

CHAPTER 3

Behind the Crisis

Introduction

As their domestic and export markets declined during the Asian financial crisis, major steel producers around the world turned to other markets, especially the United States, where demand was strong, prices were high, and the market was open. Currency depreciations made the U.S. market even more attractive. While these short-term factors led to increased steel imports into the United States, market forces alone do not fully explain the speed and magnitude of the increases in low-priced imports into the United States.

The steel industries in the four countries most involved in the crisis—Russia, Japan, Korea and, to a lesser extent, Brazil—differ substantially in terms of production efficiency and quality. However, they share some common structural problems that amplified the huge import volume increases and sharp import price declines that characterized the U.S. steel crisis. Market-distorting practices in each of these countries have insulated their steel industries from competition and thereby have facilitated unfair trading. These practices include:

- Direct government assistance.
- Apparent coordination among steel producers.
- Unsound banking practices.
- Import barriers.

Some of these practices were developed in these countries as their institutional frameworks were established in support of long-term economic development, and were not necessarily always aimed at supporting the steel industry. However, in some cases, the end result was to give their steel industry a competitive edge. A closer look at the four key countries reveals how particular market-distorting trade practices exacerbated the U.S. steel crisis.

Russia. In Russia, while the steel industry was privatized and downsized somewhat after 1991, many of the old ways of thinking remained. Although much of the excess capacity created by the Soviet Union's central planners needed to be restructured or closed down, the Russian government and most steel firms resisted the deep restructuring that would have led to massive layoffs. To tide them over, steel companies (like other companies) bartered their products, did not pay their bills or taxes, and exploited the absence of a real bankruptcy process. Moreover, those input suppliers controlled by the state continued the traditional practice of selling cheaply to industry.

The attempt to continue business as usual ignored the reality of a 70 percent plunge in Russian internal demand. As a result, large quantities of steel production flowed onto the global market at prices that caused serious disruptions. While the problem crested in 1998, it had been building throughout the late 1990s as international trading companies sold vast quantities of low-priced Russian steel on the global market.

Japan. Despite the Japanese steel industry's status as an efficient, developed sector, it has continued to benefit from practices that shelter the industry and inhibit changes consistent with market forces. The most significant problem is a noncompetitive domestic market among the integrated steel producers.

Apparent coordination among integrated producers is reflected in the following market characteristics:

- **Production shares among the major Japanese companies essentially have not changed for twenty-five years.** Steel experts in Japan and the United States have cited this fact as the clearest sign that a cooperative arrangement exists. The Japanese Fair Trade Commission has also expressed concerns over the stable production shares.
- **Japanese steel imports have remained consistently low.** Despite high domestic prices, which should be a magnet for imports, the volume of imports into Japan has been persistently low. The cause appears to be a relatively closed distribution system and complex web of mill-to-mill arrangements that have the effect of limiting imports.
- **Japanese steel producers have maintained high domestic prices.** The major purchasers in Japan—so-called “big buyers” such as auto and construction firms—have paid persistently high prices for steel.

The apparent lack of meaningful competition between Japan's major producers has contributed to the long-term problem of surplus capacity. Revenues from the high-priced domestic market also confer competitive advantages for Japanese firms that have implications for global steel trade. Enhanced revenues in the Japanese market can be used to make producers more cost competitive, for example, by funding research and development, and to sustain low-priced exports.

Korea. In Korea, the steel industry expanded capacity through, what were in hindsight, overly ambitious projects; in many cases, these projects were made possible by unsound lending by private commercial banks and government-owned banks. Lending decisions of private banks were often subject to direct or indirect government influence. The financial sector reforms that Korea has implemented under its International Monetary Fund stabilization program have had some success in changing these practices. However, it is still unclear whether all of the past market-distorting practices have been eliminated.

Government support for Korea's largest steel producer, POSCO, has given that producer a monopolistic position that raises a fundamental concern about competition within the Korean steel market and possible trade effects. Further, as a government-owned company, POSCO was used by policymakers to further the government's industrial development objectives, which included the provision of low-cost steel to downstream producers. The Commerce Department found this practice to be an export subsidy in a recent countervailing duty investigation. The Korean Fair Trade Commission (KFTC), Korea's antitrust authority, recently has recommended breaking the giant into two separate companies because of anticompetitive effects on the domestic market. But the Korean government so far has decided not to implement that recommendation. The KFTC also raised concerns about POSCO's continued dominance in Korea because of the company's potential to abuse its market power.

Brazil. Although Brazilian producers did not increase their exports of certain products to the United States to the same extent that the other three countries did, they did engage in significant price cutting in order to maintain export volumes. Over the last decade, Brazil's steel sector transformed itself from state to mostly private ownership. While this has led to a greater role for market forces, the Brazilian steel sector has continued to benefit from the advantages of a domestic market insulated from real competition.

Competition has been restrained by cooperative pricing among the three major flat steel producers, as well as by barriers to steel imports, such as tariffs, taxes, and nontransparent import procedures.

The lack of domestic competition has given Brazilian producers a significant advantage over their competitors. High domestic prices have helped support low export prices—the classic conditions for dumping. The depreciation of the Brazilian currency in 1998, the accompanying U.S. price cuts, and the downturn in the U.S. market brought concerns about dumping to the forefront.

Economic Trends and Structural Problems. The serious structural problems resulting from market-distorting practices in these countries were masked in the early to mid-1990s by the dual engines of economic growth in Asia and the United States. Growth in these two markets proved capable of absorbing the record amounts of steel being produced and exported. But when Japan, Korea, Brazil, and Russia experienced recession at home, as well as a collapse of key export markets, millions of tons of steel had to be diverted to other markets. With continuing growth in demand, high prices, and a huge and open market, the United States became the focus of steel producers in these four countries. A bad situation was made worse, however, by market-distorting practices tolerated or encouraged by the governments of these countries.

3.1 The Challenge of Integrating Russia Into the Global Steel Market

Introduction

The Russian steel industry has long operated in a surreal economic environment in which cash was not always necessary, inputs were cheaply provided, taxes and supplier bills went unpaid and few companies were closed due to bankruptcy. In his 1999 State of the Federation address to the Russian Parliament, President Yeltsin described the state of the general economy in which the Russian steel industry operated:

We are stuck halfway between a planned, command economy and a normal, market one. And now we have an ugly model—a cross breed of the two systems.¹

The Russian steel industry is caught between two systems. It was created and nurtured in one system for sixty years. It has been adapting to another system for the last ten. The industry's relationship with the government, its way of doing business, its current competitive position, and the measures it has taken to adjust to the new system are still very much reflective of its past.

The surge in Russian steel to the United States in 1998 was the culmination of several factors:

- Russia's inheritance of an immense steelmaking capacity.
- A steep decline in Russian domestic demand for steel.
- The production and sale of steel absent hard budget constraints (*e.g.*, the timely cash payment of taxes, wages, and supplier bills).
- The emergence of Russia as one of the world's biggest steel exporters.
- The diversion of Russian steel exports from Asia to the United States following the Asian financial crisis.

The diversion of Russian steel exports after the Asian financial crisis was an important reason for increased Russian exports to the United States. However, understanding what led to Russia's emergence in the course of the 1990s as one of the world's leading steel exporters requires a deeper look at the market-distorting factors at play in the Russian economy.

When domestic consumption of steel dropped, the larger Russian steel producers turned to the export market. While exports often provided the minimum amount of cash needed to operate in the Russian economy, the steel companies were able to otherwise muddle through turbulent times without real restructuring by means of:

- Cheap inputs supplied by government-controlled or subsidized suppliers.
- The pervasive acceptance of bartering.
- Widespread "nonpayment" of suppliers, taxes and workers.
- The absence of any real threat of bankruptcy.

Because of these factors, the prices accepted by Russian steel companies were not necessarily related to their true cost of production. The Russian steel industry's lack of marketing skills and heavy dependence on international trading companies compounded the problem. As the 1990s wore on, the massive volume of Russian steel exports coming on to the global steel market at soft prices—reflecting the lack of hard budget constraints in the domestic market—led to growing instability.

When the Asian economic crisis sapped the demand of the Russian steel industry's major customers, large trade flows of steel had to be diverted elsewhere. With the closure of other export outlets through trade actions of one sort or another, Russian steel companies began selling low-priced steel to the only remaining major open market—the United States. The redirection of sales to different markets in the face of demand shifts is a normal business practice in a global marketplace. The international trade frictions resulting from Russian exports were aggravated, however, by the market-distorting practices under which steel was produced and sold in Russia.

Since 1998, the Russian economy, and the prospects for the Russian steel industry, have greatly improved. The post-1998 economic environment in which the Russian steel industry has more recently been operating is discussed in greater detail in Chapter 5.

The Breakup of the Soviet Union and the Fall in Domestic Steel Demand

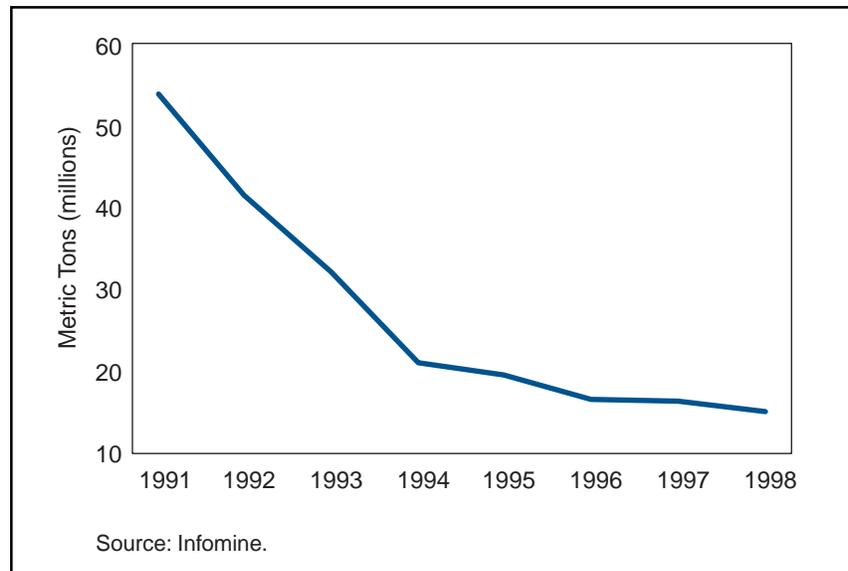
Prior to the breakup of the Soviet Union, Russian domestic consumption of steel was among the highest in the world. Per capita consumption in 1990 was 565 kilograms, on par with the European Union (EU) and North America and nearly three times the world average.² During this time, Russia was a net importer of steel, taking in almost 12 million metric tons (MT).³

The Decline in Domestic Demand

Starting with the dissolution of the Soviet Union in 1991, Russian domestic demand for finished steel plummeted. By 1998, domestic consumption had fallen more than 70 percent from its peak reached nearly a decade earlier (*Chart 3-1*).

The primary reasons for the precipitous decline in Russian steel demand:

- A drop in defense spending.
- The breakdown in the links of the centrally planned production chain and the Soviet bloc trading system.⁴
- The general contraction in the Russian economy.
- The shift in the nature of the Russian economy away from manufacturing and toward services.



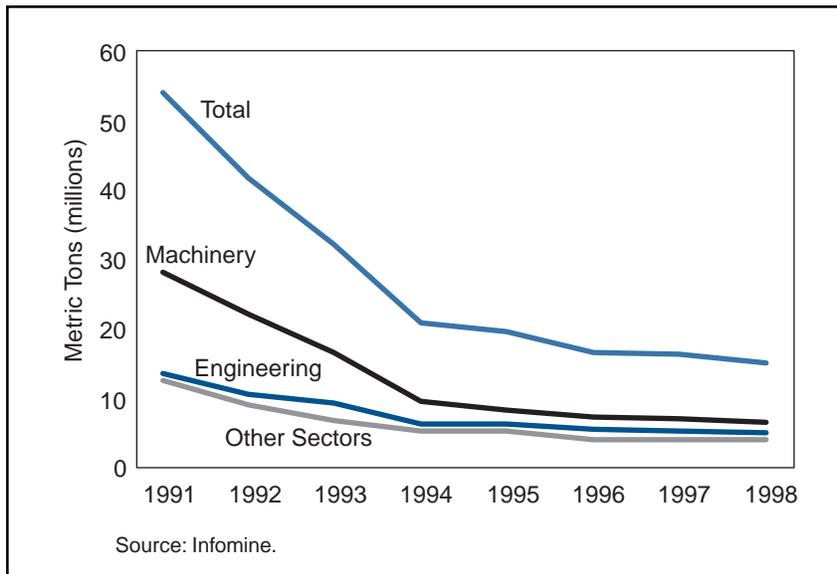
3-1. Russian Domestic Consumption of Rolled Steel

Military Demand for Steel. The general decline in domestic demand for steel began with declining orders from the defense industry. During the Cold War, the Soviet emphasis on military strength ensured that there was a significant and consistent demand for steel. It is estimated that the defense industry consumed 25–30 percent of all rolled steel produced in the Soviet Union.⁵ With the end of the Cold War and government budget shortfalls that began in the early 1990s, military consumption fell dramatically. U.S. intelligence sources estimate that by 1996, defense spending in Russia had dropped by 83 percent from peak Soviet levels in the late 1980s.⁶

Production Links. A second cause of the fall in domestic demand was the dislocation and breakdown in existing production links. Under the planned economy, large-scale companies specialized in particular aspects of production and were linked to specific upstream suppliers and downstream customers. For instance, iron ore from Ukraine was shipped to Russia to make sheet, which was then shipped back to Ukraine to make pipe.⁷ After the breakup of the Soviet Union, the old suppliers and customers were sometimes no longer in the same country, and customs duties and trade barriers were erected where none had previously existed.

At the same time, the other countries of the former Soviet Union, which had been major consumers of Russian steel, were also going through economic transition and a decline in steel consumption of their own, and unlike other export markets, often could not pay cash.⁸ In 1990, non-Russian republics of the Soviet Union accounted for 70 percent of Russia's sales; by 1995, this figure had dropped to 6 percent.⁹

Economic Contraction and Transformation. The steel industry is still of major strategic importance to the Russian economy. However, the political and economic changes associated with the transition toward a market economy and the 40 percent contraction of the Russian economy as a whole since 1992 led to a



3-2. Russian Domestic Consumption of Rolled Steel by Sector

dramatic reduction in domestic steel consumption. Part of the decline in steel demand is attributable to a general shift, as seen in other industrialized nations, away from manufacturing and toward services. Russian manufacturing as a share of gross domestic product (GDP) has shrunk from 60 percent to slightly below 40 percent.¹⁰

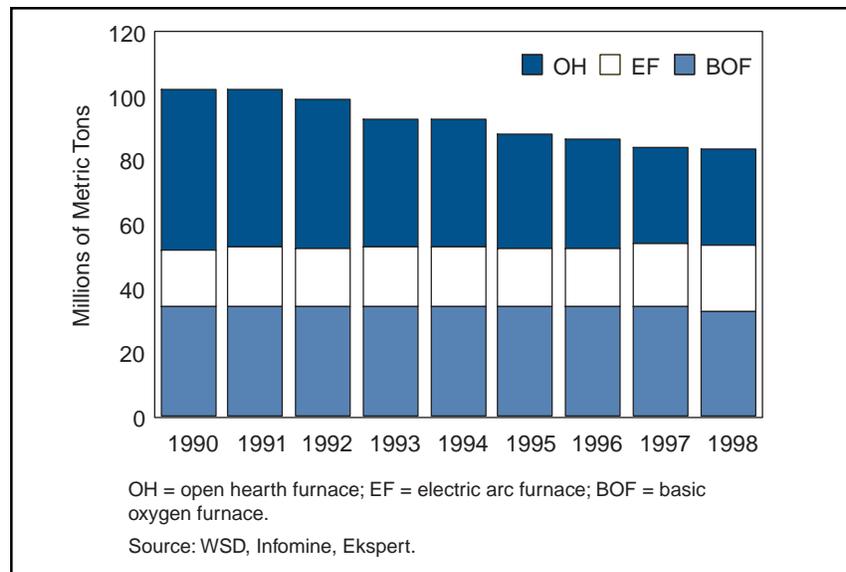
Declining domestic steel consumption was not uniform across consuming industries; rather, it depended on the extent to which these other industries faced their own problems. In general, the most steel-intensive sectors of the

economy (e.g., machinery) have been the sectors whose consumption has fallen the most (Chart 3-2). Production of major industries that consume rolled steel has declined by 72 percent since 1991.¹¹ Production in more than twenty steel-consuming sectors fell by over 60 percent.¹² Construction engineering, a major user of rebar, has fallen by 40 percent.¹³

Fewer Customers + Not Enough Cutbacks = Too Much Steel

Russia's inheritance of the majority of the Soviet Union's massive steelmaking capacity, coupled with the drastic fall in domestic demand over the past decade, is perhaps the most significant development preceding the 1998 U.S. steel crisis. This huge capacity was a remnant from the priority assigned to steel production by Soviet planners. By 1988, Soviet production of crude steel reached 163 million MT (21 percent of total world production), making the Soviet Union the world's largest steel producer.¹⁴

The Russian steel industry has made significant capacity reductions, from an industry-wide capacity level of just over 100 million MT in 1990 to 84 million MT in 1998 (*Chart 3-3*). Nearly all of the reduced capacity has been due to the closure of old open hearth furnaces.¹⁵ A small amount of modern capacity (*e.g.*, electric arc and basic oxygen furnaces) has been added despite the fall-off in domestic demand and the general poor economic conditions prevalent in Russia since 1991.



3-3. Russian Gross Crude Steel Capacity by Process

Despite the fall in domestic consumption and an overall reduction in productive capacity, according to the President of the Russian Miners and Metallurgical Workers Union, Russia did not shut down a single steel factory and did not lay off any workers.¹⁶ (While low wages make it possible for mills to retain large staffs and avoid unpopular layoffs, there have been job losses in the industry through attrition—*see box*.¹⁷).

Overview of the Russian Steel Industry

The Russian steel industry is made up of more than 100 steel plants that fall into three groups, each employing roughly a third of the steel workers.

The three biggest, accounting for over 50 percent of production, are Severstal, Magnitogorsk, and Novolipetsk. These large, integrated steel works make mostly flat products. They were the primary exporters to the United States in 1998. Overall, productivity of the top three is an estimated 60 percent of U.S. productivity. Between 1990 and 1997, production for these companies dropped 25 percent while employment fell 11 percent (apparently only through attrition).

The next group, the middle six, produce about 40 percent of Russian steel. Mechel, Oskol, Nizhny Tagil, Nosta, Zapadno-Sibirsky (ZapSib) and Kuznetsk are also integrated steel companies, manufacturing mostly long and specialty products. Productivity is about 40 percent of the U.S. level. Production for these six has fallen 35 percent since 1990, while employment has declined only 1 percent.

The remaining smaller companies operate at 21 percent of U.S. productivity, using mostly open hearth furnaces. Their production has plummeted 70 percent, while employment has fallen 28 percent.

According to one study, elimination of government assistance would lead to the closure of at least one of the medium-sized companies and most of the smaller companies. If these companies were to close, an estimated 100,000 workers would lose their jobs.

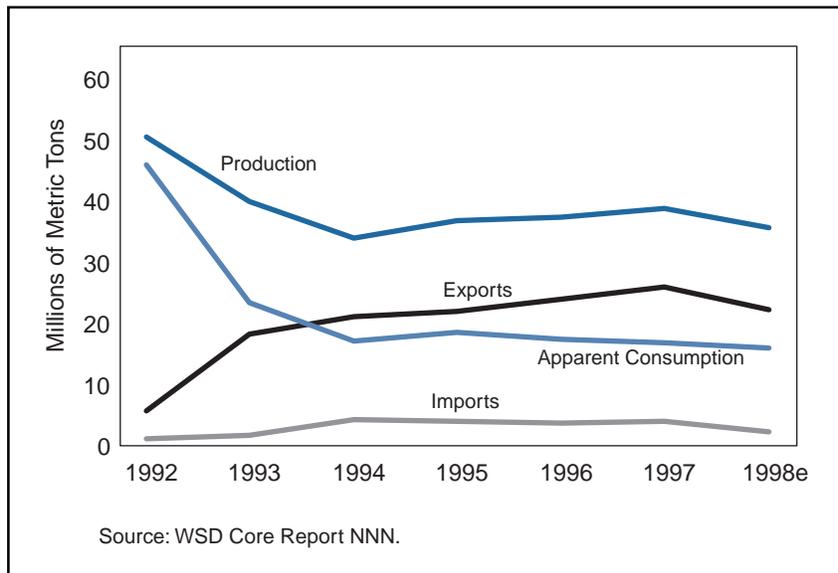
The Russian steel industry would have significant potential if it underwent real restructuring. Russia has the technical know-how, certain economies of scale, and abundant natural resources (natural gas, iron ore, and coal). Wage rates, especially after the depreciation of the ruble, are extremely low. World Steel Dynamics estimated in 1997 that if some former Soviet steel plants restructured, they could be the lowest-cost producers in the world.

Since 1992, Russia has, on average, produced twice as much finished and semifinished steel as it has consumed. In 1998, this figure was 224 percent.¹⁸ In 1997, the United Nations estimated that despite growing export volumes in recent years, overcapacity in Russia and Ukraine amounted to 20–30 million MT, or 16–23 percent of total capacity.¹⁹ A recent report on the Russian economy described 20 percent of Russian steelmaking equipment as nonviable.²⁰

As the 1990s progressed, there was an absence of real restructuring in the Russian steel industry and a growing gap between the levels of steel production and domestic consumption. This gap, and the attractiveness of export cash earnings, compelled the Russian steel industry to turn increasingly to exports as an outlet for production that could not be consumed at home.

A Lot of Exporting and Very Little Restructuring

Faced with rapidly falling demand for steel at home and reluctant to engage in real restructuring, Russian steel producers reached a point at which, for political and social reasons, they were unwilling to engage in further production or capacity cuts. In order to stay in operation, they began to export vigorously. As domestic consumption dropped more than 70 percent over the past decade, exports rose by roughly the same percentage.



3-4. Russian Production, Exports, Imports, and Consumption: Finished and Semifinished Steel

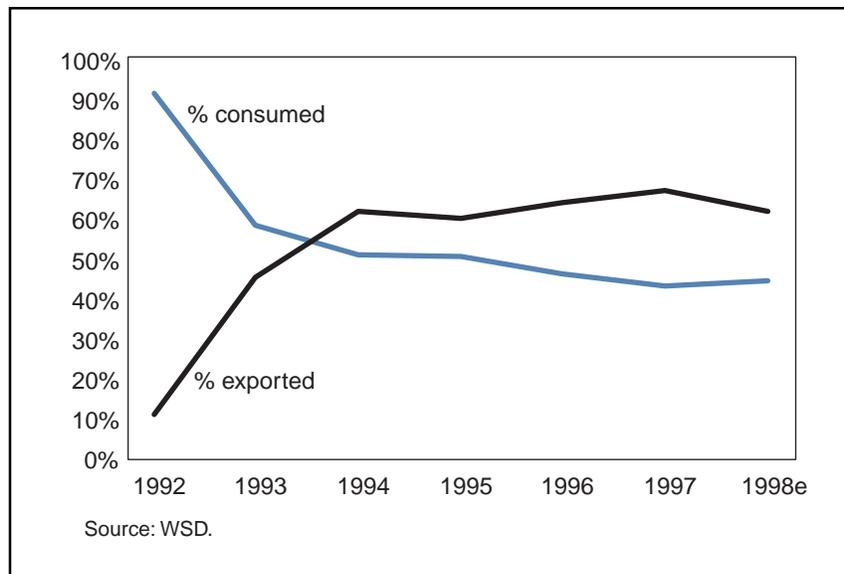
Russia went from a net importer of nearly 12 million MT in 1990 to an exporter of 22 million MT in 1997 (Chart 3-4).²¹ Thus, roughly 34 million MT of steel came on the world market that was previously consumed domestically.

More than 20 million MT of Russian finished and semifinished steel have been sold in export markets every year since 1994. The percentage of Russian steel production that has been exported—approximately 60 percent—is unusually high (by international standards). For the large firms, the percentage of production exported is even greater. Sixty-seven percent of

Russian finished and semifinished steel was exported in 1997²² (Chart 3-5). Other major steel-producing countries do not come close: in 1997, Brazil, Korea, and Japan exported 38 percent, 25 percent, and 23 percent of their production, respectively.²³ Steel exports have provided Russian companies the needed cash to stay in operation. Exports have also been a valuable source of foreign exchange. In recent years, exports from the ferrous metals industry accounted for more than 9 percent of Russian total foreign exchange receipts.²⁴ Steel has been the number one Russian manufactured export product, right behind exports of oil and gas, which are the country's top exports.²⁵

While much of Russia's steel production has the long-term potential to be internationally competitive, the over-reliance of Russia on exporting its steel production has to be examined closely in the context of normal steel industry economics. It has been estimated that almost two-thirds of steel produced throughout the world is consumed domestically. Similarly, it has been estimated that only 15 percent of

steel is traded between the world's major trading regions.²⁶ The reason given for the low percentage of steel exported is that shipping costs for steel are generally very high in relationship to the value of the shipped product. In other words, steel simply does not travel well.²⁷ While some Russian steel companies are favorably located for exporting (*e.g.*, Severstal and Novolipetsk), others are clearly not (Magnitogorsk, for example, is more than 2,100 miles from the nearest port).²⁸



**3-5. Percentage of Production Exported vs. Consumed:
Finished and Semifinished Steel**

Roadblocks to Reform

The two initial economic reform measures undertaken by Russia, price deregulation and privatization, were widely viewed by Western economists as the prerequisites for company and industry restructuring. The deregulation of prices would allow the economy to allocate resources appropriately according to their most profitable use, and privatization would encourage private profit maximization. However, these two policies have not led to the real restructuring of companies.²⁹

Price Deregulation

With the breakup of the Soviet Union and the emergence of Boris Yeltsin, the initial steps toward a market economy were taken. In early 1992, the first step was to deregulate prices—except for certain goods and services such as gas and electricity provided by monopoly suppliers. The freeing of prices led to drastic price increases across the economy. It was thought that the deregulation of prices, along with a tight money supply, would lead to a decline in industrial production, company restructuring, a rash of bankruptcies, and very high unemployment. The intended shock to the economy, however, did not occur.

- There were no mass bankruptcies or layoffs in 1992. Instead, companies continued to produce regardless of customer demand or ability to pay. Rather than cut costs in the face of raw material price increases, companies raised their own prices. With companies unable to pay for inputs, inter-company debt ballooned and barter transactions became common. By western standards, according to one source, 90 percent of companies were bankrupt.³⁰
- Attempts to deregulate energy prices were rebuffed.³¹
- Complaints by industry about tight money led to the government issuance of 200 billion rubles in credits.³²

In the end, the managers of the state-owned companies—who wanted to maintain their privileged positions and who were ill-prepared to function in a normal market economy—prevailed.³³ Companies had created a “virtual economy,”³⁴ which allowed them to continue to operate.

Privatization

After price deregulation came privatization. Due to earlier reforms that devolved central authority, the government had already lost control over companies to their managers, employees, and others. These groups had to be mollified for any privatization plan to be approved.

The final privatization plan reflected the necessary political compromises needed to win approval. Perhaps the most important and far-reaching compromise was made on the question of employee ownership. Originally, the plan was to give workers and managers no more than 25 percent ownership of their plants free of charge. The remainder would be bought by outside investors who would undertake the restructuring of the companies. Instead, the majority of the companies were partly given away and partly sold to workers and managers at significant discounts (up to 30 percent).³⁵

Under this final plan, privatization did not have the intended effect of attracting strategic investors, Russian or foreign. In the steel industry, over half of the companies' shares were retained by employees and management, with only a small portion going to outside investors or retained by the government. The workers' shares were, to a large extent, later purchased by trading companies, other Russian investors, or company management.³⁶

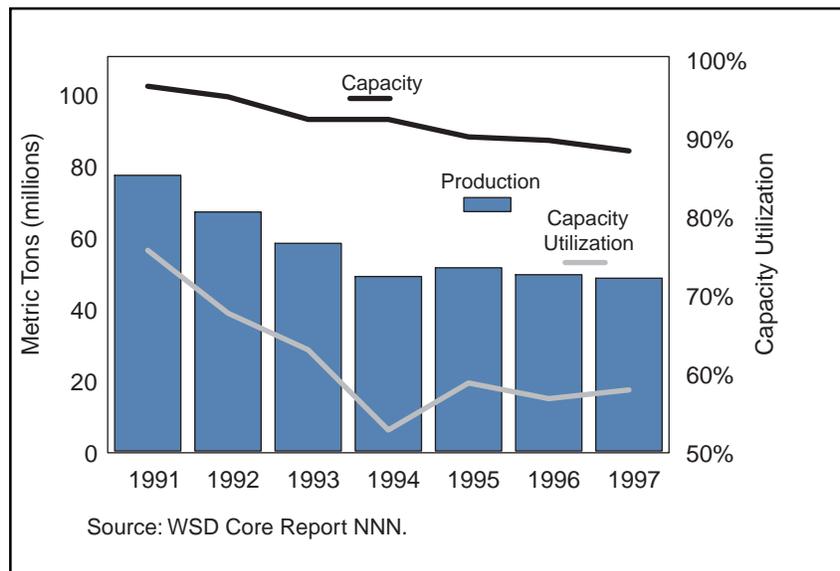
Because privatization preceded the creation of a proper framework of corporate and bankruptcy law, the new company owners could abuse the rights of minority shareholders and avoid the payment of bills, taxes, and wages. As the European Bank for Reconstruction and Development (EBRD) stated,

the consequences of the privatisation strategy adopted in Russia have been highly adverse for the governance of enterprises and the allocation of resources, not least because of the clear failure to break the political constraints on restructuring and company closures.³⁷

Need for Long-Term Restructuring and the Government's Response

While capacity and production have been cut and new equipment has been installed in the Russian steel industry, these actions have been insufficient when measured against the scope of the needed changes. Although the Russian steel industry and government have focused on the installation of new equipment,

uneconomic capacity has been maintained. Despite the 70 percent drop in domestic demand, neither production nor capacity has been reduced commensurately. Between 1991 and 1998, production declined 43 percent and capacity was cut by 18 percent (*Chart 3-6*).³⁸ As a result, capacity utilization is very low, 40 percent of Russia's crude steel production capacity has not been utilized since 1994.



