Pianos: Economic and Competitive Conditions Affecting the U.S. Industry

Investigation No. 332-401

Publication 3196 **May 1999**

U.S. International Trade Commission

Washington, DC 20436
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ABSTRACT

On December 4, 1998, at the request of the Committee on Ways and Means, U.S. House of Representatives, the U.S. International Trade Commission instituted investigation No. 332-401, Pianos: Economic and Competitive Conditions Affecting the U.S. Industry, under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)). As requested by the Committee, the Commission's report is a factfinding investigation of the current conditions affecting the domestic piano industry, and it includes the following: an overview of the global market; a profile of the U.S. piano industry; profiles of leading manufacturers in Japan, Korea, China, and Indonesia; and a comparison of the competitive strengths and weaknesses of U.S. and foreign producers. Public notice of this investigation was posted in the Office of the Secretary, U.S. International Trade Commission, Washington, DC 20436 and published in the *Federal Register* (63 *F.R.* 69305). A public hearing regarding this investigation was held on February 17, 1999, in Washington, DC.

The products of interest to the Committee are acoustic pianos, which are designated as vertical and grand pianos. Demographic changes and competition from digital pianos have caused the U.S. acoustic piano market to contract for most of the last 20 years, although consumption grew moderately in 1997 and January-September 1998. During this period, the U.S. industry also has seen reductions in shipments and in the number of producers, suppliers, and dealers, although during January-September 1998, there was a small increase in piano shipments.

Data gathered from questionnaire responses indicate that imports, by quantity, supplied 46 percent of U.S. apparent consumption of vertical pianos during January-September 1998, up from a 35 percent market share for the same period in 1997. Imports of vertical and grand pianos from Japan, Korea, China, and Indonesia accounted for 93 percent, by quantity, of total U.S. imports of pianos during January-September 1998. U.S. producers are major importers, buying foreign-produced pianos to complement their product lines.

In foreign developments, the growth of Chinese production and exports in the 1990s has been notable, both from independent Chinese producers and operations established in China by other Asian producers. During January-September 1998, the quantity of U.S. vertical piano imports from China more than tripled compared with the same period in 1997, increasing China's share of U.S. apparent consumption from 6 percent to 16 percent.

U.S. piano producers faced numerous competitive disadvantages during 1994-98: Japanese and Korean producers' operations in Asia were more automated than operations in the United States; Asian producers, with the exception of Japan, have considerably lower labor costs than U.S. producers; the East Asian financial crisis drastically curtailed piano sales in the home and regional markets of principal Asian piano manufacturers, and it appeared that pianos were redirected from these markets to the U.S. market; and the national currencies of three of the four principal Asian competitors significantly depreciated in real terms against the dollar during the period under consideration. U.S. producers, however, have the following advantages: close proximity to wood resources, more experienced labor force in making furniture-style pianos, and lower transportation costs when selling in the U.S. market.

FOREWORD

The information and analysis in this report are for the purpose of this report only. Nothing in this report should be construed to indicate how the U.S. International Trade Commission would find in an investigation conducted under other statutory authority.

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EXECUTIVE SUMMARY

On December 4, 1998, at the request of the Committee on Ways and Means, U.S. House of Representatives, the U.S. International Trade Commission instituted investigation No. 332-401, Pianos: Economic and Competitive Conditions Affecting the U.S. Industry, under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)). As requested by the Committee, the Commission's report on the investigation includes, to the extent possible, the following information:

- An overview of the global market for pianos, including such factors as consumption, production, and trade during the period 1994-98;
- A profile of the U.S. piano industry, including leading producers, importers, distributors, and suppliers of pianos;
- Profiles of leading manufacturers in Japan, Korea, China, and Indonesia;
- A comparison of the strengths and weaknesses of U.S. and foreign producers regarding factors of competition such as production costs, access to raw materials, labor costs, availability of skilled/experienced labor, financing, level of technology in the manufacturing process, product appearance, quality as a musical instrument, pricing, and home market strength.

The Committee requested that the Commission in its examination of foreign industries and markets concentrate principally on Japan, Korea, China, and Indonesia. The Committee also requested that the Commission take into account currency fluctuations and devaluations in considering the factors of competition.

The Commission obtained information for this investigation from the following sources: questionnaires sent to U.S. producers and importers, as well as field interviews of U.S. producers and representatives of foreign producers; correspondence and telephone conversations with foreign producers; trade associations and other industry representatives (distributors, technicians, and dealers); and trade literature. In addition, a public hearing was held in Washington, DC, on February 17, 1999, which gave witnesses the opportunity to present their views on conditions in the piano industry. The principal findings are provided as follows.

Global Market

! Approximately 400,000 vertical pianos and 60,000 grand pianos were sold globally in 1997. Korea was the largest single market for vertical pianos, followed by China, the United States, and Japan. The United States was the largest single market for grand pianos, followed by Japan.

! The Asian financial crisis had a significant effect on markets in that region. Although exact figures are not available, the Korean and Japanese markets contracted substantially during 1998, while growth of the Chinese market slowed considerably. It appears that pianos intended for these markets, especially those produced in China, were redirected to the U.S. market. An increasing number of used pianos were also exported to the United States from the region as a result of the crisis.

! Import penetration in Japan, Korea, and China is constrained by factors such as high tariffs,

domination of distribution networks by local producers, and the lack of a dealership network in China. In addition, Japanese piano company-operated music schools create strong loyalty for local producers.

! Japan, Korea, and China are major exporters to world piano markets. The United States has long been a minor exporter.

U.S. Market

! The general decline over the past 20 years in the number of acoustic pianos sold in the U.S. market was reversed during 1997-98. Apparent consumption of vertical pianos, based on Commission questionnaire responses, increased 8 percent to 59,748 units during 1997 and increased 21 percent during January-September 1998 compared with the same period in 1997. Grand piano sales, based on trade association data, increased 27 percent to 33,600 units during 1996-98. The rebound in the piano market has been attributed largely to the improved financial prosperity of "baby boomer" age consumers who have increased their buying power and are experiencing greater perceived financial security.

! The availability of low-priced, lower quality imported pianos from relatively new sources such as China has contributed to the expansion in the U.S. piano market. In 1998, U.S. imports of vertical pianos from China more than doubled. China's share of the U.S. import market for verticals rose from less than 10 percent in 1996 to nearly 25 percent in 1998.

! U.S. producers are major importers, buying foreign-produced pianos to complement their product lines. Imports, by quantity, supplied 46 percent of the market for vertical pianos during January-September 1998, up from 35 percent during the comparable period in 1997. Imports account for most of the market for grand pianos. Japan, China, Korea, and Indonesia accounted for more than 90 percent of both vertical and grand piano imports.

! Inventories of imported pianos in the United States grew significantly in 1998, rising by 67 percent in a 1-year period to almost 12,000 units as of September 30, 1998. One importer accounted for most of the increase in inventories, which the firm attributed to an overestimation of demand growth, quality problems with certain models that caused dealers to return pianos, introduction of additional lines and models, and a strategy to take advantage of the depreciating value of the Korean won in relation to the dollar.

U.S. Industry

! There are currently nine piano producers in the United States. Two producers shut down manufacturing operations during 1994-98, continuing a long-term contraction in domestic piano sales. There has also been a decline in the number of retail dealers, as well as in the number of suppliers of parts and materials to the piano industry, with many crucial supplies now available only from single sources in the United States.

