which are themselves characterised by wide swings in activity. These industries generally manufacture durable goods with a derived demand, and minor changes in the demand for consumption goods made by them cause an accelerated increase or decrease in demand for the capital goods. A decline of 10 per cent. in sales of cotton textiles, for example, would not only affect the sales of textile machinery for enlarging capacity but would also mean a reduced demand for such machinery for replacement purposes. Consequently a reduction in consumer spending during a recession has violent repercussions on the demand for railroad equipment, machinery, building materials. agricultural implements, and other steel-using products. Steel consumption, therefore, being dependent to a great extent on the level of fixed investment, as well as on the demand for durable consumer goods, tends to fluctuate much more widely than manufacturing activity generally.

The additional element of sharp changes in inventory levels at different phases of the cycle also helps to explain the violence of the consumption pattern. For steel-producing areas such as

<sup>&</sup>lt;sup>1</sup> The European Steel Market in 1953, op. cit.

<sup>&</sup>lt;sup>2</sup> Consumption of crude steel per head of population in 1952 was 523 ingot pounds in France, 706 in the United Kingdom, and 1,135 in the United States. Cf. World Steel Production and Consumption, op. cit.

Belgium, where exports constitute a major portion of production, almost immediate effects are felt when economic activity in other countries declines. Similarly, engineering products utilising large amounts of steel quickly feel the impact of variations in international trade. The steel industry is consequently extremely sensitive to fluctuations in international trade as well as to changes in the level of national income, as the experience of the 1930s amply demonstrates.

The capacity of the industry to produce tends, on the other hand, to be determined on the basis of expected demand over a fairly long period. Within the horizon of the manufacturer prospective changes in population, national output, the location of raw materials, the structure of demand and other factors are evaluated to serve as a basis for decisions regarding capacity. Several years are required to complete an integrated steel plant, and during that period significant shifts in consumption may occur. Once the capacity is established, the pressure of overhead costs during a recession tends to stimulate production at almost any price above prime costs. Evidence submitted by the United States Steel Corporation to the Temporary National Economic Committee in the late 1930s indicated that overhead costs at the lowest level of production for that company amounted to \$182,100,000 a year, and they had an effect on total costs varying with the level of production. When the plant was operating at 100 per cent. capacity fixed costs represented 15 per cent. of total costs. but the proportion was 30 per cent, when production was at 40 per cent. of capacity. This factor, together with the durability of the productive equipment, tends to make adjustments of supply to changes in consumption slow and difficult.

Another factor in the situation is the integrated nature of the typical firm. A firm may own ore and coalfields, coking plants and railroads, as well as facilities for producing iron and steel. Decreases in demand, therefore, have tended in the past to lead to cut-throat competition or producer agreements, tacit or open. The basic nature of the industry and its military importance have led to public control of various types. The British Iron and Steel Board and the European Coal and Steel Community provide mechanisms for regulating some aspects of the industry, for example, and the United States industry has experienced control during wartime.

## STABILISING MEASURES

This deep-rooted problem of great cyclical fluctuations in the demand for steel, with its attendant costs in unemployment of men and equipment, presents a real challenge to the industry, but the

correction or mitigation of effects involves issues that are outside the control of the industry. It is natural for producers to react in a defensive manner when they are faced with wide swings in the level of investment and consequently in the demand for steel. The allocation of markets, the establishment of production quotas or similar measures, though they tend to equalise the burden of adjustment, contribute little towards a solution of the underlying issue of instability of demand. Continuous improvement in productive efficiency and an aggressive marketing programme will promote growth and place the industry in a better position to withstand disruption. It is also to be hoped that more effective means are now available at the national level to ensure greater stability in the level of investment in the future. We are concerned here, however, with the alternative lines of action available to the industry, or made possible at the national level, to moderate variations in production and employment or at least to mitigate the effects of a recession.