3-6. Russian Gross Crude Steel Capacity, Production, and Utilization

Because of the drop in demand, the prevalence of obsolete equipment, and the low level of productivity, analysts have been advocating the radical

restructuring of companies and predicting the ultimate closure of a number of the small and medium-sized steel makers.³⁹

Government Plan. Recognizing the need for change in the steel industry, the Russian government approved a program for the industry in 1993. The Federal Program on the Re-equipment and Development of Metallurgy of Russia, provided a relatively stark picture of the state of the industry. It pointed out that the traditional means of raising production levels through the consumption of more and more raw materials, rather than by increasing production efficiency, had led to 60 percent of Russian steel being produced on obsolete equipment. This, in turn, led to only 10 to 15 percent of production being internationally competitive. Nowhere in the plan was there a discussion of real restructuring focusing on long-term viability, or the need to close uneconomic productive capacity; instead, the problems of the industry were seen as technical ones that could simply be remedied with the installation of new equipment.⁴⁰

Prerequisites for Real Restructuring

Most analysts agree that a different approach was needed. Strategic foreign or domestic investors and clear direction from a single shareholder or group of shareholders has been highlighted by commentators as the necessary starting point for change. The management that took over generally had no interest in, and often lacked the ability to, restructure their companies effectively.⁴¹ Most workers saw real restructuring as a threat to their job security. Most managers tended to focus on production and employment, just as they had under the Soviet system.⁴²

Without outside strategic investors or dominant new owners, there was no push for deep restructuring. Foreign investment, in particular, might have addressed the shortage of expertise in financial management and marketing. As a result, while the Russian steel companies reduced production and installed new equipment, most did not focus on developing new products; implementing new management, marketing, and business strategies; or reducing employment, *i.e.*, the type of restructuring that would ensure their long-term viability.⁴³ To move the restructuring process forward, the Russian steel industry has needed a business orientation, the will to rationalize, and foreign investment.

Business Orientation. A management consulting firm with experience in the Russian steel industry has suggested that real restructuring should focus on “long-term viability.” This would include:

- Business profitability and a sound balance sheet structure.
- The ability to fully meet customer needs.
- The ability to compete with international steel makers using world-class best practices.

When judged against these standards, few—if any—of the Russian steel companies were properly positioned.⁴⁴

Will to Rationalize. Resistance to change in the Russian steel industry was due to social concerns and the long-standing emphasis on production. For example, one of the top three steel companies produces most, if not all, of the steel for its long products with obsolete open hearth technology. A management consulting firm hired by the company recommended that this production line be closed down. The company rejected the recommendation because the company was “socially oriented;” in other words, the resulting loss of jobs would be unacceptable. In 1998, approximately 178,000 MT of this company’s long products were exported at a loss.⁴⁵ The conclusion drawn from this example is clear: the resistance to real restructuring has meant more steel exports than would have occurred under normal market conditions. (It should be noted, however, that the larger companies that had the greatest amount of exports to the United States have probably made more changes than the Russian steel industry as a whole since the breakup of the Soviet Union.)

Foreign Investment. In the long term, Russia will be in direct competition for investment capital with emerging markets throughout the world.⁴⁶ Thus far, foreign investment (all industries) in Russia has been very limited, totaling under \$20 billion (cumulative) through 1998.⁴⁷ On a per-capita basis, direct foreign investment in Russia trails far behind Eastern Europe, especially Hungary and Czechoslovakia.⁴⁸ Factors inhibiting foreign investment in Russia include political and economic instability; the lack of solid corporate governance laws; and impractical trade, tax, and investment regulations. Reforms in each of these areas are necessary for Russia to balance its risk/return profile (*i.e.*, lower the risks to be commensurate with potential returns) and foster foreign investment.⁴⁹

Survival Tactics

Despite all that has happened in the last decade and the need for real restructuring, no steel plants were closed and no workers were laid off.⁵⁰ Although the Russian steel companies received little direct government assistance, they were able to continue operating in an economic environment dominated by barter, cheap inputs, unpaid taxes, wages and supplier bills, and weak bankruptcy laws. To the extent that the domestic market did not absorb all the products that continued to be produced in this environment, steel products were sold on the global market at soft prices.⁵¹

Direct Government Assistance

In its 1993 plan, the government recognized that it could only provide 10 percent of the \$7.4 billion investment identified as needed over six years. Eighty percent would have to come from the companies and the remaining 10 percent from other sources.⁵² In the end, the government provided just over 2 percent of the funds invested between 1992 and 1998.⁵³ Direct federal government outlays have been provided in the form of tax breaks related to export sales, tax deductions for investment, lower customs duties and rail rates, and in some instances, other tax benefits.⁵⁴

Although the amount of direct government outlays by the Russian government has been relatively small, other formal, government assistance has been provided to the Russian steel companies. This type of aid is generally not included in the assistance figures provided by the Russian government.

- The most prevalent kind of other assistance has been loan guarantees, which have been provided by the federal government to several companies (*i.e.*, Magnitogorsk, Oskol and Nosta).⁵⁵ Regional governments have also been known to provide loan guarantees.⁵⁶
- Additionally, specific decrees have been issued that benefit particular companies undertaking certain investment projects. For example, in 1997, Magnitogorsk began construction of a new cold-rolling mill. The production from this mill was intended to replace imported cold-rolled sheet. To assist in the construction of this mill, the government issued a decree which provided for tax deferrals, tax and customs duty benefits on equipment imports, lower freight rates, and an exemption from the requirement to exchange 75 percent of foreign currency earnings.⁵⁷

Input Pricing and the Story of “Tri Tolstyaka”

Although the amount of direct government outlays and loan guarantees by the government was not significant, Russian steel companies benefitted from other forms of government assistance. Most important in this regard was the pricing of gas, electric energy, freight and coal. The costs for these items were estimated in 1997 to account for more than 50 percent of the cost of producing steel in Russia.⁵⁸ The gas, electric, and freight providers—which remain government-owned or controlled companies—are often referred to as the “natural monopolies.”

In the 1993 steel development plan, the Russian government recognized the problem that deregulated prices would cause:

Under the conditions of introducing free prices for coal, electric power carriers and transport services and raising them to world market levels, certain metallurgical industry enterprises are becoming noncompetitive and unprofitable.⁵⁹

Although the Russian steel producers have complained about the prices charged by the natural monopolies, which have risen sharply since 1991, input pricing was “a key source of indirect subsidization of the enterprise sector.”⁶⁰ As one expert put it: “The Russian economy remains a hyper-industrialized system composed of enterprises that would not be viable in a market economy, *supported by transfers from energy and raw materials sectors*” (emphasis added).⁶¹ This indirect subsidization has contributed to the exportation of steel. One analyst of the Russian economy called Russian steel exports “embodied energy.”⁶² Another analyst said that when Russia exports steel, it is really exporting “cheap gas and electricity.”⁶³ According to remarks by Russian President Vladimir Putin, electricity prices in Russia are three to five times cheaper than world prices.⁶⁴

The below-market price structure for inputs was another holdover from the Soviet period. The Soviet economy set domestic prices separate and apart from world market prices and shifted the price balance in favor of the defense and heavy industries, which included steel. It underpriced energy and raw material inputs so that high-priority sectors would appear to have lower costs of production and higher productivity. This Soviet price structure was the norm for the government, suppliers, and especially the industries that consumed the undervalued inputs, including the steel industry.

The sharp growth of input prices in the early 1990s was widely viewed in Russia as the government’s failure to effectively control the pricing of the so-called “three fat boys” (*tri tolstyaka*):⁶⁵ Gazprom, the natural gas monopoly; RAO UES, the electric energy monopoly; and MPS, the railroad company. As detailed below, many of the input prices were kept below world market prices (*i.e.*, natural gas) or have been preferentially provided to the steel industry (*i.e.*, freight).

Gas and Electricity. In August of 1998, the government provided 50 percent discounts on natural gas and electricity bills paid in cash.⁶⁶ While designed to shift enterprises from barter to cash payments, this also meant that the price of natural gas in Russia was 15–25 percent of the price in the United States.⁶⁷

A financial analysis of the regional electric suppliers in Russia indicates that profitability has not been the primary concern; instead, the sector was “increasingly used as [a] source of subsidies to inefficient industries” whose role “remains that of supporting the federal government’s industrial and anti-inflationary policy rather than maximizing its own earnings and asset values.” Specifically (according to the same report), effective cash rates on electricity have been much lower than the published tariffs for Russian *energos* (regional electricity suppliers) and those of international counterparts.⁶⁸

Freight. In 1998, the Russian railroads lowered freight tariffs by an average 18 percent. According to Nikolai Aksenenko, the Rail Minister, some metal companies, including steel producers, received “exclusive tariffs which enabled them to cut their costs.” Despite this rate cut, the steel producers sought (but did not receive) an additional 40 percent discount for metal products.⁶⁹ Moreover, it has been reported that special rates are in place for certain steel exports.⁷⁰ As noted earlier, due to the poor location of many of the Russian steel producers, such as Magnitogorsk, low freight rates are vital if many Russian steel companies are to be competitive in world markets.

Coal. In 1998, the pricing of coal in Russia may have also been preferential. In the beginning of the reforms, the government heavily subsidized the coal industry to keep prices down and restructure the industry. The coal sector has been the second largest recipient (after agriculture) of direct budget subsidies in the country.⁷¹

The precise degree to which the direct subsidization of the coal industry results in cheaper prices for steel producers located throughout Russia, however, is difficult to calculate. One estimate is that recent prices for coal reflect a 10 percent subsidy (down from 45 percent in the early 1990s).⁷² It was also reported in 1997 that Russian steel producers negotiate a price with government-owned coal companies that is close to a market price and pay 80 percent of that price; the “other 20 percent is paid for by the government.”⁷³

Barter Economics

The Organization for Economic and Cooperation and Development has commented that the pricing of Russian and Ukrainian steel exports was often “uneconomic” due to, among other things, the use of barter and the orientation toward production rather than profits.⁷⁴ Many steel companies lost money on exports (prior to the depreciation of the ruble). According to one investment firm in 1998, “Exports are unprofitable, but they remain the main source of cash for most Russian steel plants.”⁷⁵ Yet the companies continued to export because of market distortions, such as the pervasive use of a complex system of cashless transactions and nonpayments of debts that two specialists on the subject, Clifford Gaddy and Barry Ickes, describe as Russia’s “virtual economy.”⁷⁶

Barter in Russia has a long history, with origins in the pre-revolutionary period. It was also widely used during the Soviet era to cope with the inefficiencies of central planning. In fact, the closed-circuit barter chains employed in Russia and the ones used by Soviet managers to trade with one another for goods not provided in their planning allocation are very similar.⁷⁷

Barter is inherently inefficient because it raises transaction costs and leads to the masking of the true value of output, which tends to be substantially below what barter prices indicate.⁷⁸ Gaddy and Ickes quantify the price distortion based on the type of transaction: barter (goods-for-goods) prices may be overstated by a factor of two or three, while the price of goods paid via promissory notes (or *veksels*) may be inflated by a factor of five.⁷⁹

A Russian commission was created to analyze the problem and made the following conclusion in 1998.

An economy is emerging where prices are charged which no one pays in cash; where no one pays anything on time; where huge mutual debts are created that also can't be paid off in reasonable periods of time; where wages are declared and not paid; and so on. ... [This creates] illusory, or “virtual” earnings, which in turn lead to unpaid, or “virtual” fiscal obligations, [with business conducted at] nonmarket, or “virtual” prices.⁸⁰

Barter was widely used in the Russian economy as a means of payment (*see box, next page*).⁸¹ Numerous reasons have been given for this. Hyperinflation in 1992–1994 wiped out the working capital of companies. Tight monetary policy implemented by the Russian government led to a significant contraction in the availability of credit to the enterprise sector. The result was that most Russian firms were effectively cut off from access to working capital finance. Barter transactions as a percentage of industrial sales rose from less than 10 percent in 1992 to nearly 50 percent at the end of 1997 (*Chart 3-7*).⁸²

Government Tolerance. While these liquidity problems may have encouraged barter, its continued use could not have been maintained without the government’s tolerance for barter for taxes and inputs (such as natural gas, coal, electricity, and transportation services).⁸³

The government’s willingness to sanction barter largely explains the dramatic increase in its use and the ability of so many unproductive enterprises to stay in operation.⁸⁴ To understand this willingness, it is important to examine the difficult position that both the federal and regional governments face in Russia.

When prices began to escalate after price deregulation in January 1992 and company debts were mounting, regional governments worked to protect local companies and maintain critical services by resorting to barter.⁸⁵ According to one expert, the federal and regional governments entered into a struggle for sovereignty over money and the former was unable to assert the authority over the latter necessary to establish the ruble as the only means of payment.⁸⁶ Regional governments became creative in their attempts to keep companies afloat and avoid social unrest; barter provided the best means to employ these measures. The actions by the regional governments undermined the power of the federal government by allowing barter to displace the cash economy.⁸⁷ Addressing this problem will be important to the federal government's plans to rein in the implicit subsidies granted by the regional governments or to collect taxes in cash.

The regional governments approached barter with a permissive attitude due to the legacy of the Soviet regime in which companies did not go out of business. Many local politicians have been willing to do whatever is necessary to keep enterprises operating and workers employed. This is especially relevant in the metallurgical industry in which more than 70 percent of the companies are "city-forming" (*i.e.*, the company was started by the central planners and a city was formed around it).⁸⁸

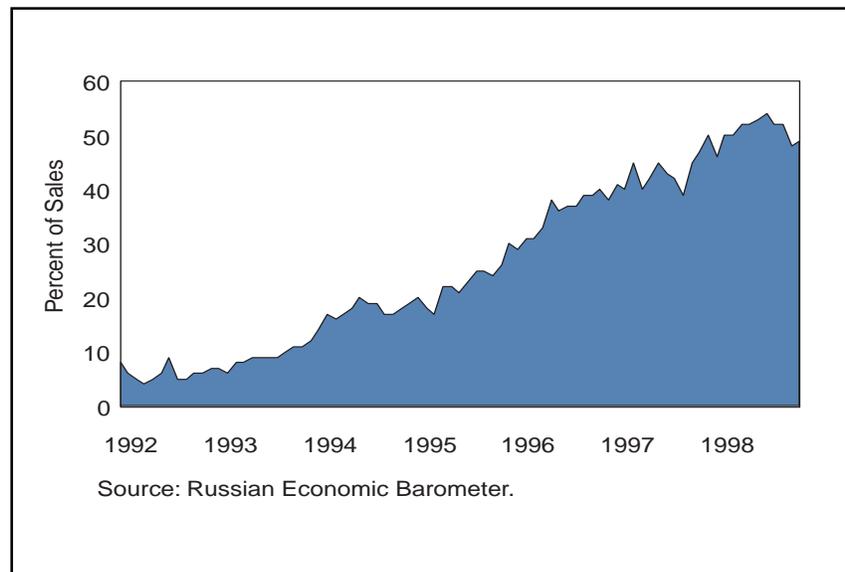
Effect on Restructuring.

Complex barter arrangements were the primary mechanisms for local and regional governments and the natural monopolies to provide implicit subsidies to companies struggling to survive (in 1997, almost 80 percent of all domestic steel sales were performed through barter⁸⁹). Implicit subsidies disbursed through barter were also

How Barter Works

Two examples help illustrate how the barter system works. The first, given by Ledeneva and Seabright (1998), starts with a gas equipment company that owed taxes to the local government. Instead of paying the taxes, it supplied equipment to a gas drilling operation which provided gas to the steel company Mechel. Mechel, in turn, supplied steel to the Nizhny Novgorod automobile plant, which supplied chassis for buses to the Kurgan bus plant. The Kurgan plant then supplied buses to the Kurgan city government. Ultimately, the city received buses instead of taxes (regardless of whether the buses were needed), and all the enterprises in the barter chain maintained production (regardless of market demand).

A second example of barter involves one of the big three steel producers, Magnitogorsk. Magnitogorsk had accumulated energy debts with the local power company. To settle a portion of the debts, the power company worked out an arrangement with the Chelyabinsk Tractor Plant which agreed to take 8 million rubles' worth of steel from Magnitogorsk. The tractor factory would then pay the power company in utility vehicles, which the power company would use to pay its creditors.



3-7. Russia: Share of Barter in Industrial Sales

For steel, the percentage of barter sales was even higher. In 1997, barter transactions accounted for almost 80 percent of all domestic steel sales.

potentially more distorting than other government assistance subsidies such as loan guarantees and tax benefits.⁹⁰ Preferential barter deals that created an unlevel playing field have been one of the most significant inhibitors to restructuring in the Russian steel industry. The McKinsey study of the Russian economy concluded:

Many of the [small] and a few of the [medium-sized steel] plants are not viable and can not operate without outside help. This support is provided in the form of an implicit government subsidy delivered via barter deals with suppliers and customers who are forced by the local government to deal with the plant. For example, [the] local government can provide cheap gas because it controls local gas distributors. It can also initiate local projects (*e.g.*, a medium size Russian city is now building a metro) where participants receive steel from the local plant in exchange for tax waivers.⁹¹

The use of barter transactions kept dozens of Russian steel producers operating despite their noncompetitive and unviable positions. In a normal market economy, these companies would go out of business and viable, healthy companies (generally, the larger ones) would be able to expand production and gain market share. This, in turn, would increase efficiency throughout the industrial sector and move the economy back toward cash. Experts agree that in order to reduce barter the government needs to promote real competition.⁹² Rather than encouraging companies to become more competitive in the marketplace, the government has tolerated barter, which hinders healthy competition and delays the need for restructuring. Gaddy and Ickes write:

The [virtual economy] has a number of significant negative consequences. ... The effect on enterprise restructuring is the most obvious. Even those admittedly few enterprises that probably could restructure and become viable in the marketplace have not done so because it would be costly and because they can muddle along as they are.⁹³

Barter's Role in Encouraging Exports. Because the large and more competitive Russian firms cannot compete for a greater share of their own domestic market, they must turn (in part) to export markets to sell their products. Moreover, to the extent that domestic steel purchasers could not pay in cash, the only source of cash for larger steel producers was export markets. Because all companies must have a minimum level of cash to cover certain costs (*e.g.*, wages and, to a certain extent, taxes), producers ended up exporting for cash, and the price they obtained for their steel was not necessarily a primary concern. As Gaddy and Ickes state, "In fact, many Russian exports lose money. But for participants in the virtual economy, the goal of exporting is not profit, but cash. The losses they incur are considered a necessary cost of staying in business."⁹⁴

Nonpayment of Utility Bills, Taxes, and Wages

Russian steel companies also kept operations going by not paying their bills. Suppliers and taxes were routinely not paid or paid late. Companies in really bad shape also chose not to pay their workers.

This practice has its roots in the price deregulation and tight money supply policies of the early 1990s. These policies were expected to drive the least viable companies out of business. Instead, companies began to issue each other credits and accumulated ever increasing amounts of debts. As one commentator put it, "they just agreed not to pay each other's bills."⁹⁵ The problem was endemic to the economy:

- Late payments to suppliers in four key sectors of the economy rose from 553 billion rubles in January 1997 to more than 780 billion rubles by the end of the year.⁹⁶
- Tax arrears represented almost 5 percent of the GDP.⁹⁷ In absolute terms, arrears to the federal budget at the end of 1997 were more than 100 trillion rubles.⁹⁸ Other arrears to the federal government (*e.g.*,

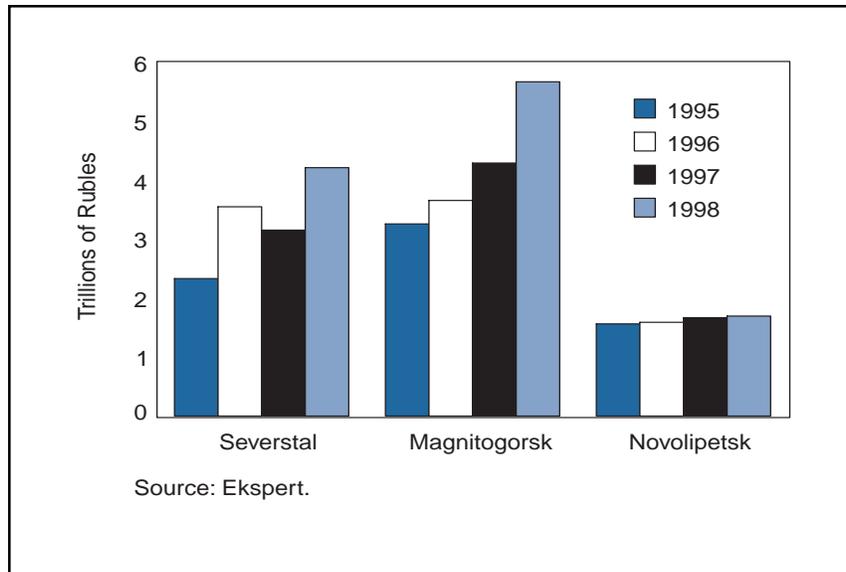
pension payments) reached almost 200 trillion rubles.⁹⁹

- Wage arrears were also staggering. At the end of 1997, economywide wage arrears amounted to 50 trillion rubles, only 10 percent of which was due to government wage arrears.¹⁰⁰

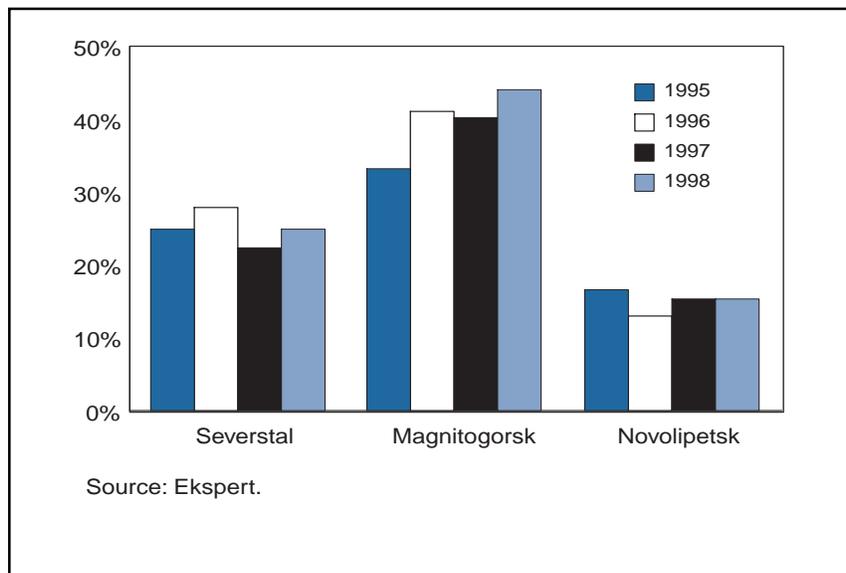
Supplier Bills. For the Russian iron and steel industry, overdue payments to suppliers totaled over \$1.2 billion.¹⁰¹ This figure represented about 55 percent of all outstanding bills and was greater than the overdue receivables owed to the industry by its customers.¹⁰² The amount of money the top three steel producers owed increased by more than 60 percent from 1995 to 1998, reaching 28 percent of their 1998 sales (*Charts 3-8 and 3-9*). Of the top three Russian steel companies, Magnitogorsk was in the worst position; the amount it owed to suppliers grew 73 percent from 1995 to 1998, equivalent to 44 percent of its 1998 sales.

For the mid-sized steel companies, the picture was even more bleak. Payables to suppliers increased by more than 400 percent on average from 1995 to 1998, reaching an average 107 percent of their 1998 sales (*Chart 3-10*). Four of the six companies in this category owed their suppliers more than 100 percent of their net sales (*Chart 3-11*).

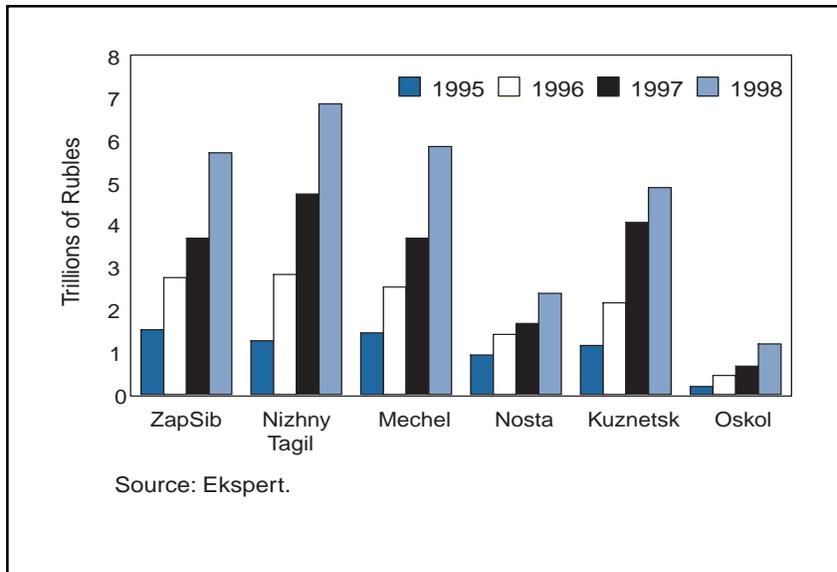
The amount of debt (including overdue debt) left little doubt that many of these outstanding bills from suppliers would not be paid any time soon. Suppliers to the steel industry seemed to realize that many of their receivables would never be collected. For example, the collection rate (including barter) of total receivables by the regional electric companies was between 60 percent and 90 percent, with cash collections usually not exceeding 15 percent. The experience of some regional electric companies in their attempts to resell their receivables indicates the likeliness of repayment. Their resale efforts either found no interest at all or were sold for roughly 25 percent of face value.¹⁰³



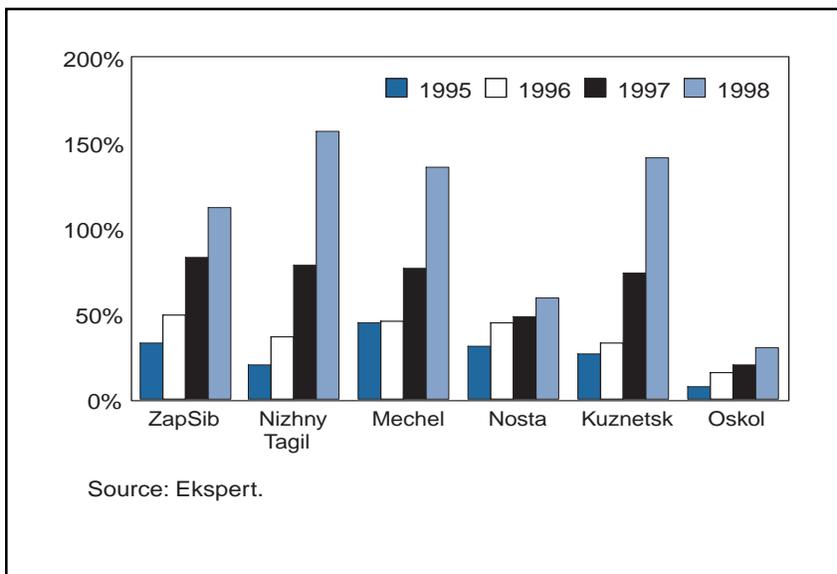
3-8. Payables to Suppliers, Top Three Companies



3-9. Payables to Suppliers as Percent of Net Sales, Top Three Companies



3-10. Payables to Suppliers, Mid-Sized Companies



3-11. Payables to Suppliers as Percent of Net Sales, Mid-Sized Companies

The suppliers of raw materials and energy tolerated this situation for the same reason they complied with government-imposed low prices on their products and services: they were supported by the government or had export privileges. Additionally, suppliers, such as the regional electric companies, were often dependent upon local industries as their only source of cash, fuel, and other goods needed to remain in operation, and “have little incentive to take an adversarial approach.”¹⁰⁴

Government Taxes. Taxes have also gone unpaid. At the end of 1998, according to one analysis, Russian iron and steel companies owed the government roughly \$836 million in taxes.¹⁰⁵ Moreover, the amount of taxes a company paid was essentially negotiable. The McKinsey study makes the point that the nominal tax burden in Russia is 55–60 percent of GDP, while planned revenues are 35 percent and actual cash revenues are approximately 20 percent. The difference between what was supposed to be collected and what was actually collected in cash left a lot of room for unequal tax payments among companies.¹⁰⁶

The fact that tax arrears grew while production increased sheds light on the unique economic environment in which Russian steel companies operated. In the words of one analyst, “the state’s systematic failure to force large enterprises to pay [their taxes] amounts to a massive subsidy to those powerful or resourceful enough to negotiate amnesties and settlements.”¹⁰⁷

- From 1992 to 1995, Magnitogorsk built-up a substantial tax liability to the federal government. In 1996, Magnitogorsk—apparently along with much of the rest of the industry—was so far behind in its taxes that bankruptcy proceedings were threatened.¹⁰⁸ After negotiations with the government, the company was allowed to pay what it owed over several years at a “very, very low” interest rate.¹⁰⁹ While Magnitogorsk was eventually able to pay off its tax debt, after the ruble depreciation made

exports extremely profitable, the benefit of being able to pay off an old debt in cheaper rubles was presumably substantial.