! Baldwin Piano & Organ Co., Steinway & Sons, Yamaha Corp. of America, and Kawai America Corp. dominate domestic production. Baldwin and Steinway account for more than half of the grand pianos produced in the United States. Baldwin is the leading producer of vertical pianos. Yamaha and Kawai, subsidiaries of Japanese companies, account for more than half of U.S. production of vertical pianos.

! Vertical piano production declined by 18 percent during 1994-97, mostly because a major producer

shut down operations in 1996; likewise, capacity, shipments, and employment also declined during the period. Reflecting a growing U.S. market, production and employment increased by 8 percent and 10 percent, respectively, during January-September 1998 compared with the same period in 1997. However, gross profits and operating income per unit did not increase during 1996-September 1998, declining 14 percent and 45 percent, respectively. Grand piano data exhibited similar trends, although the declines were less severe.

Asian Manufacturers and Exporters

! Yamaha, Kawai, and two Korea-based companies, Young Chang and Samick, are among the largest and most automated piano producers in the world. In addition to facilities in their home country, each has production facilities or joint ventures elsewhere in Asia (China, Indonesia, or both) to benefit from lower labor costs, improved market access, or both. These four companies are the leading suppliers of imported pianos to the U.S. market, although 80 percent of the Yamaha and Kawai vertical pianos sold in the United States are manufactured in Georgia and North Carolina.

! State-owned piano producers in China have upgraded their manufacturing processes and expanded their production capacity through purchases of used equipment from U.S. and European piano companies that closed over the past 15 years. Certain Chinese operations owned by Japanese and Korean producers have state-of-the-art automated equipment.

! Seven producers in China are known to export pianos to the United States. Young Chang's Chinese operation is reported to be the largest exporter. Guangzhou Pearl River Piano Group, the largest state-owned producer, makes private-label pianos for several independent piano dealers in the United States. Beijing Piano Co. and Dongbei Piano Co. each makes pianos for two U.S. producers.

Competitive Strengths and Weaknesses

! U.S. piano producers have the following competitive disadvantages compared with their principal Asian competitors:

- Sizeable local markets with limited foreign competition have allowed producers in Japan and Korea to achieve greater economies of scale than those experienced by U.S. producers;
- Japanese and Korean producers' operations throughout Asia are more automated than operations in the United States;
- Asian producers, with the exception of Japan, had considerably lower labor costs than U.S. producers; and
- The national currencies of Japan, Korea, and Indonesia have significantly depreciated in real terms against the dollar during the period under consideration.

! U.S. producers have the following advantages over Asian producers:

- Relatively close proximity to supplies of high-quality wood resources essential for piano manufacturing;
- Lower transportation costs when selling in the U.S. market; and
- A more experienced labor force for making furniture-style piano cabinets, the preferred style in the U.S. market (this advantage does not apply to the manufacture of the piano's working mechanisms).

! The real depreciation of the yen, won, and rupiah has restrained price increases for pianos

imported from Japan, Korea, and Indonesia, respectively. In some instances, price reductions may have occurred and benefitted U.S. consumers. U.S. producers importing pianos from these countries also benefitted. However, the reliance of several Asian producers on imported raw materials priced in dollars moderates the advantage of currency depreciation.

! Producers and importers were asked to rank which countries have an advantage on 12 factors of competition. Composite results for vertical and grand piano operations are shown in table ES-1. For production costs, respondents indicated that Chinese, Indonesian, and Korean producers have an advantage as compared with U.S. producers, but that Japanese and U.S. producers had comparable production costs. These results, however, need to be considered in the context of the limitations and more detailed analysis of these factors contained in chapter 6.

Currency Fluctuations

! Significant real depreciations versus the U.S. dollar in most of the Asian region's currencies may at least partially explain the buildup of U.S. inventories of pianos from various Asian countries. Certain importers considered the currency devaluations in the wake of the Asian financial crisis as temporary, and significantly increased imports while the exchange rate was favorable during 1998.

Table ES-1
Ranking of competitive advantage, U.S. producers versus producers in China, Indonesia, Japan, and Korea

	U.S. producers versus producers in:			
Competition factor	**China**	**Indonesia**	**Japan**	**Korea**
Production and related factors:				
Production costs	China	Indonesia	Comparable	Korea
Access to raw materials	Comparable	Comparable	United States	Comparable
Labor costs	China	Indonesia	United States	Korea
Availability of skilled and experienced labor force	United States	United States	Japan	Korea
Level of technology in the manufacturing process	Comparable	Comparable	Japan	Korea
Financing of production, debt service, and expansion of operations	China	United States	Japan	United States
Product appearance	United States	United States	Comparable	([1])
Quality as a musical instrument	United States	United States	Japan	Comparable
Pricing:				
At the factory level	China	Indonesia	United States	([2])
At the retail level	China	Indonesia	United States	Korea
Market strength:				
In U.S. market	United States	United States	Comparable	United States
In foreign market	China	Indonesia	Japan	Korea

[1]Respondents indicated that the United States and Korea had a comparable advantage with regard to vertical pianos, but that the United States had an advantage with regard to grand pianos.

[2]Respondents indicated that the United States and Korea had a comparable advantage with regard to vertical pianos, but that Korea had an advantage with regard to grand pianos.

Source: Compiled from data submitted in response to Commission questionnaires.

CHAPTER 1
INTRODUCTION

Purpose and Scope of the Report

On November 11, 1998, the U.S. International Trade Commission (USITC or Commission) received a letter from the Committee on Ways and Means of the U.S. House of Representatives requesting that the Commission conduct an investigation under section 332(g) of the Tariff Act of 1930 of the current conditions affecting the domestic piano industry, particularly that portion of the industry producing upright pianos.[1] The Commission was requested to provide its report within 6 months of receipt of this letter, or by May 12, 1999.

As requested by the Committee, the Commission's report on the investigation includes, to the extent possible, the following information:

- An overview of the global market for pianos, including such factors as consumption, production, and trade during the period 1994-98;
- A profile of the U.S. piano industry, including leading producers, importers, distributors, and suppliers of pianos;
- Profiles of leading manufacturers in Japan, Korea, China, and Indonesia;
- A comparison of the strengths and weaknesses of U.S. and foreign producers regarding factors of competition such as production costs, access to raw materials, labor costs, availability of skilled/experienced labor, financing, level of technology in the manufacturing process, product appearance, quality as a musical instrument, pricing, and home market strength.

The Committee requested that the Commission in its examination of foreign industries and markets concentrate principally on Japan, Korea, China, and Indonesia. The Committee also requested that the Commission take into account currency fluctuations and devaluations in considering the factors of competition.

Public notice of this investigation was posted in the Office of the Secretary, U.S. International Trade Commission, Washington, DC 20436 and published in the *Federal Register* (63 *F.R.* 69305).[2] A public hearing, in which all interested parties were permitted to present testimony regarding this investigation, was held on February 17, 1999, in Washington, DC.[3]

Product Coverage

The products of interest to the Committee are acoustic pianos, which are designated either as vertical pianos, in which the strings that produce sound are vertically oriented, or grand pianos, in which

[1] A copy of the request letter is included in app. A.

