

## The Future of Italy's Steel Industry

On February 10, 1958, all remaining tariffs protecting Italian steel products against imports from other countries of the European Iron and Steel Community (E.C.S.C.) (1) will be abolished. There is naturally a great deal of heart-searching among Italian experts as to the ability of the relatively young Italian steel industry to withstand the full force of competition from the other members of the Community, and particularly Germany. The present moment, therefore, offers a suitable opportunity to take stock of the progress so far achieved by that industry and to attempt a cautious assessment of its prospects during the possibly testing period of the next four to five years.

### The post war revival

In 1938, Italy's production of crude steel amounted to 2,323,000 tons. In 1956, the figure had risen to 5,908,000 tons and has been able to satisfy all her home consumption. This upward trend has been paralleled by a rapid expansion of engineering output. (In 1955, Italian engineering exports for the first time outstripped all other categories). The significance of this development has been obscured by the country's very success in recovering from the prostration caused by the war and also, to some extent, by the vigour of the world-wide industrial expansion of the last decade. Many observers have either overlooked the achievements of Italian steel or have regarded them as a natural, if creditable, operation.

It is much more than that. From the possessor of a small and inefficient industry, Italy, as will be seen from Table I, now comes eighth among the world's producers of crude steel. Indeed, it

(1) Referred to in Italy as the C.E.C.A.

almost ties for seventh place with Belgium immediately after the "Big Six". Belgium, it is true, has made even greater quantitative progress than Italy since 1938, but she started out with the advantage of a modern, compact and well-organised industry, adequate supplies of coal and easy access to iron ore.

TABLE I

THE EIGHT MAIN PRODUCERS OF CRUDE STEEL IN 1956  
TO THE NEAREST THOUSAND TONS  
(in tons)

United States of America . . . . .	104,520,000
USSR . . . . .	48,610,000
Federal Republic of Germany . . . . .	23,189,000
United Kingdom . . . . .	20,991,000
France . . . . .	13,399,000
Japan . . . . .	11,100,000
Belgium . . . . .	6,375,000
Italy . . . . .	5,908,000

Source: *Monthly Bulletin of Statistics*, United Nations, New York, March 1957; *Quarterly Bulletin of Steel Statistics for Europe*, Economic Commission for Europe, Geneva, March 1957.

Italy, on the contrary, has had to overcome considerable difficulties in order to create not only a larger, but a modern productive apparatus. Her iron and steel industry grew up under the umbrella of high customs protection and was born late in comparison with the industry not only of Great Britain, but also of Germany.

It was only some twenty years ago that a start was made in putting iron and steel on a sound basis. In 1933, as a result of the slump, the Government was obliged to take over a large slice of the steel sector, among others, and a State holding company, I.R.I. (the Institute for Industrial Reconstruction) was formed to administer the whole batch. More specifically, *Finsider*, a sub-holding of I.R.I., was made responsible for those steel firms affected. (*Finsider* stands for *Finanziaria Siderurgica Steel Sub-holding Company*). In 1938 *Finsider* formulated a plan for the modernisation of two existing steel mills and the construction of a third *ex novo*. By 1943, the first two projects — at Bagnoli, near Naples, and at Piombino opposite the island of Elba with its iron ore

mines — were ready and the third, at Cornigliano near Genoa, was almost finished. As a result, Italy was in the position of having three fully integrated Finsider plants, with a modern capacity of over 2,500,000 tons which, added to the approximately 2,000,000 tons of privately owned capacity (mostly out of date), gave Italy a global potential of over 4,500,000 tons, or almost double the pre-war figure. Moreover, the three integrated works were all on the coast — an advantage which Italy was alone among steel producing countries in enjoying.

Unfortunately, it was precisely these works which the retreating German troops plundered with the greatest thoroughness. The general mood, therefore, at the end of the war was, understandably enough, generally sombre. Nor were the difficulties solely material. There was a lack of confidence in the future of the industry owing to the fact that its traditionally heavy protection had forced up costs in those very branches, such as engineering, which might have made a vital contribution to Italy's economic development had it been possible to put them on a competitive basis (2).