# Price Policy

Logically price policy should provide the corner-stone of any programme of regularisation of production undertaken by the industry. Steel producers have generally preferred, however, to pursue a policy of relative price stability based on their appraisal of the effects of price changes on costs and revenue. In the short run, at least, the demand for steel tends to be price inelastic, because it is derived from the demand for durable goods, which is more responsive to changes in national income and other factors than to changes in price. Steel costs constitute only about 10 per cent. of the price of an automobile or 15 per cent. of the selling price of a ship, for example, and a sizable cut in the price of steel makes possible only a minor decrease in the selling price of these goods and thereby causes only a slight expansion of sales. This does not mean that a price cut in steel would not be conducive to some increase in sales but merely that there is considerable doubt whether it would pay unless it resulted from a prior decrease in costs. The United States Steel Corporation contended at the hearings before the Temporary National Economic Committee that a 10 per cent. decrease in the price of steel would require an increase in sales of 48.8 per cent. to avoid loss in revenue from the price reduction. The possibility of expanding the market through substituting steel for other metals, lumber, or plastics is limited during the course of a recession, though the prospects are somewhat better in the longer run. It is possible also that price reductions would not stimulate sales markedly in any event, since consumers might wait for further price cuts.

These arguments are by no means a justification for price rigidity, but they do indicate that the producer has reasons for favouring reasonable price stability. Such a policy is defended in publications of both the British Iron and Steel Federation and the Economic Commission for Europe.<sup>1</sup> Both hasty price cutting during a recession and charging "what the market can bear" during periods of shortage are condemned on the ground that they accomplish little in adjusting production to demand. During the post-war period producers generally did not exploit their opportunities to raise prices in the domestic markets, though export prices did not follow the same pattern. A logical case can be made, therefore, for avoiding extreme price fluctuations in both periods while at the same time preserving flexibility in the structure of prices. It is essential that general price stability should not retard necessary adjustment caused by technological advance or shifts in demand. In addition, flexibility in the response of prices to changes in any of the components of costs, or as the result of greater efficiency, is essential for expanded markets and the wellbeing of the industry.

# Capacity

The controversial subject of capacity plays a critical role in the campaign against unemployment. It is imperative that the industry should steer a course between the Scylla of inadequate capacity and the Charybdis of over-expansion if resources are to be fully employed in the industry and the economy. It is interesting to note that there appears to be a cycle in attitudes toward this subject. The industries in the United States and the United Kingdom were criticised during the inter-war period for over-expanding and thereby accentuating unemployment, but in the post-war era of shortages they were castigated for retarding economic growth and indirectly causing unemployment by failing to expand facilities at a fast enough pace. Similarly, ideas on what constitutes adequate steel capacity in Western Europe have changed in the last few years. The essence of the problem is that it is necessary to plan many years ahead complicated and costly additions to capacity on the basis of forecasts of demand in economies undergoing continuous change.

The recent experience in the United States serves to illustrate the dilemma. In January 1953 facilities for producing steel ingots were operating at 99 per cent. of capacity, and a year later at 75 per cent. of capacity, which had been enlarged by almost 7 million short tons to a level of 124.3 million short tons. There must be

<sup>&</sup>lt;sup>1</sup> See The European Steel Market in 1953, op. cit., pp. 65, 72; and Robert M. SHONE : Full Employment and the Steel Industry (British Iron and Steel Federation), pp. 4-6.

flexibility, of course, and considering the diversity of products and normal shifts in demand it cannot be anticipated that the industry in any area can always run at full capacity. As expressed by one observer during the 1949 discussions in the United States : "The steel industry always has been willing to invest the capital necessary to have capacity available to an extent of about 30 per cent. in excess of the historic average demand, in order that peaks or emergencies may be satisfied without delay."<sup>1</sup> The point is that, while this margin of flexibility may be too high or too low, production may be carried on within certain limits below full capacity without causing large-scale unemployment or ruinous financial losses for companies. Within these limits overtime or the number of shifts may be reduced, and the burden of overhead costs is not excessive. When capacity is greater than average demand, however, average unemployment increases accordingly.

There is, needless to say, no magic formula for forecasting the exact capacity that will meet these requirements several years ahead in a dynamic economy, and the mere projection of past trends serves little useful purpose in itself. It should be possible, nevertheless, to attain a reasonable balance by making logical estimates based on properly evaluated statistical data, modified from period to period in the light of experience. Reasonable stability in the world economy would be necessary. War or intensive preparations for war would invalidate the estimates. It may be that there is a need for a reserve of steel capacity, subsidised by the nation, that could be operated in wartime by spreading out the skilled workers in the industry and bringing in the necessary number of unskilled workers. By this means any burden of excess capacity, especially that of a specialised nature, that became necessary for military reasons would be shifted from the industry itself to the community. The complexity of the problem must not be understated, however ; steel production requires blast furnaces, ore, coal mines and other facilities, with their attendant manpower, and adjustments are difficult. The techniques used and the experience gained by the British and Schuman Plan programmes of controlled investment may well provide valuable lessons in this sphere.

