CHAPTER X

SUMMARY AND CONCLUSIONS

10.1 INTRODUCTION:

The problem of the U.S. steel industry began to surface in the late 1960's and early 1970's when its competitive position deteriorated, both in the domestic and international markets. During the same period, not surprisingly, the presence of the Japanese Steel Industry became more visible in the international market.

Needless to say, the steel being an internationally traded product, this was a development of major significance in the context of the global environment prevailing then. Moreover, a comparative study relating to the steel industries of the U.S.A. and Japan was not available. Therefore, the researcher ventured to undertake a comparative study of this kind, with the sole objective of detecting and analysing the underlying causes of the decline of the U.S. steel industry, while at the same time, examining the factors that contributed to the successful performance of the Japanese steel industry.
10.2 HYPOTHESIS

It is not necessary to emphasize that the researcher has to analyze as many variables as possible, in order to improve the quality of his research. But at the same time he has to work within the framework imposed on him by the constraints of time and limited resources at his command. Against this backdrop, the researcher has advanced an hypothesis that serious problems of the U.S. steel industry are directly and/or indirectly related to: (i) the slow and inadequate rate of growth in the development of modern technology and its early adoption, (ii) not very conducive labor management and industrial relations (iii) uneconomic use of raw materials, coal and other sources of energy, and (iv) the insufficient appreciation of cordial relations and understanding between the government and the industry.

On the other hand, this study contends that the success of the Japanese steel industry is mainly due to: (i) the accelerated rate of growth of modern technology and its immediate adoption by the steel industry, (ii) highly conducive labor-management relations, (iii) efficient utilization of raw materials and energy; and (iv) cordial relations and understanding between the government and the industry.
10.3 METHODOLOGY:

The methodology used in this study is very simple and micro-economic in nature. Each component of the hypothesis is examined and analysed under a separate chapter. Since the first and third components of the hypothesis are more of a quantitative nature than the second and fourth components, the study draws heavily on the required quantitative data from industry sources. The secondary data were collected from the annual reports and occasional publications of the respective industries.

10.4 DEVELOPMENT OF MODERN TECHNOLOGY:

(1) B.O.F. Method:

After giving a brief survey of historical development of the steel industries of both Japan and the U.S.A. in chapters III and IV, the first component of the main hypothesis is analysed in Chapter V. The study reveals that the U.S. steel industry was very slow in introducing and absorbing the B.O.F. method during the 1950's and 1960's. Instead, it added the new capacity or replaced the existing capacity through the installation of open hearth furnaces. This was done in spite of the proven superiority of the B.O.F. in having lower capital expenditures, lower operating costs and considerable saving of time. It is evident from the study that the U.S. steel industry is still behind the Japanese steel
industry in the use of Basic Oxygen Furnaces. This inescapable conclusion is also evident in the subsequent time period. For example, in 1985, the U.S. steel industry was producing 59 per cent of its steel by the B.O.F. method, while the Japanese Steel industry was producing 90 per cent of its steel by this process. In the same year 7 per cent of the steel in the U.S. steel industry was produced by open hearth; but in Japan the last open hearth furnace was closed before 1980.

(ii) Continuous Casting Method:

Since this method of casting bypasses several intermediate steps, it increases the yield by 11 to 17 per cent over the ingot casting method. Besides, it improves the quality of steel through better product uniformity and reduces costs. The study makes it evident that Japan was much faster than the United States in the installation of continuous casting machines. The rate of production of steel through Continuous Casting in Japan in 1985 was close to 90 per cent, while that of U.S. Steel industry was 50 per cent.

(iii) Computer Technology:

The application of computer technology to the steel making process is another technological advancement incorporated by the
Japanese steel plants. Since most of the steel plants were built after 1960, the Japanese steel companies were able to design the plant to accommodate the computer technology. All Japanese steel plants are equipped with an integrated computerized information system for providing the top management with the long and medium term plans. In fact, the whole system provides for effective planning and control. The figure 5.3 gives a clear idea of the computerized information system as applied in the Japanese steel industry. In 1980, there were 907 computers in operation in the Japanese steel industry. Of these, more than 700 were process computers used for automatic control and production operations. With the use of computers, the Japanese steel mills have become highly automated and efficient.