- In 1998, the tax arrears and other government obligations of mid-sized steel companies continued to grow at phenomenal rates. For instance, between 1995 and 1998, Mechel's government debt grew 230 percent; ZapSib's 490 percent; Kuznetsk's 530 percent, and Nizhny Tagil's more than 600 percent.¹¹⁰

Wages. Companies' wage bills have usually been the last to go unpaid. Wages are a relatively small part of a Russian steel company's costs, usually accounting for approximately 10 percent of the total cost of production.¹¹¹ Yet prior to and immediately after the ruble depreciation, many Russian steel companies were behind on their wages.¹¹²

Weak Bankruptcy Laws

The absence of an effective exit mechanism in Russia for nonviable enterprises was another major factor allowing many steel companies to continue operations while avoiding restructuring.

In 1997, there were approximately 4,600 bankruptcy filings in Russia,¹¹³ compared to 300,000 annually in the United States, 100,000 in Canada, and 15,000 in Poland. According to the Federal Bankruptcy Commission, more than 51,000 firms had payments in arrears, and three-quarters of those were technically bankrupt, but only 2,000 firms were bankrupted in 1997.¹¹⁴ Various sources conclude that, "a large and well-connected company is practically impossible to shut down. Bankruptcy laws are still weak, and companies that have been declared insolvent continue to operate."¹¹⁵ As stated by the EBRD: "a credible bankruptcy threat still does not exist. The bankruptcy process itself is often used as another channel for asset-stripping, with the appointment of lenient administrators."¹¹⁶

Current Bankruptcy Proceedings. The first Russian bankruptcy law was passed in 1993. When a company exceeds a certain amount of debt, its creditors are entitled to file for bankruptcy proceedings. A filing results in formation of a "creditors council" (determining which debts are to be paid off first) and the freezing of the company's funds and monetary transactions.¹¹⁷ Subsequently, the court introduces external management, generally for a period of up to six months. The job of the outside team is to survey the company's books and recommend whether the firm should be shut down.¹¹⁸

Role of Local Governments. Local government officials generally have not viewed company closure and asset liquidation as an option.¹¹⁹ In practice, they instead used bankruptcy proceedings to provide a fresh start for a company and to make it "possible to change the managerial team, remove negligent owners, bring in professionals, and carry out a program of financing normalization of the enterprise in the interests of the collectives, the territories, and the creditors."¹²⁰

While amendments to the bankruptcy law introduced more incentives for companies to legitimately declare bankruptcies and for creditors to be repaid,¹²¹ the amended law failed to address the fact that Russia's nonpayment dilemma was more of a political than an economic problem. *The Economist* reported:

The key obstacle has always been the reluctance of local authorities to send firms into bankruptcy. This is mainly because regional governments come a lowly third on the creditor's list, after employees and the federal budget. And if the region does agree to close down an enterprise, it has to support and find jobs for unemployed workers. Easier to leave the factory open under outside management and hope for a state bail-out.¹²²

The federal government's record has not been much better (*see box, next page*).

Steel Industry Examples. The two most noteworthy examples of bankruptcy in the Russian steel industry are Kuznetsk and ZapSib (*see box below*).¹²³ Both companies are under the control of external management. While the companies' financial situations remain severe, neither has been recommended for a shutdown.¹²⁴ Between 1995 and 1998, ZapSib's and Kuznetsk's short-term debt (*i.e.*, debt that in theory must be paid off within one year) grew 325 percent and 442 percent, respectively, reaching almost 200 percent of their annual sales. The companies' debt-to-equity ratios were some of the worst among the nine largest Russian steel companies. For both companies, this indicator increased more than four-fold since 1995.¹²⁵

The Federal Government's Record

The federal government has been unwilling to use bankruptcy laws to carry out needed closures. It drew up a list of the fifty largest tax debtors, and the top twenty were ordered to pay up or be declared bankrupt. When the deadline came, no bankruptcy action was taken.

Recently, the federal government passed a law to protect companies of strategic significance from bankruptcy and to stop the initiation of bankruptcy proceedings against tax debtors that fall into this category.

The magnitude of these financial problems would likely result in the closure or radical restructuring of a company in the United States. In Russia, however, these two companies are continuing operations and have plans to increase their production. Rather than having their funds frozen or restricted, their management continues to enter into new transactions and run the companies into greater and greater debt.

The Tale of Two Companies

ZapSib is a relatively modern steel company located in the middle of Siberia with no sizable domestic market nearby and several thousands of miles from the nearest export port. Beginning in the mid-1990s, ZapSib's debt to suppliers—the government-owned electric and rail companies—began to accumulate, recently reaching 5 billion rubles. Since 1997, ZapSib has been under bankruptcy proceedings.

At one point, the regional government stepped in as a guarantor of Zapsib's debts in an effort to prevent the company's closure. In the process, the Siberian Mining-Metallurgical Company (owned by the regional and city governments) was formed and took effective control of the company. Reportedly, this company has been engaged in "asset-stripping" (*i.e.*, selling raw materials to ZapSib at high prices and purchasing finished products from ZapSib at low prices).

Kuznetsk is Russia's largest producer of rails and is located in the same region as ZapSib. Kuznetsk has been the center of numerous power struggles between the regional government and Kuznetsk's external manager, the Moscow-based investment company MIKOM. In what is seen as a temporary victory for the regional government, the regional court removed Kuznetsk's external management team, accusing it of "various kinds of abuses and violations of the region's interest." The impetus for the change, however, may have been MIKOM's plan to auction the company for \$350 million.

Regional authorities responded to this announcement with a publicity campaign culminating in a court decision to stop the auction and to oust the external management team. The government is reportedly helping to keep Kuznetsk afloat by purchasing rails at \$1,000 per MT (compared to a world market price of around \$400). Kuznetsk is reportedly also favored to supply a planned high-speed railway link between Moscow and St. Petersburg.

Ultimately, it appears that Kuznetsk and ZapSib are on the verge of renationalization rather than the restructuring, downsizing, or closure seemingly called for given their poor financial condition.

Trading Companies and the Marketing of Russian Steel¹²⁶

In the days of the Soviet Union, steel production was largely consumed at home. A small amount went to other countries in the Soviet bloc and an even smaller amount was exported beyond the Soviet sphere of influence. Material was exported in accordance with the desires of the politicians and planners in Moscow. The customer, price, packaging, and means of delivery were not the concern of the steel producer. The steel company's job was to produce larger and larger quantities of steel; other entities were responsible for determining end users, setting prices, and ensuring delivery. "Marketing" of steel was unnecessary and unknown.

With the drop in domestic demand following the breakup of the Soviet Union, producers turned to export markets to maintain production and keep people employed, but had little if any experience marketing or exporting. International trading companies saw potential in selling Russian steel. They started working with the big producers in the early 1990s. They took them to customers and taught them how to sell, package, and deliver their products. In return, these trading companies began to sell Russian steel to the world.

As managers and owners of the Russian steel producers became more sophisticated, some took personal advantage of their companies' ability to export. A former deputy director of one company summed it up like this: "The factory was set free to export, and everyone in management understood that in their own way."¹²⁷ The questionable schemes devised usually involved the producer selling steel at a low price to a Russian intermediary company set up by company management, often "off-shore." Intermediary companies would then sell to an international trading company at a significantly higher price.

- **Price formulation by the steel producers.** The price for much of the steel obtained in Russia and eventually sold on export markets tended to be significantly divorced from cost and profit considerations. Some steel producers may not have even known the true cost of producing their products. Most were not operating under hard budget constraints. Some may not have had a full understanding of the price levels in the various potential export markets. The pressing need for raw materials and cash also meant that the sales price was often less important than the need to secure the minimum amount of cash to sustain operating levels.

Some trading companies have also indicated that the Russian steel producers did not negotiate prices as aggressively as they could have, while others stated that the price paid for Russian steel was primarily determined by reference to other prices (*e.g.*, the going price for Russian steel would be based on a certain percentage of the price for Japanese steel).

- **Steel producers' lack of marketing skills.** Compounding these problems has been the continued lack of marketing skills exhibited by the Russian steel producers. As noted, "marketing" was unnecessary and unknown in Soviet times. In the words of one trader, "The Russians don't have a clue how to market their steel." One of the largest importers of Russian steel, summing up his experience, put it this way: "Everything is *nyet*."

Rather than researching their markets; exploiting niche markets; selling with the market; establishing specific, limited channels of distribution; controlling the prices at which their product are sold in each of the established channels; promoting their products; knowing their customer's customer; and focusing on meeting the needs of their customers over the long-term, the "marketing" done by Russian steel producers has been *ad hoc* at best.¹²⁸ On top of these problems has been a reluctance to change channels of distribution due to various self-enrichment schemes.

- **Channels of trade.** The channels by which Russian steel products made their way to the United States were numerous and often exceedingly complex. Steel from some of the top three producers in 1998 was

available through eight different channels, each with a different price. The most unusual channel was direct sales between the producer and end-user. Some sales first went through related intermediary companies and then onto normal international trading companies. Other sales were initially made by the suppliers of the raw materials, who may have sold to Russian intermediaries, who then sold to trading companies. Any particular transaction might involve multiple Russian intermediaries. The excessively low initial price at which steel could be obtained allowed even steel that went through multiple intermediaries to be sold at highly competitive prices.

- **Sales for Export by Input Suppliers.** The increasing use of barter to obtain inputs for steel production—due to the shortage of working capital—provided an opportunity for trading companies to acquire Russian steel. Steel producers increasingly provided steel to suppliers of energy, raw materials, and transportation services in lieu of cash payments. As a result, a large amount of all steel produced ended up in the hands of input and freight providers.

The coal, gas, electric, and railway companies were often ill-prepared to sell, no less market, the steel they received through barter. Some government-owned raw material suppliers, who obtained steel products through barter were in the same, if not worse, financial shape—they needed the cash and were, at times, not diligent in ascertaining the appropriate asking price in the interest of taking possession of an exportable product that could be sold for dollars.

In sum, the input suppliers did not have the time or the wherewithal to determine, and fight for, the best possible price for the steel products they had. Russian middlemen and trading companies were able to acquire this steel at very low prices, mark it up substantially, and still be able to sell it at below market prices throughout the world.

- **Enhanced bargaining position of international trading companies.** Trading companies capitalized on the Russian steel producers' shortage of working capital in other ways too.

For those steel companies unable to purchase or barter for raw materials, trading companies either directly provided the necessary inputs, loaned money to purchase the inputs, or prepaid for their sales order. If a producer reneged on a deal, the chances of getting one's money back were slim. Therefore, the risk involved was great. However, control over the acquisition and provision of raw materials gave the trading companies an inordinate amount of power when negotiating the price at which they obtained the finished steel.

Seeing both the desperate straits of many producers and an opportunity to make money, some trading companies bought stock in the Russian steel companies. Sometimes this resulted in the trading company having effective control over the steel producer. While this equity stake could have resulted in real restructuring, trading companies typically operate on shorter-term horizons given their reliance on commissions.

- **Middlemen markups.** Usually, international trading companies dealing in metals make 2.5 percent on their sales. For Russia, due to the higher risk involved, trading companies require a margin of at least 4 percent.¹²⁹ Some trading companies have estimated their markups in the range of 5 to 7 percent. These figures are only with respect to the international trading company involved in a transaction. As noted above, there are often other Russian intermediary companies involved.

While an analysis of the normal markup by these companies can get very murky, very quickly, the experience of one of the top three companies, Severstal, sheds some light on the issue. After reducing the number of intermediaries to one established, well-respected trading company per sale, Severstal has been able to raise its sales price \$20–\$25, or roughly 10 percent. Nonetheless, after the elimination of

these intermediaries, one source estimates that Severstal's export prices were still generally 30 percent below European prices.¹³⁰

- **Trading companies' impact on trade flows.** Russian steel producers' heavy dependence upon trading companies to sell large quantities of steel had an impact on trade flows. Trading companies generally target the spot market that is willing to pay the most. As a result, relatively small changes in one market can lead to rapid shifts from one market to another. When the Asian crisis hit, for example, Russian steel was quickly diverted from the Asian to the U.S. market.

Examination of the export markets for the Russian steel producers demonstrates what happens when there is an over-reliance on trading companies. Rather than having relatively stable quantities going into relatively the same markets over time, the final market destinations of Russian steel have exhibited no consistent pattern. Given that Russia has become one of the largest exporters of steel in the world—selling more than 20 million MT of steel mill products a year—the potential is great for fluctuating volumes to disrupt world steel markets. The low prices at which Russian steel was often sold increased the level of instability.

Pre-Steel Crisis Rumblings: Russia's Export Options Narrow

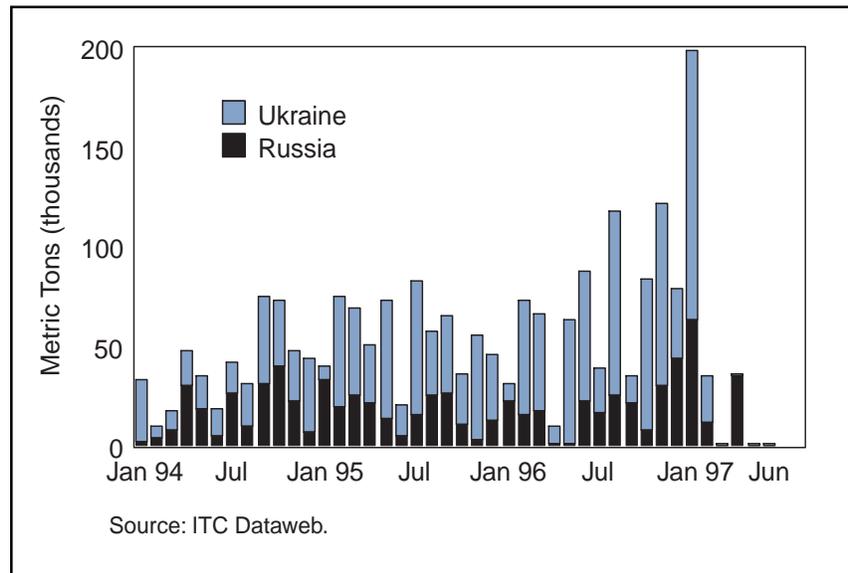
A number of trade actions taken by countries around the world, combined with the Asian financial crisis, gradually closed many of Russia's export markets. Trading companies began searching the world for potential markets and saw fewer and fewer available. The U.S. market stood out; the prices were good and the restrictions were few. Although plate exports had been limited due to dumping in 1997, the U.S. market was open for all other steel products.

- **European Union.** The first export market to comprehensively restrict Russian steel exports was the European Union (EU). Beginning in the 1970s, individual countries within the EU had established quotas for steel imports from the Soviet Union. In 1992, the EU restructured these national quotas into a unilaterally imposed EU-wide quota on Russian steel.¹³¹ Three years later (1995), the unilateral quotas were replaced with the first EU-Russia agreement on steel.¹³² This agreement limited Russia's exports of steel to the EU to 308,000 and 354,000 MT of finished steel products in 1995 and 1996, respectively.¹³³ The first agreement was renegotiated and extended in 1997 for another five years, with quota levels beginning at 841,000 MT in 1997 and rising to 928,000 MT by 2001.¹³⁴ Quota increases are conditional upon Russian progress in three specific areas: ensuring and increasing competition domestically among Russian steel producers, decreasing subsidies, and improving environmental protection.¹³⁵
- **China.** Another major market for Russian steel has been China. According to Chinese import statistics reported in the World Trade Atlas, in 1996 China imported 4.7 million MT of Russian steel mill products, accounting for approximately 20 percent of Russia's total exports.¹³⁶ Up to that time and particularly in 1993 and 1994, China's construction boom was fueling huge demand and causing a shortage of Chinese steel. Since the early 1990s, China has increased steel production, and in the mid-1990s became the largest steel maker in the world. With production growing and the construction boom abating, China experienced a glut of steel. Steel imports into China dropped by approximately 58 percent in 1997 from peak levels in 1993. Russian steel mill imports into China dropped by 36 percent between 1996 and 1997 to less than 3 million MT.¹³⁷
- **Other Asian markets.** In the early 1990s, the majority of Russian steel exports went to Asia due to strong regional demand and a shortfall in regional supply. However, between 1994 and 1998, demand in Asia began to taper off. With overall Russian exports growing, the percentage of Russian steel going to Asia began to decline. Specifically, the percentage of Russian rolled steel exports to Asia dropped from 64 percent in 1994 to 40 percent in 1998.¹³⁸

Trade actions taken by Asian steel producers were a part of this decline. In 1996, antidumping probes in Taiwan, Indonesia, and South Korea against Russian steel producers of “H beams” and hot-rolled steel resulted in duties ranging from 15 and 19 percent.¹³⁹

- **Around the world.** After years of escalating exports of low-priced steel from Russia, producers in other countries began to take trade actions. Since 1995, more than forty antidumping probes against Russian steel products have been undertaken around the world (8 actions in 1995, 13 in 1996, 6 in 1997, and 13 in 1998), including in Canada, Brazil, India, and the Philippines. The products subject to these trade cases included everything from semifinished products to cold-rolled steel. The dumping duties imposed ranged from 9 percent to 82 percent.¹⁴⁰ The long list of countries that took action against Russian steel products was a strong indication of the disruptive impact Russian steel was having on world steel trade.

- **The United States.** In the mid-1990s, the United States began to have its own problems with imports from former Soviet States. Other low-cost Russian steel products began to penetrate the U.S. market at the same time. There was a substantial increase in imports of plate from Russia and Ukraine (*Chart 3-12*), which led to the start of antidumping proceedings in late 1996.¹⁴¹ This case foreshadowed the problems the United States would confront regarding other Russian steel products in 1998 and beyond.



3-12. U.S. Imports of Cut-to-Length Plate From Russia and Ukraine, Combined (1994–1997)

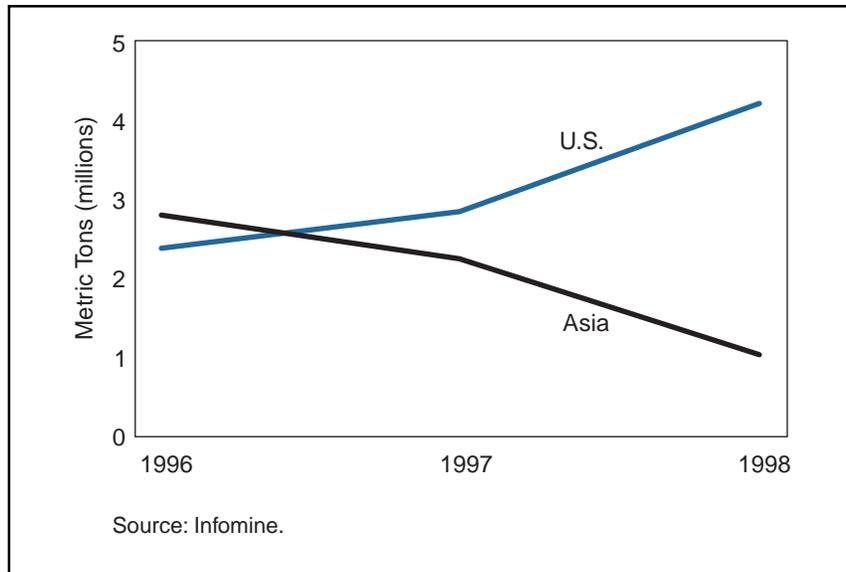
- **Asian financial crisis.** When the Asian crisis hit in 1997, it compounded the effects of the preceding decline in Asian demand and the numerous trade cases filed against Russian steel around the world. Between 1996 and 1998, Russian exports to Asia dropped by 64 percent from 2.8 million MT in 1996 to just over 1 million MT in 1998 (*Chart 3-13*).

The statistics for individual Asian countries are even more extreme: Thailand decreased its hot-rolled imports from Russia by 92 percent between 1996 and 1998; Malaysian imports declined by 56 percent; and South Korean imports plummeted by 99 percent.¹⁴² For hot-rolled products, the decrease in Russian exports to Asia in 1998 just about equaled the increase in Russian exports to the United States.

The Role of Russian Hot-Rolled Steel in the U.S. Steel Crisis

Although the U.S. market remained largely open to Russian steel, very few higher value-added steel products produced in Russia were of an acceptable quality level for the U.S. market. At the lower end, however, the Russians had tremendous capacity to export hot-rolled steel. The scenario played out for Russian steel products (declining domestic demand, maintenance of production, and growing exports) in some ways was very similar but was in some ways even more extreme for hot-rolled products.

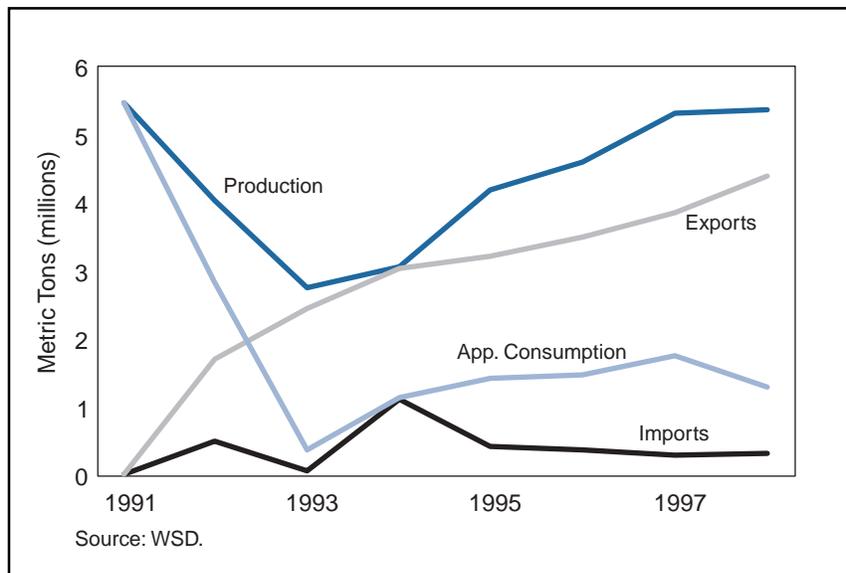
- Domestic demand for hot-rolled sheet dropped nearly 77 percent between 1991 and 1998 (*Chart 3-14*).
- Production for sale of hot-rolled sheet, after declining nearly 50 percent between 1991 and 1993, increased to levels nearly on par with levels prior to the Soviet break.¹⁴³
- In 1998, more than 80 percent of Russian hot-rolled sheet production was exported, the majority of it going to the United States. In 1998, the United States consumed 57 percent of Russia's total production of hot-rolled products.¹⁴⁴



3-13. Russian Exports of Hot-Rolled Products to the U.S. and Asia

The average unit value of these imports of carbon hot-rolled products was on average approximately 20 percent lower than the imports of any of the other major country suppliers. Steel experts have given several reasons for the low price received by Russian steel producers, including the following:

- Poor quality.
- Long lead times and delivery time uncertainty.
- Prepayment requirements.
- Lack of downstream subsidiary outlets in other countries.
- Reliance on Russian middle-men and small trading companies rather than well-established major international trading companies.
- The failure to produce upgraded products and limited product range.
- The lack of technical assistance.¹⁴⁵



3-14. Russian Production, Consumption, Imports, and Exports: Hot-Rolled Sheet

Quality shortcomings included problems with packaging and transportation damage and unsuitableness for certain end uses (such as automobile manufacturing) because of failure to meet important surface quality requirements.¹⁴⁶ The major end users of Russian hot-rolled products have been U.S. pipe producers and other consumers who do not require products of greater strength or smoother and cleaner surfaces.¹⁴⁷

Impact on U.S. Domestic Prices

Between 1994 and 1996, imports of hot-rolled Russian steel ranged between 500,000 and 750,000 MT. Low-priced Russian imports did not begin to pull down U.S. domestic prices until 1997.¹⁴⁸

- In 1996, the average unit value of Russian hot-rolled steel was \$251 per MT, while the average unit value of all hot-rolled imports was closely related to producer prices in the United States (\$322 vs. \$358).¹⁴⁹
- In 1997, the average unit value of Russian imports, while increasing slightly, was still relatively low and accounting for a bigger percentage of total imports. Starting in 1997, the rising level of low-priced imports from Russia helped to hold down U.S. domestic prices.¹⁵⁰
- In 1998, Russian hot-rolled steel imports into the U.S. increased by 93 percent,¹⁵¹ and import prices dropped 14 percent.¹⁵² The Russian share of U.S. imports of hot-rolled steel more than doubled to 33 percent, up from less than 15 percent in 1996. Between 1996 and 1998, the volume of Russian hot-rolled steel imports grew by more than 370 percent. In 1998, Russian hot-rolled imports alone nearly equaled that of Japan, Korea, and Brazil (the next three largest import suppliers) combined.¹⁵³

Market Psychology Exacerbates the Crisis

More important, perhaps, was the psychological effect these imports were having on the U.S. market. Everyone knew that Russia had an immense steelmaking capacity from the old Soviet days, that the plants were still running, but that domestic consumption had dropped sharply. When Russian steel started coming into the United States in larger quantities and at lower prices, U.S. steel producers became concerned.

At the same time, the average unit value of Japanese steel was dropping to comparable levels, even though the quality of the Japanese product was decidedly higher. And traders, fearing the filing of dumping cases against the surging imports—began bringing in massive quantities of Russian steel to satisfy their customers' needs not only for the rest of 1998 but for 1999 as well.¹⁵⁴ U.S. producers were forced to cut their prices as the prices of imported hot-rolled steel dropped more than 20 percent.¹⁵⁵

The Story of Magnitogorsk

Over 90 percent of the hot-rolled steel imports in 1998 came from three companies: Novolipetsk, Magnitogorsk, and Severstal. Novolipetsk was always the biggest exporter to the United States, shipping large but stable quantities of between 1.5 and 1.6 million MT during 1996–1998 (*Chart 3-15*). Severstal exported roughly half a million MT in 1996 and 1997, but ratcheted up exports to more than 800,000 MT in 1998.¹⁵⁶

The most interesting story is that of Magnitogorsk. Exports to the United States from the company went from less than 200,000 MT in 1996 to more than 1.4 million MT in 1998. The increase of Russian hot-rolled steel imports between 1997 and 1998 is largely attributable to increased exports from Magnitogorsk (*Chart 3-15*).