#### Continuation of Normal Investment

Closely related to the question of capacity is that of continued investment by the iron and steel industry during a period of depressed activity. Cuts in planned investment result in poorly balanced facilities and a further decline in the demand for steel.

<sup>&</sup>lt;sup>1</sup> W. C. BUELL, Jr.: "How Much Steel Capacity?", in *Steel* (Cleveland), 21 Mar. 1949, pp. 78-80.

On the other hand, if financial resources can be marshalled and long-term prospects are favourable, the continuation of current building plans and the intensification of modernisation programmes would pay rich dividends. Total capital expenditure in the industry represents a small and variable proportion of the total national capital expenditure (about 3 per cent. in the United Kingdom, for example), but the maintenance of this investment during a recession would have favourable effects on the economy. It would also retain an important source of demand for the products of the industry, since the important raw material for the construction of steel works is steel itself. It has been estimated that about 3 tons of steel is needed for every 10 tons of integrated capacity added.<sup>1</sup> This approach would also ease the problem of shortages during the period of recovery after the recession, because less would then need to be diverted in order to increase capacity. Not least important to the industry would be the favourable impact on the financial and cost positions of companies that build or modernise at relatively low cost rather than during more inflationary periods. Overhead costs, always impressive in this industry, would be lower after the recession, with attendant advantages to firms and to the consumer.

It is well to consider at this point whether there would be the necessary finances and-even more essential-confidence to permit this method of attack on the problem of recession. A great deal depends on the general attitude in the economy, support by the government, estimates of long-run demand and many other factors. It seems very likely that capital funds from reserves or from commercial or government sources will be available if depressed periods occur in the near future. The question would become one, then, of confidence that the recession would be short-lived and that the market would subsequently expand.

That such an approach is based on more than mere academic optimism is demonstrated by the fact that it has been tried successfully in the past. Carnegie is reputed to have followed the policy of re-equipping during slumps, which improved his competitive ability later.<sup>2</sup> The ingot-making capacity of the United States was enlarged by almost a million tons between 1930 and 1934, and 17 continuous hot strip mills for making sheet and tinplate were installed between 1932 and 1940.3 Expanding demand for flat products for semi-durable consumer goods stimulated the latter development, but the decrease in price made possible by cheaper

<sup>&</sup>lt;sup>1</sup> B. B. SMITH: America's Steel Capacity (American Iron and Steel Institute, 1948), p. 35. <sup>2</sup> D. L. BURN : Economic History of Steel-Making, 1861-1939 (Cambridge,

<sup>1940),</sup> p. 261. <sup>3</sup> Iron and Steel Productivity Team Report (Anglo-American Council on Productivity, 1951), p. 105; see also America's Steel Capacity, op. cit., p. 4.

processes tended to enlarge the market further. In the United Kingdom an active policy of modernisation was pursued in the mid-1930s. At the same time much of the financial stringency of the British industry in the inter-war period resulted from expansions during inflationary periods by means of increasing funded debt. It is pertinent in this connection to note that, despite the current decline in the demand for steel in the United States, manufacturers plan to invest at 75 per cent. of 1953 levels, and at a higher rate than in the period before the Korean War. At the same time they expect sales to drop 17 per cent. during the year.<sup>1</sup>

It is not intended to imply that if the iron and steel industry continued its normal investment programme in a recession the whole level of activity in the economy would be raised through a multiplier effect. What is indicated is that the industry would maintain an important source of demand for its products and would place itself in a sounder financial and cost position for later phases. Unemployment would be lessened, among maintenance and construction as well as production workers, and this would have favourable secondary effects on the economy.