In contrast, the U.S. steel plants are relatively old and therefore, absorption of computer technology by them is almost impossible, because they are not designed for this purpose. Thus, the Japanese producers have a decided advantage over their counterparts in the U.S.A. However, in recent years, the U.S. steel producers have been making every effort to incorporate the use of computer technology within the constraints of plant design and availability of funds.
(iv) Data Bank

In addition, the Japanese steel industry has been building up a comprehensive data base for effective long-term and short-term planning and control. Since 1973, the Japan Iron and Steel Federation has been developing "Steel Information System" with the sole purpose of helping the steel producers in Japan. There is no firm evidence to suggest that the U.S. steel industry has established anything similar to the Japanese data bank.

Thus, the foregoing detailed analysis in Chapter 5 clearly supports the main thesis that the U.S. Steel industry was slower than its counterpart in Japan in the adoption and absorption of the most modern technological innovations in the production of iron and steel. In the 1980's, the Japanese have earned the same as world's steel technology vendors. In fact as early as 1970, the American and European steel producers have accepted reluctantly the technological superiority of the Japanese steel industry. Needless to emphasise, the latter's superiority in the technological field is entirely due to their limitless capacity to do hard work, perseverance, team spirit, highly motivated labour and all-round support of their government.
10.5 **LABOUR-MANAGEMENT RELATIONS**

Since the labour-management relations play an important role in the performance of any business concern, it is appropriate to examine the conduct of the same in the steel industries of Japan and the U.S.A. Therefore, the entire Chapter VI is devoted to the examination of the industrial relations and the socio-economic conditions under which the steel industries of these two countries operate.

10.5.1 **THE JAPANESE EXPERIENCE**

The healthy labour-management relations are based on several inter-related factors, such as culture, value system, education, training, method of recruitment, economic incentives and benefits, and promotional policies and opportunities. The Japanese population is highly homogeneous in contrast to the American population. It is homogeneity through which a common core of culture is transmitted to virtually the entire population. This is important from the point of view of labour-management relations, because the common cultural heritage is likely to increase the feeling of togetherness and group activity of all the interested parties for the national interest. In fact, the whole system of education and training in Japan encourages, not only the group approach to the life's problem, but also ensures
the continuous flow of highly motivated and disciplined labour force to the Japanese industries. Besides, almost all of the Japanese firms invest a good deal of money and other resources in educating the required labour force, because the firms believe that the benefits derived from such investment in education and training will pay back high dividends in terms of efficiency and loyalty. Moreover, the contributions of such factors as lifetime-employment system, group performance and union activities, are very significant and praiseworthy. It is in this context that a brief account of each activity is given below:

(1) **Life-Time Employment**

The Labour-management relations in Japan are based on lifetime employment system, where the worker works for the same employer until his retirement. In this way, system ties the worker and his fortune directly to the success and prosperity of the company. This kind of permanent relationship between an employee and an employer, imposes an obligation and responsibilities on both, the worker and the management. In fact, the ever lasting and binding relations between the worker and the management are a striking example of major significance for the Japanese society, in contrast to the contractual obligations of their counterparts in the western society.
Second, the life-time employment in Japan ensures continuous use of highly motivated and trained personnel for achieving the goals of the enterprise. Third, the system promises not only the job security, but also makes the worker to give his undivided loyalty to the company. In other words, this approach makes the Japanese worker hard working, diligent and more co-operative at the shop-floor than his counterpart in the U.S. steel industry.

(ii) Group Performance:

The Japanese society emphasises group performance rather than the individual performance. The group performance approach is widely spread in the Japanese steel industry. The success in achieving efficiency in production, cost-reduction, product-quality, energy saving and good human relations, has been attributed to the group performance approach. The most praiseworthy example of group activity in the Japanese steel industry is the Jishy-Kenri (J-K) activity, which among other things, encourages creativity and fraternity on the shop floor.