The story of Magnitogorsk is very much the story of the Russian steel industry. Created under the first five-year plan in 1930,¹⁵⁷ Magnitogorsk eventually became the largest steel plant in the world.¹⁵⁸ Half of the steel that went into Soviet tanks during World War II was produced by Magnitogorsk.¹⁵⁹

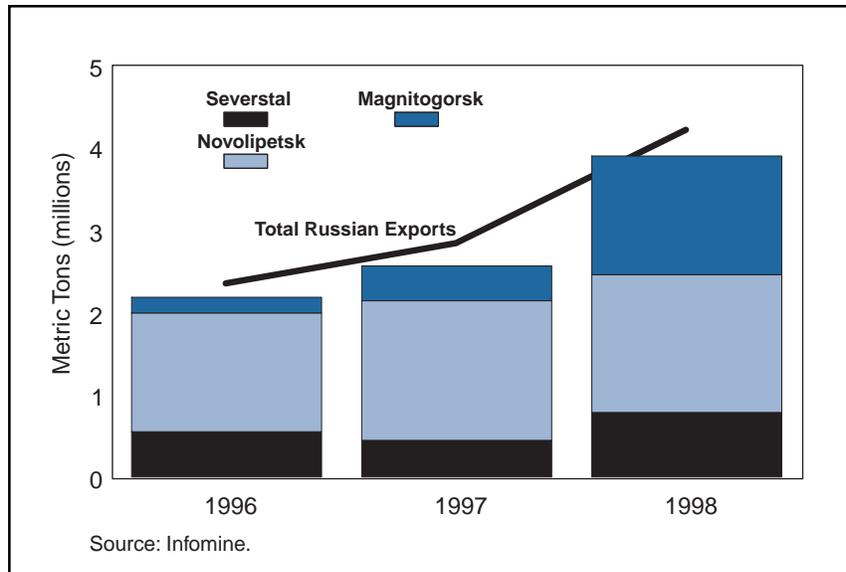
Shortly before the breakup of the Soviet Union, Magnitogorsk was slated for a \$5 billion modernization program.¹⁶⁰ While the program was not implemented, prior to privatization, two new modern steelmaking furnaces were installed and construction of a new hot-rolling mill (initially approved in 1986) began in 1992. The theoretical annual capacity of this huge new mill is 5 million MT.¹⁶¹

Although the production facilities at Magnitogorsk were in need of updating, the decision to begin construction of a new hot-rolling facility in 1992 must be seriously questioned. As clearly illustrated in Chart 3-14, domestic consumption of hot-rolled sheet had fallen by nearly 50 percent between 1991 and 1992; and by nearly 95 percent between 1991 and 1993. When the hot-rolling mill came on line in 1994, domestic consumption was just above 1 million MT while production from Magnitogorsk’s facilities alone could eventually approach 5 million MT.

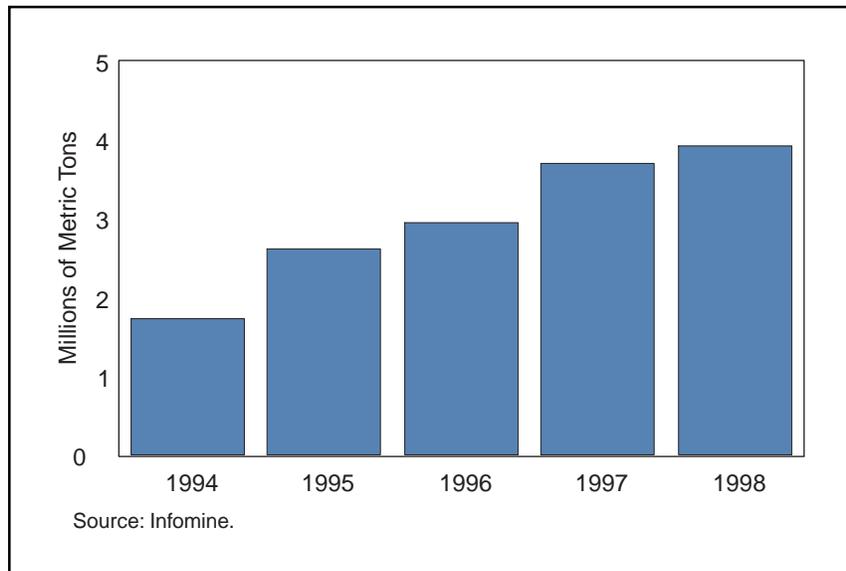
Despite the poor domestic market and the threat of bankruptcy in 1996, Magnitogorsk continued to ramp up production on its new hot-rolling mill (*Chart 3-16*). Like the other major Russian steel producers, Magnitogorsk began to export aggressively.

Since 1996, Magnitogorsk has, on average, exported more than 55 percent of its hot-rolled production.¹⁶² As with the rest of the Russian steel exporters, the big market for Magnitogorsk was initially Asia. When the Asian crisis hit, Magnitogorsk turned to the United States.¹⁶³ What distinguishes Magnitogorsk from Novolipetsk and Severstal, however, is that its production of hot-rolled products was increasing between 1994 and 1998.

Total exports of hot-rolled steel by Magnitogorsk were flat between 1996 and 1997 but increased 43 percent between 1997 and 1998 (*Chart 3-17*). The increase of Magnitogorsk’s exports to the United States is attributable to three factors. First, Magnitogorsk continuously increased hot-rolled steel production (*Chart 3-16*). Second, much of the increase in exports to the United States was attributable to exports diverted from Asian markets.¹⁶⁴ Finally, a substantial percentage appears to have been sold previously in the domestic market. (The switch to export markets may have been due to a greater need for “real” money or perhaps to the Russian financial crisis of 1998.)



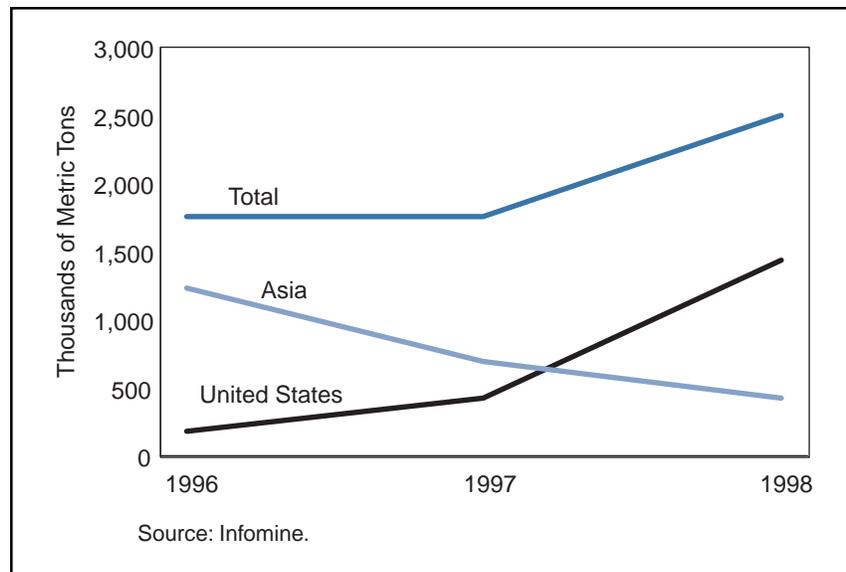
3-15. Russian Exports to the United States of Hot-Rolled Products: Top Three Producers



3-16. Magnitogorsk Hot-Rolled Steel Output

The story of Magnitogorsk's hot-rolling mill is emblematic of the Russian steel industry as a whole.

- Investments were made despite market conditions.
- Production continued or even increased without regard to domestic demand or serious financial difficulties.
- Huge volumes of steel production were exported at very low prices.
- Massive volumes of low-priced steel were diverted from one market to the next in a matter of months.



3-17. Magnitogorsk Exports of Hot-Rolled Steel

Conclusion

The lack of normal business considerations at the investment, production and selling stages in the Russian steel industry led to volatility in the global steel market and damage to the steel industry and steel workers in other countries, including the United States. While the Russian steel industry has the potential to be competitive in world markets in the long-term, it must address the underlying market-distorting practices to avoid the kind of trade frictions it has encountered in the past.

3.2 Structural Factors and Japanese Steel Trade

Introduction

A number of economic and structural factors in Japan's steel market played a significant role in the U.S. steel crisis of 1998. A decade-long deterioration in domestic steel demand was the primary market development that led Japanese producers to rely increasingly on exports in the 1990s. While resort to export markets in response to weak demand at home may be economically justifiable in principle, the presence of long-standing structural distortions in the Japanese steel market amplified the U.S. steel crisis by apparently helping to sustain low-priced imports into the U.S. market.

In the late 1990s, faced with tight fiscal policy, the Asian financial crisis, and the failures of major financial institutions, Japan slipped deeper into recession. Japanese steel consumption declined, and Japanese steel producers turned increasingly to export markets. These temporary economic conditions affecting Japanese steel trade only magnified underlying structural problems in the Japanese market. The combination appears to have resulted in higher volumes and lower prices of Japanese steel exported to the United States.

Japan's major structural problem is its noncompetitive steel market. The key symptoms of the Japanese steel market suggesting a noncompetitive market that can distort Japanese steel trade abroad are as follows:

- **Production shares** among the top five Japanese producers have remained virtually unchanged for twenty-five years. While the remarkable stability of production shares among Japan's top steel producers has caught the attention of Japan's Fair Trade Commission (JFTC), the Japanese government has not taken any further action to address concerns about apparent coordination among the major producers. The JFTC noted that despite the fact that total industry production levels fluctuated routinely from 1975 to 1992, "each share among the five companies has hardly fluctuated."¹
- **High and stable domestic prices** to major steel customers in Japan have been another outcome of the apparent coordination of steel production. Industry data show that the prices paid by large steel consumers in Japan remained high and remarkably stable over a long period and in the years leading up to and including the export surge to the United States. These numbers support industry reports that producers placed a priority on maintaining domestic price stability, even at the expense of curtailed domestic shipments.
- There is a history of **international price discrimination** between domestic and export markets. As 1999 ended, Japanese steel products were subject to ten antidumping duty orders or undertakings and eight ongoing investigations in a number of countries including Brazil, Canada, Mexico, and the United States.²

The lack of meaningful competition among major producers in Japan, suggested by the long history of stable production shares and stable domestic prices, allows Japan to maintain a high-priced domestic profit sanctuary, which can affect global steel trade in the following ways:

- Revenues from high-priced domestic sales can be used to improve cost competitiveness by, for instance, funding research and development.
- Likewise, high domestic prices can be used to sustain low-priced exports over substantial periods of

time. Given the apparent importance that Japanese producers assign to maintaining sales and market share, this advantage can lead to disruptions in export markets.

As discussed below, many steel industry experts agree that there is a lack of competition in the Japanese steel market and have indicated that this lack of competition has contributed to the maintenance of capacity beyond what the market would otherwise warrant over the long term.

The insulated steel market in Japan is made possible by a variety of import barriers. Without these barriers, it would not be possible for the steel industry to fix production shares and high prices at home. For example, Japanese producers' influence over the distribution of steel insulates the Japanese market from international competition. Other barriers, including procedures for product certification, can add years to a foreign producer's attempt to enter the Japanese market.

As noted above, given the depths of Japan's recession in 1998 and the faltering of domestic steel demand, it is not unexpected that Japanese steel producers would turn to export markets. What is of concern, however, is the nature of Japan's export sales compared to its domestic sales. Japan's noncompetitive market structure helped producers sustain low-priced exports, which in turn exacerbated the 1998 U.S. steel crisis.

As reported by steel analysts and the Japanese press, in early 1997 the major integrated producers decided to lift production restraints on hot-rolled sheet. But they only freed up production of hot-rolled sheet for export, while keeping in place production restraints on domestic market shipments.³ The percentage of hot-rolled sheet produced for export rose from 30 percent in 1996 to nearly 60 percent in 1998.⁴

At the time of the reported decision to free up production for export, Asia was the most likely market for the planned export drive. However, when primary Asian markets collapsed, Japanese producers redirected their exports to the United States. Hot-rolled steel imports into the U.S. market increased 1,000 percent from 1996 to 1998.⁵ One of the most distinctive features of these export sales was the extent of price-cutting that occurred, as described in industry reports.⁶ Prices of exported hot-rolled sheet from Japan fell below the depreciation of the yen during this same period.⁷ Meanwhile, high domestic prices of major products sold to large customers held steady from 1996 to 1998 despite deteriorating home market demand. Industry analysts at the time noted that revenues from domestic market sales were a key to the Japanese producers' ability to sustain low prices in export markets.⁸

The export drive expanded beyond hot-rolled sheet to include structural shapes and other major products as the severe recession of 1997 continued into 1998. By this time, the apparent goal of Japanese producers was to restrain domestic shipments to prop up prices in a weakening market, while preventing a further slide in capacity utilization rates through exports. As one Japanese industry official stated regarding 1998, "[s]ometimes we took measures that could be fairly characterized as dumping in order to boost capacity utilization."⁹ Despite rising U.S. demand, the dumping of Japanese steel exports to the United States contributed to falling steel prices in the U.S. market and cutbacks in U.S. steel production.

The Noncompetitive Market Structure

The Japanese steel industry is a mature sector whose period of major capacity expansions is well behind it. Japanese producers—including the five large integrated producers (Nippon Steel, NKK, Kawasaki, Sumitomo, and Kobe)—are generally recognized as efficient in terms of both labor and total factor productivity.¹⁰ During the past decade, Japanese producers cut costs, in part by reducing employment.

However, despite the Japanese steel industry's status as an efficient, developed sector, it has continued to benefit from practices that shelter the industry, provide competitive advantages vis-à-vis foreign producers, and substantially influence global steel trade. The effects of long-standing structural factors are most

apparent in the marked differences in which steel is sold domestically and for export. These long-standing structural problems exacerbated the steel crisis in 1998.

The question of whether major Japanese steel producers coordinate on production levels and other business decisions is well known among steel industry observers. It has received increasing attention in recent years with respect to its potential impact on steel trade, including the 1998 surge in exports to the United States. A discussion of the issue is therefore warranted in the context of a report on structural issues facing the global steel industry.

This report does not address the lawfulness of conduct of Japanese steel producers under existing U.S. or Japanese law. Company-specific information such as intra-company memos or depositions of key officials was not collected. Such an attempt would have been outside the authority of the Commerce Department and beyond the scope of this report. Within these limitations, however, a substantial effort was made to investigate claims of the existence and trade impact of alleged coordination among Japanese integrated producers (*see box*).¹¹

In total, the information gathered for this report appears to indicate that a noncompetitive market among major integrated producers in Japan has remained in place throughout the 1990s, and that it affected trade flows during the past several years. The manner in which these firms are said to interact is commonly referred to as a “cooperative system,” allegedly involving long-standing coordination on production shares and other business decisions, with Nippon Steel serving as the industry leader.

A Look at the Data: Production Shares and Pricing

Stable Production Shares

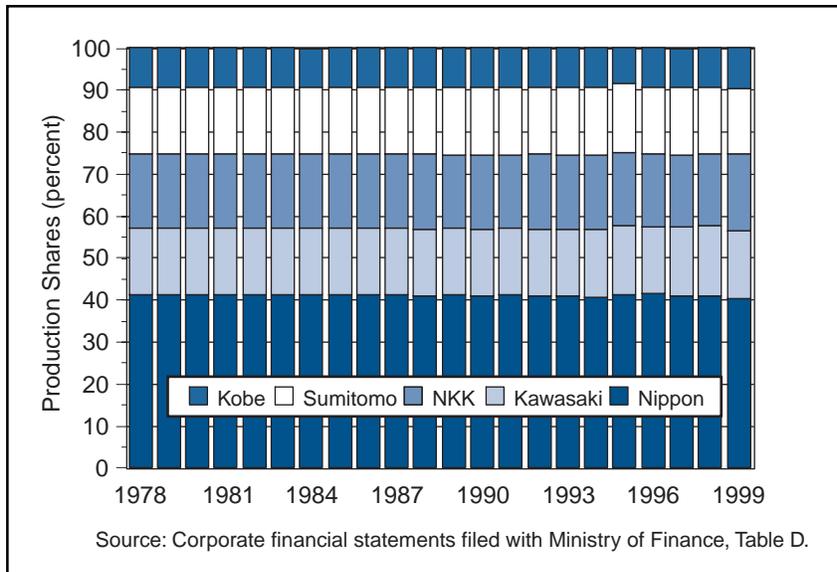
Long-term production data support the views of industry experts regarding coordination among major producers. Within the pool of crude steel production accounted for by the five major integrated firms, the production share of each firm has remained virtually constant for twenty-five years, from the mid 1970s up through the time of the export surge. In general, for each of these years, Nippon Steel has accounted for

Methods of Inquiry Into Alleged “Cooperative System”

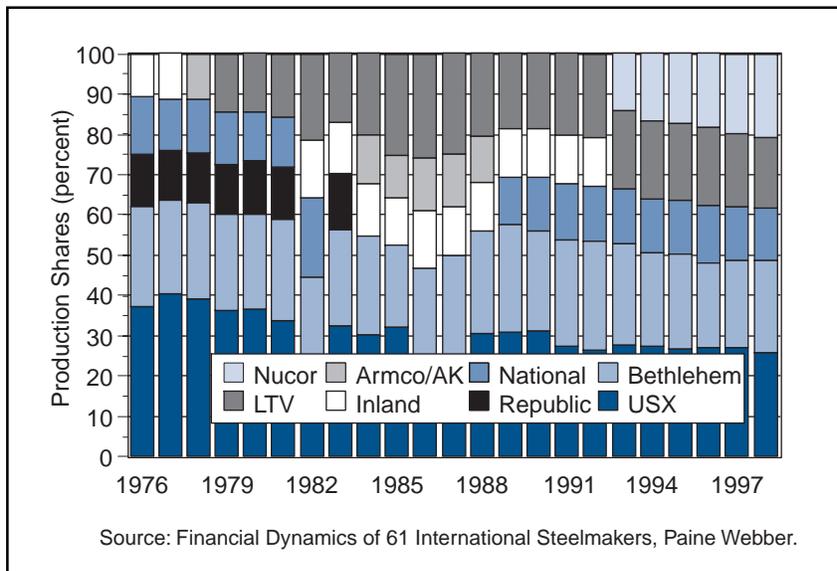
The inquiry into allegations of coordination among major producers included:

1. A review of the relevant data available from public sources, including production shares, domestic and export pricing, shipment volumes, and Japanese import levels.
2. A review of published materials in the United States and Japan, including monthly steel industry reports by investment firms, literature by academics and journalists, and journal and press accounts.
3. Numerous interviews in Japan and the United States with industry experts, including academics, government officials, investment firms, journalists, and U.S. importers. Within the Japanese steel industry, a major industry association (the Kozai Club), as well as the leading mini-mill producer, Tokyo Steel, were interviewed. The five major integrated producers declined interview requests.

The analysis of the primary data that might reflect any such coordination—long-term relative production shares—was important, as were data relating to the market impact of alleged coordination, namely pricing, shipment, and import data. Direct interviews with industry experts were also helpful. Finally, the growing literature on the subject provided background on the historic and present-day context of alleged coordination among major producers. Some of the secondary information on this issue is anecdotal in nature. However, the sources are considered to be reliable and authoritative.



3-18. Japanese Crude Steel Production Shares for the Five Major Producers (years ending March 31)



3-19. U.S. Crude Steel Production Shares Including the Top Five Companies

just over 40 percent of production, followed by NKK at 18 percent, Kawasaki and Sumitomo at 16 percent, and Kobe at 9 percent (*Chart 3-18*).

By comparison, crude steel production for the top five U.S. producers over the same time period shows no clear pattern (*Chart 3-19*). Moreover, new U.S. companies have broken into the top five over time, while others have dropped out—a dynamic that has been absent in the Japanese steel industry.

Unchanging production shares among Japan’s top steel producers dating back to the mid-1970s was a cause for concern for Japan’s Fair Trade Commission in a 1994 industry survey. While the JFTC did not formally conclude that a cartel exists among Japanese producers, it noted the long-term rigidity in production shares, and expressed concern that “in an oligopolistic industry, even a minor exchange of information can easily bring about a common intention regarding supply quantities.”¹² Since then, production shares remained constant through the time of the export surge. The Japanese government has not revisited the issue of the lack of

competition. A number of experts suggest that, aside from simply tolerating such behavior, the Ministry of International Trade and Industry (MITI) plays a role in overseeing the allocation of production shares among firms, albeit in a less active manner than in past decades.¹³

Given the many variables that affect a major industry like steel—*e.g.*, different investment rates and labor and production changes—the ability of these producers to maintain constant production shares over such a long period is highly unusual, and cannot be written off as a coincidence. Instead, as a number of experts have observed, it is indicative of industry coordination to control production dating back to the creation of Nippon Steel in the 1970s and continuing through the 1990s.

High Domestic Prices

The apparent coordination on steel production helps explain how integrated producers have been able to maintain high prices to their major customers, despite the long-term deterioration of domestic demand. The maintenance of high, exceptionally stable, “big buyer” prices (*see box*)¹⁴ in the years leading up to and including the export surge from 1996 to 1998 is especially telling.

Hot-rolled coil remained at the same premium price of 71,000 yen throughout each quarter of the entire three-year period from 1996 through 1998 (*Chart 3-20*).¹⁵ The price for cold-rolled coil, galvanized sheet and wide flanged beams also remained fixed from 1996 through 1998, while the price for plate fluctuated only slightly. The maintenance of high price levels to large buyers through the end of 1998 is consistent with analysis in industry reports stating that the priority for the integrated producers was on maintaining domestic price levels in a deteriorating market, even at the expense of sharply cutting domestic shipments.¹⁶

Using even the broadest possible indicator of all domestic Japanese steel prices—Bank of Japan price index data—prices of major products have been relatively stable in the face of deteriorating home demand. Overall hot-rolled steel prices for all domestic sales in Japan remained relatively stable during much of the period. In contrast, U.S. prices for hot-rolled steel fell significantly during this time. U.S. domestic prices fell by at least 10 percent, while prices for U.S. imports of hot-rolled steel from Japan fell by approximately 30 percent, despite the strength of U.S. demand (*Charts 3-21, 3-22*).

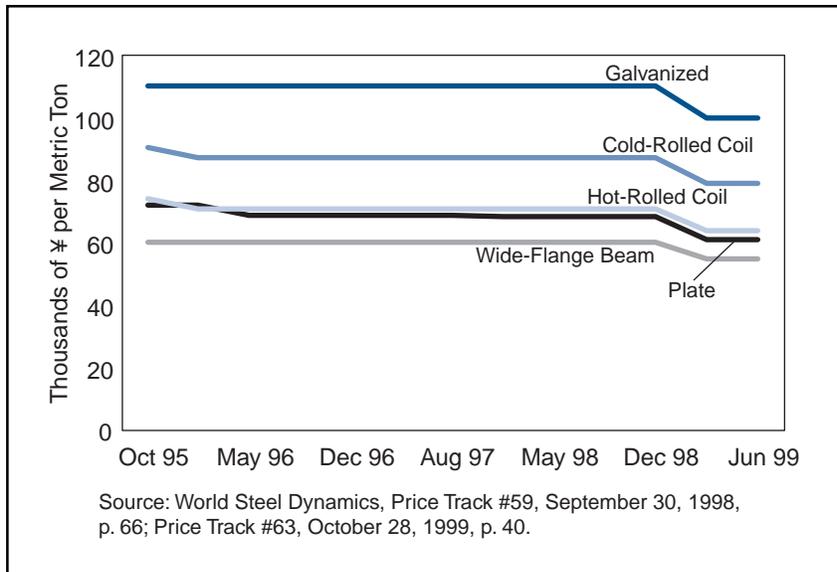
The “Big Buyer” Price

The big buyer price is the price charged by integrated producers to large industrial users (*e.g.*, construction and auto customers), accounting for the majority of sales by the large Japanese steel producers. Big buyer prices are reported along with the Japanese dealer price and export price in World Steel Dynamics’ *Price Track* publications.

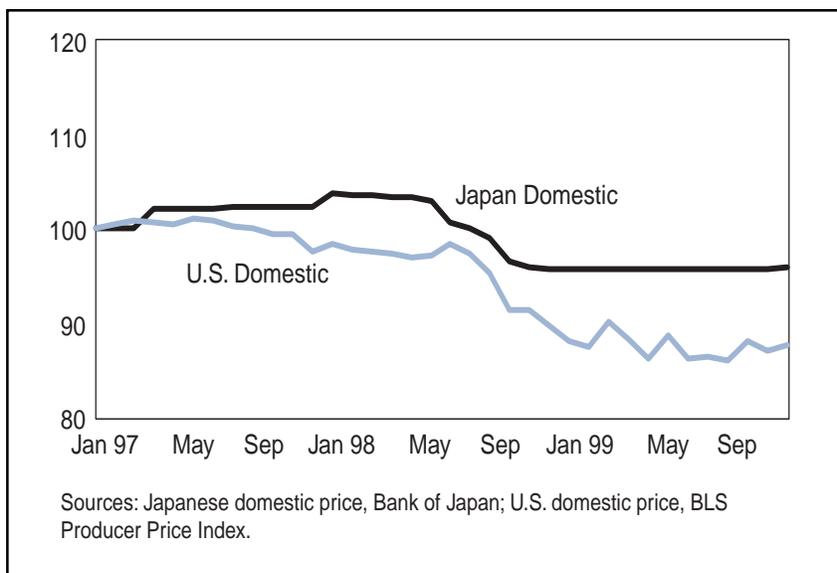
The *Price Track* publications list two sources for the big buyer price series: (1) *Kensetsu Bukka* (“Prices of Construction Materials and Wages”), a monthly publication produced by the economic research organization *Kensetsu Bukka Chosa Kai* (“Construction Prices Research Institute”) in association with the Ministry of Construction, and (2) World Steel Dynamics research. According to an official from World Steel Dynamics, the big buyer price included in the *Price Track* publications represents the actual price paid by large industrial users, and is not a “list” price. Also, while the *Kensetsu Bukka* is a construction sector price series, World Steel Dynamics officials indicated that the big buyer prices listed in *Price Track* pertain to major buyers generally in Japan.

Based on a comparison of big buyer prices as reported in *Price Track* with those reported in *Kensetsu Bukka*, it appears that the reported big buyer prices are in fact “actual” (nonlist) prices. The big buyer prices as published in *Price Track* correspond with the “actual sales price” listed in *Kensetsu Bukka*. This “actual sales price” is derived from a starting price, the “tie-in sales price,” that is substantially higher than the “actual sales price.”

The products listed in these “big buyer” price series appear to be basic, commercial-grade ordinary steel products, not specialty products. In the *Price Track* publications, big buyer prices are listed for the same basic products as those listed for Japanese dealer prices and Japanese export prices. These include hot-rolled coil, cold-rolled coil, galvanized sheet, wide-flange beam, and plate. The big buyer price series does not indicate that there are any product differences between products sold at the big buyer levels and through other channels. Similarly, in the *Kensetsu Bukka* price series, the items listed appear to be standard commercial grade “carbon quality” ordinary steel products such as commercial quality hot-rolled and cold-rolled sheet (as indicated by a comparison of Japanese product brochures with specifications listed in the *Kensetsu Bukka*).



3-20. Japanese Domestic Big-Buyer Price, Five Major Steel Producers



3-21. Hot-Rolled Sheet Price Comparison: Japanese Domestic Price vs. U.S. Domestic Price (Price Index: January 1997=100)

As with the existence of the cooperative system itself, the connection between cooperation among producers and high domestic prices has been increasingly acknowledged by industry observers in recent years. In June 1998—the height of the export surge—one investment firm referred to “the current premium on domestic prices based on the harmonious relationship among the six [blast furnace] companies.”¹⁷ Other observers have also related coordination among major firms to high domestic prices, as well as high profit levels at various times over the past twenty-five years.¹⁸

Noncompetitive Domestic Market: Past and Present

A look at the long history of coordination among major Japanese steel producers sheds light on production, shipment, and pricing practices today. Government-sponsored cartels among private producers have long been a feature of the steel industry in Japan, dating back to the early part of the century.¹⁹ They continued to be prevalent during the industry’s high growth period (from the 1950s through the mid-1970s), during which MITI directly

coordinated production and investment increases.²⁰ When demand for steel stagnated in the late 1970s and 1980s, legalized cartels were formed under the authority of the so-called “Depressed Industries Legislation,” which provided exemptions to the Anti-monopoly Law for the formation of cartels to stabilize industries designated as structurally depressed.²¹

Historically, cartelization conferred significant benefits on Japanese steel producers while, at the same time, giving rise to structural problems due to market insulation. The key policy goals that industry coordination fostered were shared technological improvements, cost reductions, and international competitiveness.²² For much of the industry’s growth period, the government simultaneously sheltered established producers from “excessive” domestic competition and targeted the industry for export growth, as capacity increases rapidly

outstripped growth in domestic demand.²³ The benefits of industry coordination, in turn, encouraged further capacity increases (*see box*).²⁴

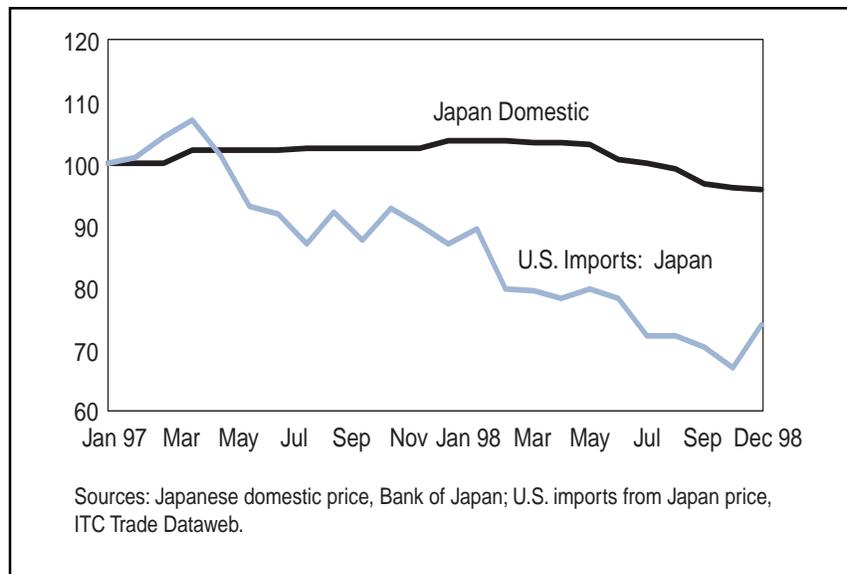
In effect, industry coordination removed the threat of bankruptcy that normally keeps capacity expansion in check. The end result was often the polar opposite of the stated policy of controlling production and capacity levels: while government-sponsored cartels were supposed to control and even reduce capacity—via a reduction in production in the short term and scrapping of capacity in the long term—the market insulation that resulted

created a tendency toward capacity preservation and increases. Even as Japan continued its postwar growth in the 1980s, experts acknowledged more and more that the pitfalls of industry collaboration, including excess capacity, were becoming increasingly apparent. As noted by one observer in 1982:

One result of the MITI policies was to increase an industry’s capacity beyond what would be prudent. And today, when the cushion of a cartel still exists, the reduction in total excess capacity will be slower than when no collusion is permitted.²⁵

It is in this sense that coordination among producers has historically acted as a buffer against market fluctuations, which may in turn lead to a lack of market exit and capacity levels higher than would otherwise occur under more competitive conditions. Given the importance of maintaining capacity utilization in a high fixed-cost industry such as steel, this can put pressure on supply, particularly during market downturns.