# Stockpiling

Stockpiling has also been advocated as a partial remedy to the problem of irregularity in the demand for iron and steel products. If it were feasible to store quantities of plates, sheets, joists, rails, and other products during periods of low demand, employment would be maintained to some extent and less pressure would be exerted on equipment in the peak periods. Economies would result from the smaller burden of overhead costs owing to more even operation and from reduction in the expenses involved in shutting down and starting operations, and these might more than compensate for the costs of storage. There is a tendency for the inventory-sales ratio to increase, at least at the onset of a recession, and some companies follow the practice of storing in order partially to offset declines in sales. The Chairman of Britain's United Steel Companies suggested in 1938 that "the steel trade should organise the storing of pig iron in lean times and draw on its store when demand is high. Pig iron is a very suitable commodity to storeit is too heavy to be pilfered, it occupies very little space, it is very easily handled and does not deteriorate appreciably."<sup>2</sup>

Despite the attractiveness of the concept it poses serious difficulties as a device for counteracting major declines in activity.

<sup>&</sup>lt;sup>1</sup> Survey of Current Business (Washington), Mar. 1954.

<sup>&</sup>lt;sup>2</sup> P. W. S. ANDREWS and E. BRUNNER: Capital Development in Steel (Oxford, Blackwell, 1952), p. 181.

The critical problems are those of financing the inventories, obtaining sufficient storage space, preventing the corrosion of some products and determining exactly what to store. Steel is produced generally on an order basis in a large number of sizes, shapes, and compositions. While it would be feasible to store pigs, billets, and certain standardised products with little risk of corrosion, other commodities such as thin-gauge black sheets are subject to deterioration. Even more crucial problems are those of the volume and value of the products to be stored. If demand fell off 25 per cent. in the United States, to pose a rather extreme example, space would have to be found during a year for over 20 million tons of steel products, and the investment would involve several thousand million dollars.

The most practical approach, if stockpiling were considered desirable by producers, would be to store pigs, although the effects of this on employment would be restricted, since only a small proportion of the production workforce is engaged in the earlier stages. Also, there would be difficulty in absorbing a large backlog of pigs in balanced plants when activity quickened. There is a further problem resulting from the relation between scrap prices and pig iron production. It can be anticipated that scrap prices will be relatively low during periods of depression, and manufacturers will be stimulated to use more scrap and less pig iron. In consequence, storing large quantities of diversified steel products does not seem to be well-considered for major declines in demand, though it provides interesting possibilities for seasonal variations or for periods of minor readjustment. It must be added, however, that there is the further difficulty of deciding at the time whether a reduction in demand is major or minor, and whether it will be of short or long duration.

There are possibilities that consumers of steel products, and government agencies in particular, could build up stockpiles of steel, but this depends on many variables. Price discounts might induce some storing, but the size of stocks held, expectations of future price changes, anticipations of general business conditions and other factors also influence the decision-making process. The investment required and the risks of unfavourable price changes and corrosion in some cases would tend to minimise any tendency to store on the part of industrial consumers, unless stimulation and support were provided by the government. A case can be made for a programme of storage of basic steel on the grounds of the basic character of the industry and the difficulty of adjusting capacity to demand. Among formidable obstacles to such a step, however, are the measure of government control over production that would be necessary and the very large investment sums that would be required. A more tenable case can be made for at least a limited amount of stockpiling by the government in connection with armament and strategic reserve programmes when such action would not interfere with the efficiency of such programmes. Similarly, in industries run by national agencies (railroads, for example) the storing of products such as rails could ease the problem of general reductions in demand. In short, the possibilities of easing the effects on employment of a major recession by the compensatory mechanism of storing are limited. The prospects are better in the case of minor fluctuations, and storing steel could serve as part of a general programme for moderating extreme fluctuations.

## Production Quotas

The technique of assigning production quotas to enterprises when over-all demand for steel has declined has also received attention recently. The Treaty establishing the European Coal and Steel Community states : "In case of a decline in demand, if the High Authority considers that the Community is faced with a period of manifest crisis . . . it must . . . establish a system of production quotas . . . ".<sup>1</sup> Provision is made for establishing quotas on an equitable basis after studies have been made, and imposing levies on tonnages exceeding a certain level. These sums would be used to support enterprises whose rate of production had fallen below that level in order to maintain employment as far as possible. It should be noted that these steps would be taken only after attempts had been made to stabilise consumption and to utilise price and commercial policy, and might be accompanied by other measures, including import quotas.