This diffidence, however, was overcome by Oscar Sinigaglia (3) who was put in charge of the post-war reconstruction of the I.R.I. steel industry and who was determined to modernise and improve production in order to turn out Italian steel at costs which would enable shipbuilding, engineering and the electrical industry to compete with their foreign rivals. This decision involved the erection of up to date rolling mills even before the necessary supplies of steel were available.

Under his energetic guidance, the position gradually improved. The problem of funds was overcome, in part thanks to American aid. Much of the equipment looted by the Germans was recovered. By the end of 1947, 30,000 tons out of a total of 43,000 carried off from the Cornigliano works had been retrieved. By 1952 national production was already — at 3,535,000 tons — higher than the target laid down in the Sinigaglia Plan, of which 1,548,000 tons,

(2) Cf. A. GERSCHENKRON, "Notes on the Rate of Industrial Growth in Italy: 1881-1913", in *Journal of Economic History*, Dec. 1955.

(3) Cf. OSCAR SINIGAGLIA, "The Future of the Italian Iron and Steel Industry", in this *Review*, 1947-48, p. 240 et seq. This scheme provided for the production of at least 3 million tons of steel, but it was confidently hoped that this figure would rise to 3,500,000 tons, or 50 per cent above the pre-war level, even after allowing for the closing down of some of the more out-of-date works.

or 45 per cent, was by Finsider plants. Much the greater part of the balance came from mills which were out of date and therefore high-cost.

Even in 1953, however, the industry was still far from having found its feet. Finsider's output of crude steel was practically the same as in the previous year, while national production as a whole had actually declined. The 1953 Report of I.R.I. voiced the preoccupations of its directors: "A heavy burden", it observed, "weighs on the new Finsider plants — the high cost of money and... the impossibility [for political reasons]... of immediately reducing the number of personnel to the actual level of technical requirements". "The High Authority (of the European Coal and Steel Community) has allowed producers within the... Community to align their prices with those of outside producers selling on the common market". "In view of the rigidity of costs in the steel industry", the Report added, "it was sometimes necessary [for foreign firms] to dispose of part of a plant's product even at a loss. Accordingly, competition in this field is particularly hard to face".

#### The role of the ECSC

Yet, in spite of these ominous forebodings, conditions improved steadily from 1953 on. Thereafter, the tone was one of careful confidence and progress was steady and at times rapid. It has been argued that this expansion was due to the creation of the European Coal and Steel Community (E.C.S.C.), just as another school of thought has contended, with equal vigour, that all the trials of Italian steel are to be traced back to the machinations of Luxembourg. As so often, the truth lies between these opposite and contradictory extremes.

Figures for costs are difficult to come by, but studies by the European Coal and Steel Community suggest that the reduction in the price of Italian steel by as much as 20 to 30 per cent in 1953 was mainly due to competition from third countries such as Japan, which was reappearing on international markets. The post-Korean slump, too, helped to end the sellers' market. These factors put the squeeze on excessive profit margins and inflated labour forces, and forced down costs. Some Italian experts, however, consider that the E.C.S.C., whose impact coincided, roughly speaking, with

these developments, played the decisive part in the drop in prices. The balance of evidence indicates that the effect of the setting up of the E.C.S.C. was more psychological than real, at least in the initial stages. Whatever the exact truth of the matter, there is no question but that Italian steel producers who were still influenced by the old autarchic tradition were obliged by the prospect of acuter competition, even if only some years later, to adopt a more enterprising attitude. If this was all that the E.C.S.C. had to its credit, it would have fully justified its existence over the past four years as far as Italy is concerned.