While such practices created distortions during Japan’s high-growth period, the real harm, both to Japan and to its trading partners, occurred because these practices appear to have become more or less permanent



3-22. Hot-Rolled Sheet Price Comparison: Japanese Domestic Price vs. Price of U.S. Imports from Japan (Price Index: January 1997=100)

Cartels and Excess Capacity

The historical relationship between government-sponsored cartels and capacity is explained by one observer, in a seminal paper on Japanese cartels in steel and other basic industries, as follows:

If the largest firms were to grow rapidly by adopting new technology that was usually larger in scale than what it replaced, the firms had to produce more, often significantly more than before, to make optimum use of the new technology. The problem was that such an increase in productive capacity often tended to exceed the domestic demand and increases in exports often did not occur swiftly enough. ...If the rapidly growing firms were allowed to engage in temporary “cooperative actions” to fix prices or limit output, no potentially ruinous price-cutting competition would occur, threatening bankruptcies, and no loss in profits would result, reducing the internal reserve needed for the next round of capacity expansion enabling the firms to adopt even more advanced technology.

features of the Japanese economy well after the country's development. By the 1990s, the days of officially sanctioned cartels were over, but by most accounts industry coordination remained in place. As one observer noted in 1998, "These days, 'administrative guidance' and the power of industry associations produce the same results as formal cartels."²⁶ An increasing number of steel experts openly recognize a cooperative system as a basic part of the industry's structure (*see box*).²⁷

Many experts note the continued connection between industry cooperation and the maintenance of long-term excess capacity in the late 1990s. One prominent Japanese steel expert noted, in an interview for this report, the tendency toward surplus capacity due to the long-standing absence of competition and market exit. In particular, he indicated that the current production and capacity levels in the integrated sector are most likely greater than the levels that would result if Nippon were to compete fully with the other producers. If exposed to open market competition, according to this expert, one or more of the top five Japanese steel companies would likely be forced out of business.²⁸

Industry Observers Commonly Refer to Collaboration Among Japanese Producers

The recognition of longstanding collaboration among major Japanese producers as a basic characteristic of the industry has become increasingly widespread in recent years. Professor Hiroyuki Itami of Hitotsubashi University, a recognized expert on the steel industry in Japan and the chairman of the committee that prepared a 1999 MITI-sponsored study on basic materials industries (including steel), has written about cooperation among major steel producers in a recently published book. Professor Itami comments that shortly after Nippon Steel's formation, production shares "come to a standstill. They are horizontal lines." In an interview for this study, Professor Itami stated that the "cooperative system" among the five major integrated producers has continued in place to the present day. While stopping short of calling this system a formal cartel, he discussed the sharing of production and other information among such firms, via industry associations. Professor Itami's recognition of the longstanding existence of the "cooperative system" is consistent with other Japanese industry sources interviewed for this report.

The increasingly open recognition of long-term collaboration among integrated producers comes on the heels of a growing literature by scholars and journalists who have written extensively on the structure of the Japanese industry in the late 1990s. These include Professor Naoki Tona (who refers to a "cooperative structure which can be called a horizontal cartel"); Richard Katz (referring to an ongoing "steel cartel" among major integrated firms); Professor Mark Tilton (who discusses the "steel cartel" in a book on cartels in Japan's basic materials industries); and *The Economist* (which refers to a "steel cartel" as of November 1999).

The acknowledgment of coordination among producers also extends to the Japanese press. The leading Japanese business publications Nihon Keizai Shimbun and Nikkei Sangyo Shimbun both write openly about collaboration among major producers through the late 1990s. The Nikkei Sangyo Shimbun, in detailing long-standing collaboration on production levels among major producers, has listed the production shares traditionally held by each company down to a tenth of a percent. The Nikkei Sangyo notes in particular the oddity that, "Despite the fact that Kawasaki Steel and Sumitomo Metals both were producing more than 10 million tons annually, there had been no more than a 30,000-ton gap between them for quite some time."

While views on coordination among integrated producers are not completely unanimous (Professor Robert Uriu of Columbia University, for instance, is of the opinion that cooperation among major Japanese producers was curtailed in the 1990s due in part to pressure from customers), there is extensive support—in terms of both data and industry knowledge—for the coordination viewpoint. Even a single percentage change in production share, such as occurred after the export surge in late 1999, is a source of extensive commentary among industry experts looking to determine the future level of collaboration on production decisions within the industry.

Noncompetitive Domestic Market and Global Steel Trade

Aside from the general capacity problem, the advantages that may be created by an absence of meaningful domestic market competition for Japanese producers have implications for global steel trade.

Cost Competitiveness. Several experts have noted that high domestic prices resulting from industry coordination continue to benefit Japanese firms relative to producers from other countries. The revenues from such sales can be used to increase the industry's competitiveness through, for instance, high levels of research and development. As an example, Professor Itami of Hitotsubashi University estimated in an interview for this report that Japanese steel producers typically account for 40 percent of total global steel-related R&D, with Nippon Steel alone accounting for half of this, or 20 percent of the worldwide total. While industry coordination is not Itami's sole focus in explaining the competitiveness of the Japanese steel sector—he praises management decisions by Japanese producers and is critical of certain business strategies pursued by U.S. producers²⁹—it is viewed as a basic structural characteristic that confers competitive benefits on the producers involved. In this respect, Itami's views are similar to those of economist Edward Lincoln of the Brookings Institution, who also views a protected domestic market in steel and other industries as conferring a competitive advantage to Japanese firms through the 1990s.³⁰

Price Discrimination. A high-priced domestic market, maintained in part through a lack of meaningful competition among major producers, provides a mechanism for covering fixed costs through domestic sales. This coverage, in turn, can facilitate low-priced exports for sustained periods.

This is not to say that Japanese producers always export at prices below total costs. The Japanese steel industry has been noted as making profits from exports at various times, for instance during the Trigger Price Mechanism period in the late 1970s.³¹ Nor does it mean that below-cost export pricing could not occur during market downturns in the absence of a high-priced domestic market. A combination of demand and supply factors renders the global steel industry naturally prone to severe price competition, including short-run marginal-cost based pricing, particularly during downturns in demand. Demand for steel is highly cyclical, being derived from the demand for durable goods, such as automobiles, appliances, capital goods and machinery and construction requirements. On the supply side, the capital-intensive production process and resulting high fixed costs that characterize the steel industry, (notably furnace and mill construction), render capacity utilization rates crucial to cost competitiveness and give producers an incentive to continue production during downturns so long as revenues at least cover marginal cost.³²

At the same time, there is substantial information that revenues from a noncompetitive domestic market can amplify the tendency to export at low prices (*see box*).³³ The willingness of firms to engage in such pricing is not based solely on profit maximization, but is affected by other economic, political, and business culture factors, including the importance assigned to maintaining sales and market share in export markets, shoring up capacity utilization rates, and ensuring general stability within the domestic industry. When used to its full effect, this business culture can add significantly to the price volatility inherent in the steel industry and cause severe disruptions in export markets.³⁴ While there is no way to prove the exact extent to which proceeds from domestic

Domestic Profit Sanctuary: Impact on Foreign Prices

One industry observer discusses the historic relationship between the domestic profit sanctuary and export pricing by Japanese industries including steel in these terms:

By keeping the domestic market closed to imports, and therefore being able to charge high prices at home, companies earned high enough profits at home to be able to subsidize low prices on the export front, and thereby seize foreign market share.

sales have been used to bolster exports, the cross-subsidizing of foreign sales with domestic market revenues in Japanese industry in general is recognized by economist Edward Lincoln.³⁵

This appears to apply to the pricing patterns of Japan's major integrated steel makers in recent years. During the late 1990s, the gap between big buyer prices and export prices widened substantially despite the long-term weakness of domestic demand. A 1998 Merrill Lynch report comparing the pricing practices of Japanese and Korean steel producers specifically relates Japanese integrated firms' ability to sustain low-priced exports to revenues earned on domestic market sales:

South Korean competitor Pohang Iron and Steel (POSCO) relies largely on export markets for earnings and therefore sets export prices at levels that would cover total costs. Japanese blast furnace companies, by contrast, basically are relying on the domestic market for earnings and are therefore able to export at prices high enough to cover variable costs. This means the Japanese makers can sustain exports as long as their variable costs remain below POSCO's full costs. In fact, in theory they could take market share away from POSCO by strategically pricing exports at levels that just cover variable costs.³⁶

During a three-year period in the late 1990s, Japanese producers were in fact able to sustain significant price-cutting on exports. Japanese export prices began their decline in early 1997. Price declines continued through 1998, and were maintained, or even lowered further in some cases, into 1999. During this time, Japanese export prices—both overall and for major products like hot-rolled steel—were reduced by 30 percent or more, below the yen depreciation that occurred.³⁷

With respect to Japanese export pricing to the U.S. market, recent antidumping analyses by the U.S. Commerce Department have found that major Japanese steel producers have priced their U.S. exports substantially lower than comparable domestic sales. In an antidumping analysis, company-specific pricing and cost information is analyzed in order to account for differences in products, channels of distribution, and selling expenses. Even taking such differences into account, substantial pricing differences were found between domestic and export sales of hot-rolled steel products. For other major products, such as cold-rolled steel and structural shapes, Japanese producers did not respond to the Commerce Department's requests for information, and, as a result, company-specific export and domestic price comparisons could not be made for such products.³⁸

Domestic and export price comparisons performed pursuant to antidumping investigations are unique in the extent to which market- and company-specific pricing and cost information is taken into account. Aside from antidumping investigations, one researcher, Professor Mark Tilton of Purdue University, has found substantial pricing differences based on publicly available price data. Professor Tilton, who has written extensively about Japanese basic materials industries, including steel, has found that Japanese "big buyer" prices³⁹ have remained substantially higher than both Japanese export prices and U.S. prices throughout the 1990s, despite the decade-long erosion of demand in the Japanese market. According to this analysis, which was based on pricing data from World Steel Dynamics, he found that big buyer prices on hot-rolled coil exceeded Japanese export prices by 67 percent to 105 percent for the five-year period covering 1993 to 1998. After this time, the price difference widened further despite the continued weakness in the domestic market. By March 1999, Japanese producers were offering hot-rolled coil for export at \$220 per metric ton (MT), while charging big buyers \$520 per MT, a difference of nearly 140 percent.⁴⁰

This analysis also finds that Japanese big buyer prices have substantially exceeded U.S. contract prices throughout the past decade. In the case of cold-rolled steel, the big buyer price exceeded the U.S. contract price by 80 percent from 1993 through 1995. After that, the gap narrowed as the yen depreciated. However, even when the yen was at 133 to the dollar in early 1998, the big buyer price was still 18 percent higher than the U.S. contract price.⁴¹

Professor Tilton's price analysis has been criticized by representatives of Japanese integrated producers on the following grounds: (1) The big buyer price difference is partially explained by the overall long-term appreciation of the yen since the Plaza Accord in 1985; (2) big buyer prices include only Japan's largest, most sophisticated steel consumers, whereas the U.S. contract price includes many smaller, less demanding customers; and (3) big buyers in Japan prefer their traditional integrated suppliers due to a high level of customer service and product customization.⁴² Representatives of Japanese firms have also noted concern with the reliability of the reported big buyer prices themselves.⁴³

While these factors may influence high domestic prices to major customers, they cannot alone explain the sheer size of the price differences involved—particularly given Japan's weak domestic market. First, the yen has fluctuated substantially since 1985. Yet big buyer prices have remained high and stable in comparison with other prices in Japan, Japanese export prices, and prices in other major markets such as the United States. Second, the contention that the big buyer price is limited to a select group of the most sophisticated customers is at odds with the fact that sales to big buyers reflect a substantial majority of integrated producers' total sales, which is not disputed by representatives of Japanese integrated producers.⁴⁴ It is also at odds with the information indicating, as noted above, that the reported big buyer prices are for commercial-grade ordinary steel. Finally, while factors such as customer service and production customization may influence price (as Tilton's analysis recognizes),⁴⁵ even those analyses, such as antidumping analyses, that take company-, product-, and market-specific differences into account find substantial pricing differences.

Barriers to Imports

Although Japanese domestic prices have long been at levels well above prices prevailing in other markets, imports into Japan have remained low by international standards. Of course, high domestic prices could not hold if importers were able to take advantage of these high prices. Several factors—including distribution barriers, product-certification requirements, and alleged international market-sharing arrangements—can be identified that limit Japan's steel imports, and as such can help explain the existence of a noncompetitive domestic market.

Japanese steel import penetration has historically remained at less than 10 percent, below import levels in the United States, Korea, and the EU.⁴⁶ While imports were increasing gradually up to 1991, they fell sharply through the rest of the 1990s as domestic demand dropped. The fall in imports was in fact even steeper than the fall in overall domestic demand: while domestic apparent consumption declined nearly 30 percent over the past decade, imports plummeted by 50 percent, from nearly 14 million MT in 1991 to 6.6 million MT in 1998. As a result, even as measured against a declining Japanese steel market due to the prolonged recession, imports became increasingly less significant relative to domestic shipments. Imports comprised 9.6 percent of domestic apparent consumption in 1991, and just 7.4 percent in 1998.⁴⁷

The decline in imports since 1991 cuts across most major product groups:

- Imports of hot-rolled steel fell from 3.5 million MT in the early 1990s to 2.2 million MT by 1998.
- Imports of long products, including structural shapes and wire rod, fell drastically, from over a million MT in 1991 to less than 200,000 MT in 1998.⁴⁸

For certain products, both imports and domestic apparent consumption fell so severely as to render trends in product-specific import penetration rates almost meaningless. For instance, despite a meager overall import penetration rate of just over 7 percent for all steel products, import penetration of hot-rolled steel had by some measures increased to nearly 40 percent by 1998, despite the substantial drop in hot-rolled steel imports noted above. This is because the already-small Japanese merchant market for hot-rolled steel had plummeted to just 6 million MT in 1998, down from 10.5 million MT in 1991.⁴⁹

While the 50 percent fall in imports since 1991 is clearly due in part to the weakness of the domestic economy, the fact remains that Japanese import penetration has been far less than in other countries even during times of strong demand, and has remained under 10 percent for the past decade.

Distribution Issues

According to a number of sources, the integrated producers' apparent control over the steel distribution system—including trading companies and steel service centers—constitutes a barrier to importing steel into Japan (*see box*).⁵⁰ Representatives of Japanese integrated producers take the view that the steel industry lacks the market power to coerce its major customers—which in the aggregate are many times larger than

Japanese Distribution Barriers Reflect Deeply Rooted Practices

One of the most vocal critics of Japanese integrated producers, Masanari Iketani, the President of Tokyo Steel—a Japanese mini-mill—has frequently stated that “one of the main barriers preventing [steel] imports from entering Japan is the distribution system which is tightly controlled by the trading companies.” The integrated producers, in turn, appear to have control over trading companies. The Japan Economic Journal reports that: “[A]nother obstacle to import growth, traders say, is the Japanese steel companies themselves. ...[T]heir power over the trading companies [is a] key means of holding imports at bay. Traders claim, for example, that the big steelmakers use the implicit threat of cutting supplies to any major trading houses that attempt to import steel directly.”

the Japanese steel industry—into paying high prices, and in effect subsidizing the steel industry.⁵¹ Similarly, the willingness of large customers to pay higher prices is often attributed to a preference for the high quality, superior service, and stable supplies offered by Japanese integrated producers.⁵² These factors no doubt play some role in causing customers to stick with Japanese steel and pay higher prices, as do more general factors such as the national priority assigned to the steel industry.⁵³

However, there have been a number of allegations of refusal-to-deal threats made by the steel industry to customers who might import.

One of the most widely noted “refusal-to-deal” allegations involves a decision in the late 1980s by shipbuilder Mitsubishi Heavy Industries (MHI) to purchase a small amount of steel from POSCO, at a time when the price for Japanese steel was 60 percent higher than for Korean steel.⁵⁴ As reported in the Japanese press at the time, a Nippon Steel

official stated, “There is no mistake that [MHI] is importing steel in Nagasaki. ... What we’d like to tell them is, ‘Fine. In return, we will not supply you with any of the high quality steel that Korea can’t produce.’”⁵⁵ While Nippon eventually granted tacit approval to purchase minimal amounts of steel from POSCO, MHI has never increased its steel imports above 10 percent of its needs.⁵⁶

In a recent research study based upon interviews of Japanese steel experts and industry officials, one observer concluded that retaliatory threats continue to be an important deterrent to steel imports.⁵⁷ As the report states regarding the MHI episode, “It is crucial to note that MHI was not simply concerned about a relational contract with a specific firm, but was afraid it might be shut out of dealings with the entire [Japanese] steel industry.”⁵⁸

According to this study, these threats are due in part to the complex web of business relationships in Japan. For instance, major shipbuilders also have significant industrial machinery operations, including steelmaking equipment. Retaliatory threats from the major steel producers to their shipbuilder customers therefore extend to “the threat to cut off purchases of new manufacturing equipment, or to tell the shipping companies which handle their imports and exports to stop buying ships from particular firms.”⁵⁹

The Product Certification System

Adding to the problem of finding a willing customer, a foreign producer must also wade through official Japanese certification requirements for steel—an often lengthy and frustrating process. Japanese Industrial Standard (JIS) certifications are national standards for industrial and mineral products. As a business reality in the steel industry, anyone wishing to sell in Japan must meet these standards. MITI handles applications for JIS approval for foreign producers.

The approval process for JIS certifications on trade with Japan has been a long-standing complaint among foreign producers trying to export to Japan. Given the international rules governing certifications and Japan's harmonization of its certification standards with those rules,⁶⁰ in theory it should be as easy for a foreign producer to get JIS approval as it is for a domestic producer. But according to U.S. mills who have been through the process, acquiring JIS approval has not been easy.

While the Japanese government has maintained in recent bilateral discussions with the United States that any such problems are out-of-date, discussions with steel producers for this report suggest that the certification process continues to serve as an impediment to imports.

One recent complaint relayed by a U.S. producer involved JIS approval. According to company officials, the producer was granted approval on its first mill only because the mill manufactured a product that was considered unlikely to be exported to Japan. Even so, the approval process took one year. When the company built an additional facility that manufactured products more likely to be exported to Japan, MITI indicated that the company would have to reapply for JIS certification for that facility. Despite already having JIS certification for its first mill, approval for the additional facility took twice as long. According to U.S. company officials, the product manufactured at the additional facility was considered a threat to the Japanese domestic market and for this reason, JIS approval was delayed.⁶¹

Apparent Arrangements Between Japanese Producers and EU and Korean Producers

For many years, U.S. steel producers and others have claimed that Japanese producers have entered into informal arrangements with certain foreign producers to limit access to each others' markets. The best known of these alleged arrangements is the "East of Burma" Agreement, between Japanese and European mills.

While the existence of these arrangements is routinely denied by both Japanese steel producers and the Japanese government,⁶² there is information that market-sharing arrangements have existed between the Japanese and the EU steelmakers well into the 1990s. In a 1999 decision, the European Commission found that major Japanese and European steelmakers had engaged in cartel activity for the sale of seamless pipe. The finding covered an arrangement among four major Japanese producers, including Nippon Steel, and four European counterparts, to restrict sales in each others' markets from 1990 through 1995. As reported by the Nihon Keizai Shimbun, "What the EU sees as problematic in this case is [the eight steelmakers] dividing up of the market. The British, French, German, Italian and Japanese manufacturers conspired to refrain from selling in each others' national markets. They are said to have split up Europe, which is supposed to be a single market, and restricted competition."⁶³ In addition to this formal cartel finding, there is also substantial anecdotal evidence from traders that quotas continue in force.

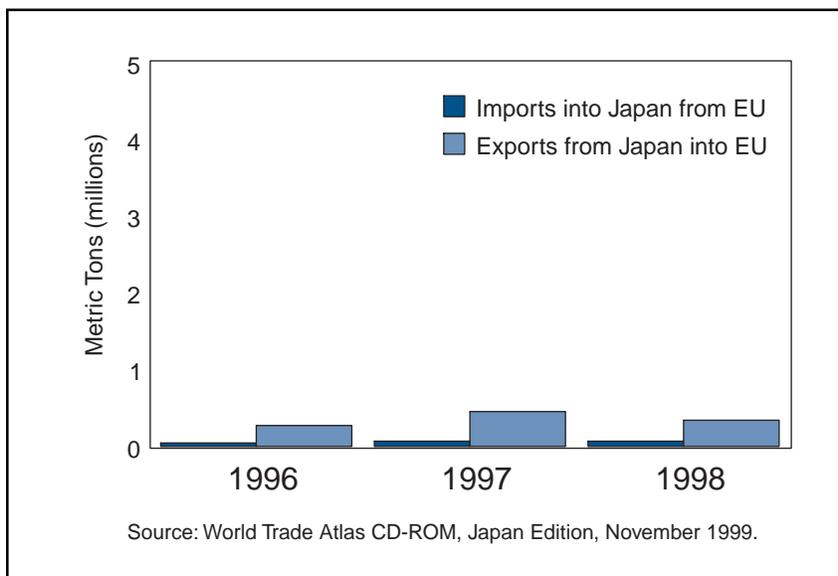
- One trader has stated that "the Japanese will not sell into Europe's market for fear that the European mills will sell directly into the Japanese domestic market in return."⁶⁴
- Another trader, in a November 1999 response to a sales inquiry, stated that the "Gentlemen's agreement between EU-Japan/Korean mills are still effective, but even under the agreement nominal tonnage can be allowed."⁶⁵

- Another response by this trader in February 2000 to a sales inquiry regarding galvanized steel for Spanish and Italian customers stated, “Japanese mills are unable to offer as their export allocation to EU is used up and presently not available.”⁶⁶

Some traders, however, have made statements to the contrary, such as:

The [East of Burma] Agreement has lost much of its former value and function due to current market conditions—economic factors are such that it does not make sense for European mills to export to Asia.⁶⁷

The EU finding and the claims of informal arrangements are reinforced by the exceptionally low level of steel trade between the EU and Japan—at well under a million MT in both directions up to and including the export surge period (*Chart 3-23*). In contrast, Korea increased exports to Europe in 1998 by over 1.5 million MT, or



3-23. EU-Japan Trade, All Steel Products

2,000 percent.⁶⁸ Moreover, in an interview for this report, Tokyo Steel President Masanari Iketani discussed a specific instance of threats of repercussions when Tokyo Steel—the leading independent mill in Japan—attempted to ship steel to Great Britain in violation of an agreement between Japanese and British mills.⁶⁹

Another commonly referenced market arrangement is the alleged agreement between Japanese and Korean mills, specifically POSCO. Merrill Lynch recently reported that “POSCO has respected its relationship with its Japanese counterparts in its marketing

policy (such as voluntarily restricting Japan-bound exports to a certain level).”⁷⁰ Year after year, POSCO’s steel exports to Japan have hovered between 2 million and 2.5 million MT, arguably a relatively low figure given POSCO’s size, low costs, and proximity to the Japanese market.⁷¹

Backdrop to 1998: Recession, Faltering Domestic Demand, and Surplus Capacity

Through the 1990s, the Japanese domestic market entered into a prolonged recession, resulting in a sustained steep reduction in home market demand. Declining domestic demand for steel brought to the fore longstanding concerns about surplus capacity in the steel industry.

In 1998, Japan was in the midst of its deepest recession in the post-war period, with real gross domestic product (GDP) down 2.5 percent in 1998 and a cumulative 4.7 percent from the first quarter of 1997 to the fourth quarter of 1998. Its leaders grappled with postwar record levels of unemployment and bankruptcies, persistent weakness in the banking system, and deflationary pressures in the economy.⁷² Sharp declines in domestic demand meant reduced sales for all sectors of the economy, including the steel industry (*see box, next page*).⁷³

Three factors contributed to tipping the Japanese economy into recession beginning in 1997 after posting 5.1 percent real GDP growth in 1996. First, fiscal policy turned sharply contractionary, as cuts in public works spending reduced public demand by almost 1 percent of GDP while tax increases hit private demand. Second, the Asia financial crisis, which began in the second half of 1997, contributed to a decline in foreign demand, with goods and services exports down 5.6 percent between the second quarter of 1997 and the fourth quarter of 1998.⁷⁴ Finally, the failures of a major bank and securities firm in the fall of 1997⁷⁵ adversely affected business and consumer confidence, and contributed to a sharp decline in the supply of bank credit.⁷⁶

In late 1997 and 1998, Japanese banks were criticized by domestic firms for generating a credit crunch, apparently as they withheld new credit to questionable borrowers and worked on shoring up their balance sheets. Though gross bank lending had declined in 1997, it fell by more than 2 percent in 1998 and more than double that in 1999.⁷⁷

After an initial delay, the Japanese government responded to the deteriorating situation with significant policy steps in a number of areas. To compensate for the drop in private sector demand, the government reversed its contractionary fiscal stance, increased spending in initial and supplemental budgets, and provided tax incentives for such items as housing.⁷⁸ To stabilize the financial sector and reduce the risk of systemic crisis, the Japanese government passed several key legislative measures in 1998, including the provision of substantial public funds, with toughened conditionality for bank recapitalization with those funds.⁷⁹

It is often said that Japanese banks have provided loans based on their relationships with their borrowers, rather than on projections of future company cash flow or other risk-based assessment screening.⁸⁰ The *1999 Economic Report of the President*, in a generalized discussion of the merits of market-based versus relationship-based finance, noted that the best example of this in Japan was “the ‘main bank’ relationship that many established firms traditionally have with their primary lenders.”⁸¹ This appears to be the case particularly in keiretsu groupings. The report goes on to outline the perceived benefits of such a system, but

Japan's Faltering Domestic Market in the 1990s

The loss of Japanese steel demand during the 1990s was severe and prolonged. Japanese steel demand overall fell nearly 30 percent, and the fall in demand for certain products was even more severe. Hot-rolled sheet demand, for instance, dropped by 45 percent in the domestic market over the past decade. The fall in domestic steel demand was not a short-term phenomenon, but was instead a long-term structural decline that coincided with Japan's deeper economic problems, including the crash of Japan's stock market in 1990, the end of the construction boom, and the movement of Japanese automobile plants overseas. The high prices charged by the steel producers themselves also contribute to the problem of low demand.

This loss in domestic demand, coupled with the retention of production capacity levels in the 1990s, aggravated what is often recognized as a longstanding problem of surplus capacity for Japanese producers. Most of the sources that have characterized Japan's steel industry as having substantial surplus capacity in the late 1990s view the fall of domestic demand over the last ten years as the leading cause. A 1999 report by a MITI-sponsored committee discussing structural problems facing the steel industry stated that over 15 percent of total capacity—or about 17 million MT—was a long-term “surplus,” a figure consistent with other measures of Japanese excess capacity.

Numerous Japanese industry experts interviewed for this report recognized that surplus steel capacity has, in fact, long been a problem for the Japanese steel industry, dating back to a capacity buildup that resulted in industry-wide capacity of approximately 140 million MT by the early 1980s. While Japanese producers had taken some steps to cut capacity in the late 1980s, any major capacity cuts had ceased by the early 1990s.

warns that long-term banking relationships can destroy value when they misallocate resources, a point exposed by the Asian financial crisis.

In the 1990s, surplus steel capacity has been retained in the face of the prolonged slide in demand. Japanese producers are routinely characterized as maintaining production facilities in excess of what market conditions would warrant. A recent MITI-sponsored report notes that excessive debt goes hand-in-hand with maintaining surplus facilities.⁸² The resulting high debt obligations, in turn, put added pressure on producers to continue selling during downturns.^{83, 84} The maintenance of surplus production capacity by Japanese producers has been cited both in the United States and Japan as a factor in explaining the export surge.⁸⁵

Exports as the Solution to Problems at Home

The lack of meaningful adjustment during this time left Japanese producers saddled with significant surplus capacity.⁸⁶ Things came to a head in the late 1990s when the bottom dropped out of the domestic market just as primary Asian markets were collapsing.