[2] The notice is included in app. B.

[3] A list of witnesses is included in app. C.

the strings are horizontally oriented.[4] Vertical pianos are available in a variety of heights, while grand pianos are available in a variety of lengths. In general, consumers prefer grand pianos because of their superior sound and esthetic appeal, but choose vertical pianos because of budget and space limitations.

Previous Commission Investigations

On October 29, 1984, the Commission determined that there was a reasonable indication that an industry in the United States was materially injured by reason of imports from Korea of grand and vertical pianos that were alleged to be sold at less than fair value in the United States.[5] Subsequently, the Department of Commerce made a final determination that pianos from Korea were not being sold in the United States at less than fair value; the investigation was terminated and no antidumping duty order was issued.[6]

In 1983, the Commission, at the request of the Chairman of the Subcommittee on Trade of the Committee on Ways and Means of the U.S. House of Representatives, conducted an investigation on the conditions of competition between imported and domestically produced pianos.[7]

Study Approach and Organization

This report analyzes the global piano industry, focusing on the U.S. market and the major Asian producers and markets during 1994-1998. Staff used data gathered during the course of the investigation to perform a comparative analysis of competitive conditions. The main data source for the U.S. market analysis was Commission questionnaires.[8] Producer questionnaires were sent to all 11 U.S. producers, including 3 foreign-affiliated producers. These questionnaires requested detailed information on inventory, production, shipments, exports, capacity, channels of distribution, employment and wages, finances, pricing and pricing practices, investment, and market conditions for 1994-September 1998. Nine producers responded, representing an estimated 95 percent or more of U.S. production of vertical and grand pianos during 1994-September 1998. Importer questionnaires were sent to 32 importers that had $500,000 or more of piano or piano parts/accessories imports in any one year during 1994-September 1998. These questionnaires requested detailed information on inventory, imports, import shipments, channels of distribution, pricing and pricing practices, investment, and market conditions. Twenty-four importers responded, representing an estimated 85 percent or more of U.S. imports of new vertical and grand pianos during 1994-September 1998.

Information was also obtained from field interviews, trade associations, conversations with industry representatives (producers, distributors, suppliers, technicians, and dealers), and trade literature.

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[4] Pianos with vertically oriented strings are referred to as vertical pianos in typical U.S. industry usage. However, these pianos are also frequently referred to as upright pianos. For purposes of this report, the term vertical pianos will be used.

[5] 49 *Federal Register* (*F.R.*) 45272. The Commission's determination and staff report is in USITC, *Grand and Upright Pianos from the Republic of Korea* (investigation No. 731-TA-204 (preliminary), USITC publication 1599, Nov. 1984.

[6] 50 *F.R.* 37561. Between 1969 and 1974, pianos were the subject of four Commission adjustment assistance investigations under section 351(d) of the Trade Expansion Act of 1962.

[7] U.S. International Trade Commission, *A Study on the Conditions of Competition Between Imported and Domestically Produced Pianos* (investigation No. 332-159), USITC publication 1411, Aug. 1983.

[8] Questionnaires requested data for 1994-September 1998. Data for all of 1998 were not possible because completed questionnaires were due to the Commission before most companies had full-year data.

For information on Asian producers and markets, letters requesting information were sent to the major Japanese, Korean, and Chinese producers.[9] Two Japanese producers provided responses. Field interviews of U.S.-based representatives of the major Japanese and Korean producers were also conducted. In addition, information was obtained from the public hearing. Certain hearing witnesses provided prehearing briefs, posthearing briefs, or both.

In certain parts of the report, data from more than one source are used to present similar information. For example, import data from questionnaire respondents and from the Department of Commerce are both presented in chapter 4. In this case, both sources are used because each allows for a discussion of a different aspect of piano imports. In addition, certain questionnaire information could not be published because it would reveal proprietary business data; in these cases, the Commission used other nonproprietary data sources, if available.

This report is divided into six chapters. Chapter 1 provides the study background and analytical approach. Chapter 2 provides a product and market overview and contains a description of pianos and how they are manufactured. This chapter also describes market segments, factors affecting overall market size, and recent changes in demand and supply. Chapter 3 profiles the U.S. piano industry and suppliers. Chapter 4 describes and analyzes trends in U.S. consumption, shipments, production, and trade. Chapter 5 provides an overview of the global piano market and discusses the competitive conditions in Japan, Korea, China, and the European Union. Chapter 6 assesses the strengths and weaknesses of U.S. and foreign producers and analyzes currency fluctuations as they relate to piano trade. Appendix E profiles the principal foreign manufacturers, appendix F contains selected foreign trade data, and appendix G contains supplemental information on currency fluctuations.

[9] The major piano manufacturing plants in Indonesia are owned by Japanese and Korean producers. In most cases, these letters were sent through counsel representing the producer's U.S. subsidiary; in the case of China, a similar letter was sent to the commercial attache at the Embassy of China in Washington, DC. A sample letter is included in app. D.

CHAPTER 2
PRODUCT AND MARKET OVERVIEW

Product Characteristics

Pianos are keyboard string instruments classified as either verticals, which are strung vertically or perpendicular to the floor within a rectangular case, or grands, which are strung horizontally or parallel to the floor within a somewhat wing-shaped case (figure 2-1).[1] Verticals are grouped according to the height of the case or cabinet. Those traditionally used in the home include spinets, measuring up to 37 inches; consoles, 38 to 43 inches; and studios, 44 inches and higher. Schools, churches, small nightclubs, and other institutions usually use studios measuring from 46 to 52 inches in height. In general, sound quality increases with increasing cabinet height. Grand pianos typically range in length from about 5 to 9 feet, but can be as long as 11 feet. Grand pianos are used chiefly in the entertainment industry, although the so-called parlor or baby grands are frequently found in homes. Grand pianos are generally regarded as superior to verticals in terms of tone, tuning stability, touch, beauty, and performance capability.

A piano is made of strings, an action assembly (including the keyboard), soundboard, and framework (including the cabinet) (figure 2-2). The piano's sound is created by strings that vibrate in response to a hammer, which impacts the string when a key is depressed by the piano player. The string's vibration is transmitted to a wooden soundboard that amplifies the sound of the vibrating strings; without a soundboard, the piano's sound would be almost inaudible. A piano has about 230 steel strings, graduated in length and thickness to produce the 88 notes of the piano's scale. The shortest string (in the treble or high section of the scale) is about 2 inches long, and the longest (in the bass or low section) may be 80 inches or longer in larger pianos.[2]

The piano action assembly is a complex mechanism. A set of 88 actions consists of thousands of separate parts, mostly of wood, that transmit the energy from the keyboard to the soundboard. The action assembly includes hammers (wooden heads covered with a special type of felt); a keyboard; the action itself (a system of levers to propel the energy of the hammer toward the string(s) when a player presses a key); and dampers, which press down on the string(s) to silence them when the player releases a key. The 88 piano actions are not interchangeable, because each strikes the strings at a slightly different angle.

The soundboard consists of a sheet of wood (usually of spruce) that is at least three-eighths of an inch thick and several strengthening wooden ribs. The strings pass over strips of wood (bridges) attached to the soundboard, transmitting their vibrations to the soundboard.