On the other hand, one can well understand the disappointment in Italian business circles at the Community's failure to live up to the hopes — pitched perhaps somewhat high — which were entertained as regards its ability to foster the development of steel production in Italy. One of the few clear direct advantages derived by her from the new organisation has been the subsidy paid by the Community on imports of scrap from third countries which has until this spring enabled Italy to obtain such supplies at prices not too much in excess of those from E.C.S.C. countries — an arrangement from which Italy has stood to gain more than most of her neighbours, since she relies so heavily on imports of raw materials.

No such assistance was rendered as regards iron ore and coking coal imports, the great majority of which come from non-E.C.S.C. countries, although it had been originally hoped that a substantial proportion of that coal would come from the Ruhr.

And since raw materials for the production of steel (iron ore, scrap and coking coal) come to Italy to a large extent by sea, the benefits derived from the Community's measures to reduce railway costs are insignificant.

Italy's special position was, however, taken into account in other ways since, whereas all tariffs were at once abolished for other member countries, she was allowed to retain, with only slight reductions, her existing protection on finished steel (20 per cent), flat steel and bars (19 per cent), semis (13 per cent) and pig iron (9 per cent). On May 1, 1955, these figures were cut by 15 per cent and further reductions will eventually wipe them out completely by February 10, 1958. The protection has not always been effective. There have been bitter and apparently justified complaints, especially during the first two years of the working of the Common

Pool, of Community countries selling in Italy below list price, in other words, of dumping, and there is no doubt that fairly frequent recourse has been had, with much the same results, to the absorption in the price of all or part of the transport costs.

Lastly, Italy feels that more might have been done by the High Authority to finance the improvement of the steel industry's equipment. The help so far provided has been relatively small and has gone to subsidiary branches, such as the preparation of ore. Italy considers that there is a strong case for granting assistance to build up more vital sections of her steel industry. It is difficult not to feel a certain amount of sympathy with this contention. The period of less than five years accorded to Italy by the High Authority to put her steel production on a competitive basis is clearly on the short side and contrasts unfavourably with the much longer span allowed for adjustment to the Common Market. It is to be hoped, therefore, that, if the complete elimination of E.C.S.C. tariffs proves too much of a strain for Italy, special measures will be adopted to tide her steel industry over the next four or five years until it is fully mature.

#### Recent improvements

The unwillingness of the E.C.S.C. to approve assistance on a substantial scale to Italy is all the more regrettable since progress towards competitiveness has been constant during the last few years. Keener competition in 1952-53, followed by the present boom in steel, tariff protection (although reduced) and the transport differential have all enabled Italian steel to hold its own fairly well in the home market and even to export an increasing amount of its products. The most gratifying development, however, has been the increase in the proportion of steel produced by up-to-date firms. In 1950, for example, the contribution of the Finsider group to total crude steel output was 39.6 per cent. In 1956, the proportion had risen to 49.7 per cent. The comparative figures for pig are 55.2 and 80 per cent. The increase in the steel supplied by Finsider and other modern firms, such as Falck and Fiat, has also led to a decline in the percentage of the metal produced in electric furnaces, which has always been considerably higher than in other European countries. Between 1954 and 1956, this figure fell from

40 to 37.5 per cent, although it increased in absolute terms from 1,681,000 tons to 2,202,000 (see Table II).

TYPES OF ITALIAN STEEL PRODUCTION

TABLE II

(in thousands of tons)

	1938	1951	1955	1956
Siemens Martin . . .	1,684	1,707	3,051	3,372
Electric . . . . .	628	1,321	1,988	2,202
Thomas . . . . .	—	35	355	334

Source: *Quarterly Bulletin of Steel Statistics*, Economic Commission for Europe.

The trend in pig production is parallel. The proportion of blast furnace pig to electric pig (which is much more costly) has risen from 70.3/29.7 in 1951 to 84.4/15.6 in 1955 (roughly the ratio aimed at by Sinigaglia) and 87.7/12.3 in 1956.

