THE EFFECT OF IMPORTS OF IRON ORE AND SEMI-FINISHED STEEL ON THE NATIONAL SECURITY

An Investigation Conducted Under Section 232 of the Trade Expansion Act of 1962, as amended

U.S. Department of Commerce
Bureau of Export Administration
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I. EXECUTIVE SUMMARY

This report summarizes the findings of an investigation conducted by the Secretary of Commerce ("Secretary") pursuant to Section 232 of the Trade Expansion Act of 1962, as amended, 19 U.S.C. §1862 ("Section 232"), into the effects of imports of iron ore and semi-finished steel on the national security of the United States. The conclusions of this report are as follows:

(1) Iron ore and semi-finished steel are important to U.S. national security. Specifically, iron ore and semi-finished steel – as raw and semi-finished materials consumed by certain segments of the steel industry in the production of finished steel products – are needed to satisfy the requirements for finished steel products of (i) the U.S. Department of Defense ("DOD"), and (ii) certain industries that are critical to the minimum operations of the U.S. economy and government.

(2) Imports of iron ore and semi-finished steel could threaten to impair U.S. national security in either of two ways: (i) through excessive domestic dependency on unreliable foreign suppliers, or (ii) if such imports fundamentally threaten to impair the capability of the U.S. iron ore and semi-finished steel industries to satisfy national security requirements.

(3) In fact, however, there is no probative evidence that imports of iron ore or semi-finished steel threaten to impair U.S. national security. There is neither evidence showing that the United States is dependent on imports of iron ore or semi-finished steel, nor evidence showing that such imports fundamentally threaten the ability of domestic producers to satisfy national security requirements. Specific findings supporting this conclusion include the following:

- National defense requirements, as communicated to the Department of Commerce ("Department") by DOD, for finished steel – and thus for iron ore and semi-finished steel as inputs – are very low and likely to remain flat over the next five years. DOD's current and projected demand for iron ore and steel can be readily satisfied by domestic production. Moreover, DOD already has established domestic preferences that apply to essentially all of the steel used in weapons systems; accordingly, no weapons system is dependent upon foreign steel. DOD has concluded that "imports of iron ore and semi-finished steel do not currently affect the national security when assessed in terms of the ability to meet defense demands."

- The demand of critical industries for iron ore and semi-finished steel can be readily satisfied by domestic production, even assuming that all such demand were necessary to preserve the national security (which is not the case).

- Consideration of other relevant factors, as dictated by Section 232, does not demonstrate that imports of iron ore or semi-finished steel threaten to impair U.S. national security. U.S. industry currently has, and anticipates continuing to have in the future, sufficient human resources, products, raw materials, and other supplies and services needed for the production of iron ore and semi-finished steel.

- Imports of iron ore and semi-finished steel are from diverse and "safe" foreign suppliers, with the largest suppliers of these products being U.S. allies in the Western Hemisphere (Canada, Mexico, and Brazil).

- Although domestic manufacturers of iron ore and semi-finished steel clearly are enduring substantial economic hardship, there is no evidence that imports of these items (which account for approximately 20 and 7 percent of U.S. iron ore and semi-finished steel consumption, respectively) fundamentally threaten to impair the capability of U.S. industry to produce the quantities of iron ore and semi-finished steel needed to satisfy national security requirements, a modest proportion of total U.S. consumption.

- These conclusions take into account the campaign against terrorism resulting from the events of September 11, 2001, and the requirements of related military operations.

Accordingly, the Department is unable to conclude that imports of iron ore and semi-finished steel threaten to impair the national security of the United States, or to recommend to the President that he take action under Section 232 to adjust the level of imports.

II. LEGAL FRAMEWORK

This report is produced pursuant to, and in satisfaction of, the obligations of the Secretary under Section 232.

A. SECTION 232 REQUIREMENTS AND PROCEDURES

Section 232 provides the Secretary[1] with the authority to conduct investigations to determine the effects on the national security of the United States of imports of any article. It authorizes the Secretary to conduct an investigation if requested by the head of any department or agency, upon application of an interested party, or upon his own motion. See 19 U.S.C. § 1862(b)(1)(A)(2001).

Once an investigation has been initiated, Section 232 mandates that the Secretary provide notice to the Secretary of Defense that such an investigation has been initiated. Section 232 also requires the Secretary to do the following:

1. "Consult with the Secretary of Defense regarding the methodological and policy questions raised in [the] investigation;"

2. "Seek information and advice from, and consult with, appropriate officers of the United States;" and

3. "If it is appropriate, hold public hearings or otherwise afford interested parties an opportunity to present information and advice relevant to such investigation."[2]

See 19 U.S.C. § 1862(b)(2)(A)(i)-(iii). In conducting the investigation, Section 232 permits the Secretary to request that the Secretary of Defense provide an assessment of the defense requirements of the article that is the subject of the investigation. See 19 U.S.C. § 1862(b)(2)(B).

Upon completion of a Section 232 investigation, the Secretary is required to submit a report to the President no later than 270 days after the date on which the investigation was initiated. See 19 U.S.C. § 1862(b)(3)(A). The required report must:

1. Set forth "the findings of the investigation with respect to the effect of the importation of the article in such quantities or under such circumstances upon the national security;"

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[1] Until 1979, authority for conducting Section 232 investigations resided with the Secretary of the Treasury. On December 3, 1979, this authority was transferred to the Secretary of Commerce where it remains today. See Reorganization Plan No. 3 of 1979, 44 Fed. Reg. 69,273 (Dec. 3, 1979). Since the transfer (and including the present investigation), the Department has initiated 13 investigations pursuant to Section 232. Only two of these 13 investigations have resulted in the imposition of any import-adjusting measures.

[2] Department regulations (i) set forth additional authority and specific procedures for such input from interested parties, see 15 C.F.R. §§ 705.7 and 705.8, and (ii) provide that the Secretary may vary or dispense with those procedures "in emergency situations, or when in the judgment of the Department, national security interests require it." Id., § 705.9.

2. Set forth, "based on these findings, the recommendations of the Secretary for action or inaction under this Section;" and

3. "If the Secretary finds that such article is being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security, . . . so advise the President."

See 19 U.S.C. § 1862(b)(3)(A).[3] All unclassified and non-proprietary portions of the report submitted by the Secretary to the President must be published.

Within 90 days after receiving a report in which the Secretary finds that an article is being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security, the President shall:

1. "Determine whether the President concurs with the finding of the Secretary"; and

2. "If the President concurs, determine the nature and duration of the action that, in the judgment of the President, must be taken to adjust imports of the article and its derivatives so that such imports will not threaten to impair the national security."

See 19 U.S.C. § 1862(c)(1)(A).

B. DISCUSSION

As set forth above, Section 232 authorizes the Secretary to investigate the effects of imports of an item or items on the national security of the United States and determine whether those imports threaten to impair the national security. Implicit in this mandate is the need to resolve three issues: (i) what constitutes "national security"?; (ii) what "effects of imports" should be considered?; and (iii) when do those imports "threaten to impair" the national security?[4]

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[3] The specific duty to "advise" arises only if the Secretary makes a "positive" finding (i.e., that imports of the item threaten to impair national security). See 19 U.S.C. § 1862(b)(3)(A). If the Secretary does not or cannot make that finding, the Secretary is not required by Section 232 to "so advise the President."

[4] An additional issue on which Section 232 provides no specific direction is the meaning of the phrase "under such circumstances." (As noted above, the statute requires the Secretary to present "the findings of the investigation with respect to the effect of the importation of the article in such quantities or under such circumstances upon the national security" and to advise the President "[i]f the Secretary finds that the article is being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security." (Emphases added.)) Some guidance on the issue exists in a statement in the House Report for the Trade Agreements Extension Act (a predecessor statute to the Trade Expansion Act of 1962) in 1958:

> The Committee Amendment states that the circumstances under which imports are entering, which include their character and use, should be also studied.

Trade Agreements Extension Act of 1958, H.R. Rep. No. 85-1761 at 15 (1958) (emphasis added). Further, the U.S. Supreme Court noted additional legislative history in its decision in Federal Energy Administration v. Algonquin, and cited the following statement concerning the term "under such circumstances":

1. *What constitutes "national security"?* Neither Section 232 nor the relevant Department regulations (15 C.F.R. Pt. 705) contain a definition of the term "national security." In the absence of such a definition, it is incumbent upon the Secretary to employ a definition that is consistent with the statute and the intent of the drafters, and reasonable under the circumstances.

It is clear that, at a minimum, an assessment of the United States' "national security" requirements must include a military or "national defense" component. This could range from the military defense of the U.S. homeland to, more expansively, the ability to project U.S. military capabilities globally. For the purpose of this study, we have adopted a broad definition of national defense. As set forth in Section V below, we have included DOD's total projected needs for finished steel, as communicated to the Department by DOD (and, based thereon for, iron ore and semi-finished steel as inputs).

In addition to the satisfaction of national defense requirements, the term "national security" can be interpreted more broadly to include the general security and welfare of certain industries, beyond those necessary to satisfy national defense requirements, that are critical to the minimum operations of the economy and government ("critical industries"). To be sure, a definition of national security that includes critical industries is not dictated by statute. Previous Section 232 investigations have adopted a more limited definition of national security. See, e.g., U.S. Department of Commerce, The Effects on the National Security of Imports of Crude Oil and Refined Petroleum Products (1999) (looking only at DOD requirements when assessing national security needs). Moreover, as the Supreme Court has made clear, there are limits to how broadly the term "national security" can be defined. See Fed. Energy Admin. v. Algonquin, 426 U.S. 548, 569 (1976) (stating that "national security" must be interpreted more narrowly than "the national interest").

However, a broader interpretation of "national security" – one that encompasses the needs of critical industries – is not without support. For example, Section 232 directs the Secretary to "recognize the close relation of the economic welfare of the Nation to our national security." See 19 U.S.C. § 1862(d). Moreover, the legislative history of Section 232, including the legislative history of predecessor provisions, indicates that some members of Congress intended that "national security" should encompass certain domestic economic concerns, in addition to national defense concerns. See e.g. S. Rep. No. 85-1838, at 12 (1958).

Accordingly, as described in greater detail in Section V, for purposes of this investigation, we have included in "national security" the requirements of certain critical industries for finished steel and based thereon, for iron ore and semi-finished steel as inputs.

> ["Under such circumstances"] reflects Congress' judgment that "not only the quantity of imports . . . but also the circumstances under which they are coming in: their use, their availability, their character" could endanger the national security and hence should be a potential basis for Presidential action.

426 U.S. 548, 561 (1976), citing 104 Cong. Rec. 10,542-10,543 (1958). By including such language in the Trade Expansion Act of 1962, Congress apparently intended to permit the Secretary to consider not only the quantity of imports of an article, but also its character, use, and availability, along with other relevant factors and any potential effects on the national security.

2. *What "effects of imports" should be considered?* Section 232 requires the Secretary to assess the "effects of imports" and to determine whether imports "threaten to impair" the national security. Section 232 does not articulate precisely what "effects" must be considered nor does it articulate when or how imports may "threaten to impair" the national security. Accordingly, as with "national security," it is incumbent upon the Secretary to employ definitions that are consistent with the statute and the legislative intent, and that are reasonable under the circumstances.

Although Section 232 does not define what "effects" are relevant, it does instruct the Secretary, "in light of the requirements of national security and without excluding other relevant factors," to "give consideration" to:

- "domestic production needed for projected national defense requirements;"
- "the capacity of domestic industries to meet such requirements;"
- "existing and anticipated availabilities of the human resources, products, raw materials, and other supplies and services essential to the national defense;"
- "the requirements of growth of such industries and such supplies and services including the investment, exploration, and development necessary to assure such growth;" and
- "the importation of goods in terms of their quantities, availabilities, character, and use as those affect such industries and the capacity of the United States to meet national security requirements."

See 19 U.S.C. § 1862(d). Section 232 also directs the Secretary to recognize the "close relation of the economic welfare of the Nation to our national security" and directs the Secretary to "take into consideration":

- "the impact of foreign competition on the economic welfare of individual domestic industries;" and
- "any substantial unemployment, decrease in revenues of government, loss of skills or investment, or other serious effects resulting from the displacement of any domestic products."