A framework, consisting of structural wooden parts and a cast-iron plate, holds the entire piano mechanism together. The wooden structure of a grand piano typically consists of a bent rim of laminated maple or poplar and interior bracing of maple or spruce. The wooden structure of a vertical piano, called a back, is usually made of maple or spruce as well. A cast-iron plate holds the strings taut by using tuning pins, which are inserted into holes in the plate near the keyboard and embedded in a piece of wood called the pinblock. This plate serves a crucial structural function: it is a strong, rigid frame that holds

[1] Unless otherwise indicated, the term piano as used in this report refers to acoustic pianos.

[2] There are more strings than piano notes because a typical piano has three strings for each treble note, two strings for each upper bass note, and one string for each lower bass note. The multiple-string notes are designed to work in unison when struck by a hammer.

Figure 2-1
Vertical and grand pianos

Figure not included in the electronic version of this report.

Source: Larry Fine, *The Piano Book*, 3d ed. (Boston, MA: Brookside Press, 1994), p. 8. Reproduced with permission from the publisher.

Figure 2-2
Exploded view of a grand piano

Source: Larry Fine, *Piano Book*, p. 6. Reproduced with permission from the publisher.

the combined tension, in excess of 2 tons, of all the strings. A piano is tuned by turning the tuning pins with a special wrench that changes the tension of their associated string. The framework is encased in a cabinet, which is usually made of a veneer of oak, walnut, mahogany, or fruitwood, with a core of poplar, gum, or similar wood. Lids, legs, fall boards (a wooden piece that covers keys when the piano is not in use), and music desks (holds sheet music) are other components of the cabinet.

Pianos have three pedals that perform special operations. These foot pedals are connected to the action assembly with levers. The right pedal softens the sound by shifting the hammers so that fewer strings are struck on multiple-string notes. The other pedals sustain notes by preventing certain dampers from working.

The finish of the cabinet is an important part of the esthetic appeal of a piano. Stain and lacquer constitute the common and traditional finish of U.S.-made pianos. A polyester finish, which is essentially a sprayed-on plastic coating, is a high-gloss, durable finish that provides a more even, smoother surface compared with stain-lacquer finishes. Polyester finishes are much more expensive to apply than stain/lacquer finishes, requiring specialized equipment, and are more difficult to repair if damaged. However, polyester finishes are now likely the most popular type because many consumers perceive pianos with a polyester finish to be of higher value than pianos with a stain-lacquer finish.

Electronic player piano systems, which comprise a computerized control module and a bank of solenoids, usually mounted on the underside of the cabinet that activate the actions, are becoming increasingly popular as an add-on feature to acoustic pianos.[3] These units can be installed at the factory or sold as an aftermarket item. The control module can read playing instructions off floppy disks, compact discs, an internal hard disk, or all three and are also designed to play back other sounds (such as accompanying music) while playing the piano. Approximately 10 percent of all U.S. acoustic piano sales include a factory-installed electronic player piano system, according to industry sources. These systems typically cost over $5,000 and they are commonly used on the most expensive pianos, usually grand pianos.

Digital pianos, which have keyboards similar to acoustic pianos but generate notes using electronics (unlike the mechanical action of an acoustic piano), have become popular in the last 20 years. This type of piano, which has a furniture-style cabinet similar to acoustic pianos, is much less expensive than acoustic pianos and may be considered by some consumers as a substitute for lower-cost acoustic pianos. (More information on substitute products is included in the last section of this chapter.)

Keyboards are musical instruments that create sound electronically, but unlike acoustic and digital pianos, they are portable. Keyboards do not appear to be a substitute for pianos. These electronic instruments are often found in households with pianos, suggesting that they may be piano complements.[4]

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[3] One U.S. producer still makes the traditional player piano that uses a mechanical player system that reads playing instructions off a roll of paper.

[4] Paul Olson, piano technician, interview with USITC staff, Dec. 5, 1998. Home organs do not appear to be a substitute for pianos either. For an assessment of the home organ market, see National Association of Music Merchants (NAMM), *Music U.S. 1997, Statistical Review of the U.S. Music Products Industry* (Carlsbad, CA, 1997).

Manufacturing Processes

The piano is still handcrafted in many respects. However, rising labor costs in several of the principal manufacturing countries, and a desire to ensure consistency, precision, and quality, give producers an incentive to automate as many of the manufacturing processes as possible. Automated equipment such as computer-controlled drills, routers, and similar equipment is common in piano woodworking, particularly in vertical piano construction.

The manufacturing process begins with wood selection and preparation. Wood for the construction of the piano, its parts, and the soundboard is the most important raw material used in production. Factors such as moisture content, strength, weight, stiffness, and seasoning capabilities are all taken into consideration. Variations in these properties require skill in selecting the wood stock and conditioning it to specific moisture levels. North American or Sitka spruce for the soundboard has come to represent the standard for a resonant sounding piano;[5] hard rock maple is used in the production of other components such as bridges and grand rims. Wood is graded, cured, and cut to rough dimensions. Soundboard preparation is especially important. These boards must be placed in special drying rooms for one week to reach the proper moisture content, which is crucial so that variations in the acoustical quality of the board are minimized throughout the piano manufacturing process.

In vertical piano manufacturing, the back is assembled by placing wood in forms and gluing and clamping. Holes for mounting and locating other parts are drilled into the back. The ribs and bridges are crowned and glued to the soundboard. The soundboard, pinblock, and back are glued together, and the entire assembly is shaped to clean edges and ensure proper dimensions. Throughout these stages, excess glue is cleaned off and wooden parts are varnished. The cast-iron plate that holds the strings is screwed to the assembly. Tuning-pin holes are drilled into the pinblock, which are matched to the predrilled holes in the cast-iron plate. Strings are mounted on the plate and fastened with tuning pins at the pinblock side. The finished cabinet parts are then glued to the back assembly.

Making the piano action assembly is the most complicated part of the manufacturing process. Thousands of parts must be fabricated. Keys, hammers, arms, levers, and rails are formed from wood and assembled together. Felt is attached to the hammers and dampers. The action assembly is installed into the piano body, and adjustments are made to ensure that the hammers and dampers strike strings correctly and the touch of the keys is proper. Key touch is adjusted using lead weights that are inserted into holes drilled in the side of the key.

In final assembly, the remaining cabinet components are installed and any final rubbing and polishing is completed. A final inspection is also performed.

Manufacturing the cabinet for a grand piano is a much more complicated process than for a vertical piano because of the curved shape of the rim. To make the rim, thin layers of wood are glued together. Before the glue sets, the layered wood is placed in a large pressing machine that forces the wood into the curved shape. After the glue dries, the rim maintains the curved shape.[6] After the edges are trimmed, wooden interior braces are added, and the outside wood surfaces are finished. Next, the

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[5] Solid spruce soundboards are reported to have the better quality compared with soundboards made from laminates of spruce or other woods. Also, the larger the soundboard, the better the sound quality.

[6] Some producers make a one-piece rim, while others make an inner and outer rim and glue the two pieces together. The two-piece rim allows the use of screws to attach the interior wooden bracing. One U.S. producer manufactures a rim with square edges and does not need the pressing machine used in the curved-rim construction.

soundboard and plate are mounted in a fashion similar to that of vertical piano manufacturing.