The result of these developments has been to reduce costs in the industry as a whole and particularly in the more efficient sectors. But clearly, it would be too much to expect prices to be cut, at this stage, to approximately German or Belgian levels. At the beginning of 1956, for example, the internal price of sections (under 80 mm) was roughly 94 dollars a ton and just over 100 dollars for electric steel articles, while in Italy the figure (for electric steel goods which were the only ones quoted) was 122 dollars. The picture at the end of 1956 was rather less favourable, largely because of the repercussions of the Suez crisis, which hit Italy with particular violence owing to her dependence on supplies of certain raw materials from abroad. By December of that year, prices for sections rose by 7.14 per cent, a figure which, however only, was half way up the list of national percentage additions among E.C.S.C. countries. Holland had raised her prices by 10.65 per cent, while France had merely effected an increase of 4.6. But for other products such as rod, plate, and sheet, Italy shows the sharpest, or almost sharpest, increases. Indeed, a table published by Assider in the *Industria Siderurgica Italiana*, 1956 (p. 146) reveals that the Suez affair's repercussions have set the industry back. These prices, it should be added, apply only to Martin (open hearth) steel, whereas most

of the quotations by the other countries are for the cheaper Thomas (convertible) process.

Such setbacks, though limited and probably temporary, throw into relief what is often regarded as Italian steel's most vulnerable point — its dependence on imports for a large part of its supplies. Before analysing the broader structural issues, therefore, we may do well to look more closely at this specific issue, particularly since there is a tendency in Italy to adopt, consciously or unconsciously, an approach which is coloured by autarkistic, and therefore rather pessimistic, assumptions.

### Raw Materials

The main preconditions for an efficient and competitive industry have always, in the view of Sinigaglia and his school, been the creation of integrated "classical" mills and the building up of domestic sources of iron and hence of the production of pig.

The stress on integrated plants was due in part to the obvious considerations of economy resulting from an uninterrupted flow of production from raw materials to the finished product, but it also reflects the need to reduce scrap and step up the use of iron for smelting. For, whereas electric furnaces (which still account, as noted, for 37.5 per cent of Italian steel output) rely solely on scrap, hot charge plants allow of greater flexibility, since iron ore can form from 15 to 90 per cent of the metal burden.

The decision to limit the use of scrap as far as possible has proved to be no more than an elementary measure of prudence. The Korean boom had already demonstrated how quickly its prices react to shortage and its speculative nature is again being brought out by present pressure on supplies. It will be remembered, in this connection, that in its *Official Gazette* (No. 17, 19 July, 1956) and in more recent pronouncements, the E.C.S.C. attaches the highest priority to the need to increase pig capacity and to curtail consumption of scrap.

A precise calculation of Italy's progress in raising the pig content of her metal burden is not easy (4). The most reliable

(4) For instance, the statistics for Italian ore do not always indicate whether they include supplies obtained from the local pyrite ash, while the figures of the Economic Commission

figures would appear to be those of the Falck Ufficio Studi in the *Sintesi dell'Industria Siderurgica Italiana nel 1955* (p. 229) (5) from which Table III has been prepared. It will be seen that there has been a steady move towards the objective laid down by Sinigaglia.

PERCENTAGE OF METAL BURDEN

TABLE III

	1950	1951	1952	1953	1954	1955	
Scrap . . . . .	77.4	74.1	70.6	69.5	69.4	68.2	63.2
Iron and Iron Ore . .	21.6	24.9	28.3	29.8	29.3	30.4	35.6

Source: Falck's *Sintesi* for 1955. Adapted to take account of foundry iron included in original figure.