Such a device is essentially defensive in nature. It tends to spread the burden of reductions in production and employment rather than to stabilise or expand the market. Such action may be defended on the basis of equity and the need to maintain existing capacity, and as an alternative to destructive price cutting. It is also true that the less as well as the more efficient enterprises would be retained in production, with few operating at high levels of capacity, which would inevitably be reflected in costs and prices. From the viewpoint of employment policy there are advantages in sharing the burden of unemployment, since the impact on particular communities can thereby be reduced, and unemployment compensation can be dovetailed with partial employment. A contrasting policy is being followed during the present period of contraction in the United States : there the tendency is for firms to

<sup>&</sup>lt;sup>1</sup> Paragraphs 57, 58, 74.

reduce production at their high-cost units. Unemployment is localised, and the low-cost units operate at higher rates of capacity. The fundamental problem of inadequacy of effective demand remains in either case.

# Research and Development

Intensification of research and development in the direction of improved products as well as new uses for old ones and more aggressive marketing play a role in the campaign against the underemployment of steel-producing resources. Co-operative research with steel consumers for the purpose of expanding demand and cutting costs by improving steel utilisation attacks the problem directly. An example is the development of clad steels with a layer of special steel such as stainless on a basic layer of carbon steel, which broadens the market by providing a product with the characteristics of special-purpose steel at a price not much higher than that of ordinary steel. Another illustration is the increase of one-third in the use of plates in shipbuilding as the result of an improved welding technique, though the effect here is essentially the substitution of one type of steel for another. The prospects of developing new products lies mainly in the field of alloy steel, which is a minor portion of the market; in the case of standard steels, the emphasis will be on novel uses. Primary interest should be directed towards increasing sales rather than merely substituting one type of steel for another.

It is also desirable, though not always possible, to aim at flexibility, so that localised declines in demand can be met by shifting to products with a more stable demand. It is also possible for steel producers to develop finishing processes when there is a fall in demand, by finishing structural steel for example, but the effect of this would be to transfer unemployment rather than to reduce it. Greater emphasis on market research, both commercial and technical, to promote a better and expanded use of steel serves a useful purpose in a counter-cyclical policy. All such efforts to find new and improved ways of satisfying wants should form an essential part of the normal programme of efficient concerns to provide the maximum stability of production and employment. Technical and market research must be continuous; the time-lags in development would render them ineffective if they were used only during periods of declining demand.

# NATIONAL COUNTER-CYCLICAL ACTION

These alternative lines of action, along with others, such as improving internal administrative and personnel policies to increase the flexibility of the labour force within the plant, must be viewed in the perspective of co-ordinated national efforts to maintain stability. The iron and steel industry plays a critical role in the business cycle because of its importance to the capital goods industries, but it suffers from the same basic problem of instability of effective demand. The general lines of action available to moderate fluctuations and to prevent depressions have been discussed widely in recent years, and there exists a broad measure of agreement as to policy.<sup>1</sup> As the current discussions concerning the United States "readjustment " or recession clearly reveal, however, considerable disagreement exists about timing and the degree of government intervention needed.

It is envisaged that combined action by individual enterprises and government in the strengthening of stabilising factors can do much to moderate recessions and that deliberate measures can be taken by the government if a serious decline threatens. Business firms can improve inventory policy, continue long-range investment programmes, and intensify sales efforts, among other things. Government can assist through budget policy and by other stabilising action in the fields of taxes, unemployment insurance and farm support programmes. Instruments that may be used by government in the event of recession include deficit expenditure, tax reduction, monetary policy and loans and loan guarantees. For the purposes of this discussion it is useful to consider techniques particularly suitable to the iron and steel industry, assuming that national action will be taken to restrain deflationary forces.