Adjustments to various parts, referred to as voicing, regulation, and tuning, are integral to the piano manufacturing process.[7] These procedures are essential to ensure the piano's sound quality and the touch or feel of the action. These careful adjustments are labor-intensive, unamenable to automation, and require highly trained technicians.

After the piano is strung, it usually is allowed to rest for some time to allow the components to adjust to the tension of the strings. After the piano action assembly is installed, a machine is used to simulate the playing of the piano for an extended period of time to set the action and to test all the components. Repeated tunings are also done during the piano manufacturing process. Up to five tunings may be performed, some with the aid of an electronic device that monitors the notes produced by a string. A professional tuner usually performs the final tuning by ear. The first tuning occurs just after the piano is first strung. The final tuning is usually performed just before the piano leaves the factory.

Some of the advanced techniques used in piano production are listed in table 2-1. These techniques involve costly production equipment or personnel (such as engineers) and tend to be used by only the larger piano manufacturers, whose output is sufficient to justify large capital expenditures.

Market Characteristics

Market Segments

The U.S. piano market typically comprises seven different groups of buyers with the following general characteristics.

Parents of beginning piano students.--Most buyers in this group are parents of children in the 5-14 year age group. They are interested in good starter pianos that will also serve as furniture to enhance the household's prestige. Given the buyer's level of income and access to credit, the amount spent depends on the student's perceived commitment to learning to play and on the recommendations of music teachers, piano technicians (tuners and repairmen), or both who may have been retained to assist in the purchase. This type of buyer usually purchases a spinet or a console.

Parents of advanced piano students.--This group is smaller and, subject to the buyer's income level and access to credit, its primary criterion is the quality of sound. Although the grand piano is the ideal instrument for this type of buyer, it may not be a viable choice for reasons of space or financial constraints. As an alternative, this buyer settles on the instrument that is as close as possible to a grand piano in terms of quality of sound, typically a large vertical piano. The use of the piano for decorative purposes typically has much less importance for these buyers.

Married young professionals and childless, two-income families.--This group focuses on style and quality of sound. At least one member of the household plays the instrument and is committed to continue playing. The choice is a studio or a low-priced grand piano, depending only on available space. Access to credit is usually not a problem for this group.

[7] Voicing is the picking or filing of the felt on the hammer head. The softer the felt, the mellower the tone. Regulation refers to adjustments to hammer arms and other parts to establish the optimum striking pattern.

Table 2-1
Advanced techniques in piano manufacturing

Item	Description and advantage over conventional technique(s)
Hydraulic clamping	Method of clamping that uses hydraulics to create pressure. Better pressure uniformity and precision than conventional clamping.
Vacuum clamping	Method of clamping bridge to soundboard after applying glue. Less expensive, and equipment occupies less floor space than conventional clamping equipment.
High-frequency gluing	High-frequency radio waves used to dry glue. Much faster drying times.
Computer-aided drawing and manufacturing	Piano plans stored in computer system, and computer controls used on production equipment. Can automate design and production. If design changes, can reprogram production equipment to accommodate changes.
Synchronous manufacturing	Stages of production are coordinated to improve production efficiencies, reduce cycle times, minimize work in process, free factory floor space, and improve product quality.
Polyester finishing	Polyester, or plastic, coating for piano finish. Requires special equipment, but provides more durable finish than conventional techniques.

Source: Compiled by USITC staff from interviews of U.S. and foreign producers.

Middle- and high-income purchasers of electronically augmented pianos for a combination of home entertainment, learning, and display.--This group, which emerged in the 1990s, typically consists of individuals who like both piano music and gadgets. Some people in this group like piano music, but have neither the training nor commitment to play the instrument. The availability of computer-based sound reproducing components often justifies the purchase. Most acoustic pianos containing electronic complements are grands.

Adult piano students.--This group comprises individuals who later in life have acquired the financial means and the time to learn the piano or who wish to continue piano studies that they began in their youth. This group has become larger as living standards have increased and as baby boomers have become prosperous middle-aged consumers. Middle- and upper-income-level customers are typical in this market segment. These buyers cannot be associated with a particular size grouping of pianos.

Educational and cultural institutions and the hospitality industry.--Recommendations made by music instructors at educational institutions and by performing artists at cultural institutions play a vital role in determining consumer choices of brand and style. In addition to budget constraints, the size of the stage at cultural institutions and the space available for the piano at hospitality industry establishments, such as bars, restaurants, and hotel lobbies, are often considerations in the purchase. Sales often involve competitive bidding. The availability of electronically augmented pianos has sparked additional sales to the hospitality industry.

Professional musicians.--Grand pianos are the first choice for this relatively narrow, but highly selective market segment. Nonetheless, piano producers are aware of the marketing benefits of major artists playing their pianos in public and often maintain direct contact with them and lend them pianos for various performances. This practice is particularly advantageous when the performance is televised and

the viewers see the brand name on the screen. Actual purchases depend on well-defined preferences and budget.

Factors Affecting Overall Market Size[8]

Demographic factors.--Beyond the absolute size of the population, two specific demographic factors are usually mentioned as affecting the overall size of the piano market: the number of children between the ages of 5 and 14 and the number of people retiring during the period under consideration. The typical age of persons beginning to play musical instruments is between 5 and 14 years.[9] Thus, more children in this age group increases the overall size of the piano market. Data for the 1990s appeared to be increasingly favorable for the industry. The number of children in the 5-14 years age group grew by 10.5 percent from 1990 to 1997 and by 3.1 percent from 1994 to 1997. Moreover, forecasts for the coming years indicate a further increase in the number of children in this age group.[10]

The number of retirees in a given period exerts an important influence on the secondary market for pianos. Retirement is often accompanied by the sale of used pianos as retirees move from single-family units to smaller dwellings. Thus, a greater number of retirees in a given period increases the supply of used pianos and decreases the demand for new ones. The rate of retirement has slowed during the 1990s. The number of people in the 65-69 year age group declined by 8.1 percent from 1990 to 1997 and by 2.0 percent from 1994 to 1997. However, during the 1980s and early 1990s, retiring parents of baby boomers significantly increased the supply of low-cost, used pianos.[11]

Number of schools and music programs.[12]-- Larger numbers of schools and student enrollments imply greater demand for pianos. As the following tabulation indicates, the number of educational institutions and their largest component, elementary schools, increased in the United States during the 1990s.

	1990-91	1993-94	1995-96
All institutions	119,242	121,865	124,773
Elementary schools . . .	74,716	75,591	77,909
Secondary schools	23,602	23,255	23,530

Total student enrollment in the United States in all educational institutions rose from an annual average of 47.7 million during 1990-93 to an annual average of 51.0 million during 1994-97. Growth in the number of schools and overall enrollment reflects an increasing trend in the population of children in the primary age for beginning to play musical instruments.

Cultural values associated with music education represent an important underlying factor in

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[8] This section combines factors affecting the magnitude of both demand and supply. For comparison with similar factors affecting the U.S. piano industry in the early 1980s, see USITC, *Conditions of Competition*, p. 35.

[9] NAMM, *Music U.S. 1997.*

[10] Ibid.

[11] Higher levels of retirement will occur as the baby boomers (born between 1946 and 1964) begin to retire. Official of the U.S. Department of Commerce, Bureau of the Census, interview with USITC staff, Jan. 26, 1999.