Indeed, if the issue is approached from another angle — that of the building up of pig supplies — it will be seen that, in spite of a continual and gratifying increase in output, that commodity is at present the weakest point in the industry. In a remarkable article (6), Armando Frumento puts pig capacity for 1957 at 2,200,000 tons against a figure for steel of about 7,400,000 tons. This is clearly inadequate. There is some consolation however, in the fact that "similar 'dissonances' are observable throughout the whole E.C.S.C. Market" and that, by 1961, if the output of the projected Vado works is included, the corresponding figures for 1961 will be 3,900,000 and 9,300,000 tons. In other words, the pig/steel ratio will rise from 30 to 42 per cent by 1961, or, if foundry iron is deducted, the increase will be from 27 to 39 per cent.

for Europe diverge in some important respects from those of the Italian authorities. Lastly, the tendency is to give the pig/steel output ratio, which is misleading to the extent that it does not include imports of pig but *does* include foundry iron.

(5) Unfortunately, it has not been possible to consult the 1956 volume. The Assider Analysis for that year has been used instead. Though valuable, it does not provide all types of data used in this article.

(6) In the *Rivista Internazionale di Scienze Economiche e Commerciali*, Anno IV (1957), No. 5, one of the most acute and balanced analyses of the steel industry's problems, to which the reader is referred for a more detailed account of a number of questions touched upon in the present article.

(a) *Scrap*. Until pig production reaches that level, however, Italy will have to draw heavily on scrap. Nevertheless, with the possible exception of the current year, it is doubtful whether imports need rise more than very slightly in absolute terms. For, as production of steel increases, so does the amount of circulating scrap. In 1954, the amount recovered was 1,063,200 tons. In 1955, the figure was 1,291,800 and in 1956 1,424,000 tons. The amount of domestic scrap from other sources has remained roughly stable oscillating around 950,000 tons. Nevertheless, the proportion of Italian steel scrap to total consumption has declined from 71.7 in 1951 to 51.8 in 1956. It may be expected to stay at roughly that proportion if the figures for 1955 and 1956 are any guide. The figures for these years are 2,200,000 and 2,250,000 respectively out of total consumption of 4,230,000 and 4,565,000 tons.

The trouble here is that imports have had to be paid for at speculative prices and drawn more and more from overseas suppliers, especially the United States and Canada. This development is not completely offset by the fact that France and Germany, both E.C.S.C. countries, continue to make available about half her total imports and that the Community pays Italy an equalisation allowance on imports of scrap from third countries — though no longer on such a generous scale as formerly. The position, in fact, is such as to induce to press on with the expansion of its pig production with all possible speed.

(b) *Iron Ore and Pyrites*. An increase in pig, however, depends on an adequate supply of ore and coke. The prospects for both commodities are examined below.

Frequent emphasis on Italy's shortage of raw materials has tended to distract attention from her good and expanding supply of local iron ore. Sinigaglia laid down the principle that iron ore imports should not exceed half the country's requirements. There has so far been no difficulty in keeping well within that limit. In 1955, home production of iron ore was 1,349,000 tons and imports were 836,000 tons. In 1956, production rose to 1,654,000 tons, while imports were 1,280,000 tons, mostly of a richer iron content than local supplies. The corresponding figures for home production of pyrite ash are 843,000 tons (of which 324,000 exported) and 1,100,000 (of which 367,000 exported). (This ash has an iron content of 56 per cent, which is rather higher than Italian ore).

Imports of iron ore have not only increased. An ever greater proportion has had to be obtained from distant overseas suppliers, as in the case of scrap. Practically none of the iron ore imported comes from E.C.S.C. countries and, whereas in 1951, over three quarters of foreign supplies were obtained from Algeria and Tunisia (involving a short haul and, in view of the rich iron content, a relatively small volume of shipping space), the percentage of North African ore had declined to under a quarter in 1955 and to only 14 per cent in 1956. Goa (in Portuguese India) and Turkey have now leapt into first place, followed by Sweden and Venezuela. (Cf. Table IV).

TABLE IV  
MAIN SOURCES OF IRON ORE IMPORTS  
(in tons)

Country	1954	1955	1956
Goa . . . . .	43,984	148,979	353,316
Turkey . . . . .	85,473	152,696	207,059
Sweden . . . . .	218,294	203,464	204,769
Venezuela . . . . .	—	8,856	122,006
Algeria . . . . .	171,175	146,396	97,928
TOTAL IMPORTS (from all sources)	632,596	835,767	1,280,467

Sources: Assider's *L'Industria Siderurgica Italiana nel 1956*.