See 19 U.S.C. § 1862(d). In assessing the "effects of imports" of iron ore and semi-finished steel on national security, this investigation has considered all of the factors listed above. Findings with respect to the factors listed above can be found in Section V.

3. *When do imports "threaten to impair" the national security?* Given this list of statutorily mandated "considerations" and the statute's broad intent, imports can reasonably be found to "threaten to impair" the national security in either of two ways. First, imports can threaten to impair U.S. national security if the United States is excessively dependent on imports from unreliable or unsafe sources, and thereby is vulnerable to a supply disruption. This concept

of "threaten to impair" has been adopted in previous Section 232 cases, and has figured especially prominently in those cases assessing the effect of imports of crude oil and refined petroleum products. See, e.g., U.S. Department of Commerce, The Effect on the National Security of Imports of Crude Oil and Refined Petroleum Products (1999); U.S. Department of Commerce, The Effect of Imports of Crude Oil and Refined Petroleum Products on the National Security (1994); U.S. Department of Commerce, The Effect of Crude Oil and Refined Petroleum Product Imports on the National Security (1988).

Second, imports can threaten to impair U.S. national security if they fundamentally threaten the viability of U.S. industries and resources needed to produce domestically goods and services necessary to ensure U.S. national security. This interpretation also is consistent with previous Section 232 reports. See, e.g., U.S. Department of Commerce, The Effect of Imports of Gears and Gearing Products on the National Security (1992). Accordingly, for purposes of this analysis, we have investigated whether imports of iron ore and semi-finished steel threaten to impair U.S. national security either: (i) by fostering U.S. dependence on unreliable or unsafe imports; or (ii) by fundamentally threatening the ability of U.S. domestic industries to satisfy national security needs.

It should be noted that, on each of a series of issues related to the scope of the required analysis,[5] the Department has interpreted the requirements of Section 232 in the manner most likely to result in a positive finding. For example, we have adopted a broader definition of national security than is compelled by statute; we have based our assessment of U.S. iron ore and semi-finished steel requirements on DOD's and critical industries' total requirements (nothwithstanding the fact that a substantial portion of these needs are likely not integral to national security); and we have considered how imports might "threaten to impair" national security in a very broad sense.

III. INVESTIGATION PROCESS

A. REQUEST FOR INVESTIGATION

On January 16, 2001, Representative James Oberstar (Minnesota) and Representative Bart Stupak (Michigan) requested that the Secretary initiate an investigation pursuant to Section 232 to determine the effects on the national security of imports of iron ore and semi-finished steel. Representatives Oberstar and Stupak stated in their request that imports of iron ore and semi-finished steel threaten the U.S. iron ore mines and the integrated U.S. steel sector, industries they view as critical to national security. A copy of their request is reproduced at Annex 1.

In their request, Representatives Oberstar and Stupak stated that U.S. iron ore producers have been forced to reduce production dramatically due to record levels of semi-finished steel imports. Representatives Oberstar and Stupak estimated that each ton of imported semi-finished steel utilized in domestic steel production displaces 1.3 tons of iron ore pellet consumption. Representatives Oberstar and Stupak also noted that the January 2001 closure of the LTV Steel

[5] Given the nature of the products at issue in this investigation and this report's conclusion, these interpretations are appropriate in this case. However, they may not be appropriate (and, therefore, will not necessarily be adopted) in future Section 232 investigations.

Mining Company in Hoyt Lakes, Minnesota had resulted in the elimination of 1,400 jobs and eight million tons of annual iron ore production, and that other U.S. iron ore mines had reduced production.

B. INITIATION OF INVESTIGATION

In response to the request of Representatives Oberstar and Stupak, on February 1, 2001, the Secretary initiated an investigation under Section 232 to determine the effects on the national security of imports of iron ore and semi-finished steel. This investigation was undertaken in accordance with Part 705 of the National Security Industrial Base Regulations (15 C.F.R. §§ 700-709).

C. REQUEST FOR PUBLIC COMMENTS

On February 6, 2001, the Department invited interested parties to submit written comments, opinions, data, information, or advice relevant to the criteria listed in Section 705.4 of the National Security Industrial Base Regulations (15 C.F.R. § 705.4) as they affect the requirements of national security, including the following: (1) quantity of the articles subject to the investigation and other circumstances related to the importation of such articles; (2) domestic production needed for projected national defense requirements; (3) the capacity of domestic industries to meet projected national defense requirements; (4) the existing and anticipated availabilities of human resources, products, raw materials, production equipment and facilities, and other supplies and services essential to the national defense; (5) the growth requirements of domestic industries to meet national defense requirements and the supplies and services including the investment, exploration, and development necessary to assure such growth; (6) the impact of foreign competition on the economic welfare of any domestic industry essential to our national security; (7) the displacement of any domestic products causing substantial unemployment, decrease in the revenues of government, loss of investment or specializes skills and productive capacity, or other serious effects; and (8) any other relevant factors that are causing or will cause a weakening of our national economy. See 66 Fed. Reg. 9,067 (Feb. 6, 2001).

The public comment period ended on May 2, 2001. The Department received approximately 3,000 written submissions concerning this investigation. The overwhelming majority of these submissions were letters from residents of northeastern Minnesota or the Upper Peninsula of Michigan, which are the primary iron ore-producing regions within the United States. A summary of all public comments received is set forth in Annex 2.

D. PUBLIC HEARINGS

The Department held two public hearings to elicit further information concerning this investigation – one in Virginia, Minnesota on July 5, 2001, and one in Marquette, Michigan on July 15, 2001. The Department heard testimony from 63 witnesses at these hearings. The Department also accepted written submissions through August 17, 2001 from any person, whether or not testifying, as part of the public record of these proceedings. A summary of the comments received at the public hearings is included in Annex 2.

E. INDUSTRY SURVEYS AND SITE VISITS

The Department sent surveys to approximately 175 U.S. iron ore and semi-finished steel producers and potential consumers. It received 140 responses; these responses are treated confidentially. Department staff also conducted visits to sites in California, Michigan, Minnesota, and Wisconsin associated with the production, shipment, and consumption of iron ore and semi-finished steel.

F. INTERAGENCY CONSULTATION

As required by Section 232, the Department consulted with DOD regarding the methodological and policy questions raised in this investigation. DOD provided an assessment of its projected national defense requirements for the articles under investigation. The Department also sought information from other agencies. The Department of Labor provided an assessment of the labor trends in the U.S. iron ore and steel industries. The Department of Interior's U.S. Geological Survey ("USGS") provided information on trends in the U.S. iron ore industry.

In addition, the Department consulted with other U.S. Government departments and agencies, including the Departments of State, Treasury, and Transportation, the Office of the United States Trade Representative, and the United States International Trade Commission.

IV. PRODUCT SCOPE OF THE INVESTIGATION

Consistent with the initiating request, this investigation was focused on imports of two articles: (i) iron ore, and (ii) semi-finished steel. These are, respectively, raw and semi-finished materials consumed by segments of the steel industry as inputs in the production of finished steel. It is important to note that imports of finished steel mill products, pig iron, coke, direct reduced iron, and steel scrap were not included in the scope of this investigation.

A. IRON ORE

Iron ore is a mineral substance that, when heated in the presence of a reductant, yields metallic iron (Fe). Iron ore almost always consists of iron oxides, the primary forms of which are magnetite (Fe_3O_4) and hematite (Fe_2O_3). Iron ore is the primary source of iron for the world's iron and steel industries. Iron ore is produced through mining; today it is mined in approximately 50 countries.

Almost all iron ore (98 percent) mined is used in steelmaking.[6] Specifically, iron ore is the primary source of iron units for the blast furnaces operated by integrated steel mills. Iron ore

[6] According to the USGS, the remaining 2 percent of iron ore is used in the manufacture of cement, heavy-medium materials, pigments, ballast, agricultural products, or specialty chemicals.

is mixed with coke and limestone and fired in a blast furnace to make molten iron, the first step in the integrated steelmaking process.[7]

Integrated steel mills are one of two sectors in the U.S. steel industry that produce semi-finished steel. Integrated steel mills are those steel producers that have ironmaking and steelmaking capabilities, as well as the capability to process steel into finished products. For the most part, integrated steel mills produce raw steel in basic oxygen furnaces ("BOFs") from steel scrap and larger quantities of molten iron, the latter produced as described above.[8] An integrated steel producer also operates casting, rolling, and other equipment to make semi-finished and, ultimately, finished steel products.

The second sector of the U.S. steel industry that produces semi-finished steel is referred to as "mini-mills." The key characteristic of mini-mills is their use of electric arc furnaces ("EAFs") to melt scrap steel and, more recently, scrap substitutes such as direct reduced iron, to produce raw steel. Mini-mills also operate casting, rolling, and other equipment to make semi-finished and, ultimately, finished steel products. Mini-mills do not utilize iron ore as their primary source of iron in the steelmaking process.

According to the Office of Management and Budget's industrial classification system,[9] the U.S. iron ore industry is comprised of establishments primarily engaged in (i) developing mine sites, mining, and/or beneficiating (i.e., preparing) iron ores and manganiferous ores valued chiefly for their iron content, and/or (ii) producing sinter iron ore (except iron ore produced in iron and steel mills) and other iron ore agglomerates.[10]

The USGS indicated that iron ore mining in the United States has changed significantly since the Second World War. At that time, natural ores were the mainstay of the domestic mining industry. The natural ores, which consisted primarily of hematite and goethite, were extracted from near-surface "zones of enrichment" in iron ore formations in Minnesota, Michigan, and Wisconsin. These ores averaged 50-60 percent iron and could be shipped directly to the steelworks without prior beneficiation. Demand for steel during the Second World War and the Korean War accelerated the depletion of these reserves, and U.S. mining companies became increasingly reliant on magnetic taconite. Most natural ore reserves in the United States have now been depleted.

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[7] Molten iron is also called "hot metal" and, when cooled into a solid form, "pig iron."

[8] The American Iron and Steel Institute defines "raw steel" as steel in the first solid state after melting, suitable for further processing or sale, which includes ingots, steel for foundry castings and strand or pressure cast blooms, billets, slabs, or other product forms. See American Iron and Steel Institute, Annual Statistical Report 2000. In this report, the Department uses the terms "raw steel" and "semi-finished steel" interchangeably.

[9] The North American Industry Classification System ("NAICS"), established in 1997, is the uniform system of North American industry classifications. It replaced the Standard Industrial Classification ("SIC") system that had been used by the United States since the 1930s to present industrial statistical information. Under these systems, the iron ore industry is classified respectively as NAICS 212210 and SIC 1101.

[10] "Sintering" is a process that combines iron-bearing particles, once recovered from environmental control filters in blast furnaces, into small pellets. The production of iron sinter made in steel mills is classified in NAICS 331111 and SIC 3312, Iron and Steel Mills.

Taconite, the principal iron ore mined in the United States today, is a hard flinty rock that is far poorer in iron; it contains between 20-30 percent iron. It is mined using the open-pit method, then crushed into a fine powder. The iron particles are separated, rolled into a marble-sized pellets containing about 65 percent iron, then heat-hardened for shipment to integrated steel mills.[11]

Iron ore is classified in the Harmonized Tariff Schedules of the United States ("HTS") under HTS 2601.11.00, HTS 2601.12.00, and HTS 2601.20.00.

B. SEMI-FINISHED STEEL

Semi-finished steel is an intermediate steel product formed from (i) the molten steel produced by basic oxygen furnaces operated by integrated steel mills, or (ii) the molten steel produced by electric arc furnaces operated by mini-mills. Semi-finished steel products are then rolled or shaped into finished steel mill products. Over 60 countries produce semi-finished steel.[12]

Steel mills worldwide convert semi-finished steel into finished steel products. Of the semi-finished steel that is produced in the United States, most is consumed within the integrated or mini-mill producer's facility for processing into finished steel products. As a result, very little semi-finished steel is available on the U.S. merchant market.

Under the NAICS system, the steel industry (NAICS 331111 (Iron and Steel Mills), formerly SIC 3312, and SIC 3399) comprises establishments primarily engaged in one or more of the following: (1) direct reduction of iron ore; (2) manufacturing pig iron in molten or solid form; (3) converting pig iron into steel; (4) making steel; (5) making steel and manufacturing shapes (e.g., bar, plate, rod, sheet, strip, wire); and (6) making steel and forming tube and pipe.