[12] Unless otherwise indicated, data for this subsection were obtained from the U.S. Department of Education, National Library of Education, fax transmission, received by USITC staff on Jan. 15, 1999.

determining the overall size of the piano market.[13] Positive values associated with learning to play the piano translate into more musical programs, a factor that has a direct bearing on the demand for pianos. Piano education in the United States experienced a setback during the first half of the 1990s. The number of students earning college credits in piano declined from 31,818 in 1990 to 21,620 in 1994. This phenomenon is underscored by an apparent general decline in musical education over the period. The number of graduates earning credits in music theory declined from 64,462 in 1990 to 32,276 in 1994. Some sources have also noted that the importance attached to having a piano in the home has diminished in recent years.[14] However, since 1994, the publicity associated with a number of studies indicating the beneficial effects of piano lessons on children's academic performance,[15] combined with increasingly favorable demographics, has resulted in an increase in piano training. The number of school music programs, although with varying content, length, and intensity, is increasing. As a result, a number of localities across the country have reported a shortage of music teachers.[16]

Technological advances in products and manufacturing.--Electronic, largely computer-based complements, such as the Disklavier, Piano Master, Pianodisc, and Concert Master,[17] have increased the overall size of the market for acoustic pianos. These complements enable users to play compact discs and to replay at varying speeds their own renditions, as well as those of their teachers and guests, usually via remote control. The spreading use of these devices during the 1990s has prompted new purchases of pianos and increased the amount of money spent on them,[18] and future refinements of these complements are expected to increase this trend.

Technological advances in the manufacture of pianos, primarily through automation of a number of processes along the assembly line, tend to reduce the unit costs of piano production.[19] Reduction in unit costs, in turn, may lead to reduction in the price of pianos, causing expansion in the market. This phenomenon is relatively new, and it may become more evident if automation expands significantly in the future.[20]

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[13] Karen L. Hendricks, chairman, president, and CEO, Baldwin, interview with USITC staff, Jan. 12, 1999; Brian Chung, vice president and general manager, Kawai (transcript of the hearing, pp. 86 and 87).

[14] See, for example, Larry Fine, *1998-99 Annual Supplement to The Piano Book* (Boston, MA: Brookside Press, 1998.)

[15] See, for example, article by Vadim Prokhorov, "Will Piano Lessons Make My Child Smarter?" *The Washington Post*, June 14, 1998.

[16] Michael J. Blakeslee, president of the Music Educators National Conference, the National Association for Music Education, interview with USITC staff, Jan. 19, 1999.

[17] These are brand names for electronic player piano systems.

[18] Because of the allure of electronic add-ons, potential buyers often end up spending 20 percent or more than planned on acoustic pianos. Paul Olson, piano technician, interview with USITC staff, Dec. 5, 1998. The fact that electronic complements expand the sale of acoustic pianos was confirmed by Yamaha (interview with USITC staff, Feb. 11, 1999) and during the Feb. 27, 1999, hearing. See, for example, the explanation of Ed Keefer, president, Story & Clark Pianos (transcript of the hearing, p. 63).

[19] For example, Kawai has successfully substituted plastic for the more expensive wood in making some parts of the piano. This substitution has also helped facilitate the automation of the assembly process.

[20] According to Robert J. Jones, executive vice president and general manager, Samick, automation has reduced the prices of entry-level pianos sold in the United States (interview with USITC staff, Feb. 12, 1999). Moreover, Jones testified that "we have been able to bring the price of a new piano back down to an affordable level for the average American family. We firmly believe that any growth in our market share has been at the expense of used pianos and not at the expense of other U.S. producers." Transcript of the hearing, p. 148.

Substitute products (used pianos and electronic pianos).–Because pianos have a long useful life, they can be resold for continued use, thereby generating competition for new pianos. For example, Mr. Stephen P. Brock, executive vice president and general manager of Baldwin, stated: "There aren't many products out there that have a useful life of 40 years or more . . . ." In his estimation, annual sales of used pianos amounted to as many as 250,000 units in the late 1970s; however, in the last couple of years, the number appears to have declined and stabilized at fewer than 100,000 units.[21] Representatives of the piano industry testifying before the Commission on February 17, 1999, echoed the assertion that used pianos had been the bane of the market until 1996.[22]

According to several industry representatives interviewed by Commission staff, the combination of an aging population in Japan and the financial crisis in several Asian countries has caused a surge in the availability of used pianos, and strong demand in the United States has led to the sharp increase of imports of these used pianos, particularly from Japan, in recent years. The most popular brands of used vertical pianos are those manufactured by Yamaha, Kawai, and Young Chang.

Electronic pianos, such as digital pianos, appeared in significant commercial quantities on the market during the mid-1980s and have come to represent a separate market. These pianos are considered close substitutes for vertical acoustic pianos for beginner-level consumers or to consumers who lack a strong preference. In these instances, the purchase decision depends to a great extent on price.[23] Nevertheless, respondents to Commission questionnaires indicated that strong limits to the substituting of electronic pianos for acoustic pianos exist. Acoustic pianos have a longer life and a touch that is preferred by musicians and music teachers. On the other hand, electronic pianos offer some advantages as compared with acoustic pianos.[24] The electronic piano is also the first choice of many young people and those who like computers and gadgets.[25] Thus it appears that while electronic pianos are in demand as substitutes for acoustic pianos, they also represent a separate market.[26]

In general, the greater availability of substitutes tends to make demand more price-elastic. Because both used pianos and digital pianos are substitutes at the lower end of the market, industry representatives indicate that price sensitivity is considerably higher for entry-level vertical pianos than for top-of-the-market concert grands.[27]

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[21] From his testimony at the hearing (transcript of the hearing, pp. 20-21).

[22] See the opinions expressed by Ed Keefer, president, Story & Clark Pianos (transcript of the hearing, p. 58); Brian Chung, vice president and general manager, Kawai (transcript of the hearing, pp. 78 and 94); and Robert J. Jones, executive vice president and general manager, Samick (transcript of the hearing, pp. 147-148).

[23] Terry Lewis, corporate vice president, Yamaha, observed at the Commission hearing that only half, or perhaps a little more than half, of the digital pianos sold may be considered substitutes for acoustic pianos (transcript of the hearing, p. 134).

[24] Digital pianos do not need tuning; can be played with headphones, guaranteeing audio privacy to the surroundings; produce the sounds of several other instruments; and may even have "easy-to-play features." For example, the instrument can complete single notes to chords, making the single-finger player sound like a skilled pianist.

[25] Retailers report that digital pianos are the first choice of many new buyers. "Children entering the store with their parents go directly to the digital pianos that they find more appealing than acoustic pianos." W.J. McCormick, chairman and owner of Jordan Kitt's Music, interview with USITC staff, Dec. 8, 1998. Many adult customers also find digital pianos attractive.

[26] Responses to Commission questionnaires.

[27] Robert J. Jones, executive vice president and general manager, Samick, interview with USITC staff, Feb. 12, 1999; Paul Olson, piano technician, interview with USITC staff, Dec. 5, 1998.

Overall economic conditions.--Overall economic growth influences the size of the market by determining the extent to which potential purchasers can afford pianos. Disposable income in the United States increased by 20.1 percent during 1994-98,[28] indicating a favorable climate for discretionary purchases.