Quality circle is another kind of group activity, which is also experimented on a limited scale in a few U.S. steel mills. It is relatively a new experiment. Time alone can tell whether the quality circles will solve the problems of labour-management relations in the U.S. steel industry.
(iii) Union Activities:

In Japan, unions are sponsored and promoted by the management. The unions and management, though enjoy separate existence and functions, co-operate in settling the differences and disputes rather than engage in disruptive labour practices. The mutual trust, loyalty, friendship, common culture and the love for the country naturally strengthen the labour-management relationships in Japanese industry. Therefore, the incidence of strike is uncommon in the Japanese steel industry. It is in this context alone, the claim of the Japanese industrialist that the organisation and people are synonymous can be understood and appreciated.

10.5.2 The U.S. Experience:

(1) In contrast to the Japanese culture, the American culture emphasises only the individual performance. This practice, of course, has its roots in the tradition and culture of early Americans known for their rugged individualism. The same beliefs and traditions have percolated throughout the corporate life in America. The belief and trust in individual freedom is so intense that it does not give any room for group performance on the shopfloor. In fact, contrary to the Japanese practice, the worker,
who out-performs his colleagues is well rewarded and promoted. Thus the whole system is biased in favour of individual performance. But in the Japanese system, out-performing one's colleague is not at all a guarantee for promotion.

(ii) Union Activities

American unions are neither sponsored nor promoted by the managements. The National Labour Relations Act of 1935 and the Taft Hartley Act of 1947, made it an unfair labour practice for the employer to promote, to finance or to interfere with the internal activities of a Union. Besides, the 1935 Act also made it compulsory for the management to bargain collectively with the labour union, elected by the majority of workers.

The tough-minded leadership of the union coupled with the liberal labour welfare legislations make the American Management to care more for private profits rather than instil a sense of belonging to an organisation in the minds of worker. On the contrary, the worker is made to realise that he can be hired and fired at anytime. Therefore, the worker has no reason to believe that his future is inextricably linked with the future of the company where he works. It is, therefore, natural that he
engages himself in the activities that will bring him the highest economic rewards, with the least amount of contribution. Hence, he is less diligent, less loyal, and careless in his work.

The close examination of the poor labour management relations in the U.S. steel industry brings out the deep-seated antagonism, mis-trust, disrespect and above all a lack of common goal among both the parties concerned with the maintenance of good industrial relations in the steel industry.

Time and again, the American steel executives express the view that the Japanese workers are more dedicated, more loyal and more productive than their counterparts in the U.S. Though there is some truth in these utterances, the steel executives seem to forget that the dedication, loyalty and productivity are the outcome of factors such as better management, better industrial relations, better quality of resources and technology. The American labour asserts that the management has failed to create conducive environment necessary for good industrial relations in the U.S. steel industry.

In summary, the detailed study of labour-management relations in Japan and U.S. reveals that the success of steel industry in Japan is largely due to good labour-management relations and the relative decline of the U.S. steel industry has its roots in uncondusive and less cordial labour-management relations.
10.6 ECONOMICS OF RESOURCE USE IN JAPAN AND U.S.A.

By its nature, the steel industry consumes large quantities of raw materials and fuel. It is, therefore, important to evaluate the availability and utilization of major raw materials and energy components in comparing the performance of the Japanese and the U.S. steel industries. With this end in view, the entire Chapter VII is devoted to the analysis of the procurement and use of major raw materials such as iron ore, coal and other energy components required by the steel industry.

10.6.1 RESOURCE USE IN JAPAN:

(1) Iron Ore:

Japan is a very small country and is not endowed with an adequate supply of raw materials. This makes Japan to depend largely on foreign sources for the supply of needed raw materials.

The iron ore, being the most important raw material, the Japanese steel industry imports virtually the entire quantity of the required iron ore. For instance, it imported 93 per cent and 95 per cent of the required iron ore in 1965 and 1968, respectively. Since, the iron ore being bulky, it has to be carried in ships.
over a distance of 6,000 miles. This particular factor made the steel industry to realise the significance of economising on inland transport cost. The Japanese steel industry did not lose anytime in constructing fully integrated steel mills with the production capacity of 10 million tons of raw steel per annum at deep ocean harbours and nearer the industrial centres. The basic reason for the seaside location is to ease the handling of raw materials from the vessels directly into the steel mills, and later loading the finished steel products into the ships for export, without the help of inland transportation.