The semi-finished steel products included in this investigation are ingots, slabs, blooms, and billets of all grades (carbon, stainless, and alloy). The table below provides American Iron and Steel Institute ("AISI") and HTS codes for these products.

[11] Most foreign iron ore deposits remain far richer than those in the United States. While most U.S. (beneficiated) and imported (unbeneficated) iron ores are fungible, certain U.S. steel mills have stated that they rely on imports of iron ore with certain chemical properties that is not available from U.S. iron ore mines to support their production of certain types of semi-finished steel. For example, **[Confidential business information - redacted]** indicated that certain of their sintering operations require iron ore with chemical properties not available in the United States. **[Confidential business information - redacted]** also noted that certain of its blast furnaces require that portions of their feedstock be a relatively high-titanium-bearing iron ore not found in the United States. Certain U.S. steel mills have, accordingly, indicated to the Department that restricting iron ore imports could adversely impact the ability of U.S. integrated steel mills to produce semi-finished steel.

[12] The semi-finished steel produced by the BOF and EAF processes is largely, although not entirely, interchangeable. For metallurgical and technical reasons, at this time, only steel produced by integrated steel mills using iron ore is suitable for a few end-use applications (including certain applications in the automotive, food can, and container fabrication sectors).

TABLE 1 –
SEMI-FINISHED STEEL PRODUCTS BY
AISI AND HTS CODES

	AISI	HTS	
Ingots	1A	7206.10.00 7224.10.00	7218.10.00
Slabs, Blooms, and Billets	1B	7207.11.00 7207.19.00 7218.91.00 7224.90.00	7207.12.00 7207.20.00 7218.99.00

- Ingot. An ingot is metal that is cast into a mold. Molten steel is poured from a ladle into an ingot mold. Once the steel is solid, the mold is stripped and the 25- to 30-ton ingot is then ready for subsequent rolling or forging into a slab, bloom, or billet. Only 3.6 percent of U.S. raw steel produced in 2000 was cast in ingot form, compared with 24.1 percent in 1991. Most semi-finished steel produced in the United States is continuously cast into a slab, bloom, or billet directly from its molten form.

- Slab. A slab is the most common type of semi-finished steel. Traditional slabs measure 10 inches thick, 30 to 85 inches wide, and average about 20 feet long. (The output of the recently developed "thin slab" casters is approximately two inches thick.) A slab is hot-rolled down from an ingot or strand cast. Slabs are used in the manufacture of sheet, strip, plate, and other flat-rolled steel products.

- Bloom. A bloom is a semi-finished steel product that has been rolled or forged from an ingot or strand cast. A bloom usually has a square cross-section exceeding 36 inches. Blooms are further processed into "long products," such as structural shapes.

- Billet. A billet is a semi-finished steel product that has been rolled or forged from an ingot or strand cast. Billets are smaller and longer than blooms. Billets usually have a square cross section less than 36 square inches. Billets are further processed into "long products," including wire rod, bar, pipes, and wire products.

As noted, the above articles are inputs into the steelmaking process that are used to produce finished steel products. On average, iron and steel are by far the least expensive of the world's metals. Thousands of products having various chemical compositions, forms, and sizes are made from iron and steel by casting, forging, and rolling processes.

V. FINDINGS OF THE INVESTIGATION

A. IRON ORE AND SEMI-FINISHED STEEL ARE IMPORTANT TO U.S. NATIONAL SECURITY

Iron ore and semi-finished steel are important to the national security as inputs used in the production of finished steel products needed by (i) the Department of Defense, and (ii) critical industries.

1. National Defense Requirements. As provided in Section 232, the Department requested that DOD provide an assessment of its requirements for the articles under investigation. DOD does not purchase iron ore or semi-finished steel directly; rather, it procures weapon systems, equipment, and material that contain finished steel components. DOD's primary use of steel in weapons systems is for shipbuilding, followed by ammunition, aircraft parts, and aircraft engines.

DOD's need for finished steel items is based upon its national defense strategy. DOD's current national defense strategy is described in the Quadrennial Defense Review Report ("QDR") recently completed on September 30, 2001. The QDR identified necessary adjustments for organizations and doctrines to ensure a U.S. advantage in such areas as space, information systems, and power projection, and includes an emphasis on intelligence and homeland defense, as well as defense against weapons of mass destruction. DOD indicated that the QDR adopts a new force-sizing construct, moving away from the two major theater war ("2-MTW") scenario that previously had served as the basis for defense planning.[13] DOD indicated that the evolved strategy contained in the new QDR will not increase its requirement for steel.

DOD reported:

- Continued access to steel is critical to sustaining the manufacture of weapons systems. Steel of all types is purchased for DOD by prime contractors to produce weapons systems. DOD also has miscellaneous needs for finished steel products similar to those used for civil applications (e.g., filing cabinets, automobiles, etc.).

- DOD's steel requirements are satisfied by both integrated steel mills (consumers of iron ore) and mini-mills (consumers of scrap).

- DOD's demands for iron ore and steel for weapons systems are a small portion of the domestic industries' annual output. DOD's annual steel requirements comprise less than 0.3 percent of the industry's output by weight (i.e., 325,000 net tons of finished steel per year).[14]

- DOD's requirement for steel for weapons systems is projected to be flat over the next five years, after declining in recent years. DOD projected a slight increase in its need for steel associated with shipbuilding and aircraft parts over the next five years, counterbalanced by a slight decrease in the need for steel for ammunition and aircraft engines.

- Even after a 2-MTW conflict, the need to replenish the force would create a DOD demand for steel that would remain small relative to domestic output. DOD estimated

[13] DOD reported that this approach has been used to determine requirements for the National Defense Stockpile, as required by the Strategic and Critical Materials Stock Piling Act, as amended (50 U.S.C. § 98h-5). DOD does not maintain stockpiles of iron ore or semi-finished steel.

[14] In 2000, U.S. steel industry shipments of steel mill products totaled 109 million net tons according to AISI data. For purposes of this investigation, we have estimated DOD annual peacetime requirements for steel as 0.3 percent of the industry's 2000 shipments, i.e., 325,000 net tons of finished steel.

that the combination of peacetime and additional replenishment demand would be no more than twice its total peacetime demand (i.e., no more than 650,000 net tons of finished steel annually).

- DOD's demands for steel for military uses are met by domestic industries already subject to procurement policies establishing preferences for domestic suppliers. DOD stated that these domestic preferences apply to essentially all of the steel used in weapons systems. DOD also indicated that the preference defines domestic steel by where it is melted, and as a result, imports of semi-finished steel are not used for DOD weapons systems.[15]

- Imports of iron ore and semi-finished steel do not currently affect the national security when assessed in terms of the ability to meet defense demands.

2. Iron Ore and Semi-Finished Steel Requirements of Critical Industries. Historically, in conducting Section 232 studies, the Department has focused principally on DOD needs for the item at issue. Although this "narrow" definition of national security is defensible under the statute, in this case, as explained in Section II above, the Department has adopted a broader concept of national security, one that also embraces the needs of those industries that the U.S. Government has determined are critical to minimum operations of the economy and government.

For purposes of this investigation, we have consulted with the Department's Critical Infrastructure Assurance Office to identify those critical industries and have attempted to assess their need for finished steel. Critical industries include, but are not limited to, telecommunications, energy, banking and finance, transportation, water systems, and emergency services – both government and private.

The finished steel requirements of these industries was assessed on the basis of the 1997 annual input-output ("I-O") accounts for the U.S. economy data published by the Department's Bureau of Economic Analysis ("BEA") in December 2000, and statistical data published by AISI.[16] These data furnished estimates of consumption of iron and steel commodities by U.S. industry. We identified the 28 industries related to supporting the U.S. national defense and critical industry requirements. As noted in Table 2 below, these 28 industries accounted for 30.9 percent of the output of the primary iron and steel manufacturing sector.

Applying this percentage to total U.S. output, we have estimated that these 28 industries would require no more than 33.68 million tons of finished steel per year. For purposes of this investigation, we have assumed that the entire consumption by these 28 industries of primary iron and steel manufacturing output is related to supporting U.S. national defense and critical industry requirements. Given that, as explained below, even this over-estimate of total consumption can easily be satisfied by domestic production, we have not attempted to discount consumption for non-national security purposes. In reality, however, a substantial portion of consumption by these industries is likely not related to national security requirements.

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[15] An overview of the applicable DOD Defense Federal Acquisition Regulation Supplement ("DFARS") is attached as Annex 3.

[16] Bureau of Economic Analysis, Annual Input-Output Accounts of the U.S. Economy; American Iron and Steel Institute, 2000 Annual Statistical Report.

For purposes of this investigation, we have converted the requirements for finished steel of these 28 industries into requirements for semi-finished steel and iron ore. We have estimated that the production of 36.04 million net tons of semi-finished steel is necessary to satisfy the finished steel requirement described above.[17] Assuming that this requirement for semi-finished steel was supplied by mini-mills and integrated steel producers in proportion with current ratios,[18] U.S. integrated steel producers would require approximately 22.5 million metric tons of iron ore to satisfy this requirement.[19]

[17] For purposes of this investigation, the Department has assumed that the production of each net ton of finished steel requires the production of 1.07 net tons of raw "semi-finished" steel. According to AISI, the yield factor (ratio of shipments to production) is approximately 93 percent, and higher for some mini-mills.

[18] As set forth in Section V(B)1(b) below, in 2000 approximately 53 percent of raw steel was produced by integrated producers, with the remaining 47 percent produced by mini-mills.

[19] Based on information obtained during the course of this investigation, the Department has calculated that the production of 1.0 net ton of semi-finished steel by an integrated steel mill requires 1.3 net tons of iron ore.

TABLE 2 -
THE USE OF PRIMARY IRON AND STEEL MANUFACTURING COMMODITIES (INDUSTRY NUMBER 37) BY CRITICAL INDUSTRIES, 1997
[Million of Dollars at Producers' Prices]

INDUSTRY	MILLIONS OF DOLLARS	PERCENT OF PRIMARY IRON AND STEEL MANUFACTURING OUTPUT
Crude petroleum and natural gas (industry number 8)	1,956	1.91 percent
New construction, including own-account construction (industry number 11)	5,046	4.93 percent
Maintenance and repair construction, including own-account construction (industry number 12)	2,246	2.19 percent
Ordnance and accessories (industry number 13)	193	0.19 percent
Petroleum refining and related products (industry number 31)	13	0.01 percent
Metal containers (industry number 39)	2,419	2.36 percent
Engines and turbines (industry number 43)	3,600	3.52 percent
Computer and office equipment (industry number 51)	142	0.14 percent
Audio, video, and communication equipment (industry number 56)	419	0.41 percent
Motor vehicles (passenger cars and trucks) (industry number 59A)	393	0.38 percent
Truck and bus bodies, trailers, and motor vehicle parts (industry number 59B)	11,417	11.15 percent
Aircraft and parts (industry number 60)	829	0.81 percent
Other transportation equipment (industry number 61)	2,249	2.20 percent
Railroads and related services, passenger ground transportation (industry number 65A)	441	0.43 percent
Motor freight transportation and warehousing (industry number 65B)	0	0.00 percent
Water transportation (industry number 65C)	0	0.00 percent
Air transportation (industry number 65D)	3	0.00 percent
Pipelines, freight forwarders, and related services (industry number 65E)	0	0.00 percent
Communications, except radio and TV (industry number 66)	0	0.00 percent
Radio and TV broadcasting (industry number 67)	0	0.00 percent
Electric services (utilities) (industry number 68A)	0	0.00 percent
Gas production and distribution (utilities) (industry number 68B)	2	0.00 percent
Water and sanitary services (industry number 68C)	0	0.00 percent
Finance (industry number 70A)	3	0.00 percent
Insurance (industry number 70B)	2	0.00 percent
Computer and data processing services (industry number 73A)	0	0.00 percent
Health services (industry number 77A)	3	0.00 percent
National defense: consumption expenditures (industry number 96C)	259	0.25 percent
SUBTOTAL	31,635	30.88 percent
TOTAL PRIMARY IRON AND STEEL MANUFACTURING OUTPUT	102,368	100.00 percent

Source: Bureau of Export Administration analysis of Bureau of Economic Analysis, Annual Input-Output Accounts of the U.S. Economy, 1997 data.