Recent Changes in Demand and Supply

Increases in disposable income, favorable demographics, a rebound in music education, lower interest rates, and market expansion through electronic complements support the contention of many industry representatives that U.S. demand for acoustic pianos has increased since 1997. While these factors have likely caused increased purchases at all price levels, the availability of low-priced pianos may have also been a factor in expanding demand.[29]

The supply of new U.S.-manufactured vertical pianos declined every year during 1994-97.[30] The decline was particularly sharp in 1997, the year after Kimball, a major manufacturer, ceased production. While the supply of U.S.-produced pianos declined during 1994-1997, piano manufacturing capacity and production expanded in the principal piano-producing countries of Asia. In China, Yamaha's joint venture in Guangzhou, Kawai's production agreement with the Beijing Piano Company, and Young Chang's factory in Tianjin became operational in 1995. Samick's Indonesian plant started up in 1996. (For data on the level of U.S. piano production, see table 4-14.)

Since the mid-1990s, digital pianos have gained market share at the expense of beginner-level acoustic pianos,[31] although it appears that this trend has stabilized since 1997 because the rising demand for acoustic pianos has matched that of digital pianos.[32] This phenomenon underscores the earlier observation that although digital pianos are viable substitutes for certain acoustic pianos, this substitutability is limited.

The current capacity and contracted markets in Asia allows sufficient production to maintain intense competition in the U.S. market in the coming years.[33] Manufacturers who depend to a significant extent on the lower end of the market for their profit are likely to suffer the most adverse effects of this competition.[34] Industry analysts contend that this intensity could be alleviated only by improvement in the economic conditions of Japan, Korea, Indonesia, and the rest of Asia and a rapid expansion in China's domestic piano market.

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[28] The White House, *Economic Indicators*, January 1999 (Washington: Government Printing Office, 1999).

[29] For support of this view, see the testimonies of Brian Chung, vice president and general manager, Kawai; Terry Lewis, corporate vice president, Yamaha; and Robert J. Jones, executive vice president and general manager, Samick (transcript of the hearing, pp. 104, 129, and 148, respectively). Apparent consumption serves as a proxy for demand. (For levels of apparent consumption during the period under consideration, see table 4-3.)

[30] Responses to Commission questionnaires.

[31] Tom R. Miller, vice president, Young Chang America, Inc., interview with USITC staff, Feb. 9-12, 1999.

[32] An industry spokesman at the Commission hearing supported this observation. Stephen P. Brock, executive vice president and general manager, Baldwin (transcript of the hearing, p. 26).

[33] See ch. 5 for information on Asian markets.

[34] Donald W. Dillon, executive director, Piano Manufacturers Association International, interview with USITC staff, Apr. 12, 1999.

CHAPTER 3
PROFILE OF THE U.S. PIANO INDUSTRY AND SUPPLIERS

This chapter describes the operations of U.S. producers, providing certain information on foreign producers to illustrate the relative sizes of U.S. and foreign piano companies. It then describes the nature and extent of the various raw material and parts suppliers to the U.S. industry, and concludes with a description of firms involved in importing pianos into the United States and firms involved in other parts of the distribution chain.

Piano Producers

There are five multinational piano producers in the world (that is, companies with wholly-owned manufacturing facilities in more than one country). Those companies are Yamaha Corporation (Yamaha) and Kawai Musical Instrument Manufacturing Company (Kawai), headquartered in Japan; Samick Musical Instrument Manufacturing Company (Samick) and Young Chang Akki Company (Young Chang), headquartered in Korea; and Steinway Musical Instruments, Inc. (Steinway), headquartered in the United States. These companies rank in the top 10 in terms of music and sound equipment sales worldwide (table 3-1). The Baldwin Piano & Organ Co. (Baldwin), headquartered in the United States, and Guangzhou Pearl River Piano Co., headquartered in China, are among the top 50 companies, but have piano manufacturing facilities only in their home country. All major Asian producers, as well as major European producers, are profiled in appendix E.[1]

Table 3-1
Leading piano producers ranked in terms of total sales of music and sound equipment, 1998

World rank	Company	Headquarters	World sales	Number of employees
			Million dollars	
1	Yamaha Corporation	Japan	$3,477	9,281
2	Kawai Musical Instrument Manufacturing Co.	Japan	779	4,435
7	Samick Musical Instrument Manufacturing Co.	Korea	285	5,600
8	Young Chang Akki Co.	Korea	281	3,817
9	Steinway Musical Instruments, Inc.	United States	278	2,095
18	Baldwin Piano & Organ Co.	United States	143	1,350
33	Guangzhou Pearl River Piano Co.	China	76	3,985

Source: "The Global 200: The World's Largest Music & Sound Companies," *Music Trades*, December 1998, p. 84.

Yamaha and Kawai each have U.S. subsidiaries that produce pianos. Yamaha also has fully- or majority-owned piano production facilities in Japan, England, Taiwan, Indonesia, and China, and a minority share of a facility in Germany. Kawai also has facilities in Japan, Malaysia, and China. Yamaha and Kawai manufacture a variety of musical instruments, including digital pianos.

[1] The profiles provide information on manufacturing locations, start-up dates, product mix, brand names used, and contracts to supply other manufacturers with pianos.

There were 15 piano producers in the United States in 1982.[2] By 1998, the number of producers had declined to nine, including Yamaha and Kawai, both of which were established after 1982. Profiles of these U.S. producers are provided in table 3-2. Seven domestic piano producers, including Samick's U.S. subsidiary, have shut down manufacturing facilities since 1985 (table 3-3).

Table 3-2
U.S. piano manufacturers: Company profiles

Company	Plant location(s)	Year established	Types of pianos produced	Brands
Astin-Weight	Salt Lake City, UT	1959	Verticals	Astin-Weight
Baldwin Piano & Organ Co. .	Trumann, AR Fayetteville, AR Conway, AR Greenwood, MI Ciudad Juarez, Mexico	1862	Verticals, grands	Baldwin, Chickering, Wurlitzer
Fandrich Piano Co. Inc.	Chicago , IL	1989	Verticals	Fandrich
Mason & Hamlin	Haverhill, MA	1997[1]	Verticals, grands	Mason & Hamlin, Knabe, Sohmer
Steinway & Sons	Long Island City, NY Hamburg, Germany	1853	Verticals, grands	Steinway
Story & Clark	Seneca, PA	1993[1]	Verticals, grands	Story & Clark
Walter Piano Company	Elkhart, IN	1970	Verticals, grands	Charles R. Walter
U.S. subsidiaries of foreign producers:				
Kawai America Corp.	Lincolnton, NC Greer, SC	1988	Verticals	Kawai, Boston, Schutz & Sons
Yamaha Corp. of America . . .	Thomaston, GA	1986	Verticals	Yamaha

[1]Start of operations under present ownership. Company had operated in past under different ownership.

Sources: Larry Fine, *The Piano Book, Buying and Owning a New or Used Piano,* 3d ed. (Boston: Brookside Press, 1994); *The Music Trades,* January 1997, January 1998; *Musical Merchandise Review,* October 1997; and field research conducted by Commission staff.