In addition, the Japanese steel mills employed several means to bring down not only the cost of procurement of iron ore, but also to improve the efficiency of its utilization. For example, they extended technical and financial assistance to the foreign suppliers with the sole purpose of ensuring the steady supply of iron ore at reasonable cost. It also adopted several cost saving measures, such as the preparation processes, which removed the impurities inherent in imported iron ore before it was used in the blast furnace. It is claimed that the iron ore subjected to such preparation processes, increases the efficiency of blast furnace operations.
(ii) Coking Coal:

The dependency of Japan for coal imports is equally high. The steel industry currently imports 95 per cent of its coking coal and it has been exploring several sources of supply in order to ensure the supply of high quality of coking coal quite closer to home. Though the U.S.A. and Canada were major suppliers of this commodity to Japan in the beginning, in recent years U.S.S.R., Australia and China have been added to the list of suppliers. Because of the intense desire to save on the cost of transport, it is expected that China will become a major supplier of coking coal in the foreseeable future. Attention must be made that the Japanese steel industry is employing the latest technology to improve the quality of iron ore and coking coal before they are fed into the furnaces.

(iii) Energy Conservation:

The Japanese steel industry was shocked by 1973 and 1979 oil crises. Virtually devoid of domestic energy resources, the steel industry made frantic efforts to manage with the reduced quantity of imported energy resources. From 1973 to 1981, the industry reduced its energy consumption, in coal equivalent from 94.08 million metric tons to 73.50 million metric tons. The index of real energy consumption fell by 14 points per ton of crude oil.
The total energy sources for oil based fuels fell from 21.3 per cent to 7 per cent, the share of coal based energy increased from 61.4 per cent to 74.5 per cent and the steel industry's oil consumption fell by 73 per cent from 15.48 million kiloliters to 4.16 million kiloliters.

In addition, the steel industry has set aside 24 per cent of its total outlay of $3.4 billion for energy conservation projects in 1981. The greatest success in energy conservation measures is in the area of continuous casting. It is estimated that a percentage point increase in the continuous casting ratio recoups between 1,000 and 1,500 kilocalories per metric ton of steel produced.

Currently, the Japanese steel industry is involved in the more expensive type of conservation measures such as the coke dry quenching, sinter waste recovery, and blast furnace slag recovery system. It is estimated that approximately 5 per cent of the total energy conserved by the steel industry was generated by the waste heat recovery system during 1981. It is also aiming at the development of oil-less steel technology, thereby reducing the steel industry's dependence on oil based energy before 1990.
10.6.2 RESOURCE USE IN U.S.A.

(1) Iron Ore:

Unlike the Japanese steel industry, the U.S. steel industry is in a much better position in regard to the availability of iron ore and coking coal. Its dependency rate on foreign sources for these two inputs is very low compared with that of Japan. Therefore, the pressure for economising on the use of resources is naturally low in the case of the U.S. steel industry.

In recent years the U.S. steel industry is finding it difficult to obtain a good quality of iron ore from domestic sources. Therefore, it has carried out an extensive exploration in Canada, South and Central America. The discovery of iron deposits in South America revealed that the iron content in its iron ore is 63 per cent as compared to 53 per cent in the domestic iron ore. But the ever changing political scenario in Venezuela, Chile, Brazil and Peru in 1970's has made the U.S. steel producers not to rely on foreign supplies. In fact, presently they are developing and up-grading the domestic iron ore.

(ii) Coal:

As regards coal, the steel industry enjoys a considerable advantage over its counterpart in Japan. In 1981, coal accounted
for 62.3 per cent of the industry’s total energy consumption. However, the supply of high quality coal with less impurities, such as ash and sulphur is relatively low. During the 1970’s the steel industry started experiencing the shortage of high volatile coal. Indeed, the strict enforcement of environmental standards by the Environmental Protection Agency (EPA) on public utilities and industries using coal gave rise to a market for high grade and low sulphur metallurgical coal. The net result is that the steel industry is facing more and more competition for high quality metallurgical coal from several manufacturing industries. Besides this, the steel industry has installed $8.5 billion worth of equipments for pollution control. The leaders of steel industry strongly believe that the diversion of scarce resources from steel production to meet the expenditure on the additional pollution control requirements imposed by the Clean Air Act of 1962 and the Water Act of 1984, would seriously impair the production capacity of the domestic steel industry.