With sharply declining demand in its home market and the collapse of significant export markets in Asia, Japanese producers responded by continuing to restrain supply to the domestic market to maintain high prices while dramatically increasing exports to new markets outside Asia, particularly the United States. Cutbacks in production occurred, but these cutbacks were apparently aimed at supporting domestic prices. In analyzing the behavior of Japanese steel producers between April and September 1998, Merrill Lynch steel analysts noted:

The priority for blast furnace companies was stabilizing domestic prices through cutting inventories amid weak domestic demand. ...*In pursuit of this goal, the companies sharply cut domestic shipments while vigorously expanding exports to the U.S.* [emphasis added].⁸⁷

Hot-Rolled Steel Destined for Export Reportedly Freed From Production Restraints

An examination of the Japanese steel industry's actions with respect to hot-rolled steel, the product accounting for the largest share of the surge in imports of Japanese steel into the U.S. market shows the potential effects of apparent coordination of production among integrated firms. In order to address the continued erosion of their domestic market and respond to increased competition from Korean and Taiwanese steel producers in their traditional export markets in Asia, Japanese producers reportedly decided, in the spring of 1997, to release one product, hot-rolled steel, from the production restraints agreed to under the cooperative system. The reported release was only partial. Producers were freed from production restraints on hot-rolled steel destined for export, but production for the domestic market remained controlled. This decision has been reported in detail by the leading business periodical *Nikkei Sangyo Shimbun*, as well as the *Nihon Keizai Shimbun*. This decision was also discussed in interviews for this report.⁸⁸

The reported decision to liberalize exports of hot-rolled steel while maintaining domestic production restraints apparently had the intended effect of jump-starting production of hot-rolled steel. Overall production of hot-rolled steel rose 20 percent in 1997.⁸⁹ With domestic shipments continuing to be restrained in order to maintain domestic price levels,⁹⁰ the entire increase in hot-rolled production was destined for export. Unfettered competition on the export side, combined with revenue from continued high, stable domestic prices, encouraged Japanese producers to significantly increase exports of low-priced hot-rolled steel onto world markets, soon to be followed by other major products such as structural shapes.

Collapse of Asian Export Markets

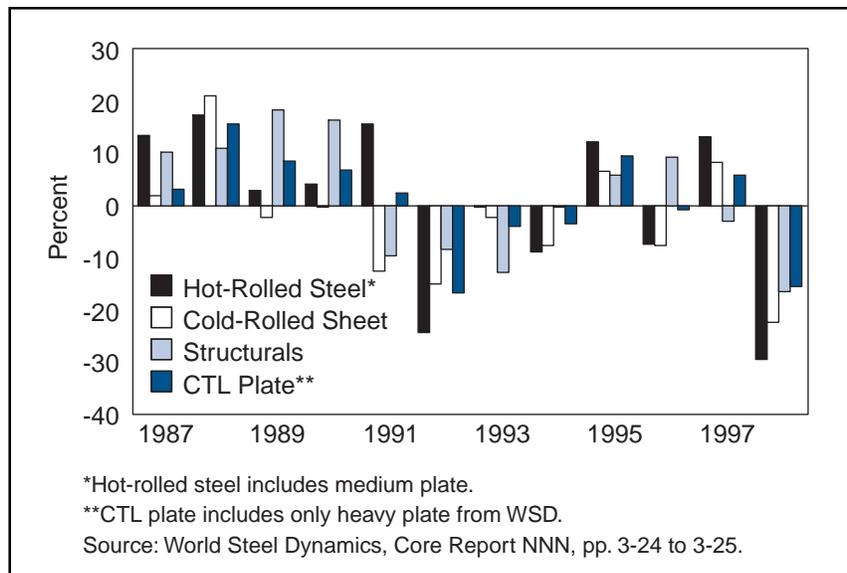
At the time that the reported decision to free up hot-rolled steel production for export was made, demand for steel in Japan's traditional export markets in southeast Asia and Korea was strong, as it had been for most of the 1990s.⁹¹ With predictions for continued strong demand in southeast Asia and Korea, the decision to expand hot-rolled steel exports to Japan's largest export market appeared eminently feasible. In January 1997, NKK decided to reopen its Fukuyama blast furnaces in order to increase hot-rolled steel exports to Thailand.⁹² NKK was not alone. As reported by Nikkei Sangyo Shimbun, "[B]last furnace steel companies embarked on a clear effort to strengthen exports from 1997 on."⁹³

But with the onset of the Asian financial crisis in mid-1997, not only did the possibility of expanding their exports to its traditional southeast Asian export markets vanish, Japanese producers were suddenly faced with significant drops in their export shipments to the rest of Asia as the crisis swept from Thailand to Korea by year's end. With the entire region in the midst of economic collapse, 1998 exports to southeast Asia and Korea fell by more than 2 million MT, a decline of 12 percent compared to 1997. Within this group, the biggest loss was in shipments to Korea, which declined by 800,000 MT.⁹⁴

Suddenly in search of a home, the expanded Japanese hot-rolled production could not be absorbed domestically if high prices in the domestic market were to be maintained.⁹⁵ This was compounded by the fact that domestic demand was

sinking fast as Japan entered a severe recession. The already weak Japanese domestic steel market dropped even further in 1998, as the decade-long decline turned into an outright collapse. With the Japanese economy as a whole contracting by almost 3 percent, apparent consumption for steel in the domestic market shrank drastically, falling by 17 percent from the year before.⁹⁶ In the face of weak domestic demand, domestic shipments were further restrained in order to maintain price levels.⁹⁷

Domestic shipments of major products fell especially sharply from the year before: hot-rolled steel apparent consumption fell nearly 30 percent; cold-rolled steel apparent consumption fell by over 20 percent; and shipments of structural and plate products both fell by around 15 percent (*Chart 3-24*).⁹⁸

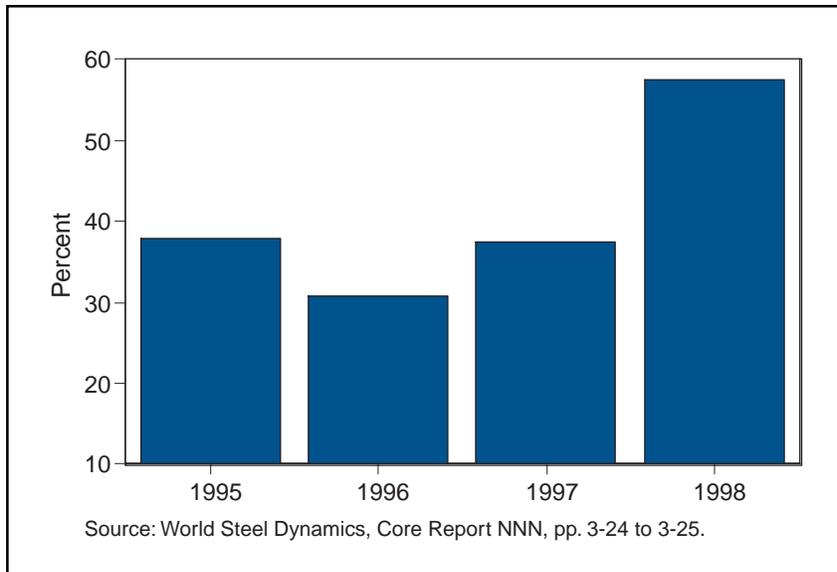


3-24. Japanese Apparent Consumption, Steel Products (Percent Change)

Japanese Producers Set Their Sights on the U.S. Market

The 20 percent increase in production of hot-rolled steel that occurred in 1997, coupled with the 30 percent fall in domestic consumption in 1998, had predictable results on the export front. Between 1996 and 1998, the percentage of hot-rolled steel production that was exported rose, from 30 percent to nearly 60 percent⁹⁹ (*Chart 3-25*).

The U.S. market proved particularly alluring for Japanese producers, in light of the relative strength of the U.S. market compared with Asian markets. Shipments of Japanese steel to the U.S. market quickly surged.



3-25. Japanese Hot-Rolled Sheet Exports as a Percentage of Hot-Rolled Sheet Production

The fierce competition between Japanese companies selling into the United States contrasted sharply with the restraint shown in the domestic market at the same time.¹⁰⁰

U.S. imports of Japanese steel rose sharply in 1998—overall steel imports from Japan were up 162 percent (by 3.75 million MT), while imports of hot-rolled steel were up 381 percent (by nearly 2 million MT).¹⁰¹

Japanese hot-rolled steel export prices fell well below the depreciation in the yen that occurred (*see box and Charts 3-26 through 3-29*). The yen's rebound did not immediately

result in a corresponding increase in Japanese hot-rolled export prices, which in fact continued to decline through the year.¹⁰³

By sharply cutting prices, Japanese producers captured a significant share of the U.S. market in a number of products. Japanese producers met or beat the prices of Korea's POSCO and U.S. mini-mills, and approached the prices of lower quality products from Russia.

Japanese Pricing and Market Trends

Some have suggested that the fall in Japan's export prices during the U.S. steel import crisis was merely the result of market trends—that Japanese producers were only price takers in a competitive market.¹⁰⁴ However, an examination of import shares suggests otherwise. In 1997 Japan had 8.2 percent of total U.S. imports; in 1998 their share had risen to 16.2 percent. For key imports such as hot-rolled sheet/strip and structural shapes, the gains in import share were especially large: the share of imported hot-rolled steel accounted for by Japanese products increased from 8.25 percent in 1997 to 22.79 percent in 1998. The corresponding increase for structural shapes was from 4.73 percent to 37.93 percent.

These share gains are apparently the result of aggressive pricing behavior. Merely following market trends would not lead to such share increases. While some decline in Japanese export prices as a result of the decline in the yen would be expected, the extent of the declines noted in the U.S. import prices exceeds the amount of yen depreciation. Thus, these price declines appear to reflect explicit marketing decisions by Japanese companies, either to reduce profit margins or sell

Japanese Export Prices for Steel Plummet

An analysis by World Steel Dynamics found:

Japanese steel mills, with crude steel production down about 11% year-to-year through August due to poor demand, have sought to sustain exports. This strategy has worked for much of 1998 because of their willingness to sell at an ultra-low price and sharply boost deliveries to the United States. ...In the case of hot-rolled steel destined for the United States, the 1998 rate of delivery has been extraordinary.

at a loss. The rationale for pricing so aggressively in the U.S. market had to stem from the very significant declines in Japanese exports to Asia as a result of the Asia crisis, which caused a decline of 2 million MT of Japanese exports to the region from 1997 to 1998.

While marginal cost pricing might be expected in periods of downturn, especially for a high fixed cost industry such as steel, the ability to sell at marginal cost for a long period cannot be sustained. Japanese producers may have an advantage over U.S. firms in that they are able to sell at marginal cost for longer periods. The reason for this lies in part in the noncompetitive nature of the domestic Japanese steel market, which tends to allow prices for domestic sales of steel to remain constant and relatively high. In a more competitive domestic environment, Japanese producers would have competed for domestic market share, not just foreign market share, and this would have driven down domestic prices and affected the producers' cash flow.

Price-cutting on key products such as hot-rolled steel and structural shapes during the export surge are particularly illustrative.

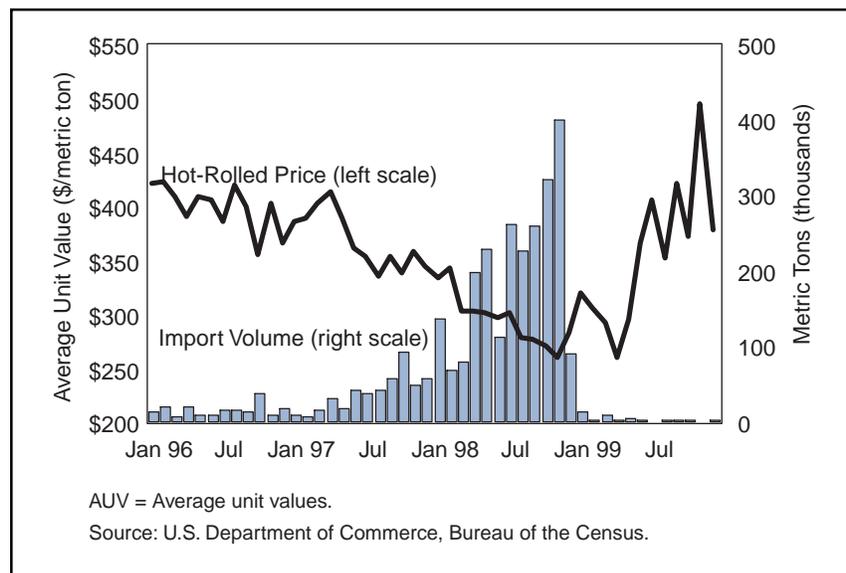
Hot-Rolled Steel. The price of Japanese hot-rolled steel exported to the U.S. started its decline in early 1997, around the time of the reported decision to boost hot-rolled steel exports and well before the softening of prices in the U.S. market (see box).¹⁰⁵ The average unit values of Japanese hot-rolled steel imported into the United States dropped from more than \$400 per MT in the spring of 1997 to less than \$300 by mid-1998. By the second half of 1998, when the largest volumes were imported, the price of imported steel had fallen to around \$250 per MT (Chart 3-26).

Per-unit yen revenues on exported hot-rolled steel declined as a result of these cuts (Chart 3-27). In early 1997, Japanese producers were earning revenues in the 45,000–50,000 yen range per MT of hot-rolled steel exported to the United States.¹⁰⁶ Yen revenues on exports declined gradually from that point, then bottomed out at approximately 30,000 yen per MT by the second half of 1998. By this time, exported hot-rolled steel was being sold at less than half the price charged to big buyers in Japan's domestic market, whose price was holding steady at 71,000 yen.

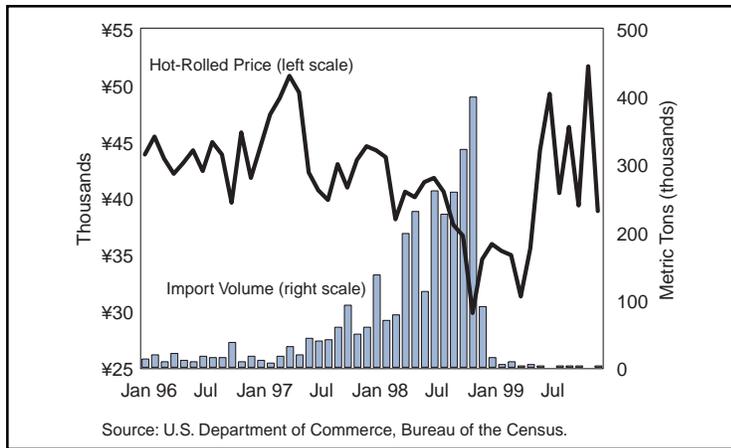
Structural Products. The drop in yen revenues for exported structural products follows a

The Export Drive's Ultimate Impact: Global Market Instability

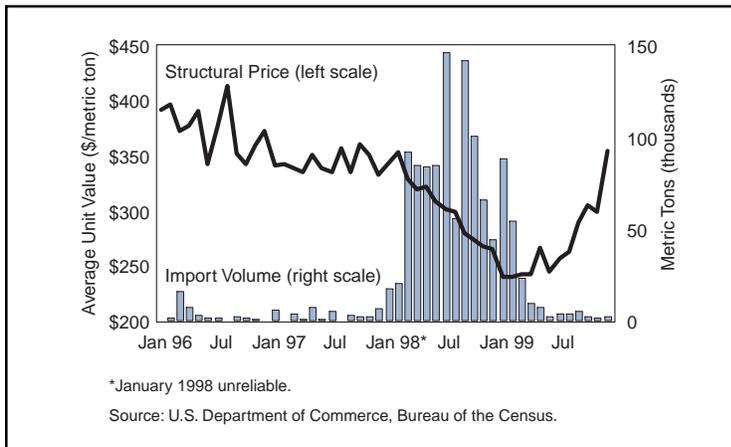
The more dire the situation in Japan's home market, the greater the need to increase exports until the point where Japanese export volumes and export pricing can help undermine even a large market experiencing strong levels of demand, such as that in the United States during 1998. It is no wonder then, that first among the factors identified by World Steel Dynamics as destabilizing prices in the U.S. market in 1998 was the fact that "Japanese import offerings have been extraordinarily high for most of the year [1998]."



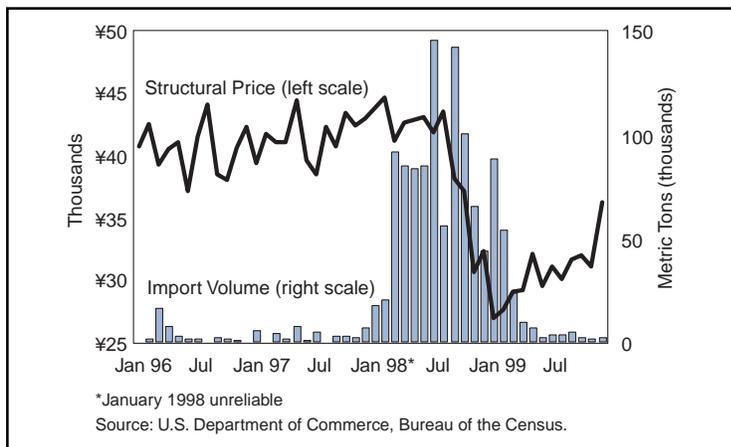
**3-26. U.S. Imports of Carbon Hot-Rolled Steel From Japan:
AUVs in \$/Metric Ton and Import Volumes**



3-27. U.S. Imports of Carbon Hot-Rolled Steel From Japan: Per Unit Revenues (in Yen) and Import Volumes



3-28. U.S. Imports of Carbon Structural Steel: AUVs (in \$) From Japan and Import Volumes



3-29. U.S. Imports of Carbon Structural Steel From Japan: Per Unit Revenues (in Yen) and Import Volumes

similar pattern. As prices on structural exports to the U.S. were drastically reduced in 1998, yen revenues fell from over 40,000 yen per MT in 1997 and early 1998 to around 30,000 yen during the height of the surge, in late 1998 (Charts 3-28, 3-29).

Finally, what occurred in 1998 cannot be attributed to any “dismantling” of the alleged cooperative system, as is sometimes speculated.¹⁰⁷ The only area that had been reported as liberalized at the time (and currently, by most accounts) was exports, at the same time domestic shipments appear to have continued to be controlled. The export surge was, in fact, an export drive undertaken to compensate for insufficient domestic demand,¹⁰⁸ made worse by a strategy of restraining domestic shipments in a weak market in order to maintain domestic price levels.

Conclusion

Japanese reliance on exports to offset weak home demand and maintain capacity continues to the present day. However, because of the U.S. trade cases, and the recovery of traditional export markets in Asia, Japanese producers are focusing less on the U.S. market. Despite few signs of recovery in Japan’s domestic market, production is currently on the rise, and several capacity expansions have recently been announced. As before, Japanese producers appear to be turning to exports to shore up the industry, rather than fully addressing the structural problems at home.

3.3 Korea's Steel Industry in The 1990s: Boom, Bust And Export

Introduction

Problems in the Korean steel industry stem from two major structural flaws.

Unsound Bank Lending. Korea's bank lending practices allowed the country's manufacturing sectors, including steel, to invest in overly ambitious projects that expanded capacity. Lending decisions of private banks were often subject to direct or indirect government influence, and many Korean banks lacked appropriate risk assessment and risk management techniques.¹ Weak lending practices were only one of the many significant factors that contributed to over-investment and excess capacity among Korean *chaebol*, including those producing steel. The *1999 Economic Report of the President* addressed the problems associated with Korea's bank lending practices, stating:

In Korea, excessive investment was concentrated among the *chaebol*, [whose] control of financial institutions, together with government policies of directed lending to favored sectors, led to overinvestment in such industries as automobiles, steel, shipbuilding, and semiconductors. By early 1997, well before the crisis hit Korea, seven of the thirty main *chaebol* were effectively bankrupt.²

Although many of these practices have changed as a result of the financial sector reforms that Korea has implemented under its International Monetary Fund (IMF) program, it is too early to tell whether those reforms have eliminated all of the past lending practices and the government's influence over the financial sector.³

The drop in domestic demand for steel during the financial crisis and the depreciation of the Korean won, which made exporting more attractive to Korea's producers, led to an inevitable increase in Korea's steel exports in 1998. However, there are several indications that many steel companies continued to produce and export steel long after they had passed the point of financial viability. This fact raises two fundamental concerns:

- Unsound bank lending practices contributed to the buildup of excess capacity during the 1990s and a string of bankruptcies in steel⁴ and other sectors.
- Korea's flawed bankruptcy regime⁵ allowed nonviable steel companies to continue operating and exporting, and to avoid plant closings or other significant reductions in production.

POSCO's Dominant Position. In 1998, Korea's Fair Trade Commission (KFTC) found that POSCO's monopolistic position had anticompetitive effects on the Korean steel market. The KFTC also raised concerns about POSCO's continued dominance in Korea because of the company's potential to abuse its market power. Despite the KFTC ruling, only minimal action has been taken to curtail POSCO's dominant position.

Further, as a government-owned company, POSCO was used by policymakers to advance the government's industrial development objectives, which included the provision of low-cost steel to downstream producers. The Commerce Department found this to be an export subsidy in a recent countervailing duty investigation.

These developments raise a fundamental concern about competition within the Korean steel market and possible trade-distorting effects that POSCO's continued dominance may have in the future.

Korea's Bank Lending Practices: The Loan-Financed Boom in the Steel Industry

A Case Study: Hanbo Steel Company

Hanbo Iron and Steel Co., Ltd. exemplified the impact that Korea's weak bank lending practices had on the steel industry as well as the relationships among the government, banks and companies that characterized Korea's flawed regime for nonviable and insolvent firms.

Hanbo, Korea's second largest steel company, collapsed in 1997 after amassing over \$6 billion in debt⁶ (sixteen times its net worth).⁷ This debt was incurred in the process of expanding the company's steelmaking capacity by nearly 9 million metric tons (MT).⁸ While steel was not part of Hanbo's core business, the decision to expand into steel was typical of the diversification strategy pursued by Korean *chaebol* in the 1990s.

Hanbo financed its new steel mill with borrowings from private commercial banks and government-owned banks, including the Korea Development Bank (KDB), Korea's largest lender. According to one report, 80 percent of Hanbo's imported mill equipment was financed with a preferential 1.5 percent loan from a government-owned bank.⁹ An investigation ultimately revealed that government officials, after taking large sums in bribes, had exerted pressure on bank executives to provide unsecured loans to Hanbo. Subsequently, ten people—a former Cabinet minister, four legislators, three bank heads and two Hanbo executives—were indicted on charges of giving or receiving millions of dollars in bribes in exchange for helping to arrange the loans to Hanbo.

In addition to pressuring banks to lend funds, Korea's government provided millions of dollars to the struggling steel maker to keep operations running after the company declared bankruptcy in January 1997. As Korea's second largest steel producer and flagship company of the Hanbo Group (then the eighteenth largest *chaebol* in the nation¹⁰), it was obvious that the firm's collapse would have repercussions on the whole economy. A high-level Ministry of Finance official, Yoon Tae-yong, was quoted as saying, "for the benefit of the national economy, we must keep the plant operating," adding that the money would come from government-controlled banks.¹¹ The emergency loans that were provided by government-controlled banks at reduced interest rates¹² were typical examples of measures taken to implement a "too big to fail" policy that perpetuated government intervention in the industrial sector.¹³

Some Korean steel producers, however, complained at the time to the government that Hanbo's debt relief "is allowing it unfairly to undercut prices in an already slow market."¹⁴ In the meantime, Hanbo continued production because the company's creditors provided it with yet more financing. Some producers argued that Hanbo could undercut their prices by up to 16 percent and urged the government to either sell Hanbo's plants to overseas buyers or completely close the company.¹⁵

Insolvency and U.S. Involvement. Although Hanbo declared its insolvency in January 1997, the steel company continued to operate while receiving infusions of capital, partly through government pressure on banks. During this time, the U.S. Government engaged the Korean government in discussions aimed at ending any market-distorting subsidies to Hanbo and ensuring a market-driven sale of the company.

In July 1998, Hanbo temporarily closed its hot-rolling plant. Hanbo's remaining rebar and structurals production facilities continued in operation. As a result of shutting down the hot-rolling facilities, the company's production decreased from 2.3 million MT in 1997 to 1.4 million MT in 1998.¹⁶ Protracted

negotiations for the purchase of Hanbo Steel finally concluded in early March 2000, when a U.S.-led private consortium¹⁷ signed a purchase agreement to pay approximately \$500 million in cash for the insolvent steel mill. The purchase of Hanbo, which also includes the participation of some Korean business interests, does not include an assumption of the company's outstanding debts. The transaction is still pending while all the details are being finalized.

Window on Underlying Problems. The case of Hanbo is important because it illustrates the close ties among the Korean government, private banks, and the country's *chaebol* that resulted in imprudent lending to steel producers. Hanbo is also important because it shows that these relationships influence the exit process for ailing firms in Korea. Motivated by understandable concerns about economy-wide disruption and systemic failure, the Korean government responded to the crisis by providing financial assistance to banks and corporations. However, it is important to recognize that government policies and private practices in the years leading up to the Asian financial crisis contributed to the structural weaknesses in the Korean economy. In March 2000, the Korean Ministry of Finance and Economy and the Financial Supervisory Commission (the independent financial regulatory agency) acknowledged these conditions. Asserting the importance of recent reforms, these agencies stated that "We just escaped from a financial crisis caused by government interference in the financial sector and by improper ties between political circles and enterprises."¹⁸

Unsound Lending Practices Contributed to Uneconomic Investments

Hanbo represents an extreme example of government-industry ties. However, the company's overly ambitious, debt-financed expansion is characteristic of the expansion of many Korean steel producers during the 1990s.¹⁹ In particular, it illustrates the extent to which Korean steel companies borrowed excessively to finance the investment boom of the 1990s.

Investment grew rapidly in the steel industry, averaging more than 43 percent per annum from 1993 to 1996 (*Chart 3-30*). As late as 1996, investment in new steel capacity continued to grow, increasing by 53 percent over 1995 levels.²⁰ The growth rate of investment contrasts sharply with a growth in estimated apparent domestic consumption of crude steel averaging only about 14 percent per annum from 1993 to 1996.²¹ While the rate of new investments began to decline after 1996, investment levels remained high, especially considering the dire economic conditions of 1997 and 1998.

The vast majority of the facility investment by steel producers was in expanded capacity. For example, as late as 1997, more than 62 percent of new facility investment by steel producers went to create new production capacity.²³ By 1998, capacity among electric arc furnace producers had increased by about 32 percent above 1995 levels.²⁴

Many of these investments were highly concentrated among mini-mill producers, most of which belonged to the *chaebol*.

At the same time, the debt levels of these companies began to grow significantly. Steel companies borrowed huge amounts from private commercial banks and government-owned banks

3-30. Facility Investment in the Steel Industry and Percent Change²²

Year	Facility Investment	Percent Change
1993	2,131	-
1994	3,034	42
1995	4,102	35
1996	6,277	53
1997	4,551	-28
1998	2,965	-35
1999	1,902	-36

Source: Korea Iron and Steel Association.

Structural Problems in Context: A Brief History

Throughout the 1990s, Korea's financial system suffered from fundamental corporate governance problems, including close links between the government, banks, and the *chaebol*. These links fueled imprudent lending practices, which resulted in overinvestment in risky projects. If the *chaebol* encountered financial difficulties, the government often intervened with the banks to ensure a steady stream of financing. Moreover, there was an implicit government guarantee extended to the *chaebol*, because they were considered simply "too big to fail." This government insurance resulted in the government and banks repeatedly providing bailout loans rather than leaving failing firms to market forces or court decisions based upon the bankruptcy laws.

As long as the economy continued to experience rapid growth and high demand, the system worked. However, in the late 1990s, the system began to unravel when the Hanbo Steel scandal broke and seven highly leveraged *chaebol* declared bankruptcy, with devastating effect on the economy. The concentration of bank loans to a few large conglomerates fundamentally weakened and threatened the viability of many Korean financial institutions. Ultimately, the government took control of many insolvent financial institutions, including Korea First and Seoul First, lenders with large exposures to the steel industry.