Steel is the direct heir to public investment programmes of almost any type. Housing or public building projects require bars, joists, sections and other construction materials; the construction of dams and bridges calls for plates and rods; and other projects would directly affect the demand for steel products. Where governments own railroads, as in Europe, action could be taken to rebuild lines and modernise rolling stock. Similarly, in other nationalised industries, such as coal mining in England, rehabilitation programmes requiring large amounts of steel should be accelerated during a recession. This ability of nationalised industries to regularise investment to some degree in the cycle constitutes a useful stabilising instrument, although it is not yet certain that the potentiality will be developed. In addition to the direct impact of public investment on the demand for steel, there will also be favourable indirect effects. As incomes rise, for example, semi-

<sup>&</sup>lt;sup>1</sup> See Defense Against Recession (New York, Committee for Economic Development, Mar. 1954); National and International Measures for Full Employment (Committee of Economists, United Nations, Dec. 1949); and Economic Report of the President (Jan. 1954).

durable consumer goods sales will react, and investment in other industries will be stimulated.

When the consumption of such products as automobiles and household appliances is restrained by high purchase taxes, a judicious reduction in such levies should produce favourable effects on their demand, and indirectly on sales of steel. The possibilities of development in this sphere are especially great in Europe, where a vast potential demand is stemmed partially by prohibitive taxes and tariffs. In 1953 the United States steel industry supplied steel to make 2.8 million floor-type vacuum cleaners, 1.3 million electric ranges, 3.2 million electric toasters, 3.8 million electric refrigerators, and 3.5 million washing machines -in addition to 6.2 million passenger cars using about 1.75 tons of steel each.<sup>1</sup> In the United Kingdom in 1953, on the other hand, 794.4 thousand vacuum cleaners, 579.6 thousand electric washing machines, and 594.8 thousand passenger cars were produced, and a substantial proportion of these were exported.<sup>2</sup> Also it was estimated that in 1951-52 only 1.8 million washing machines and 0.8 million refrigerators were in the hands of consumers.<sup>3</sup>

It is, of course, recognised that incomes are lower in Europe, but an easing of the deterrents of tariffs and excise taxes would undoubtedly stimulate consumption by broadening the market and making mass-production methods possible. The High Authority of the European Coal and Steel Community is working to reduce barriers to trade in the form of discriminatory taxes and subsidies in order to expand consumption in a common market. The action contemplated here, however, is the selective reduction of excise taxes for the purpose of strengthening demand within a recession phase. Problems of the budget and the balance of payments would need to be considered, and any reductions in specific items should be part of an over-all plan. Whether such a measure would stimulate consumption to any degree depends upon many factors, such as disposable income, but it would be reasonable to expect an increased demand for steel if such reductions were applied to durable consumer goods.

Flexible interest-rate and tax policies which stimulate business investment are especially helpful to the steel industry because of its major role in the capital goods industries. Such devices as providing longer carry-back periods for losses and easing depreciation policies for tax purposes in periods of recession, combined

<sup>&</sup>lt;sup>1</sup> Steelways (American Iron and Steel Institute), Apr. 1954, pp. 2-3.

<sup>&</sup>lt;sup>2</sup> Monthly Digest of Statistics (London, Central Statistical Office), Apr. 1954, pp. 62-63.

<sup>&</sup>lt;sup>3</sup> R. F. F. DAWSON : "Ownership of Cars and Certain Durable Consumer Goods ", in *Bulletin* (Oxford University Institute of Statistics), May 1953.

with reduced interest rates, would provide the steel industry—and other industries with very high capital costs—with incentives to invest. The investment allowance system recently announced in Great Britain, for example, by giving an immediate addition to the full depreciation allowance amounting to the tax on 20 per cent. of new plant and machinery, represents a cash relief of about 10 per cent. of the cost of plant. Decisions to invest are governed more by current demand and future expectations, but encouragement of this type, administered on a counter-cyclical basis, should produce at least marginal reactions. In addition to the measures specifically mentioned, almost all attempts to stimulate activity in the economy will benefit the iron and steel industry either directly or indirectly, since steel is the basic raw material of modern industry.

The question of maintaining stable employment in the vital iron and steel industry, consequently, is bound up with the broader problem of maintaining high levels of activity on the national and international planes. The industry itself, in its interconnected divisions, can contribute to this goal by making continuous improvements in efficiency and by adopting a realistic attitude towards capacity. In the event of serious declines in activity it should act in conjunction with national counter-cyclical efforts by continuing its normal investment projects, by accelerating its research and development programmes, and by price policy when possible. To a great extent, however, the moderation of fluctuations in production and employment in steel depends upon achieving relative stability around an upward trend in the economy as a whole.