(iii) Natural Gas

The Natural gas is another major item of energy used by the steel industry. In 1983, it accounted for 25.8 per cent of the total energy consumption. The rate of change in the use of natural gas will depend on the price, which is regulated by the State Utility Commission.
(iv) Nuclear Energy

One of the most considered, but most feared, alternative source of energy in the nuclear energy. There is a considerable controversy on the development of nuclear energy because of the safety risks around the nuclear plants. The public opposition has increased after the nuclear accidents both in the Soviet Union and the United States. Considering these developments, it is very doubtful that the U.S. steel industry will invest enormous amounts for the construction of nuclear plants. Hence the only way out for the steel industry is to modernise the steel production processes on the lines indicated by the Japanese steel industry.

10.6.3 ENERGY CONSERVATION

At present the industry is engaged in energy conservation by the adoption of micro processor and computer control techniques. It is also recycling of waste heat, wherever possible. The extent to which the steel industry will engage itself in energy conservation depends on such factors as the availability of capital funds, the extent of competition, the current state of energy supply from all the sources, and the public policy.

In passing, mention can be made of the low prices of petroleum prevailing in the international market. But one cannot
afford to take it as a trend for the 1990's and beyond. It is more than likely that major shortages of petroleum will occur in the near future; and this in turn will have its impact on demand and supply conditions of coal, natural gas and electricity. It is, therefore, prudent for the U.S. steel industry to work for a long-range policy for ensuring a steady supply of energy at reasonable prices.

In conclusion, one is inclined to mention that the level of steel making technology being more or less the same everywhere, a major factor that accounts for the competitive position in the steel market, is the efficient utilization of principal resources—both natural and human, including the energy components. Of course both the countries have been struggling to make their steel industries more efficient and productive. But by any reckoning, one can easily support the view that in matters of utilization of resources and energy conservation the Japanese steel industry has stolen a march over its counterpart in the United States.

10.7 GOVERNMENT-INDUSTRY COOPERATION:

In Chapter VII, an attempt has been made to examine the role played by the respective governments of Japan and the U.S.A. in accelerating the development of the steel industry. In this
context, it should be emphasised that Japan has a natural handicap in the domestic supply of iron ore and coal, which are the main inputs in the manufacture of iron and steel. Therefore, Japan has to depend on the foreign sources for the entire supply of iron ore, and a large proportion of coal. Besides, the steel industry requires heavy capital outlays. On account of these and other related factors, the private capital was hesitant to enter the field of steel production. So, the involvement of government in the development of steel industry became rather a necessity than a choice. In years to come, the ever growing demand for steel and the various assistance given by the government encouraged the development of steel industry in the private sector at the most crucial period of its development.

10.7.1 GOVERNMENT ASSISTANCE: JAPAN

It has been emphasised earlier that the Japanese government was directly or indirectly involved in assisting the growth of the steel industry. The assistance came in the form of loans from the Bank of Japan and the Japan Reconstruction Bank. The steel industry was able to procure commercial loans with greater ease, because of the steel industry was accorded a priority status by the Japanese
government. The industry also got further assistance in the form of subsidy on raw material imports and also on finished steel products. These subsidies were very substantial and were largely responsible for not only the capacity expansion but also for the growth and survival of the industry in different situations. In addition, the government of Japan granted substantial assistance for the construction and development of port and harbour facilities.

The government of Japan enacted a series of measures which were partially or wholly aimed at the development of steel industry on sound basis. One of such measures is the export promotion programme. According to this programme, the Bank of Japan granted the short term loan to the steel industry; and the Export-Import Bank of Japan provided the long and medium term loans to exporters as well as importers at the concessional rates. Other measures relate to the accelerated depreciation of plant and machinery, permission to use certain percentage of export income for overseas market development and legalising Export Cartels under the Export-Import Transaction Law.

10.7.2 GOVERNMENT ASSISTANCE: U.S.A.

In case of the U.S. steel industry, this study was not able to pin point any substantial financial assistance from its government
Nor does it get any direct or indirect support to form and operate Export Cartels as found in Japan. There are, of course, some government actions and programmes meant for the industrial sector as a whole, and the steel industry did derive some indirect and marginal benefits from them. For example, the investment tax credit enacted in 1962, was of great help to the steel industry. It was estimated that, the steel industry was able to get approximately 5 per cent of industry’s capital requirement during the period from 1962 to 1974. Another measure was the enactment of the Revenue Act in 1964 which reduced the corporate income tax from 52 per cent to 43 per cent.