3. Effect of the Events of September 11, 2001. This investigation was, of course, well underway prior to the campaign against terrorism resulting from the events of September 11, 2001, and the related military operations. Accordingly, we have reassessed our analysis in light of those developments. We have affirmed that the events do not cause any material change in the foregoing estimates.

DOD indicated to the Department that it "does not anticipate any change in the DOD assessment as a result of the September 11, 2001, events and the subsequent military efforts."[20] The Department has also found no evidence that there will be a spike in demand for steel by critical industries resulting from the events of September 11, 2001. AISI reports that the capacity utilization rate for the U.S. steel industry has remained relatively steady since September 11, 2001, ranging from 72.2 percent to 73.8 percent during the weeks ending between September 15 – October 13, 2001. As set forth in detail in Section V(B) below, the U.S. steel industry has been experiencing a significant market downturn since the second half of 2000, and it is apparent that both the U.S. iron ore and steel industries are operating at far less than normal business capacity.

4. Summary. Having reviewed the needs for finished steel by (i) the U.S. Department of Defense, and (ii) critical industries that are essential to minimum operations of the economy and government, we have determined that the national security requirements for finished steel would require the production of no more than 36.04 million net tons of semi-finished steel. Assuming that this quantity of semi-finished steel were to be supplied by the integrated sector of the U.S. steel industry in accordance with current production ratios, approximately 22.5 million metric tons of iron ore would be required. Again, however, it is important to note that these estimates are upper limits and include consumption not directly related to national security requirements.

[20] Even if entirely unforeseen events were to generate national defense-related demands for steel that were greater than DOD forecasts, such demands would still consume only a very small percentage of total U.S. steel output. To take just one example: DOD indicated that 60,000 net tons of finished steel was used in the multi-year construction of the U.S. Navy's newest aircraft carrier, the *USS Ronald Reagan* (CVN 76). Sixty thousand net tons constitutes less than one-tenth of 1 percent of total U.S. annual steel output. Accordingly, DOD could double the U.S. Navy's entire fleet of aircraft carriers, and still not substantially vary the total percentage of U.S. domestic output attributed to national security uses.

B. U.S. NATIONAL SECURITY IS NOT DEPENDENT ON IMPORTS OF IRON ORE OR SEMI-FINISHED STEEL

1. U.S. Industry Produces Sufficient Iron Ore and Semi-Finished Steel to Satisfy National Security Requirements. Based on the information and data obtained during the course of this investigation, the Department has found that domestic production of iron ore and semi-finished steel far exceeds the amounts necessary to satisfy U.S. national security requirements.

As set forth above, satisfaction of U.S. national security requirements would require at most 36.04 million net tons per year of semi-finished steel and 22.5 million metric tons per year of iron ore. In each of the past ten years, as demonstrated below, the United States has produced far in excess of these amounts. Further, U.S. production capacity also far exceeds these amounts.[21]

a. *Production of Iron Ore*. In 2000, the United States produced 63.1 million metric tons of iron ore, far more than the maximum amount needed for national security requirements. The 63.1 million metric tons produced in 2000 constituted a 9.2 percent increase over 1999 levels.[22] Altogether, iron ore production increased 11.4 percent (6.4 million metric tons) during the ten-year period between 1991 and 2000, ranging from a high of 63.1 million metric tons in 2000, to a low of 55.6 million metric tons in 1992.

Moreover, information provided in response to the Department's surveys indicated that iron ore production could be increased further if needed. The eight operating mines indicated that, in the event of a mobilization, maximum production could be increased 10 percent within 36 months.

U.S. integrated steel producers are assured access to most of this domestic iron ore production. In 2000, captive mines (i.e., mines producing for company-owned blast furnaces) accounted for 79 percent of the iron ore produced in the United States. Moreover, U.S. production is not fragmented. The USGS reported that in 2000, nine mines accounted for 99 percent of U.S. iron ore production.[23] Seven mines in Minnesota produced 76.1 percent of the national output of usable iron ore in 2000, with two mines in Michigan accounting for 23.8 percent of the output of usable iron ore. In 2000, the United States produced 6 percent of the world's iron ore and consumed approximately 8 percent.

To be sure, the U.S. iron ore industry is undergoing restructuring. On January 3, 2001, LTV Steel Corporation ceased production at the LTV Steel Mining Company in Hoyt Lakes, Minnesota, which represented approximately 15 percent of U.S. iron ore production capacity,

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[21] Indeed, the production capacity of the integrated sector of the U.S. steel industry alone could satisfy this requirement if the necessity were to arise. Between 1991-2000, raw steel production by U.S. integrated producers ranged from a low of 52.7 million net tons in 1991 to a high of 62.5 million net tons in 1995.

[22] All iron ore statistics are published USGS data unless otherwise noted.

[23] One mine closed in January 2001 (see discussion below), leaving eight operating mines. Most U.S. iron ore mines are owned by U.S. integrated steel mills. Canadian steel mills have partial ownership in three U.S. mines. One U.S. merchant iron ore company manages and holds interest in two mines in Minnesota, two mines in Michigan, and one in Canada.

stating that the quality of LTV Mining's operations and ore reserves had deteriorated to noncompetitive levels.[24]

There is no evidence, however, that additional closures are expected, let alone sufficient numbers of closures to preclude satisfaction of U.S. national security requirements. The Department surveyed the U.S. iron ore industry as part of this investigation, and received responses from the nine mines operating in 2000. **[Confidential business information – redacted**

].[25]

b. *Production of Semi-Finished Steel*. As discussed in Section IV above, semi-finished steel is consumed by U.S. steel mills in the production of finished steel. In 2000, the United States produced domestically 112.2 million net tons of semi-finished steel – far in excess of 36.04 million net tons, the maximum required for U.S. national security.

Like iron ore, domestic production of semi-finished steel has increased over the past decade. Between 1991 and 2000, total U.S. semi-finished steel production increased 27.7 percent.[26] Since 1991, U.S. raw steel production ranged from a high of 112.2 million net tons in 2000, to a low of 87.9 million net tons in 1991. (See Chart 1). U.S. production of raw steel even increased 4.5 percent in 2000 compared with 1999 levels, despite a significant market downturn during the second half of 2000 when capacity utilization rates fell from 91.6 percent during the first half of the year, to 79.9 percent during the second half of the year.[27] This data clearly demonstrates that total domestic semi-finished steel production far exceeds national security requirements.

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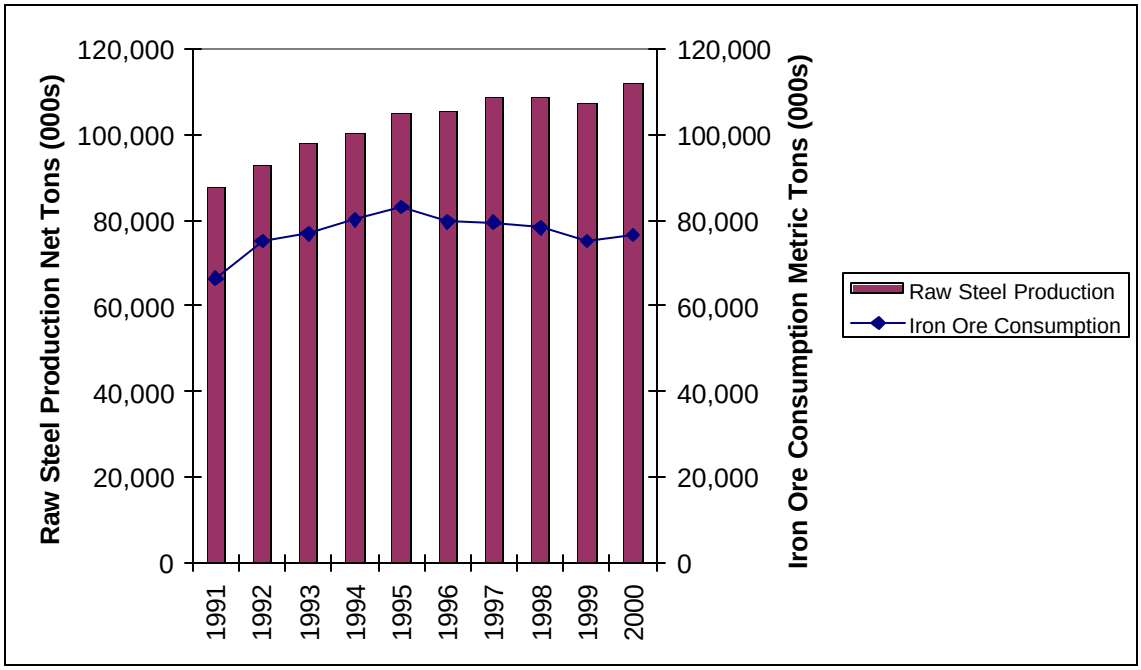
[24] On October 10, 2001, LTV Corporation announced that it had entered into an agreement to sell its LTV mine assets to subsidiaries of Cleveland-Cliffs, Inc., the largest iron ore supplier in North America, and Minnesota Power, subject to regulatory and bankruptcy court approvals. Cleveland-Cliffs indicates that the mine assets will not be operated to produce iron ore pellets, but may be used to provide transportation support services to other Minnesota mining operations, or for non-ferrous metals development. In November 2000, Wheeling-Pittsburgh Steel Corp., an integrated mill, sold its interest in a Michigan mine. Bethlehem Steel Corp. and National Steel Corp., both integrated producers, are marketing their interests in Minnesota iron ore mines.

[25] The Department has found that, once closed, an iron ore mine cannot be reconstituted quickly due to the significant challenges associated with resuming the iron ore mining and processing operations, rebuilding the infrastructure to support the mine, and acquiring workers with the required skills. Although relevant, the difficulties of reconstitution only pose a threat to national security to the extent that mines are expected to close. Steel mills that have closed have been reopened on occasion. California Steel Industries, Inc. and Duferco Farrell each produce finished steel products on the sites of former integrated steel mills.

[26] All steel statistics are published AISI data unless otherwise noted.

[27] AISI defines raw steel capability as the tonnage capability to produce raw steel for a sustained full order book. For the purpose of this investigation, the Department has used AISI's capability utilization rate as the industry's capacity utilization rate.

CHART 1 –
U.S. RAW STEEL PRODUCTION AND IRON ORE CONSUMPTION - 1991-2000

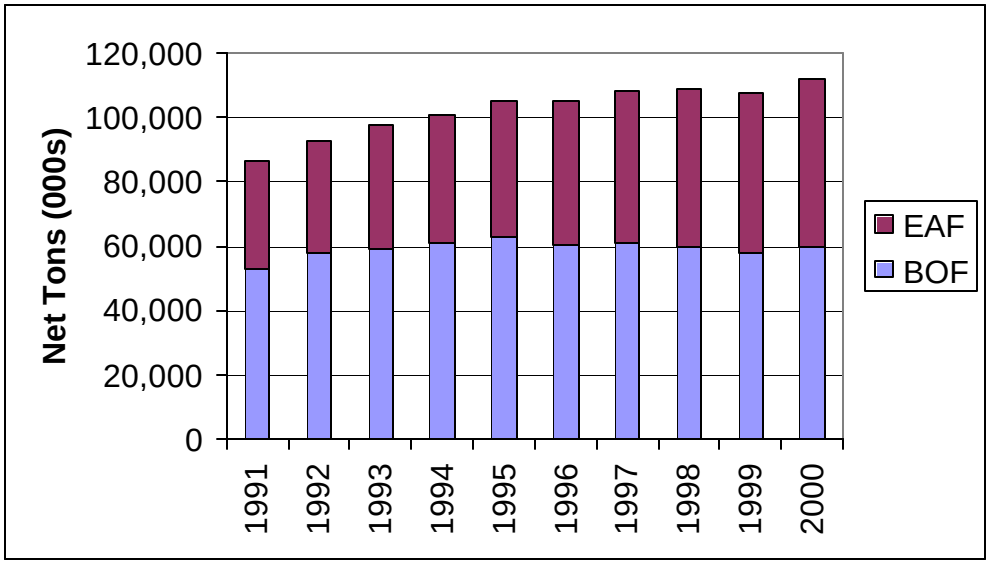


Sources: AISI and USGS data

Significantly, the greatest growth in the production of raw steel has occurred in the mini-mill sector – i.e., the sector that does not utilize iron ore. From 1991-2000, the amount of U.S. raw steel produced by integrated producers utilizing basic oxygen furnaces ranged from a low of 52.7 million net tons in 1991, to a high of 62.5 million net tons in 1995. During the same period, the amount of U.S. raw steel produced by mini-mills operating electric arc furnaces (for which steel scrap, not iron ore, is the primary feedstock) steadily increased from a low of 33.8 million net tons in 1991, to 52.8 million net tons in 2000. (See Chart 2). In short, over the past decade, raw steel production by integrated producers increased 12.8 percent, while raw steel production by mini-mills increased 56.2 percent. Altogether, approximately 53 percent of the raw steel produced in the United States in 2000 was produced by U.S. integrated mills operating blast furnaces and basic oxygen furnaces, down from sixty percent in 1991.[28]

[28] In 2000, the remaining 47 percent of the raw steel produced in the United States came from mini-mills operating electric arc furnaces.