Yet the picture is not quite as black as it seems. One of the reasons why imports from Goa have increased is that Finsider has joined forces with a German group to work the ore in that territory. The iron content is high (62 per cent), the ore is extremely suitable for use in the blast furnaces and it is estimated that Italy will, in the not too distant future, be able to draw as much as a million tons from this source (as compared with 353,000 tons in 1956 and 44,000 tons in 1954). Nearer home, Finsider has recently acquired an interest in the iron ore mines at Fort Gouraud in Mauritania. Here, too, the iron content is high (63-66 per cent) and of the right characteristics for steel making.

Even if Finsider's ore requirements should increase (from the present figure of over 2,000,000 tons) to at least 5,000,000 tons

a year, it should still be possible for the major part of the new supplies to be obtained from the two new foreign sources and from the expanding production of Italy itself, in which the newly opened mines of Sardinia are playing an increasingly important part.

(c) *Coking coal and other fuels.* An increase in pig presupposes generous supplies of coke. Since Italy has no coking coal, she is obliged to import it. (Practically no coke is imported as such). Other Community countries, especially the Federal Republic of Germany with its Ruhr basin, are great producers of this type of coal, but there is such a shortage in relation to West European demand that Italy has been forced to look more and more to the United States for its requirements. In 1955, she obtained from that country 1,423,000 tons of coking coal out of total imports of 1,736,000 tons while 313,000 tons came from Germany. In 1956, supplies from U.S.A. rose to 1,800,000 tons (out of total coal imports from that country of 6,625,000 tons) against 460,000 from Western Germany. Here again, the rise in freights, consequent upon the Suez crisis, has imposed a heavy financial strain on Italy's steel industry. From a figure of about \$10 at the end of 1955, transport per ton rose to almost \$18 twelve months later.

The proportion of Italian coke production consumed by the iron and steel industry is rising steadily. In 1956, it was just under 50 per cent. In absolute terms, the amount used has increased from 839,000 tons in 1951 to 1,367,000 tons in 1955 and 1,700,000 tons in 1956. Of the increase in coke production between 1955 and 1956 of 460,000 tons, iron and steel accounted for 335,000 tons.

However, the heavier consumption of coking coal by the blast furnaces has been to a considerable extent offset by the economies in the use of other types of coal in the steel industry. There has been an increase over the past five years of about 1,230,000 of coking coal. But consumption of other types has declined, during the same period, from 400,000 tons to 146,000 tons.

Much more important than this latter consideration, however, is the marked upward movement in the use of gases by the blast furnaces and iron foundries. In particular, there has been a remarkable improvement in the recovery of gases from the blast furnaces and coke ovens. The total used in the whole of the steel industry in 1956 was 2,358,000,000 cubic meters, which is equal to about 600,000 tons of coal.

Last, but by no means least, is the growing importance for the steel industry of methane gas, which was discovered in North Italy just after the war and is now a vital factor in Italy's domestic sources of fuel. In 1950, only 75 million cubic meters of this gas went to the making of iron and steel. In the following year, the figure had risen to 158 million and, in 1956, it was as high as 630,000,000 — or the equivalent of 760,000 tons of coal. It is now second in the list of fuels used by the industry, though still a long way below coking and other coal.

TABLE V

## SOURCES OF ENERGY USED IN THE STEEL INDUSTRY 1956

Anthracite . . . . .	68,487	tons
Hard coal . . . . .	71,677	"
Lignite . . . . .	5,966	"
Coke and coke dust . . . . .	1,702,227	"
Charcoal . . . . .	7,698	"
Wood . . . . .	3,165	"
Tar . . . . .	42,279	"
Fuel oil . . . . .	363,213	"
Methane gas . . . . .	630,775,000	cubic metres
Coke oven gas . . . . .	293,879,000	" "
Blast furnace gas . . . . .	2,318,693,000	" "
Other gases . . . . .	65,354,000	" "
Electricity . . . . .	4,341	million kwh.