There are a number of other developments such as the Army Corps of Engineers on waterways and harbour projects, but the benefits so derived from these are only incidental in nature. In fact, the direct government aid to the steel industry is evidenced in the protectionist measures, namely, voluntary restraint Agreement, the Trigger Price Mechanism and the Quota System. But the steel leaders maintained that the direct and indirect controls used by the government for regulating the price of steel, have harmed the interest of the steel industry. Anyway one is inclined to believe that the indirect benefits and the protectionist measures have not provided the answers to the mounting problems of the U.S. steel industry.
The detailed analysis carried out in this chapter, proves that the Japanese steel industry has demonstrated its relative superiority in the diffusion of advanced technology, and thereby making the steel industry very competitive vis-à-vis its counterparts in the rest of the world. Behind this phenomenal success of Japan lies the cordial and positive government-industry-labour relations and participative management. This is a lesson that the U.S. steel industry can hopefully learn from Japan. The past experience dictates that the government-industry-labour relations, characterised by their uncordiality must come to an end. The sooner they learn to chart a long-run co-operative and participative courses of action, better it will be for them to restore its competitive position both in the domestic as well as in the international markets.

10.8 PROFILE OF THE STEEL INDUSTRIES OF JAPAN AND THE U.S.A.

Having examined the performance of the steel industry in the two respective countries during the period extending from the end of the Second World War to 1980, it is desirable to present the status of these industries in the 1980's before drawing up the policy recommendations. Keeping this view in mind, an attempt has been made in Chapter IX to highlight the most important developments in steel industries of both the countries during the 1950's.
10.8.1 THE UNITED STATES STEEL INDUSTRY:

In spite of the various protective measures taken by the U.S. government, the industry continued to face the problems in the 1980's. The steel industry claims that its problems are caused mainly by imports. Hence the logical solution is to request the government for more protection to the steel industry. The critics of steel industry believe that the protective measures have not produced the required results. On the contrary, the close examination of the performance of the industry during the 1970's and 1980's reveals that there was almost no improvement in the competitive position of the industry. This is further corroborated by the numerous plant closing, corporate bankruptcies, and phenomenal loss in production and employment during the late 1970's and early 1980's. Really speaking, the penetration of steel imports is only a symptom of the internal problems of industry.

In fact, the industry has to address itself on the problems such as high labour cost, poor productivity, inadequate capital investment, out-dated steel plants and absence of a comprehensive national policy on basic industries that are operating in the economy.
By any standard, the Japanese steel industry is a major exporter of steel in the international market. On the production front, efforts are being made to up-grade the steel products, and to move from the production of ordinary steel to specialized steel with a view to taking full advantage of changing international market conditions for each kind of steel. Keeping these developments in mind the Japanese steel industry is preparing plans to cope with challenges of the 1990's and beyond.

Of course, the Japanese industry has a problem of the excess number of permanent employees, but it has adopted several measures to reduce the number of employees without creating hardships to any one of them.

10.9 POLICY RECOMMENDATIONS:

Most of the evidence already cited clearly indicates that the problems of the U.S. steel industry are much more serious and long lasting than those of the Japanese steel industry. The U.S. steel industry should take corrective measures in the following areas:
Presently, the U.S. steel industry has 130 million tons of production capacity, out of which currently it is utilizing about 70 per cent. The current steel consumption in the United States is about 100 million tons, of which 20 per cent is supplied from imports. If the current trend continues imports are expected to be about 30 per cent of the domestic market by 1990. Thus the present and future demand conditions of steel does not warrant the maintenance of 130 million tons of production capacity. Hence the industry must get out of open hearth production which will reduce the capacity by 7 million tons. Further capacity reduction must be accomplished by shutting down inefficient plants.