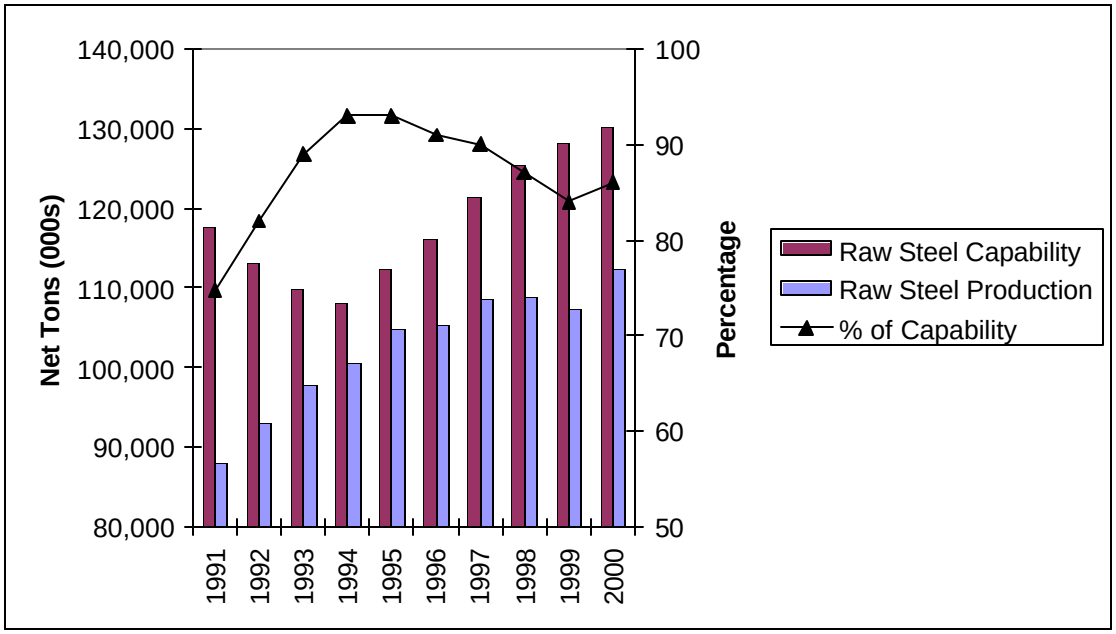
CHART 2 –
U.S. RAW STEEL PRODUCTION BY TYPE OF FURNACE - 1991-2000



Source: AISI data

Domestic semi-finished steel production is not dependent on any one producer or small group of producers. In 2000, the USGS reported that the U.S. steel industry consisted of about 105 companies that produced raw steel at approximately 144 locations, with a raw steel capacity of 130 million net tons. Indiana accounted for 23 percent of total raw steel production, followed by Ohio (16 percent), and Pennsylvania (7 percent). In 2000, 13 companies operated integrated steel mills, with an average of 35 blast furnaces in continuous operation during the year.

CHART 3 –
U.S. RAW STEEL PRODUCTION AND
CAPABILITY UTILIZATON RATE - 1991-2000



Source: AISI data

Not only has total U.S. semi-finished steel production – production far in excess of that needed to ensure U.S. national security – increased over the past decade, but production capacity also has increased. U.S. semi-finished steel production capacity has increased over 10 percent during the past decade from 117.6 million net tons in 1991 to 130.3 million net tons in 2000. (See Chart 3).

Moreover, data reported in the Census Bureau's Survey of Plant Capacity illustrate that, during a national emergency, additional steel production capacity beyond that reported as full production capacity under normal business operations could be made available to meet national security requirements. The Census data demonstrate that the companies classified under SIC 3312 (Blast Furnaces and Steel Mills) were operating at 78 percent capacity in 1999, but were operating at only 71 percent of the capacity that could be reached in a national emergency, based on the Census Bureau's criteria.[29]

[29] See Census Bureau, Survey of Plant Capacity data. The Survey of Plant Capacity does not cover the U.S. iron ore industry.

c. *Prior Government Findings.* The finding that U.S. domestic industry produces sufficient iron ore and semi-finished steel to satisfy national security requirements is consistent with earlier findings by the U.S. Government, specifically the decision to deactivate the "Controlled Materials Program."

During the Second World War and the Korean War, the production and distribution of certain critical metals – steel, copper, and aluminum – were managed under "Controlled Materials Plans." From 1953 to 1988, these materials (with nickel alloys added in 1958) were subject to government allocations regulations under the Controlled Materials Program rules promulgated by the Department.[30]

By the 1980s, the importance of the controlled materials to defense production was declining as the use of more exotic specialty materials increased.[31] In addition, improved technologies and production techniques meant that an increasingly smaller percentage of overall production capacity was needed to meet defense requirements. A 1987 Department study of the Controlled Materials Program found that the program had little relevance to defense requirements for the controlled materials or to the ability of industry to supply the controlled materials to meet these requirements. The 1987 study recommended that the controlled materials procedures be deactivated.[32]

An interagency committee comprised of the Department and three of the Delegate Agencies under the Defense Priorities and Allocations System ("DPAS") – the Federal Emergency Management Agency, and the Departments of Defense and Energy – concurred with this recommendation. Action was subsequently taken by these agencies to deactivate the program, including action by the Department to discontinue the information collection burden imposed upon controlled materials producers, distributors, and users. Subsequently, in 1998, the Department officially revised its DPAS regulations, deleting all of the "Controlled Materials Program" provisions.[33]

Although the Controlled Materials Program provisions have been deleted from the DPAS, in times of national crisis, the U.S. iron ore and steel industries could receive priority "rated orders" to meet defense and other national security customer requirements. Upon receipt of a rated order from a customer for a specified quantity of iron ore or steel product, the iron ore or steel producer must (i) accept that order (except as otherwise provided in the DPAS rules),

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[30] Within several years of enactment of the Defense Production Act of 1950 (50 U.S.C. app. § 2061 et seq.), the Department promulgated regulations to implement priorities and allocations. The purpose of these regulations was to ensure the timely availability of industrial products and materials for the national defense. See generally 15 C.F.R. § 700 et seq.

[31] The program functioned on the basis of requirements information supplied by DOD and production and plant capacity information collected by the Department from the major controlled materials producers. Under the Controlled Materials Program, controlled material producers were required to reserve order book space for the production and timely delivery of material against defense orders.

[32] Department of Commerce, Evaluation of the Controlled Materials Program – Final Report (1987).

[33] See 62 Fed. Reg. 51,389 (Oct. 1, 1997) and 63 Fed. Reg. 31,918 (Jun. 11, 1998).

and (ii) ship the iron ore or steel product as necessary to meet the delivery requirement stated in the order. If necessary, production and delivery preference must be given to the rated order over any commercial (non-rated) orders that have been placed with the producer to ensure timely delivery of items needed to meet approved national defense and civil emergency program requirements.

d. *Summary*. The U.S. iron ore and steel industries' production levels and production capacity far exceed the amounts needed to satisfy U.S. national security requirements. In addition, the Department found that current capacity could be increased in the event of a national emergency, and in times of a national crisis, national security-related needs could receive preferential treatment through the Department's DPAS program.

2. There are Sufficient "Human Resources, Products, Raw Materials and Other Supplies and Services" Necessary to the Domestic Production of Iron Ore and Semi-Finished Steel. As set forth in Section II above, Section 232 requires the Department to consider – in addition to national defense requirements, domestic production, and domestic capacity – "existing and anticipated availabilities of the human resources, products, raw materials, and other supplies and services essential to the national defense." Based on the data and relevant information obtained during the course of this investigation, the Department has found that, although the U.S. iron ore and steel industries are undergoing restructuring, there are and will continue to be ample human resources, products, raw materials, and other supplies and services essential for the domestic production of iron ore and semi-finished steel in sufficient quantities to meet U.S. national security requirements.

a. *Human resources*. Although the number of people employed in the U.S. iron ore and steel industries has declined over the past ten years, this development has not substantially affected these industries' production capacities, and does not threaten their ability to satisfy national security requirements. In fact, production of iron ore and semi-finished steel has increased over the same period.

• Iron ore. Employment in the U.S. iron ore industry (SIC 1011) has declined as the industry undergoes restructuring. The Department of Labor reported that employment in the U.S. iron ore industry was 7,700 in 2000, a decrease of 13.5 percent in employment compared with 1991 levels (8,900 employees). During the same period, U.S. iron ore production increased 11.4 percent. The Department of Labor estimates current employment in the industry at approximately 6,000 employees after the closure of the LTV mine.

Capital investment in the iron ore industry over the past decade has enabled production to remain steady or to increase, perhaps contributing to the diminution in employment. For example, iron ore mines have made investments to improve and modernize their operations, including facilitating the labor intensive process of the movement of the crude iron ore to grinding and processing facilities. Thus, the iron ore mines generally believe they will have sufficient human resources to meet their needs.

The Department's survey of iron ore producers asked the nine U.S. iron ore mines operating in 2000 to "assess the likelihood that a ready and qualified work force will remain available … for the next five years." Five mines responded "likely," two mines **[Confidential business information - redacted]** responded "unlikely," and two mines responded "uncertain."

• Semi-Finished Steel. The Department of Labor reported that employment in the U.S. steel industry (SIC 3312, Blast Furnaces and Steel Mills) was 151,200 in 2000, a decrease of 24 percent compared with 1991 levels (198,800). During the same period, U.S. raw steel production increased 27.7 percent.

As the Department noted in its July 2000 report, Global Steel Trade: Structural Problems and Future Solutions, two technology trends contributed to the increase in productivity nothwithstanding the decline in employment in the U.S. steel industry. First, raw steel production shifted away from relatively labor intensive and less efficient open-hearth furnaces.[34] Second, the percentage of total U.S. raw steel production that was continuously cast increased from 75.8 percent in 1991 to 96.4 percent in 2000.[35] Recent developments in thin slab casting by U.S. mini-mills have increased productivity even further.

The Department's Steel Mill Survey asked U.S. steel mills that consume iron ore or consume, produce, or ship semi-finished steel to "assess the likelihood that a ready and qualified work force will remain available … for the next five years." Fifty-three respondents answered this question. Sixty-two percent responded "likely," 25 percent responded "possible," 2 percent responded "unlikely," and 11 percent responded "uncertain."

We note that only a minority of the workers in the iron ore and semi-finished steel industries that have petitioned for Trade Adjustment Assistance ("TAA") have been certified as eligible.[36] The Department of Labor indicated that certification of a TAA petition is dependent upon a determination that there are increased imports of products like or directly competitive with those produced by the petitioning workers or, in the case of North American Free Trade Agreement ("NAFTA")-TAA only, a shift of production to Canada or Mexico.