There are, too, a number of operational advantages attaching to the use of methane gas. It is of even composition; there is no need to build up stocks, since a system of pipelines delivers it to the door, and it leaves no ash, residue or impurity. It therefore gives an easier casting and reduces costs. It can be used for smelting steel, provided it is combined with a small proportion of fuel oil in order to make the flame more luminous. Efforts are being made to crack methane into carbon and hydrogen and thus obtain a product which will be luminous enough by itself. Experiments are also in hand by the Istituto Siderurgico to find a technique to reduce iron by methane. The prospects, therefore, of an expanding use of this Italian raw material are good.

Of the other fuels used by the iron and steel industry, electricity makes a contribution of 4,341 million kwh, which is equal to

1,700,000 tons of coal. Some 85 per cent of this is produced by local water power, while the rest is mainly thermal electricity, of which a substantial portion is generated by methane gas. The other source of energy is fuel oil which, though based on imported raw materials, is produced in Italy. In 1956, its contribution to the industry in question was 363,000 tons, or the equivalent of 550,000 tons of coal (cf. Table V).

(d) *Summing up.* In spite of certain supply difficulties, therefore, there are no real grounds for despondency. More than half Italy's scrap and about two thirds of her iron come from domestic sources, while the increase in imports of coke and coal is at least balanced by savings in other types of coal and by the rise in the volume of methane used, or oven gases recovered, by the industry.

It is not, of course, assumed that Italian materials are bound to be cheaper than foreign supplies. They do, however, ensure continuity and, by and large, if only because of cheaper transport, they are in fact usually less costly than the foreign commodity.

The development which gives greatest cause to concern is the growing proportion of both scrap and coking coal obtained from North America. As has been argued, however, such imports of scrap are unlikely to increase, and may well fall sharply, once the projected increase in Italian pig is achieved. As to coking coal, it has long ceased to be abnormal for European countries to turn to the United States in order to make good the deficit in their energy budget and, here again, there are hopes, though somewhat more tenuous, that methane may ultimately be able to replace coke in the blast furnaces.

If the question is placed in a wider perspective, it will be seen that Italy is at least as well favoured in the matter of raw materials as other steel producing countries, such as Japan, with its output of over 11 million tons in 1956 (7). The central problem underlying competitiveness is that of the overall costs of the industry, of which raw materials form an important but not necessarily decisive component.

(7) According to the "Survey of European Steel Exports" by the Economic Commission for Europe (Geneva, 1953) it was estimated that Japan would need to import 7 million tons of iron ore and 3.25 million tons of domestic iron and coal respectively in order to increase production to 10 million tons of crude steel. It should be added that her iron ore is obtained

### Structural Problems - Future Prospects

In fact, as has been convincingly argued by Armando Frumento in the article already quoted, the main factor now hampering the development of Italian steel is the inability of the blast furnaces to provide the smelters with adequate supplies. The latter, in turn, are therefore not in a position to feed in enough steel to the rolling mills. These disequilibria, however, cannot be regarded as in any way permanent and indeed, if the expansion of pig capacity proceeds according to plan, they will be eliminated by about 1961, when, as already observed, steel making iron capacity will amount to 39 per cent of steel capacity (8).

The reasons for the present disproportions within the industry are to a large extent the result of technical considerations which shaped post-war decisions. Smelting plants and blast furnaces can be erected one by one, as demand increases. It is not possible to erect half a rolling mill. It was therefore inevitable that, if Italy was to be equipped with modern plant, advantage should be taken of the special opportunities offered for reconstruction immediately after the war and rolling capacity created which was in excess of requirements at the time. Moreover, it was the blast foundries which suffered most severely during the war and it has naturally taken them more time to restore and increase their output.