Second, 12 per cent of the capital equipment are 30 years of age or older, and 20 per cent are over 25 years of age or older in the U.S. Steel industry. These equipments need immediate replacement. All the older furnaces should be replaced with Basic Oxygen Furnaces or Electric Furnaces. Since the steel industry delayed the capital expenditures in the past, it is currently left with a lot of outmoded capital facilities. Further delays will increase the capital expenditures and deteriorate the competitive position of the U.S. steel industry. Therefore, the industry must embark on a
bold, forward looking modernization programme which must be
completed before the end of the decade. Third, as yet there is
no over capacity problem in the Japanese steel industry. Since
a large number of steel firms in the world are producing the
standardized steel products the demand for ordinary Japanese
steel is not expected to remain at the present level. Therefore,
it is expected that the Japanese Steel industry will intensify
its efforts to produce specialized steel products where the
competition is much less.

10.9.2 LABOUR MANAGEMENT RELATIONSHIP

Considerable improvement in the labour management relation-
ship has to be made in the U.S. steel industry. Unless the manage-
ment and labour co-operate to cut the employment cost, there may
not be any future at all for the steel industry. The benefit and
salary cut must start from the top management and move through
the entire organization down to the junior most worker. The
labour wages and benefits should be tied to the productivity and
profits of the enterprise.

The worker should be encouraged to participate in the
decision making process which involves his future and welfare.
Many internal problems such as low morale, low productivity,
industrial accidents, petty grievances and other disruptive labour practices can be reduced through a higher degree of co-operation and participation between labour and management in the day to day operation.

The success of the Japanese steel industry is attributed to the labour-management co-operation and participation. There are no evidence to suggest that the smooth labour-management relationship in Japan will be disrupted in the immediate future.

10.9.3 GOVERNMENT-INDUSTRY CO-OPERATION:

The government aid to the U.S. steel industry comes in the form of establishing import quotas and other protectionist measures. These protective measures would have produced results if the government attached specific conditions for improving the competitive status of the industry. Unfortunately, in the absence of such mandatory requirements, the industry may be reluctant to undertake revitalization programmes.

Since the American steel industry is declining industry, the government must evolve a comprehensive national steel policy. All government assistance in the future should be made in the context of the national steel policy.
The government can help the steel industry by granting exceptions from anti-trust prosecution when the ailing steel companies merge together. Mergers of weaker steel companies can conserve the scarce and valuable capital from piecemeal expansion and duplication of efforts. The U.S. steel industry proposes several unrealistic measures, such as rigid protection from foreign competition, significant relaxation of the environmental standards, or even the suspension of the environmental laws and immunity from anti-trust proceedings, and multi billion dollar government subsidy. All these point to the infallibility of the steel management in the U.S.A. None of these proposals are to the best of the national interest; and therefore, the starting point should be the self-realization of the U.S. steel management that there are more problems within the steel industry that they alone can correct. It is of no consequence if the industry throws all the blame on foreign imports and the government.

10.9.4 CAPITAL INVESTMENTS:

The productivity in the steel industry was affected by the lack of capital investments in new, modern and more efficient tools of production. It is estimated that the industry needs 5 billion dollars annually for the next 10 years to modernize its facilities.
Since the institutional financing is very costly the industry should strive hard to raise more internal funds through lower employment cost, energy saving and depreciation charges. Since the demand for funds is very large, the industry has no choice but to borrow from the commercial banks. This is going to be an additional burden for the industry. The potential sources of funds available to the steel industry are depreciation charges, reinvested earnings, and issuance of long-term debt and capital stock. The gap between capital expenditure and capital recovery is quite large under the current tax law. Therefore, the steel industry must be allowed a more rapid capital recovery. Reinvested earnings hold promise as a source of funds to cover capital shortfalls, if the return on equity increases. The cost savings anticipated from improved efficiency would provide more equity capital. If the revitalization of the industry occurs and the rate of return improves, stock financing for expansion would become more attractive. In summary, rapid capital recovery is essential for raising internal funds for the revitalization and modernization of the steel industry.

Finally, all the evidence supplied in this study indicates that poor management decisions, related to technological improvements
and implementation, labour-management relationships, piecemeal expansion and modernization without long range plans, inadequate management-government co-operation and an unwillingness or inability to recognize the internal problems of the industry and the consequent shifting of blame to foreign imports as the sole problem of the industry are the major problems of the U.S. steel industry. The U.S. steel industry has to face years of painful change before emerging as a relatively smaller but more efficient industry.