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[34] Department of Commerce, Global Steel Trade: Structural Problems and Future Solutions, July 2000, p. 12. At one time, open-hearths were the most abundant steelmaking furnaces operated by integrated steel mills. These furnaces were characterized by a broad, shallow hearth to refine pig iron and scrap into steel. The last open-hearth furnace operated in the United States was closed in 1991. Integrated steel mills now rely on basic oxygen furnaces.

[35] Continuous casting is a method of pouring steel from the basic oxygen or electric arc furnace into a billet, bloom, or slab directly from its molten form. Continuous casting avoids the need to roll ingots into slabs, thus increasing production efficiency.

[36] The Department of Labor reported that workers in the iron ore industry (SIC 1011) have filed eight TAA petitions since the beginning of fiscal year 1991. Three of these petitions, covering 1,456 workers, resulted in certifications of eligibility to apply for adjustment assistance, and the other five, covering an estimated 1,533 workers, resulted in denials. Workers in SIC 1011 have filed two petitions for NAFTA-TAA since the program began in January 1994. One of these petitions, covering 29 workers, resulted in a certification for eligibility to apply for adjustment assistance, and the other, covering an estimated 676 workers, resulted in a denial.

Similarly, U.S. steelworkers (SIC 3312) have filed 210 TAA petitions since the beginning of fiscal year 1991. Of these, 98 petitions, covering an estimated 17,354 workers, resulted in certifications of eligibility to apply for adjustment assistance; 99 petitions, covering an estimated 11,611 workers, resulted in denials; and 13 eligibility investigations were terminated before completion. Workers in SIC 3312 have filed 41 petitions for NAFTA-TAA. Of these, 13 petitions, covering an estimated 3,427 workers, resulted in a certification for adjustment assistance; 26 petitions, covering an estimated 4,106 workers, resulted in a denial; and two eligibility investigations were terminated before completion.

b. *Products, raw materials, supplies, and other services*. In addition to the human resources described above, the production of iron ore and semi-finished steel requires various other "products, raw materials, supplies and other services." Specifically, the inputs required for the production of iron ore pellets include electricity, fuel, water, and bentonite.[37] The inputs required for the production of semi-finished steel can include iron ore, coal and coke, electricity, natural gas, oxygen, limestone, and steel scrap.

Based on the information obtained during the course of this investigation, we found no evidence that these products, raw materials, supplies, or other services are in short supply.

Although it does not change the ultimate conclusion of this Section, we would note that there are a web of resources – transportation, utilities, and community infrastructure – relevant to the production of iron ore and semi-finished steel, whose existence often is heavily dependent upon the steel marketplace and that would not be easy to replace once lost or shuttered. For example, the iron ore industry is supported by an infrastructure of railways and ships, utilities, and power companies.[38] The Department of Labor noted that, although the closure of a single mine does not destroy the infrastructure, it does directly affect these support industries.

In addition, the Department of Labor noted that the closing of a mine and the permanent or temporary lay-off of workers also impacts local communities and businesses. This impact is felt particularly strong in northeastern Minnesota and in Michigan's Upper Peninsula, where iron ore mining wages are nearly twice the average wages for other occupations. A mine's closing results in significant loss of income and taxes for these local communities.[39]

3. Growth of the Iron Ore and Steel Industries is Not Necessary to Ensure National Security. Section 232 also requires the Department to consider "the requirements of growth" of the relevant industries. As a preliminary matter, it is important to recognize that growth in the iron ore and steel industries is not necessary to satisfy the national security requirements set forth above. Indeed, domestic production of iron ore and semi-finished steel could satisfy national security requirements even if such production was at substantially lower levels than it is today.

Growth in iron ore and semi-finished steel production is principally driven by downstream demand. Semi-finished steel production is sensitive to consumer demand for finished steel products, particularly demand for automobiles, construction, machinery, and appliances. Similarly, iron ore production is directly related to the demand for semi-finished steel. As set forth above, there is no evidence that there will be a spike in demand for these products that would threaten the ability of the U.S. iron ore and semi-finished steel industries to satisfy national security needs.

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[37] Bentonite is a form of clay. During iron ore processing, ground taconite is mixed with small amounts of bentonite. Bentonite serves as a binder to the taconite as the mixture is processed into iron ore pellets that are then heat-hardened for shipment to integrated steel mills.

[38] No U.S. iron ore is consumed near where it is produced. Nearly all U.S. iron ore leaves the mine by rail, after which much of it is transported by ship along the Great Lakes. The Lake Carriers' Association reported that domestically-mined iron ore is the largest commodity moved by the U.S.-flagged Great Lakes fleet.

[39] On July 3, 2001, the Department's Economic Development Administration announced a $525,000 grant to the Arrowhead Regional Development Commission and the Northspan Group, Inc. of Duluth, Minnesota to assist these organizations develop economic adjustment strategies to help limit the impact of the closure of the LTV mine.

In addition to downstream demand, a principal requirement for growth is access to substantial amounts of capital. As the Department noted in its July 2000 report, construction of a large integrated steel mill costs billions of dollars. Even for much smaller mini-mills, construction and equipment costs can reach hundreds of millions of dollars.[40]

The U.S. iron ore industry is exploring the development and commercialization of new iron-bearing products and improvement of existing products that may provide growth opportunities.[41] To the extent that growth in the production of semi-finished steel occurs, it would likely occur among mini-mills operating electric arc furnaces. As discussed above, a key trend in the U.S. steel industry over the past decade has been the significant increase in the amount of steel produced by U.S. mini-mills.

4. Domestic Production of Finished Steel Necessary to Meet National Security Requirements is Not Dependent Upon Imports of Iron Ore or Semi-Finished Steel, and in any Event, Imports of Iron Ore and Semi-Finished Steel are from Safe and Diverse Suppliers. Based on the information obtained during the course of this investigation, the Department found no evidence that U.S. production of finished steel necessary to meet national security requirements is dependent on imports of iron ore or semi-finished steel. To the contrary, as set forth above, the United States is capable of producing and in fact produces sufficient iron ore and semi-finished steel to satisfy national security requirements. This conclusion is further supported by the fact that, as set forth in greater detail in Section V(B) below, imports of iron ore and semi-finished steel account for only small percentages of total domestic consumption of these articles – approximately 20 percent and 7 percent, respectively – with the overwhelming majority of U.S. domestic demand being satisfied by domestic supply.

Further, the Department found that iron ore and semi-finished steel are imported from reliable foreign sources. Accordingly, even if the United States were dependent on imports of iron ore and semi-finished steel, imports would not threaten to impair national security.

As set forth in detail in Section V(C) below, imports of iron ore and semi-finished steel come from diverse and reliable trading partners. More than a dozen countries exported iron ore to the United States in 2000; many of these countries are in the Western Hemisphere. Over the past ten years, Canada – with which the United States shares a 3,987-mile border – has been the source of more than 50 percent of U.S. iron ore imports. Canada is a North Atlantic Treaty Organization ("NATO") ally, the United States' largest trading partner, and also a party to NAFTA. Moreover, two U.S. companies own interests in one of the principal Canadian iron ore mines.[42]

More than 30 countries exported semi-finished steel to the United States in 2000. Brazil and Mexico alone accounted for over 50 percent of these imports. Both countries are safe and reliable suppliers. Brazil is a participant in the Free Trade Area of the Americas initiative.

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[40] Global Steel Trade: Structural Problems and Future Solutions, p. 14.

[41] For example, in July 2001 the State of Minnesota's Iron Range Resources and Rehabilitation Board announced it was providing funding to support the Mesabi Nugget project, which is seeking to develop an iron product suitable for both integrated and mini-mill producers.

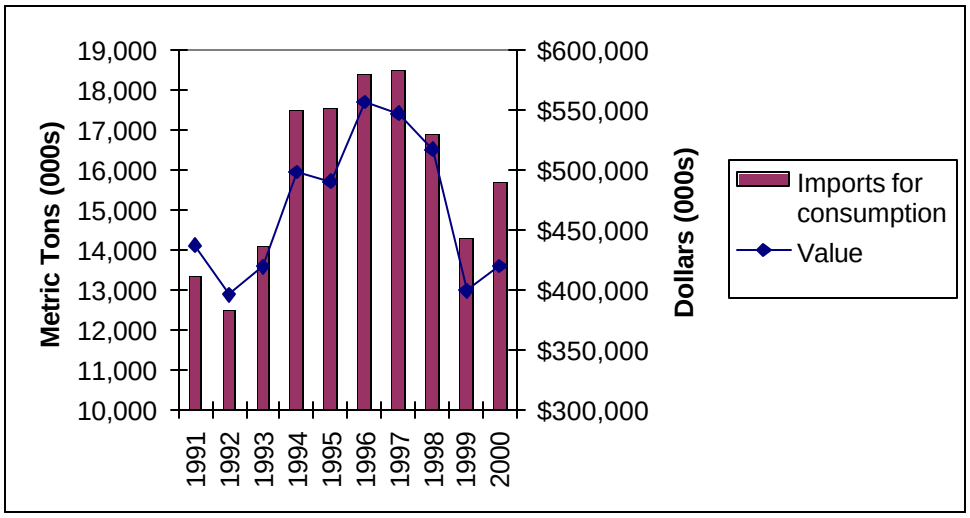
[42] See discussion in Section V(C)1 infra.

Mexico – with which the United States shares a 1,550-mile border – is a close ally and is a party to NAFTA.

C. IMPORTS OF IRON ORE AND SEMI-FINISHED STEEL DO NOT FUNDAMENTALLY THREATEN TO IMPAIR THE CAPABILITY OF THE U.S. IRON ORE AND SEMI-FINISHED STEEL INDUSTRIES TO SATISFY NATIONAL SECURITY REQUIREMENTS

1. Overview of Imports of Iron Ore. Although imports of iron ore have increased over the past decade, they still account for a relatively minor share (approximately 20 percent) of total domestic consumption.

CHART 4 –
U.S. IMPORTS OF IRON ORE - 1991-2000

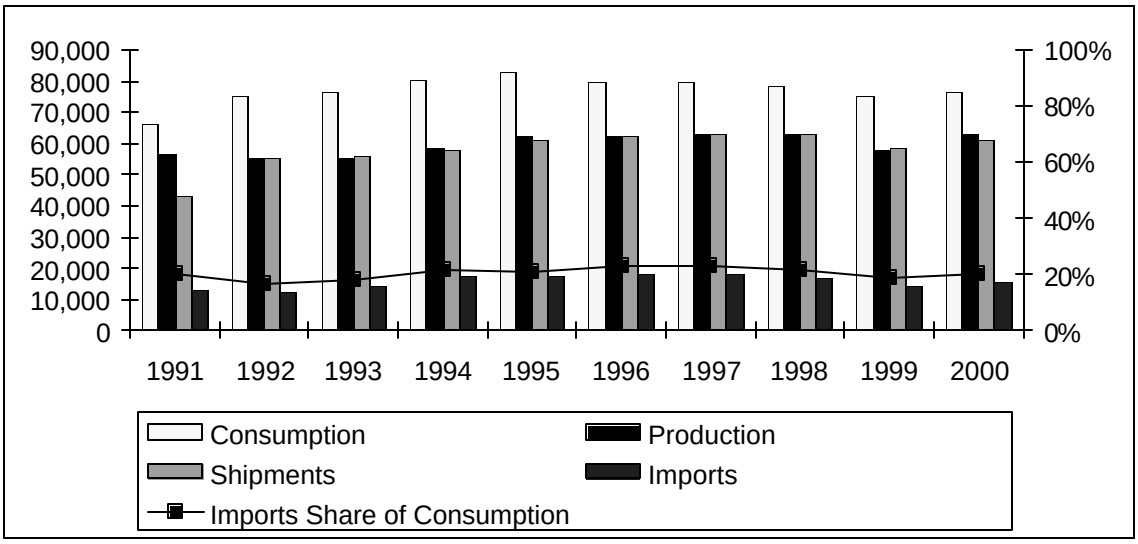


Source: U.S. Census Bureau data compiled by USGS

In 2000, imports of iron ore totaled 15.7 million metric tons, a 10 percent increase compared with 1999 levels. Iron ore imports have increased 17.7 percent (2.4 million metric tons) between 1991 and 2000.[43] Imports ranged from a high of 18.5 million metric tons in 1997 to a low of 12.5 million metric tons in 1992. (See Chart 4). During the first six months of 2001, imports of iron ore totaled 4.9 million metric tons, a 37 percent decrease compared with the same period in 2000.