It follows that the emphasis during the next four years should be placed, not on the construction of new "comprehensive" plants, but on securing a better balance between the various phases of production, on removing bottlenecks and thus ensuring a smoother flow in the processing of raw materials at all stages up to the finished steel article. If and when the present unevennesses are disposed of, it should be possible to secure a more efficient, and hence less costly, use of existing capacity, and in particular to derive full benefit from the heavy investments in the huge rolling mills.

It is not, however, merely a question of creating new capacity but of the managerial and technical skill needed both to run it

mostly from as far afield as the United States, the Philippines and Malaya, while coking coal has also to come from the United States and in part from India.

(8) This percentage compares with that of 67.5 postulated by the O.E.E.C. in its "The Iron and Steel Industry in Europe" (1956), for future production by its member countries.

and to see that it is efficiently integrated into the industry as a whole. This process of adjustment, as Frumento observes, takes time, especially when, in the industry as a whole other teething troubles have to be overcome.

Indeed, greater efficiency ties with better balance as the central problem of the industry. Italy has in the past suffered from the excessive dispersal of steel and iron production among a large number of small, and not always efficient, firms. The multiplicity of such concerns has been stressed by all experts who have studied the field. The Stanford University team, in its valuable report on the Italian steel and engineering industries six years ago, publishes a telling graph comparing the average size of firms in U.S.A. and Italy. More recently, the O.E.E.C. report, referred to above, noted (p. 17) that steel output in Italy in 1954 was distributed among 80 companies (of which only 9 produced over 100,000 tons) and pig iron output among 21. There can be little doubt that, if the present boom should break, many of these tiny enterprises would be forced to close down or to work on greatly reduced profit margins. As it is, the proportion of national production by the bigger and more progressive firms is steadily rising and it is with them that the future of the industry must lie. This trend towards concentration, greater efficiency and lower costs should also make for competitiveness.

What will actually happen when the E.C.S.C. tariffs come to an end next February is hard to say. Prophecy on such matters depends on so many considerations as to be not much more reliable than astrology. It may, however, be contended that, if the present boom continues, the adjustments resulting from the removal of protection need not be too painful. Italy, after all, is only a marginal importer and exporter of steel. If it is felt that the present writer is being too optimistic, it may be observed that Frumento, a very cautious observer, talks of a "depressing hypothesis" for 1960 whereby net imports will amount to 500,000 ingot tons. Although this state of affairs may not compare favourably with the position in 1956, when Italy became for the first time a net exporter of steel, it cannot really be regarded as catastrophic (cf. Table VI).

In Italy itself, consumption is at present rising faster than production and steel production faster than industrial production as a whole. The figure for consumption in 1956 was 6.65 million



tons and estimates for 1960 vary between 7.8 million and 8.5. The more conservative Italian economists point out that the latter estimate presupposes a rate of increase faster than that for other E.C.S.C. countries. It should be remembered, however, that Italy's

TABLE VI

INGOT EQUIVALENT OF ITALIAN STEEL IMPORTS AND EXPORTS  
(semis and finished articles)  
(in thousands of tons)

	1950	1953	1954	1955	1956	Forecast for 1960
Imports . . .	779.6	897.1	968.5	836.6	741.8	1000
Exports . . .	186.6	249.5	307.4	569.4	889.1	500

Sources: Falck's *Sintesi* for 1955 and Finsider, and, for 1960 forecast, *op. cit.* by ARMANDO FRUMENTO.

position is somewhat special, since not only is she to some extent a development country but her engineering industry, relatively speaking a newcomer to export markets, is far from having reached a stable maximum.

If, contrary to expectations, there should be even a partial slump in the next four years, Italian steel will clearly pass through a difficult phase. But there is no reason to suppose that it will not be able to survive until an upward trend returns, particularly if E.C.S.C. relents on the question of granting assistance and cutting out dumping.

*Geneva*

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