As bankruptcies rose by 50 percent during the economic crisis of 1997, the long-standing flaws in Korea's insolvency laws and procedures became increasingly apparent. The distortions in credit allocation continued in 1997 as bank loans to the country's thirty largest *chaebol* increased by 43 percent, many of which potentially were emergency loans at concessionary rates that helped ailing *chaebol* weather the crisis. As debts mounted and banks began to face serious liquidity problems, the government could no longer hold back the financial pressures, and the Korean economy spiraled into a deep financial crisis.

during the years before the financial crisis. A significant amount of this financing came from the KDB.²⁵ These practices reflected long-standing tendencies in the Korean banking and corporate sectors (*see box*).²⁶ Moreover, in a number of countervailing duty cases, the Commerce Department determined that bank lending practices in Korea constituted countervailable subsidies.²⁷

Tough Times in the Korean Steel Industry

Massive borrowing led to soaring debt-to-equity ratios for many Korean steel producers (*Chart 3-31*).²⁸ The most highly leveraged and unprofitable producers were Hanbo Steel, Sammi Steel, and Kia Steel. Even companies that were not technically insolvent had high debt-to-equity ratios, ranging from 200 percent to

3-31. Debt Ratios and Operating Margins of Major Korean Producers

Producer	Debt-to-Equity Ratio ³²				Operating Income Margin ³³			
	1995	1996	1997	1998	1995	1996	1997	1998
Hanbo	838	3,196	n/a	n/a	0.9	-9.2	-21.3	-16.5
Sammi	644	1,754	n/a	n/a	7.8	2.0	-14.7	0.5
Kia	824	2,792	n/a	n/a	-4.6	-1.2	-18.6	-20.1
Inchon Iron and Steel	205	213	263	168	2.2	1.1	0.6	0.7
Dongkuk Steel Mill	168	213	380	239	3.1	3.4	-0.8	-1.4
Dongbu Steel Co.	237	114	215	349	3.1	1.5	1.5	1.4
Kangwon Industries	267	417	219	273	2.4	-2.3	-2.2	-6.4
Hyundai Pipe Co.	264	255	699	393	-1.7	-1.7	1.2	1.5

n/a = not applicable due to negative equity figures for those time periods.

Source: Korea Iron and Steel Association Yearbook, 1998.

almost 700 percent (*Chart 3-31*). By comparison, debt-to-equity ratios for the top five major U.S. steel companies in 1997 ranged from 9 percent to 38 percent.²⁹

In Taiwan, whose economy resembles Korea's more closely than that of the United States, debt-to-equity ratios for manufacturing companies have been below 100 percent since 1990.³⁰ Korean corporations' overall debt levels, in terms of the ratio of financial expense to sales, were three times higher than in Japan and Taiwan.³¹

The profitability of many steel producers declined as debt levels continued to rise during the expansion of the mid-1990s. Net income for the most highly leveraged steel companies started to turn sharply negative in 1996, well before the Asian financial crisis, reaching negative 21 percent (of sales) for Hanbo in 1997. Other major steel producers experienced negative (net) operating income margins; for example, Kangwon Industries had negative ratios for three years, also largely due to high debt levels. (*Chart 3-31*).

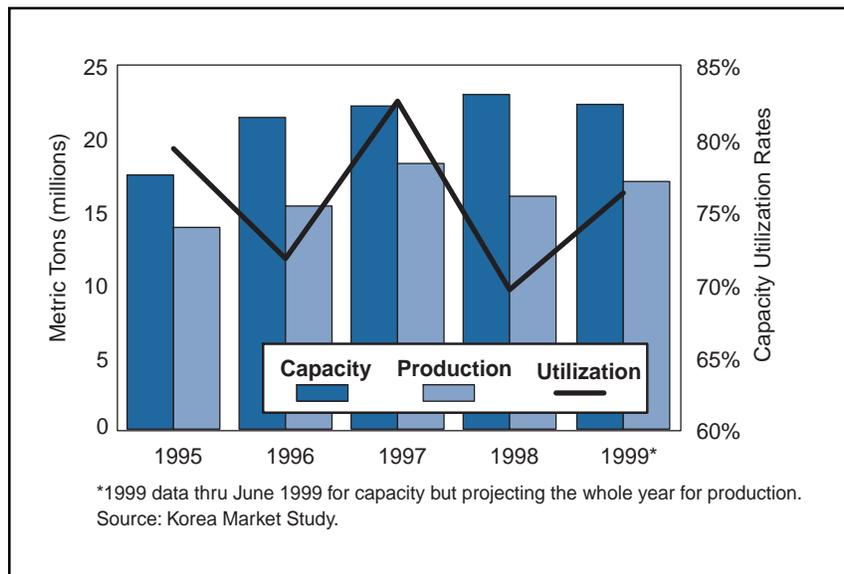
Hanbo and four other major steel producers declared bankruptcy in 1997.³⁴ Hankook Steel Mill and Kangwon Industries faced serious financial problems from excess borrowing to finance new capacity.

The huge buildup in new plants and facilities during the 1990s, and the resulting domestic competition, led to lower capacity utilization rates among Korean mini-mills, which averaged 76 percent between 1995 and 1998, and reached a low of 69 percent during Korea's economic crisis in 1998³⁵ (*Chart 3-32*).

Capacity utilization would have been much lower had it not been for the huge increase in exports. The dominant categories of U.S. imports from Korea in 1998 were typical mini-mill products, such as structural steel and rebar. Most of these imports came from the mini-mill producers, many of which were highly indebted or bankrupt.

By 1997 and prior to the onset of the financial crisis, the Korean steel industry was already in bad shape. The five major producers that had declared bankruptcy and several others facing financial difficulties were placed in government-led debt workout programs. It is unlikely that many of these firms would have survived without direct or indirect government intervention. As a result, very little nonviable steel capacity was eliminated.

Because the pattern of excessive debts and bankruptcy was repeated throughout the Korean economy, unsound bank lending practices also contributed indirectly to the decline in demand from steel users in Korea who were themselves experiencing financial difficulties.



3-32. Electric Arc Producers, Capacity Utilization Rates (Crude Steel)

Ineffective Bankruptcy Process

The continued provision of low-cost loans from private commercial banks and government-owned banks allowed many nonviable steel producers to keep operating, in some cases well into the crisis. Debt-laden firms and their creditors opted for debt restructuring rather than in-court bankruptcy proceedings, and the

government's frequent intervention to assist business groups on the verge of failure "stifled the operations of a well-functioning exit market," according to the OECD.³⁶ In 1997, the OECD noted that

...the authorities encouraged firms and banks to enter into bankruptcy avoidance agreements, while KAMCO [Korea Asset Management Corporation] eased pressures on financial institutions by purchasing impaired loans with minimal conditionality.³⁷

By 1997, a number of Korean steel producers were highly indebted and financially nonviable. Hanbo was only one of many steel producers that disregarded economic fundamentals. In the race for size and increased exports, some companies assumed extremely large debts and sacrificed profits.³⁸ The expansion of many steel producers is typical of yet another tenet of the *chaebol* business ethos, *i.e.*, the pursuit of growth for its own sake.

Apart from Hanbo, a number of other steel companies continued to produce and export while bankrupt.

- As early as 1992, Sammi Steel Co., Ltd.'s creditor banks, including the KDB, had provided emergency loans to the ailing steel producer.³⁹ The problems inherent in propping up Sammi were exacerbated when the financial crisis erupted. Sammi entered into bankruptcy in March 1997 and was under court supervision until May 2000. Government-owned POSCO was pressed to take over Sammi's specialty steel bar and seamless steel pipe operations (the Sammi Changwon Steel Mill), leaving Sammi with only its stainless steel production lines.⁴⁰ In early May 2000, the Korea Asset Management Corporation, under the authority of the Ministry of Finance and Economy, negotiated a plan with Inchon Iron & Steel to take a majority stake in the bankrupt company.
- Kia Steel Co., Ltd., part of the Kia group (Korea's eighth largest *chaebol* based on assets),⁴¹ also benefitted from the government's policy of not letting weak firms fail. In 1997, the KDB exchanged debt for equity, making the government Kia's largest shareholder. Kia entered prolonged court protection procedures and serviced its pre-bankruptcy loans. Kia continued to produce steel throughout the financial crisis in 1998.⁴²
- Two other steel producers went bankrupt. Shinho, a pipe and tube producer, went bankrupt in 1994, but its corporate liquidation plan was not approved until 1998. Hwanyung, an electric arc furnace producer, went bankrupt in 1996, and its corporate liquidation plan was approved two years later in 1998.
- Another major mini-mill producer, Kangwon Industries, entered into a debt workout agreement with its creditor banks in 1998.

Without an effective bankruptcy process to act as an exit mechanism for nonviable steel companies, steel production levels may have been artificially sustained. The ailing steel companies listed above together accounted for approximately 10 million MT of steel production capacity in 1996—almost one-quarter of total Korean crude steel production capacity.⁴³ Several companies had declared bankruptcy and were, in fact, insolvent. Nevertheless, they were provided emergency loans at low interest rates and obtained rescheduling of their debt payments. As a result, they were able to continue to produce and export steel with little interruption of their operations.

In contrast, under U.S. bankruptcy law, companies undergoing reorganization pursuant to Chapter 11 of the Bankruptcy Code may obtain credit throughout the process only under specific court-mandated rules. These rules measure whether such borrowing is necessary and consistent with normal business practices.⁴⁴ The loans provided to bankrupt Korean steel producers did not appear to follow normal commercial practices. Moreover, these loans were provided in spite of uncertain prospects of successful reorganization (under Korea's Company Reorganization Act).

The Korean steel industry as a whole was thus significantly worse off than it would have been if there had been a well-functioning bankruptcy process and exit market. This was true even before the financial crisis

of 1997 and 1998, when capacity utilization rates were already low. The fact that bankrupt steel producers could continue production during the crisis as the market precipitously declined only worsened the problems faced by other viable steel producers⁴⁵ who complained to the government that they had difficulty competing against companies that were relieved of their debt obligations. As a manager at Korea Iron & Steel Company stated in 1998, “We cannot survive under these conditions. . . .It’s not fair.”⁴⁶ In the end, very little excess steel capacity was eliminated prior to or during the financial crisis.

Undoubtedly, the decline in domestic demand for steel and the depreciation of the Korean won (making the country’s steel products much more attractive on world markets) precipitated the increase in Korean steel exports during this period. However, Korea’s weak bank lending practices contributed to conditions of over-investment, excess capacity, and oversupply in the Korean steel market. Moreover, the ineffective bankruptcy process kept many nonviable steel firms in operation. These factors ultimately contributed to a diversion of Korean steel into overseas markets.

POSCO’s Dominant Position in the Korean Steel Market

While Korea’s unsound bank lending practices were a highly visible problem affecting the Korean steel industry leading up to the financial crisis, POSCO’s development into a dominant player is another long-term structural issue that raises concerns about competition in the Korean steel market and potential trade effects.⁴⁷ POSCO achieved its dominant position in part through government support and the company’s strategic role in the industrial development in Korea (*see box*⁴⁸). The extent of POSCO’s dominance is reflected in the company’s effective monopoly for major steel products and strong hold over the domestic distribution of steel.

POSCO’s Monopolistic Practices

A 1998 report on the Korean steel industry by Korea’s antitrust body, the KFTC,⁴⁹ maintained that POSCO engaged in monopolistic practices and actions. In the words of the KFTC report, “POSCO has the power to dominate the market . . . and the distribution sector.” In effect, POSCO has “market control over hot-rolled steel and multiple processed goods.”⁵⁰ The KFTC report further asserts that POSCO’s monopolistic structure “hinders competitiveness in the industry.”⁵¹ The KFTC found that POSCO’s dominant position had current anticompetitive effects on the Korean steel market and raised future concerns about the company’s ability to further abuse its market power.

Anticompetitive Effects in The Distribution Sector. The KFTC fined Posteel, POSCO’s sales subsidiary, for exclusionary distribution practices. According to the KFTC report, Posteel penalized sales outlets

A Brief History of POSCO

POSCO’s expansion was advanced under the government’s initiative and leadership to develop the national economy and to modernize Korean manufacturing industries. Government support during the 1970s and 1980s was largely made through its influence on providing low-interest loans for facility investment projects. As a government-owned company, POSCO was used by policymakers to further the government’s industrial development objectives, which included the provision of low-cost steel to downstream industries.

During the 1990s, however, POSCO was the exception to the pattern of excessive borrowing that characterized other Korean steel firms. POSCO remains the only integrated steel mill in Korea and is considered one of the world’s most efficient and well-run steel companies, and as such did not experience many of the problems faced by the country’s mini-mills in 1997 and 1998.

through an “instant penalty system” under which sales outlets were penalized for distributing competing producers’ products. These distribution practices allowed Posteel to restrict sales outlets from handling competitors products which had the effect of restricting commercially driven, market-based trade in the domestic steel market.

The KFTC finding further found that “Posteel uses its position in business dealings to force sales outlets to follow transaction terms determined by [Posteel] and the customer on linked and transfer sales.” Posteel forced its sales outlets to adhere to the following transaction terms:

- A margin rate of 1 to 2 percent.
- Deferred interest payments on transaction loans.
- Conditions on guarantees.

Posteel threatened to fine sales outlets which violated these transaction terms. The KFTC cautioned that in the course of a “normal” transaction,

POSCO’s (Posteel’s) transferring its own customers to sales outlets and demanding that they deal with these customers according to transaction terms set by POSCO itself abuses its position in the transaction. It is an unfair activity that imposes a handicap on the parties to the transaction.⁵²

The KFTC report cautions that POSCO’s control over the distribution sector has increased, which opens the possibility that “new entrants and competitors will be sealed off from the market.” While the Korean government failed to heed all the warnings present in the KFTC report, it did move to dissolve many of POSCO’s shares in the sales outlets and distributors.⁵³ POSCO continues to maintain its monopolistic position and, as of July 2000, still had over 95 percent ownership in Posteel.⁵⁴

POSCO’s Pricing Practices. In spite of POSCO’s market dominance in a number of basic steel products, POSCO has not benefitted from high domestic prices. The principal reason is the Korean government’s price stabilization policies which required POSCO to maintain low, stable domestic steel prices. The government has acknowledged that it had a policy to set POSCO’s hot-rolled coil prices as low as possible to “cultivate a strong and growing domestic market for its products.”⁵⁵ This policy was assisted with a three-tiered pricing system, which served different markets: domestic prices in Korean won for products that would be consumed in Korea; direct export prices in U.S. dollars or Japanese yen; and local export prices in U.S. dollars. Local export prices were provided to those domestic customers who purchased steel for further processing into products that were exported. The Commerce Department found this pricing system to constitute an export subsidy in the countervailing duty investigation of stainless steel sheet and strip in coils, which covered the period 1997, because a different price was charged to customers based upon export performance.⁵⁶ The Korean government has stated that POSCO’s tiered pricing structure was officially discontinued in 1999. The Commerce Department has not had the occasion to review POSCO’s pricing practices to verify the termination of the tiered structure in a countervailing duty proceeding.

POSCO Maintains Its Monopolistic Position

The KFTC was also concerned about POSCO’s market dominance and warned that the company has the potential to abuse its position. The KFTC was particularly concerned that the privatization of POSCO, which has been an ongoing process by the Korean government, would simply create an unregulated private monopoly. The KFTC’s findings led it to the following recommendations for restructuring the blast furnace sector, *i.e.*, POSCO, including:

- Splitting POSCO’s two integrated plants (Pohang and Kwangyang) into two companies so that the privatization of POSCO does not create a private monopoly.

- Regulating POSCO after privatization to prevent unreasonable diversification.
- Removing restrictions on new entry into the blast furnace sector.
- Limiting POSCO's control over the distribution structure and correcting the company's exclusionary distribution practices, particularly Posteel's operation of an "exclusionary distribution network that restricts its own sales outlets from handling competing companies' products."⁵⁷

The KFTC recommendations were not implemented due to opposition by government agencies, including the Ministry of Commerce, Industry, and Energy. The Planning and Budget Commission interpreted the recommendations as a "suggestion."⁵⁸ In response to U.S. government questions about the KFTC report as part of ongoing bilateral discussions, the Korean government clarified:

The Board of Audit and Inspection recommended in June 1998 that POSCO divest its equities in [its sales] agents, for POSCO's investment to them is inefficient in the Board's judgement, considering its small return. POSCO has agreed to do it step by step. ... The Korean Government decided against splitting up POSCO into two separate companies because it would not be economically viable to do so. The government further considered concerns over monopolization to be addressed with the elimination of POSCO's interest in the domestic distributors, low tariff rates which are scheduled to be reduced to zero and the proximity and capacity of the Japanese steel industry which is a significant participant in the Korean steel market. The KFTC report was not binding on POSCO. Moreover, other independent studies such as that conducted by the Korea Development Institute recommended against splitting up POSCO because it would reduce the efficiencies of the company and steel making in Korea.⁵⁹

Over the past several years, the Korean government has actively protected POSCO's dominant position in the Korean marketplace. For instance, in the mid-1990s, the government discouraged Hyundai from building an integrated steel plant in order to protect POSCO's dominant position.⁶⁰ Hyundai had planned to construct an integrated blast furnace plant, mostly for the company's own steel requirements. According to industry sources, Hyundai wanted to rely less on POSCO, in part because of Hyundai's need for specialized products.⁶¹ In 1996, the KFTC cited this example as evidence of the existence of "tacit restrictions to entry" into the blast furnace sector.⁶²

How POSCO Weathered the Crisis

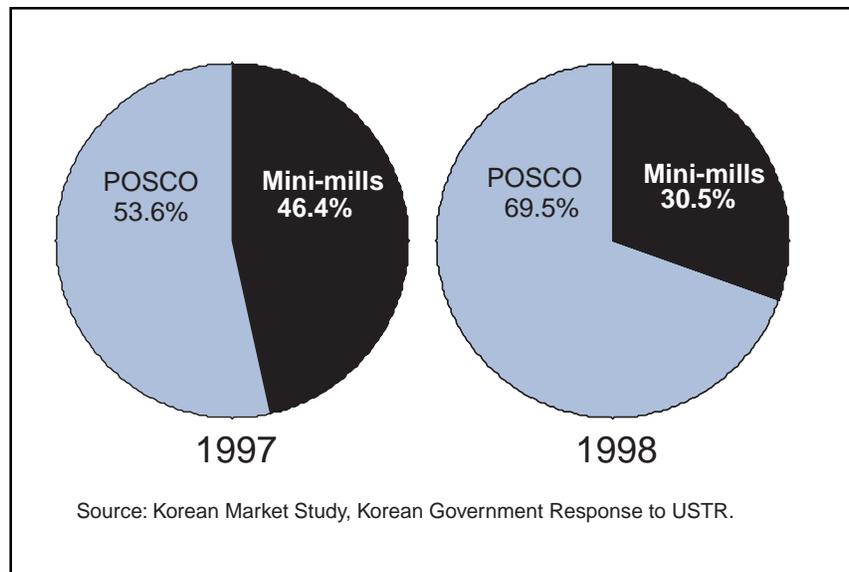
During 1998, POSCO's dominant position appears to have helped it weather the effects of the Asian financial crisis much better than Korean mini-mills. This is strikingly evident when contrasting the position of POSCO with that of the mini-mills in both the domestic and export markets in 1998.

Domestic Sales. Prior to and during the Asian financial crisis, POSCO's sales mix (domestic vs. export sales) remained fairly stable, with no major shift between domestic and export sales. However, from 1997 to 1998, POSCO's share of domestic sales of finished steel by all Korean producers surged from 54 percent to 70 percent. While POSCO's domestic sales declined 7 percent (1.2 million MT), other Korean producers' domestic sales tumbled 53 percent (from 16 million MT in 1997 to 7.6 million MT in 1998). As a result, these producers' share of total domestic sales by Korean producers fell from 46 percent in 1997 to 30 percent in 1998⁶³ (*Chart 3-33*).

Export Sales. Korea's finished and semifinished steel exports are the mirror-image of the domestic situation among Korean producers. POSCO's exports of finished and semifinished steel increased nearly 14 percent in 1998 (slightly more than 1.2 million MT).⁶⁴ While this may seem like a significant increase, the exports of other Korean producers of finished and semifinished steel increased by more than 200 percent (more than 4.6 million MT).⁶⁵ Exports of these producers (excluding POSCO) increased from 20 percent of total exports in 1997 to 40 percent of total exports in 1998.

Exports to the United States.

Even more dramatic is the change in Korean exports to the United States. While POSCO's exports of finished steel increased by 10 percent in 1998 (from 966,000 to almost 1.1 million MT), the exports of all other Korean steel producers rose by almost 500 percent, an increase of nearly 2 million MT.⁶⁶ (Chart 3-34). For example, available data indicate that the greatest percentage of the increase in plate exports to the United States in 1998 was accounted for by POSCO's domestic competitor, Dongkuk.⁶⁷

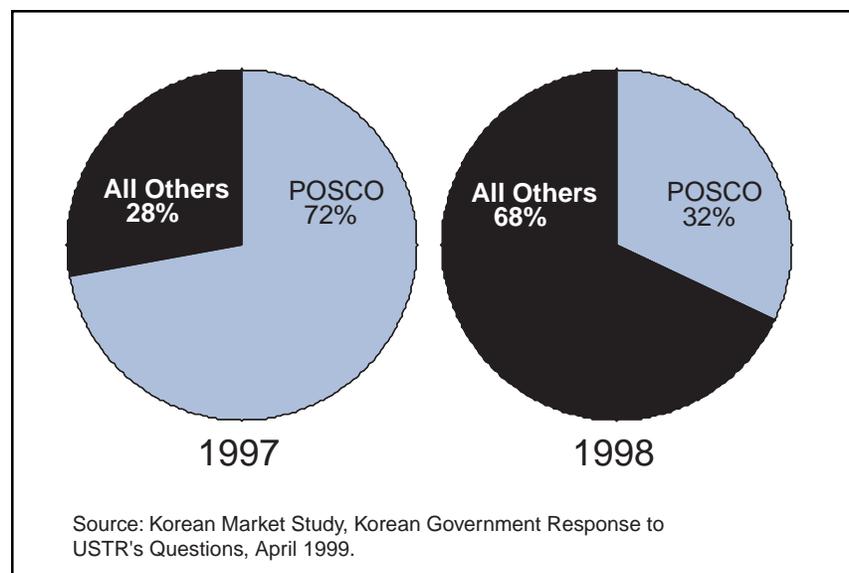


3-33. POSCO vs. Mini-Mills: Share of Domestic Sales

The Asian Financial Crisis in Korea and Surging Exports

The confluence of several factors led to the increase in Korean mini-mill exports to the United States in 1998.

- The financial crisis of late 1997 and 1998 resulted in a significant decline in domestic demand for steel in Korea.
- The drop in demand for steel in several of Korea's major Asian export markets led to falling exports to those countries.
- The depreciation of the Korean won fueled the export drive and gave Korean producers opportunities to lower prices while maintaining a high level of won revenues.



3-34. Korean Steel Exports to the US: POSCO vs. All Other Korean Producers

Domestic Consumption. The effect of the Asian financial crisis on Korean steel producers in 1998 was significant. Demand from steel-consuming industries in Korea dropped 35 percent, a decline in apparent consumption of more than 13 million MT in 1998 compared to 1997.⁶⁸ While some of this loss was borne by steel imports (which declined by 3.7 million MT in 1998⁶⁹), a number of Korean steel producers had to significantly increase their exports to survive.

Exchange Rates. Steel exporters were helped by the rapid decline in the value of the Korean won, which immediately made Korean steel products much more competitive in world markets. The won depreciated by

approximately 32 percent from 1997 to 1998.⁷⁰ As a result, won-denominated export revenue surged in the early part of 1998. While Korean steel exporters did lower their prices in the U.S. market during the course of the year, the positive impact of the depreciated won on export revenues facilitated Korean steel producers' ability to export in the face of a severely contracting domestic market.

These factors also helped bring about a 152 percent rise in Korean finished steel exports to the United States in 1998, or 2 million MT.⁷¹ Korean finished steel exports to all countries rose by 57 percent in 1998, an increase of almost 6 million MT. Exports to the EU, in particular, increased by 1.5 million MT in 1998, about 2000 percent over 1997 levels (although exports to the EU started out at a much lower level than those to the United States).⁷²

The Financial Crisis Exposes Structural Flaws in the Corporate and Financial Sectors

The surge in corporate bankruptcies and the deterioration of banks' balance sheets brought the problems of the Korean corporate and financial sectors to the attention of foreign investors. Many institutional investors lost confidence in the Korean market and withdrew their investments. The central bank's steps to protect the Korean won failed, but not before the country's foreign exchange reserves were severely depleted. The won rapidly depreciated against the dollar—by 32 percent in 1998.⁷³ When foreign banks declined to roll-over their short-term loans, a short-term fundraising gap forced Korea to request assistance from the International Monetary Fund.

The ensuing economic crisis in 1998 was the worst the Korean economy has faced in its modern history. Declines in private consumption and new investment led to a 5.8 percent drop in gross domestic product from 1997 to 1998. The government's attempt to stabilize financial markets by raising interest rates to more than 30 percent caused further hardship. Higher interest costs forced more firms to default on their loans, raising the number of bankruptcies beyond already high pre-crisis levels. Banks severely limited new loans in an attempt to improve their deteriorating capital adequacy ratios. As domestic demand began to decline, capacity utilization rates among manufacturing firms fell to new lows, especially among the country's *chaebol*. Activity in the construction and automotive sectors, for example, fell by 41 and 31 percent, respectively, in 1998.⁷⁴

Effects on the Korean Steel Industry

The Korean steel industry, already suffering from excess capacity, was hit hard by the financial crisis. Apparent consumption of finished steel declined by more than 13.2 million MT in 1998 compared to 1997, a drop of 35 percent.⁷⁵ Underlying the fall in demand was a severe decline in steel-consuming industries, such as automobiles, construction, and machinery. Falling demand forced steel producers to reduce production of finished steel by 5.2 million MT,⁷⁶ which led to a decline in capacity utilization rates. Overall capacity utilization rates declined by almost 10 percent for crude steel (including declines of more than 6 percent in the blast furnace sector).⁷⁷ Mini-mill producers were hit with a 13 percent drop in capacity utilization, from 83 percent in 1997 to about 70 percent in 1998.⁷⁸ This drop was particularly painful given the rapid capacity increases during the mid-1990s, *i.e.*, by some 32 percent between 1995 and 1998.⁷⁹

Korean Steel Exports to the United States

The impact of the crisis on Korean steel exports was immediate and substantial: finished steel exports surged by 5.9 million MT in 1998, an increase of 57 percent over 1997 levels.⁸⁰ The United States and the European Union absorbed over 60 percent (about 3.6 million MT) of the total increase in steel exports from Korea.⁸¹ In response, the U.S. industry filed eight antidumping and countervailing duty cases⁸² and the European Union filed four antidumping and countervailing duty cases against Korean steel products.

U.S. steel imports from Korea increased by nearly 2 million MT in 1998, reaching 3.1 million MT, a 109 percent increase over 1997 levels. U.S. imports of Korean heavy structural shapes and rebar (traditional mini-mill products) accounted for more than 52 percent of the total increase over 1997 levels (*Chart 3-35*).⁸³

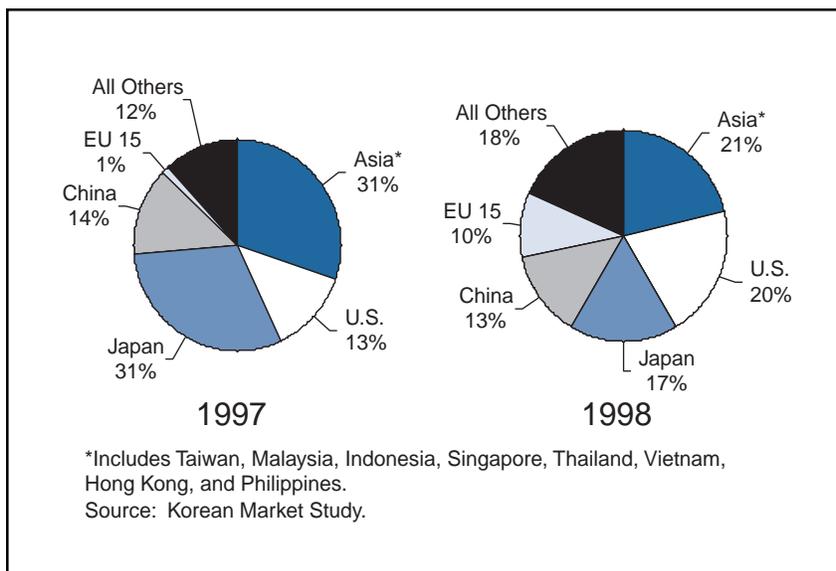
3-35. U.S. Import Surge Products from Korea and Percent Increases, 1997–1998 ⁸⁴				
Product	1997	1998	Percent Increase	Volume Increase
Total	1,486,307	3,111,496	109	1,625,189
Heavy Structural Shapes	7,565	373,449	4,778	365,793
Rebar	36,556	523,304	1,332	486,798
Cut-to-length Plate	23,805	294,728	1,138	270,923
Cold-rolled Steel	26,792	274,622	925	247,830
Line Pipe	88,246	187,825	113	99,579
Corrosion-resistant Steel	44,407	140,634	154	85,227

Source: U.S. Department of Commerce, Import Administration Steel Import Monitoring Program. Figures based on data provided by the U.S. Department of Commerce, Bureau of the Census.

Unlike the increase in U.S. imports from Japan and Russia, Korean hot-rolled steel products were not a significant factor in 1998. These were mostly accounted for by a joint venture between POSCO and USX, USS-POSCO Industries (UPI). In fact, Korea's hot-rolled steel exports to the United States in 1998 declined by more than 7 percent.