[43] Although not strictly relevant to this investigation, we would note that, by comparison, U.S. finished steel imports have increased far more rapidly. Between 1991 and 2000, U.S. finished steel imports increased 116.4 percent. U.S. finished steel imports ranged from a high of 34.7 million net tons in 1998 to a low of 13.6 million net tons in 1991.

CHART 5 –
SALIENT IRON ORE STATISTICS - 1991-2000
(Thousand Metric Tons)



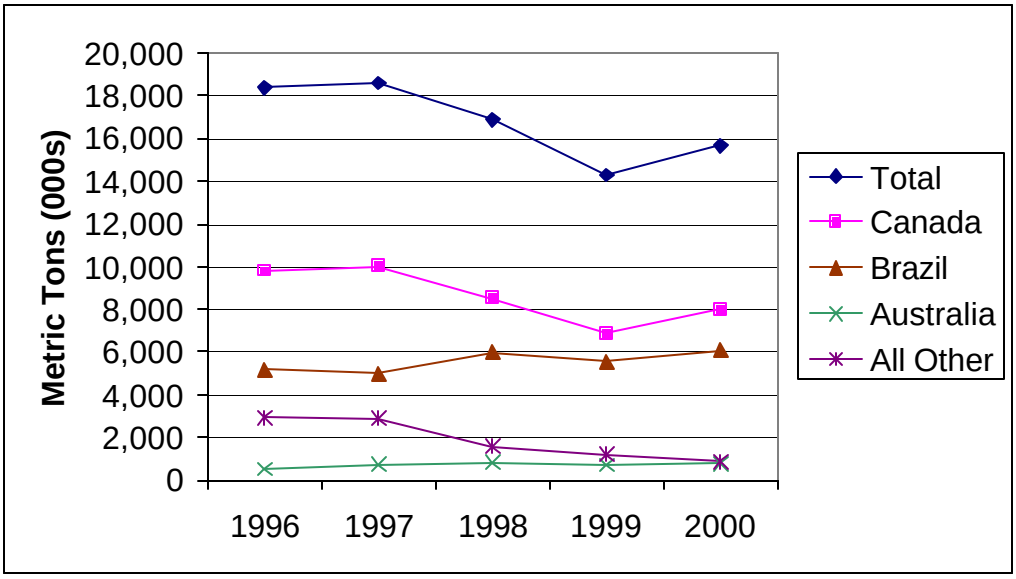
Source: USGS data

According to USGS data, imported iron ore accounted for 20.5 percent of U.S. consumption in 2000. During the 1991-2000 period, imports accounted for less than one-quarter of total U.S. consumption of iron ore, ranging from a high of 23.2 percent in 1997 to a low of 16.7 percent 1992. (See Chart 5).

As noted above, two Canadian integrated steel mills own interests in three U.S. mines. U.S. exports of iron ore totaled 6.2 million metric tons in 2000, and have increased 52 percent (2.1 million metric tons) between 1991 and 2000. U.S. exports ranged from a high of 6.3 million metric tons in 1997, to a low of 4.0 million metric tons in 1991.

U.S. net imports of iron ore accounted for only 12.5 percent of U.S. iron ore consumption in 2000. During the 1991-2000 period, net imports have accounted for less than 16 percent of total U.S. consumption of iron ore, ranging from a high of 15.6 percent in 1994 to a low of 10.9 percent in 1999.

CHART 6 –
U.S. IMPORTS OF IRON ORE BY COUNTRY - 1996-2000



Source: U.S. Census Bureau data compiled by USGS

More than a dozen countries exported iron ore to the United States in 2000.[44] In 2000, as in the period 1996-2000, approximately 51 percent of U.S. iron ore imports (based on quantity) originated in Canada, and 39 percent originated in Brazil. (See Chart 6). The principal reasons for Canada's leading position are ownership and proximity. Acme Metals Inc., a U.S. integrated steel mill, and Cleveland-Cliffs, Inc., a U.S. merchant iron ore company, currently own a combined 37.9 percent interest in one of the three Canadian iron ore producers. **[Confidential business information -redacted].**[45] The proximity of the producers and consumers of iron ore in the two countries, in particular along the Great Lakes region, also results in lower transportation costs for Canadian iron ore suppliers.

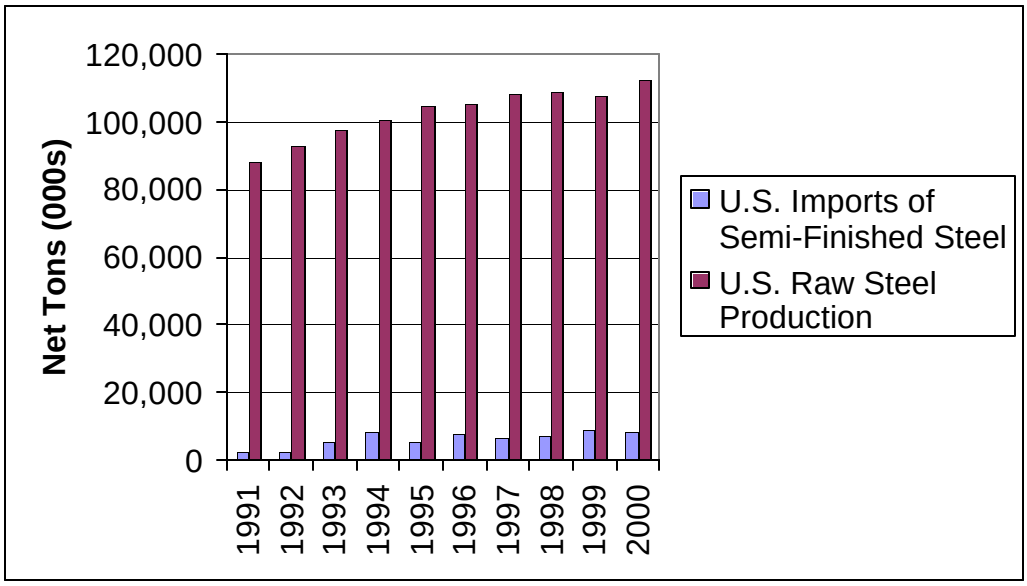
No duties are levied on the importation of iron ore, and there are no anti-dumping or countervailing duty orders in place.

[44] The U.S. iron ore industry identified the Iron Ore Company of Canada (Canada), Quebec Cartier Mining Co. (Canada), and Cia. Vale do Rio Doce (CVRD) (Brazil) as leading foreign competitors. CVRD is the world's largest iron ore producer.

[45] Bethlehem Steel Corporation also owned an interest in one of Brazil's iron ore producers, which it sold to another Brazilian iron ore producer in September 2001.

2. Overview of Imports of Semi-Finished Steel. Semi-finished steel is imported by segments of the U.S. steel industry to convert into finished steel. As the Department noted in its July 2000 report, the U.S. steel industry utilizes semi-finished steel imports to supplement its own production.[46] Certain U.S. steel mills that do not produce raw steel, or whose steelmaking capacity does not meet its rolling capacity, indicated that they are dependent on imported semi-finished steel for some portion or all of their semi-finished steel needs.[47]

CHART 7 –
U.S. IMPORTS OF SEMI-FINISHED STEEL
AND U.S. RAW STEEL PRODUCTION - 1991-2000



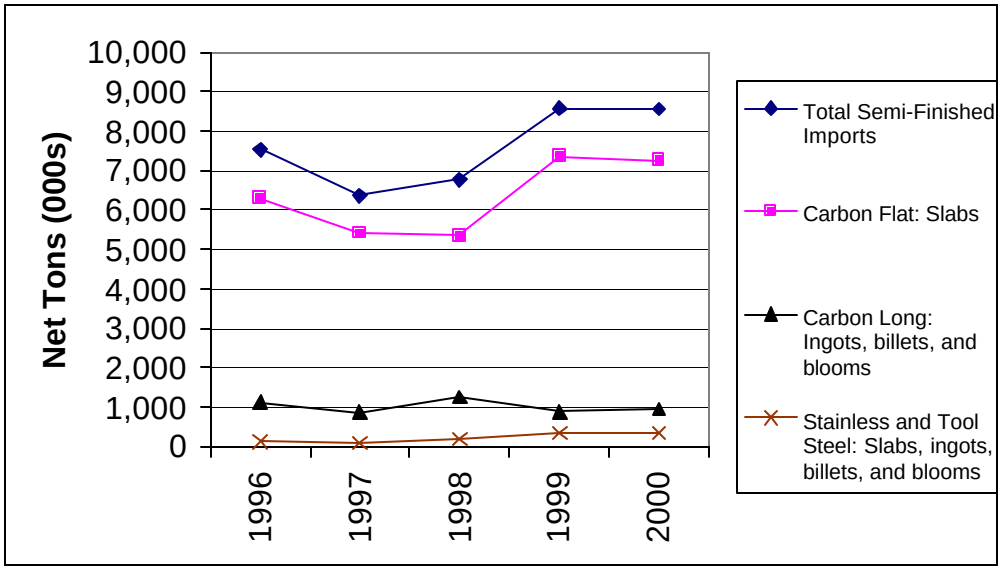
Source: AISI data

Although imports of semi-finished steel have increased significantly over the past decade, they still account for a small percentage (approximately 7 percent) of total U.S. semi-finished steel consumption. The majority of the increase in imports occurred between 1991 and 1994, when imports rose 252 percent, from 2.26 million net tons in 1991 to 7.94 million net tons in 1994. Since 1994, imports have ranged from a high of 8.58 million net tons in 1999 to a low of 5.20 million net tons in 1995. In 2000, imports of semi-finished steel totaled 8.56 million net tons, virtually the same level recorded in 1999. (See Chart 7). During the first six months of 2001, imports of semi-finished steel totaled 2.75 million net tons, a 43 percent decrease compared to the same period in 2000. More than thirty countries exported semi-finished steel to the United States in 2000.

[46] Global Steel Trade: Structural Problems and Future Solutions, p. 12.

[47] U.S. steel mills also use imported semi-finished steel to continue finished steel production when their blast furnaces or basic oxygen furnaces are down for repairs or maintenance (e.g., relining). Further, some producers, including mini-mills, import high-quality semi-finished steel in order to produce high quality, specialty steels that they could not otherwise make.