Exports to the Rest of the World

In 1998, while Japan's steel exports to most Asian countries greatly declined, Korea's did not. The decline in Korean exports to Japan and the hardest hit Asian countries⁸⁵ was offset by an increase in exports to other Asian markets, in particular Taiwan, China, and Hong Kong. The net increase in exports to all of Asia in 1998 was 423,000 MT over 1997. However, Korea's exports to Asia, measured as a percent of total exports, declined in 1998 (*Chart 3-36*).



3-36. Korean Finished Steel Exports (1997–1998)

Diversion of Domestic Sales to Exports

The loss in sales by mini-mills in the domestic market was largely compensated for by increased exports (*Chart 3-37*). These exports became much more competitive in light of the 32 percent depreciation⁸⁶ of the Korean won, which permitted Korean steel exporters to lower dollar prices to increase their exports even more. Between 1997 and 1998, Hanbo's exports increased by 78 percent from 354,000 MT to 631,000 MT, with an associated increase of 127 percent in won-

denominated revenue. For other mini-mill producers, the increase in won-denominated export revenue was equally dramatic, reaching over 700 percent for Dongkuk Steel.

Conclusion

In light of the sudden, sharp drop in domestic demand, it was altogether logical for many of Korea's steel companies to significantly increase their exports in 1998.

In addition, the significant depreciation of the Korean won increased their competitiveness on world markets and stimulated further export demand. However, many of Korea's steel producers continued to produce and export beyond the point of financial viability. By allowing these companies to borrow excessively, without appropriate risk assessment and risk management before the crisis, the Korean banks and the Korean government created a situation in which there was simply too much steel competing for fewer and fewer customers. If not for emergency loans (in some cases provided under pressure from the Korean government) and insolvency procedures that insulated these companies from crushing debt burdens, many may have been shut down and liquidated, as advocated by a number of other, viable Korean steel companies. Ultimately, the increase in steel exports due to market conditions was exacerbated by these market-distorting factors.

Producer	1997	1998	Percent change
<i>POSCO</i>	8,924	<i>10,171</i>	14
Hanbo	94	213	127
Sammi	63	178	183
Kia	23	66	187
Kangwon	74	219	196
<i>Dongkuk</i>	295	<i>1,658</i>	462
Inchon	288	673	134
Dongbu	247	529	114
<i>Hyundai</i>	290	<i>359</i>	24
<i>Union</i>	382	<i>659</i>	73

Source: U.S. Department of Commerce, *CMA Korea*.
Note: Figures in italic print are in thousand metric tons.

3.4 The Brazilian Steel Industry: Protection at Home Supports Exports Abroad

Introduction

Brazilian steel producers have long reaped the benefits of a home market insulated from competition from abroad and lacking any meaningful competition at home. This sheltered domestic market provides the Brazilian steel industry a secure, profitable base from which to compete to increase or retain export volumes irrespective of the kind of market volatility seen in 1997 and 1998. However, to the extent that Brazilian steel companies take advantage of an insulated home market, the potential for unfair trade exists.

- **Cartel-Like Behavior.** Tactics employed by Brazil's steel sector to manage competition at home include collusion to raise prices.¹ Cartel-like behavior is fostered by segmentation of the market and the maintenance of strong cross-ownership ties to solidify cooperation.
- **Import Barriers.** These practices would not succeed without a number of import barriers, supported by government and industry, to minimize foreign competition, including high import tariffs and taxes, import licensing barriers and "captive" distribution channels.

An Oligopolistic Steel Industry at Home

Anticompetitive practices among the large Brazilian steel firms allow the domestic industry to operate in an atmosphere effectively sheltered from market forces. This environment enables Brazilian producers to maintain domestic prices at artificially high levels² while lowering export prices on certain products to increase or maintain export sales. Of particular concern is the cartel-like behavior of CSN, Usiminas, and Cosipa—three companies that account for almost half of total crude steel production in Brazil.^{3,4} (*See boxes, this page and the next.*)⁵

Cartel-Like Behavior

In 1997, Brazilian authorities found that these three producers conspired to fix domestic prices. The Secretaria de Acompanhamento Economico (SEAE)—the Economic Monitoring Secretariat of the government of Brazil—concluded in a July 1997 report that "a cartel had been formed in connection with the increase in sales prices of ordinary flat steel products implemented by CSN, Usiminas, and Cosipa."⁶

Profile: Brazil's Largest Steel Company

CSN, Brazil's largest steel producer, was established as a government-owned steel company in the 1940s. After transfer of ownership in 1974 to SIDERBRAS (a government holding company) and subsequent privatization auctions in the early 1990s, CSN was free of direct government ownership by 1994. At present, CSN is owned by iron ore producer CVRD (Companhia Vale do Rio Doce, which holds 10 percent) and a consortium of private investors including Bradesco Bank, Vicunha Group, Previ (the pension fund of state-owned Banco do Brasil, Brazil's biggest bank) and CSN employee funds. CSN also holds 31 percent of the voting shares of Valepar, a company which in turn owns 61 percent of the voting shares of CVRD.

CSN is a major Brazilian producer of flat-rolled products, including hot-rolled sheet and strip, cold-rolled sheet and strip and coated sheet and strip, and is the world's largest single-mill producer of tin plate, a type of coated, flat steel product. In 1998, CSN sold 38 percent of all hot, flat-rolled steel, 31 percent of all cold, flat-rolled steel, 75 percent of all galvanized steel and 97 percent of all tin-coated steel produced in Brazil.

Rounding Out the Big Three

Usiminas, Brazil's second largest steel mill, began operations in 1962 as a joint venture between the government of Brazil and various stockholders, principally Nippon Usiminas. SIDERBRAS acquired a majority interest in Usiminas in 1974. Usiminas was the first steel company to undergo privatization, beginning in 1991. By 1994, Usiminas was substantially privatized. Today, Usiminas is owned by CVRD (23 percent), Nippon Usiminas, Previ, employee associations and various other private investors. Usiminas is the largest producer of uncoated steel products in Brazil and dominates the automotive sector.

Cosipa was established as a government-owned steel company in 1953 and was transferred to SIDERBRAS in 1974. Cosipa began privatization in 1993. By 1994, the Brazilian government had sold its remaining directly held voting shares, but retained approximately 25 percent of the preferred shares. At present, Cosipa is owned by Usiminas (50 percent), BNDES (17 percent) and several employee participation investors and other private investors.

According to market research, Cosipa and Usiminas share the same major clients in the Brazilian market, namely the large automotive companies.

Based on SEAE's findings, CADE (Brazil's relevant prosecuting agency) conducted an investigation of the companies and, in 1999, determined that their behavior on that occasion was cartel-like and in violation of Brazil's antitrust law.⁷ As a result, CADE took the unusual step of imposing fines on each of the companies equal to 1 percent of the value of their respective 1996 sales. While this case was based on a July 1996 instance of the big three producers together informing domestic customers of a price increase,⁸ there is evidence that the same tactics were employed again less than a year later.⁹

These findings confirmed the existence of significant oligopolistic coordination among the major "ordinary" (*i.e.*, carbon) flat steel producers in Brazil. Furthermore, CADE officials discussed mechanisms in the industry through which each steel firm notifies its clients of price increases prior to the actual increase such that each producer can keep tabs on the pricing behavior of its competitors.¹⁰

This coordination of pricing is one of the primary means by which the major Brazilian steel producers have maintained high domestic prices while, at the same time, exporting at much lower prices.

Market Segmentation

The high degree of segmentation in Brazil's steel market provides further evidence of the lack of robust domestic competition. As the Brazilian steel industry is currently structured, certain companies tend to specialize in the production of certain product lines. This segmentation of products across companies has been described as "the legacy of government coordination of the industry prior to privatization."¹¹

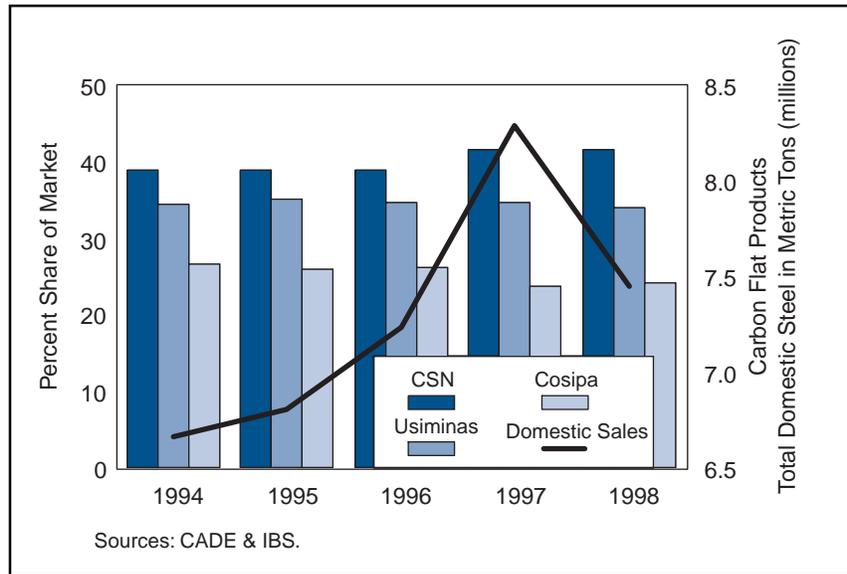
As a result of this segmentation, industry leaders for each major product category have significant pricing influence in the domestic market. In combination with the limited volume of steel imports in the Brazilian market, they can use this influence to keep domestic prices high. According to the recent CADE determination, new competitors "face such huge difficulties in entering the industry as to permit an abuse of market power."¹² An example is the ordinary flat-rolled steel sector in Brazil, which is dominated by the same companies found guilty of collusion to fix home market prices: CSN, Usiminas, and Cosipa.

A recent credit rating report covering the Brazilian steel industry specifically noted that the carbon flat-rolled steel sector in Brazil has traditionally been dominated by CSN, Usiminas, and Cosipa.¹³ These

companies have maintained their relative shares of the total domestic carbon flat-rolled market at practically the same level from 1994 through 1998: CSN holds the largest share at approximately 39 percent, Usiminas follows with approximately 35 percent, and Cosipa is third with approximately 26 percent (*Chart 3-38*). Despite increases and decreases in total domestic sales of carbon flat-rolled steel products over the years, these three producers have maintained relatively constant shares of the market. In addition, an analysis of the

production shares of carbon flat-rolled steel products from 1993 to 1998 indicates remarkably consistent shares maintained by each of the three companies. In terms of quantities produced, CSN had approximately 40 percent, Usiminas 35 percent and Cosipa 25 percent during that period.¹⁴ This contrasts with the varying production shares by major U.S. steel producers during the last several years.¹⁵ The consistent market and production shares of Brazilian producers do not themselves prove the existence of anticompetitive behavior.

However, when considered together with the legal determination of CADE and the extensive cross-ownership between producers in Brazil, indications are strong that these companies operate in an anticompetitive environment and do not compete aggressively for market share in their home market.



3-38. Brazilian Market Share, Common Steel Flat Products (1994–1998)

A Cross-Ownership Web

Extensive cross-ownership in the Brazilian steel industry—another legacy of recent government ownership—has further insulated the industry from meaningful competitive pressures.¹⁶ A 1998 *American Metal Market* article analyzing the state of the Brazilian steel industry described it as “enduring the growing pains associated with the transition from public ownership to private ownership.”¹⁷

In 1990, the Brazilian government, as part of its National Privatization Program, determined that the steel sector would be the first major government-controlled industry to begin privatization. By 1994, all the voting shares held directly by the Brazilian government in the major steel-producing companies had been sold through a series of equity auctions, largely to employee investment groups and pension funds, consortia of private investors (including foreign companies) and other Brazilian steel producers. However, iron ore producer CVRD, at the time a majority government-owned company, acquired significant common share ownership in several other steel firms.¹⁸ In 1997, CVRD itself was partially privatized, but 32 percent of CVRD is still owned by BNDES, the government-owned development bank. Considering the present extent of cross-ownership and CVRD’s continued financial interest in the steel industry, the transition from public to private ownership still has a long way to go.

Four of the country’s major steel producers, CSN, Usiminas, Cosipa, and CST, all share significant levels of cross-ownership and interlocking directorships (*Chart 3-39*¹⁹).

The most notable case of cross-ownership involves CSN, Brazil's largest steel maker and biggest producer of ordinary flat steel products, and CVRD, the world's largest iron ore producer. CVRD holds stakes in all of Brazil's biggest steel mills, including 10 percent of CSN, 23 percent of ordinary flat steel producer Usiminas and 23 percent of CST, Brazil's biggest slab producer. CSN indirectly has a significant ownership interest in CVRD. CSN is arguably in a position to exercise significant influence in the Brazilian steel industry generally, and the ordinary flat steel sector specifically, through its links with CVRD and other steel producers.²⁰

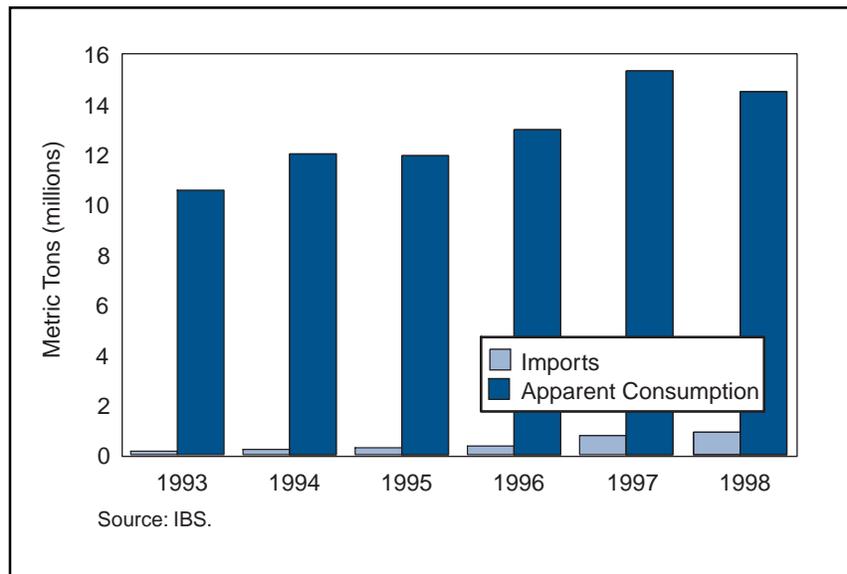
Import Barriers Stifle Foreign Competition

Steel imports into Brazil traditionally have been extremely low. While import levels have risen somewhat in the last five years, reaching 6.2 percent of apparent consumption in 1998,²¹ domestically produced steel has continued to fill most of

domestic demand (*Chart 3-40*). Several different factors explain the low level of steel imports into Brazil, some market based, others pointing to potential unfair barriers to trade.²²

Market Factors. Certain market characteristics make it difficult to export to Brazil:

- Trade financing costs often have made imports too expensive because of very high domestic interest rates.
- A number of Brazilian steel consumers prefer making their purchases in relatively small quantities, on a just-in-time basis.
- Longer lead times and minimum shipment quantity requirements inherent in import purchases can make import purchases a less attractive, less practical option.²³



3-40. Brazilian Total Steel Imports vs. Apparent Consumption (1993–1998)

Import Barriers. Foreign steel makers also face several structural and procedural barriers when trying to bring steel to market in Brazil. These import barriers, which include import tariffs and taxes, licensing schemes, and captive distribution systems, have combined to insulate the domestic market from outside competition, keeping domestic prices high and effectively limiting foreign competition. Thus, Brazilian producers have been able to enjoy a significant advantage over U.S. producers and other competitors that must face the forces of open competition in their home markets.

Import Tariffs and Other Taxes

U.S. specialty steel industry insiders have stated that the biggest impediment to exporting their products is Brazil's tariff and tax structure.²⁴ Although import duties have been lowered over the years, they still range from 9 percent (for carbon semifinished) to 19 percent (for seamless pipe).²⁵ Importers must also pay a merchant marine tax²⁶ and various other taxes and fees.²⁷ The combination of these tariffs and taxes discourages steel producers from exporting their products to Brazil.

Import Licensing System

Importers may be confronted with another hurdle at the border: an import licensing system that at times is used to impede imports. Brazil requires a license to import almost any product into the country. Under the import licensing system, or Sistema de Comércio Exterior, licenses are issued automatically within five days.²⁸ However, at any time, selected products can be made subject to “nonautomatic” licensing and consequent significant delays.²⁹ Wire rod and stainless steel are two steel products currently subject to the nonautomatic procedures. The lack of consistently applied rules discourages imports into the Brazilian market.³⁰

“Captive” Distribution Channels

According to Hans Mueller of TN Consulting in Murfreesboro, Tennessee, “[p]roducers in ... Brazil ... have strong captive distribution networks, which also act as a barrier to imports.”³¹ The “captive” nature of this distribution network is another key reason for the low level of imported steel in Brazil.³² Currently 70 percent of ordinary flat-rolled steel sold domestically in Brazil is sold directly from the mill to end users such as the auto industry. The remaining 30 percent is sold through both independent and mill-owned distributors. Brazil’s large ordinary flat-rolled producers, CSN, Usiminas, and Cosipa, have purchased steel distributors in an effort to consolidate distribution.

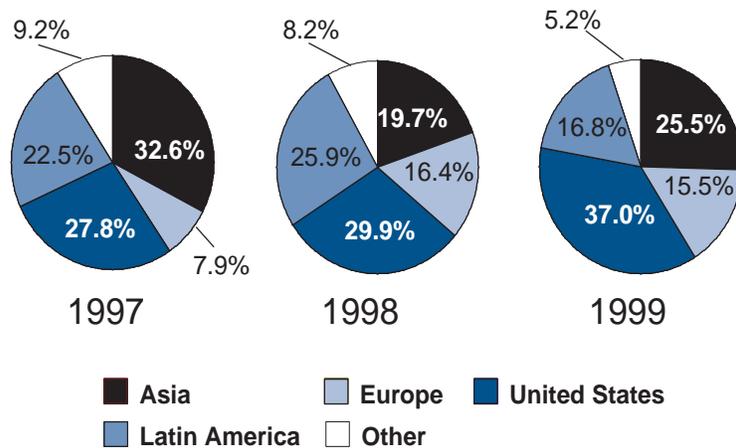
Benjamin Fernandes, president of one of the largest independent service centers in Brazil, has argued that “this consolidation has unbalanced the market, with the large, mill-linked distributors trying to do the job of the medium and small ones, which generally offer better delivery times.”³³ Others have commented that the few independent distributors that have operations in Brazil do not pose a significant challenge to the captive distributors, in part because they lack the sophistication of their counterparts in the United States or Europe. As said by one analyst, “Companies like Thyssen [a major multinational trader] don’t want to take on a fight for market share [in Brazil].”³⁴

Brazil’s Steel Industry Maintains Exports in a Volatile Global Market

In mid-1998, the buildup to Brazil’s own financial crisis began as Asian economies continued to fall and the Russian financial crisis hit. In an effort to defend its currency, the Brazilian Central Bank raised interest rates to nearly 50 percent.³⁵ By stifling new investments in domestic infrastructure and other projects, high interest rates contributed to a 7 percent decline in domestic demand for steel. Total domestic sales of steel products dropped from 14.7 million metric tons (MT) in 1997 to 13.6 million MT in 1998.³⁶

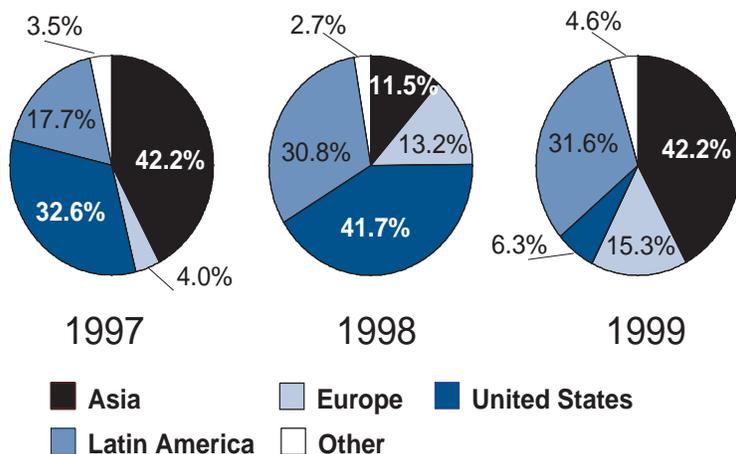
Asia was Brazil’s largest steel export market prior to the Asian financial crisis, accounting for almost 33 percent of total Brazilian steel exports in 1997. After the crisis hit in 1997, the share of Brazilian exports going to Asia dropped to about 20 percent in 1998. From 1997 to 1998, Brazilian steel exports fell by roughly 14 percent to South Korea, 53 percent to Thailand, 60 percent to Singapore and 83 percent to Malaysia.³⁷

To compensate for the loss of export markets in Asia, Brazilian steel producers increased their exports to Latin America, Europe and, for certain steel products, the United States³⁸ (*Chart 3-41*). For example, from 1997 to 1998, the share of total Brazilian hot-rolled steel exports going to Europe increased from roughly 4 percent to 13 percent. Over the same two years, the share of total hot-rolled steel exports going to the rest of Latin America increased from roughly 18 percent to 31 percent³⁹ (*Chart 3-42*). Although largely successful at finding alternative markets, Brazilian steel makers’ exports of hot-rolled steel dropped 8.4 percent from 1997 to 1998.⁴⁰



Source: World Trade Atlas.

3-41. Brazil—Distribution of Total Exports (1997–1999)



Source: World Trade Atlas.

3-42: Brazil—Distribution of Hot-Rolled Steel Exports (1997–1999)

dollar export prices for certain products to retain export levels and maintain production and capacity levels. In 1998, almost 26 million MT of crude steel were produced, a decline of just 1.5 percent from the previous year.⁴⁴ Sales in the United States remained profitable because companies were able to cut prices in line with the depreciation of the Brazilian real. Despite rapidly dropping U.S. prices, especially in the second half of 1998, the consistent depreciation of the real during 1998 kept pace with the U.S. dollar price declines and allowed Brazilian producers to generally maintain their revenues in real terms on U.S. sales. In 1998, Brazil's largest steel producers were profitable,⁴⁵ although their net profits did decrease from 1997 levels.

Between December 1997 and December 1998, the average unit value of imports of carbon hot-rolled steel⁴⁶ from Brazil dropped from \$324 per MT⁴⁷ to \$263 per MT (Chart 3-44). Similarly, during the same period, the price of imported carbon cold-rolled steel from Brazil dropped from \$441 per MT to \$323 per MT.⁴⁸ Imports of carbon semifinished steel experienced a similar pricing decline. Because

While overall U.S. steel imports from Brazil declined from 1997 to 1998 (mainly due to a decline in semifinished steel imports), imports for some product categories increased. Hot-rolled steel exports to the United States increased by 67,000 MT, or roughly 17 percent in 1998.⁴¹ From 1997 to 1998, the percentage of Brazil's hot-rolled exports shipped to the United States grew from roughly 33 percent to more than 41 percent. Meanwhile, exports of cold-rolled steel to the United States nearly doubled between 1997 and 1998, climbing from 122,000 MT to 225,000 MT, representing an increase in the percentage of Brazil's total cold-rolled exports going to the United States from 45 percent in 1997 to 59 percent in 1998⁴² (Chart 3-43).⁴³

Efforts to Maintain Export Levels to the United States

With the collapse of demand in its most important export market and the sudden decline of demand at home, Brazilian steel producers cut their U.S.

they were able to cut their prices, Brazilian producers could increase their export volumes to the United States of hot- and cold-rolled steel and maintain their overall export volumes to the U.S. market in spite of the flood of low-priced imports from Japan and Russia.

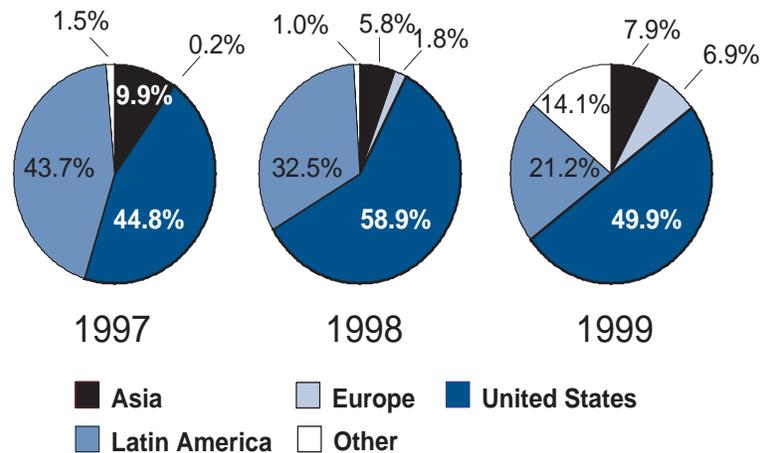
U.S. Dumping Cases

Faced with increases of low-priced imports of carbon hot- and cold-rolled steel from Brazil, as well as from Japan and Russia, the U.S. steel industry filed antidumping cases in 1998 against Brazilian steel exporters of these products. Given the history of high steel prices in Brazil's domestic market, dumping allegations were not the result of any new situation (*see box, next page*).⁴⁹ But the Brazilian price drops in 1998, as imports flooded the U.S. market, amplified the potential for injury to U.S. producers.

- In light of the differentials between Brazilian domestic prices and U.S. export prices, the

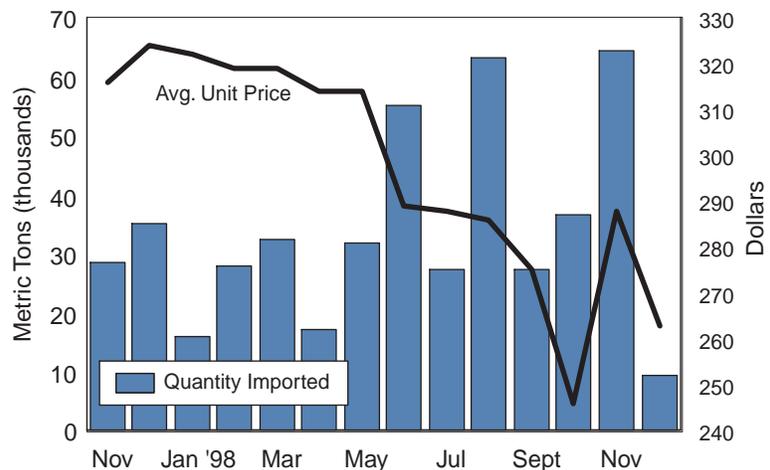
Department of Commerce found Brazil to be dumping hot-rolled steel at rates ranging from 41.27 percent to 43.40 percent.⁵⁰ In July 1999, the United States suspended its dumping (and subsidy) investigations of Brazilian hot-rolled steel and put in place an agreement by Brazilian hot-rolled producers to adhere to established reference prices and a quota of 295,000 MT per year.⁵¹ Pursuant to this agreement, Brazilian producers agreed not to sell hot-rolled steel for delivery to the United States at prices less than reference prices for each product category that ranged from \$327 per MT to \$390.35 per MT.⁵²

- With regard to carbon quality cold-rolled steel, the Commerce Department found that Brazilian producers dumped at rates ranging from 46.68 percent to 63.32 percent, although the ITC ultimately found that dumped cold-rolled steel did not injure U.S. steel companies.



Source: World Trade Atlas.

3-43. Brazil—Distribution of Cold-Rolled Steel Exports (1997–1999)



Source: ITC Dataweb.

3-44. U.S. Steel Mill Imports: Carbon Hot-Rolled Steel from Brazil

Dumping Cases Outside the United States

In April 1999, fearing that Brazilian producers were flooding its market with dumped hot-rolled steel, the government of Argentina imposed a temporary \$410 per MT minimum price on all Brazilian noncoated hot-rolled steel while it continued an antidumping duty investigation.

In November 1999, Argentina ended its investigation by accepting a proposal of CSN, Usiminas, and Cosipa that established a price per MT on Brazilian hot-rolled steel, and limited imports of the product to 36,000 MT for one year.

In 1998, Mexico also found that Brazil dumped "special steel" at margins as high as 37.61 percent.

Conclusion

In the aftermath of the Asian financial crisis, a protected home market insulated Brazil's steel producers from upheaval abroad. At the same time, they continued exporting aggressively to maintain overall export volumes, shifting their exports away from ailing economies in Asia to Latin America, Europe and, for certain products, the United States.⁵³

In order to maintain exports to the United States, Brazilian steel producers cut their U.S. export prices during 1998 in the face of low-priced competition, particularly from Japan and Russia. The depreciation of the Brazilian currency during this same period made exporting even more attractive to Brazilian steel producers, giving them greater flexibility to reduce prices.

The confluence of these factors contributed to dramatically falling U.S. import prices at the same time that Brazilian home market prices remained high. As the events of 1997 and 1998 demonstrate all too clearly, a sheltered domestic market provides the Brazilian steel industry a secure, profitable base from which to aggressively increase or maintain export volumes.