CHART 8 –
U.S. SEMI-FINISHED STEEL IMPORTS - 1996-2000

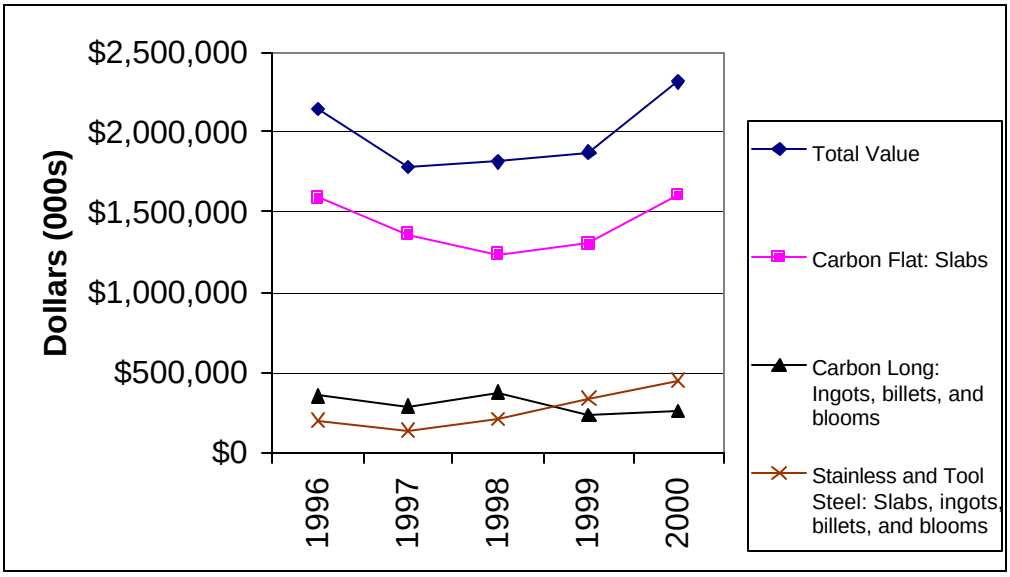


Source: U.S. International Trade Commission Dataweb

Approximately 85 percent (by quantity) of all semi-finished steel imported in 2000 was in the form of carbon slabs (7.26 million net tons). Approximately 11 percent was in the form of carbon ingots, billets, and blooms (0.95 million net tons). Four percent was in the form of stainless slabs, ingots, billets, and blooms (0.34 million net tons). It is noteworthy that two U.S. steel companies without the capability to produce semi-finished steel consumed over 31 percent of total semi-finished steel imports in 2000.[48]

[48] **[Confidential business information – redacted].**

CHART 9 –
U.S. SEMI-FINISHED STEEL IMPORTS - 1996-2000

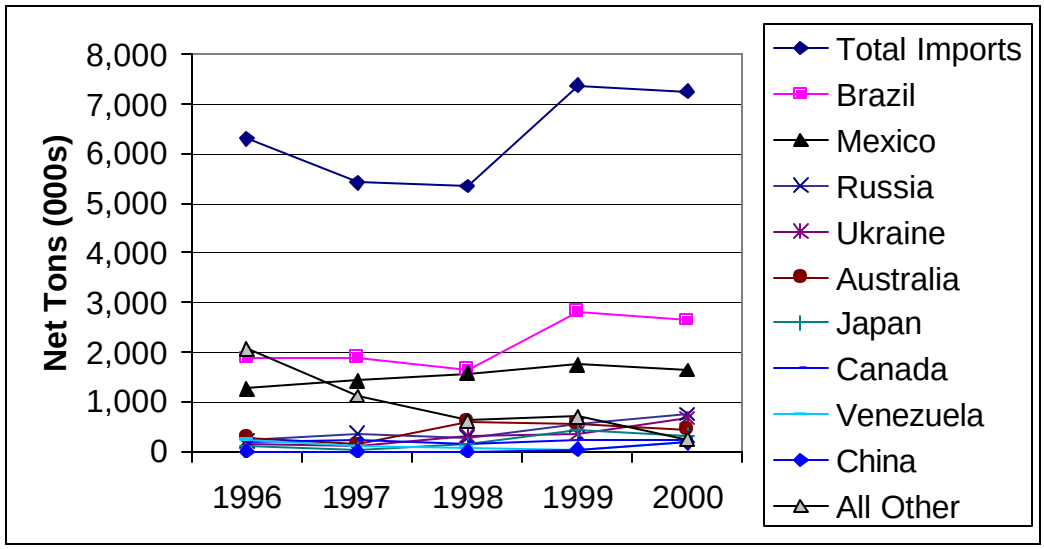


Source: U.S. International Trade Commission Dataweb

Carbon slabs ($1.6 billion) accounted for approximately 69 percent of all semi-finished steel imported in 2000 on a value basis. Stainless slabs, ingots, billets, and blooms ($450 million) accounted for 20 percent. Carbon ingots, billets, and blooms ($257 million) accounted for 11 percent.[49]

[49] The U.S. steel industry identified Companhia Siderúrgica de Tubarão S.A. (CST) (Brazil); Companhia Siderúrgica Nacional (CSN) (Brazil); Companhia Siderúrgica Paulista (COSIPA) (Brazil); Ispat Mexicana S.A. (Mexico); Severastahl (Russia); Magnitigorsk (MMK) (Russia); and Ilyich Iron and Steel Works (Ukraine) as leading foreign exporters of semi-finished steel to the United States.

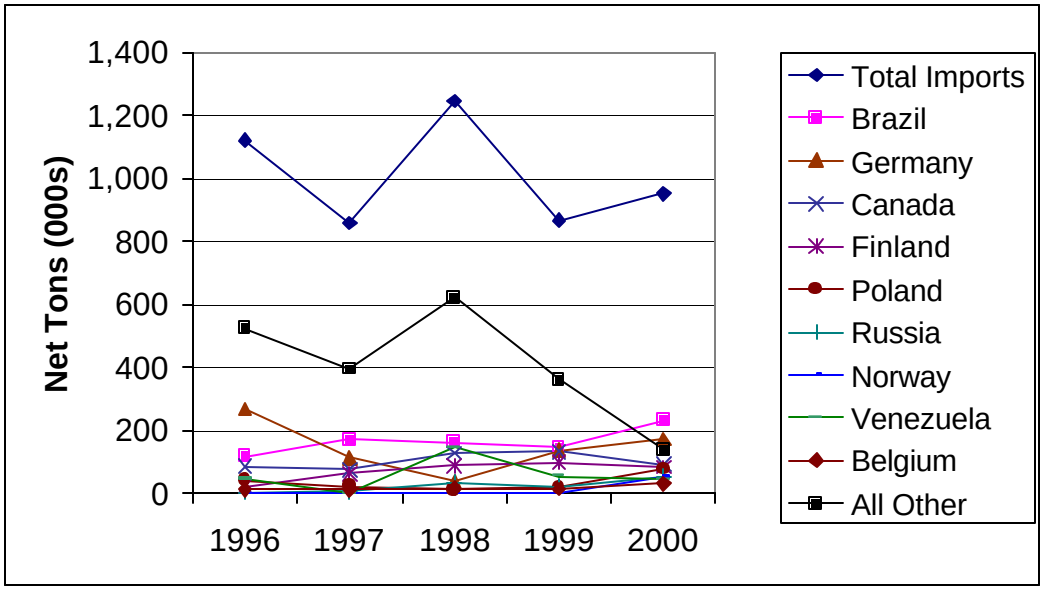
CHART 10 –
IMPORTS OF CARBON FLAT: SLABS BY COUNTRY - 1996-2000



Source: U.S. International Trade Commission Dataweb

In 2000, the United States imported carbon slabs from twenty countries. Thirty-six percent of U.S. carbon slab imports originated in Brazil, 23 percent originated in Mexico, 10 percent originated in Russia, and 9 percent originated in Ukraine. During the 1996-2000 period, total imports of carbon slabs increased 15 percent; shipments from Brazil increased 41 percent and shipments from Mexico increased 30 percent.

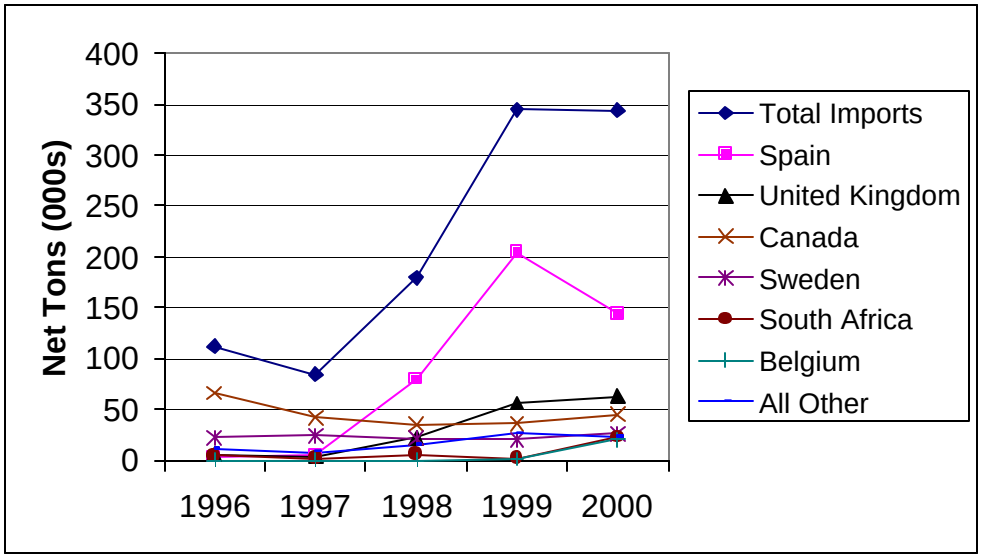
CHART 11 –
IMPORTS OF CARBON LONG: INGOTS, BILLETS, AND BLOOMS
BY COUNTRY - 1996-2000



Source: U.S. International Trade Commission Dataweb

In 2000, the United States imported carbon ingots, billets, and blooms from 31 countries. Twenty-four percent of these imports originated in Brazil, 18 percent originated in Germany, 10 percent originated in Canada, and 9 percent originated in Finland. During the 1996-2000 period, total imports of carbon ingots, billets, and blooms decreased 15 percent; shipments from Brazil increased 96 percent and shipments from Canada increased 9 percent, while shipments from Germany decreased 35 percent.

CHART 12 –
IMPORTS OF STAINLESS AND TOOL STEEL:
SLABS, INGOTS, BILLETS, AND BLOOMS BY COUNTRY - 1996-2000



Source: U.S. International Trade Commission Dataweb

In 2000, the United States imported stainless slabs, ingots, billets, and blooms from 18 countries.[50] Forty-two percent of these imports originated in Spain, 18 percent originated in the United Kingdom, 13 percent originated in Canada, and 8 percent originated in Sweden. During the 1996-2000 period, total imports of stainless slabs, ingots, billets, and blooms increased 206 percent.

Duties levied on the importation of semi-finished steel vary by product and country of origin. There are no anti-dumping or countervailing duty orders in place on the importation of semi-finished steel. Only Russian semi-finished steel shipments are subject to quantitative restraints under the U.S.-Russia July 1999 Agreement Concerning Trade in Certain Steel Products from the Russian Federation.

[50] The U.S. steel industry's raw stainless steel production totaled 2.4 million net tons in 2000, all of which was produced by steel mills operating electric arc furnaces, which rely on steel scrap, not iron ore, as their primary feedstock.

3. Imports of Iron Ore and Semi-Finished Steel Do Not Fundamentally Threaten to Impair the Capability of the U.S. Iron Ore and Semi-Finished Steel Industries to Satisfy National Security Requirements. As the Administration noted in its June 22, 2001 request to the U.S. International Trade Commission to initiate a broad investigation under Section 201 of the Trade Act of 1974 on the effect of steel imports on the U.S. steel industry, the U.S. steel industry is suffering financially, with marked declines in profits, returns on investment, and market share. As a result, over 20 U.S. steel companies have sought bankruptcy protection since 1998.

There can be no question that the U.S. steel industry generally – and their iron ore suppliers – have endured and continue to endure substantial economic difficulties. However, based on the information obtained during the course of this investigation, the Department is unable to conclude that imports of iron ore and semi-finished steel fundamentally threaten the capability of U.S. iron ore and semi-finished steel producers to satisfy national security requirements.

As set forth in Section V(B) above, the evidence presented to the Department shows that U.S. industry currently produces sufficient quantities of iron ore and semi-finished steel to satisfy current and projected national security requirements. The Department has been presented with conflicting evidence as to whether imports threaten competing U.S. producers. There is evidence – principally in the form of testimony and comments from domestic iron ore and steel producers – that lower-priced imports have harmed, and threaten to continue to harm, domestic producers. However, there also is evidence that it is the broader steel market downturn – not imports of iron ore and semi-finished steel (which comprise only approximately 20 and 7 percent of U.S. iron ore and semi-finished steel consumption respectively) – that is principally to blame for the economic difficulties faced by U.S. iron ore and semi-finished steel producers.

The issue whether imports have harmed or threaten to harm U.S. producers writ large is beyond the scope of the Department's inquiry, and need not be resolved here. Under Section 232, the Department is authorized only to determine whether imports fundamentally threaten the ability of domestic producers to satisfy the United States' national security requirements. The evidence before the Department does not support such a finding. To the contrary, the evidence suggests that U.S. national security requirements are easily satisfied by current domestic production, and could continue to be satisfied domestically even if there were substantial further diminution of U.S. production, whether caused by imports or otherwise. Responses to the Department's surveys confirm this conclusion, as does DOD's own analysis. Accordingly, while the Department makes no finding as to whether U.S. producers are being harmed by imports, it finds that there is no evidence that imports threaten the viability of U.S. producers so fundamentally as to threaten to impair U.S. national security.

VI. RECOMMENDATION

Based on the findings set forth above, the Department does not recommend that the President take action under Section 232.