Baldwin, Yamaha, Kawai, and Steinway are the leading domestic producers. These companies accounted for 94 percent of the vertical pianos and 99 percent of the grand pianos produced in the United States in 1997.[3] Baldwin, the largest producer of vertical pianos and the second largest grand piano producer in the United States, makes many models covering a wide range of prices, with its volume of

[2] This was the latest year for which data were gathered in the Commission's previous fact-finding study on the piano industry. U.S. International Trade Commission, *Conditions of Competition*, p. 11.

[3] Compiled from data submitted in response to USITC questionnaires. These figures do not include the production of 2 small producers who did not provide questionnaire responses.

Table 3-3
U.S. piano manufacturing plants that have shut down since 1985

Company	Plant location(s)	Year closed	Types of pianos produced	Brands	Comments
Aeolian Piano Co. . . .	Memphis, TN	1985	Verticals	Aeolian, 20+ other names	Most brand names[1] sold to Wurlitzer (now owned by Baldwin)
Everett Piano Co.[2] . . .	South Haven, MI	1986	Verticals	Everett	Name sold to Baldwin, now used by Wrightwood Enterprises
Kimball Piano Co. . . .	French Lick, IN	1996	Verticals, grands	Kimball, 10+ other names	Sold manufacturing equipment to Chinese piano producer
Kohler & Campbell . . .	Granite Falls, NC	1985	Verticals, grands	Kohler & Campbell, Kohler, Brambach	Brand name now used by Samick
Samick Music Corp. . .	City of Industry, CA	1998	Verticals	Samick	Subsidiary of Korean producer; assembly moved to Indonesia
Sohmer Piano Co. . . .	Ivoryton, CT Elysburg, PA	1988 1994	Verticals, grands	Sohmer, Knabe, Mason & Hamlin	Brand names now used by Mason & Hamlin Co.
Wurlitzer Co.	Holly Springs, MS	1988	Verticals, electronic	Wurlitzer, J.& C. Fischer, Chickering, Cabaret, Casino	Brand names now used by Baldwin

[1]Except for Mason & Hamlin and Knabe brand names.
[2]This company was owned by Yamaha Corp. of America.

Sources: Larry Fine, *The Piano Book*; Larry Fine, *The 1998-99 Annual Supplement to The Piano Book* (Boston: Brookside Press, 1988); and field research conducted by Commission staff.

verticals produced far exceeding grand pianos. Many of the grand pianos sold in the United States by Baldwin are produced in Korea for Baldwin by Samick and sold under the Wurlitzer label. Baldwin also imports one model of vertical piano from China under the Wurlitzer label to compete at the entry level in the U.S. market. Yamaha and Kawai both produce vertical pianos in the United States and accounted for more than half of U.S. vertical production in 1997. Approximately 80 percent of vertical pianos sold by Yamaha and Kawai in the United States are produced domestically, although these companies also import vertical and grand pianos from Japan to supply the U.S. market. Yamaha also imports a small number of vertical pianos from its joint venture with Guangzhou Pearl River Co. in China. Steinway focuses on high-priced, high-quality grand pianos, but the company also produces vertical pianos in the United States. In addition, to offer customers a less expensive but high-quality alternative, Steinway sells Boston-brand vertical and grand pianos through its dealers.[4] These pianos are designed by Steinway, but produced by Kawai in Japan and North Carolina.

[4] Some Steinway dealers also offer Kohler & Campbell brand pianos, which are made by Samick in Korea and Indonesia.

The five remaining U.S. producers are small, producing for specific niche markets. For example, Story & Clark makes player and decorative pianos, and Walter Piano Co. produces a modest number of high-quality pianos. Fandrich Piano Co. produces a very limited volume of high-quality pianos with innovative designs and components, and Mason & Hamlin produces high-end vertical and grand pianos.

U.S. producers vary greatly in the extent of vertical integration in their U.S. acoustic piano operations. For example, Baldwin produces most of the parts for its pianos, except the action assembly and keyboard, in its U.S. plants. In contrast, Kawai imports or purchases domestically most of the major parts, including cabinets, for assembly in its U.S. plant. The smaller producers typically produce their own cabinets but buy their action assemblies from outside sources.

Two major producers, Kimball Piano Co. and Samick Music Corp., shut down operations during 1994-98.[5] Kimball Piano, which had a capacity to produce more than 9,000 vertical pianos and more than 1,000 grand pianos in 1994, shut down in early 1996. The company cited the poor condition of the acoustic piano industry and inability to generate enough sales volume to cover costs as the reasons for closing down its production facilities.[6] Samick discontinued piano production in the United States in early 1998 after its U.S. cabinet supplier decided to stop producing piano cabinets. After importing cabinets from its Indonesian plant for a short time, Samick shifted piano production entirely to Indonesia and began suppling the U.S. market from this plant for the models formerly made in the United States. A company representative stated that it is less expensive to import pianos from Indonesia than to build them in the United States.[7]

U.S. producers are not as diversified as the large foreign manufacturers such as Yamaha and Kawai and generally make only acoustic pianos. Baldwin sells digital pianos that it purchases from a European producer.[8] The company also sells electronic player piano systems that are purchased and owns a division that finances consumer piano purchases. Baldwin has a division unrelated to the piano industry which manufactures electronic components such as printed circuit boards. Steinway produces only acoustic pianos. Most of the other domestic producers manufacture and sell acoustic pianos only, although two of these companies also produce electronic player systems that they market for their own pianos and sell to other piano producers.

Raw Material Sources and Parts Producers

Wood and cast-iron plates account for most of the raw material costs in the manufacture of pianos. The types of wood used are crucial for the outward appearance of the piano and the sound quality. There are a number of lumber companies in the Pacific Northwest, New York, and Canada supplying various types of spruce, which is used predominantly for the soundboard. Maple, used for its hardness qualities in the pinblock and action parts of a piano, is supplied generally from Wisconsin. Most cabinet and cabinet parts are supplied from a variety of lumber and furniture-making centers in North Carolina, Kentucky, and Indiana.

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[5] Sohmer, a small producer, also shut down operations during 1994-98.

[6] Interview of company representative by USITC staff, Mar. 16, 1999. Kimball's parent company continues to be one of the largest furniture manufacturers in the United States.

[7] Robert Jones, executive vice president, Samick Music Corp., interview by USITC staff, Feb. 12, 1999.

[8] The company divested its organ manufacturing operations within the past several years (transcript of the hearing, pp. 27-28).

None of the U.S. producers are completely integrated. These companies purchase various parts from other domestic and foreign manufacturers. For example, strings may come from Tennessee or Germany; hammers and action assemblies may come from the Czech Republic, England, or Mexico; and cast-iron plates may come from Ohio, Japan, Korea, or Brazil. Production of certain piano cabinets is sometimes contracted out to domestic furniture companies. Baldwin is the most integrated of the U.S. producers. This company owns a domestic lumber-processing facility to supply its piano-manufacturing plant, and it owns a facility in Mexico that produces keyboards and action assemblies. Baldwin also supplies keyboards and action assemblies to other U.S. producers. However, U.S. subsidiaries of foreign producers typically import a significant portion of the parts required in their U.S. operations, although their piano cabinets are almost always obtained in the United States. Young Chang Timber, a subsidiary of Young Chang, owns a lumber-processing plant in Washington that cuts and kiln-dries wood for export to its piano-manufacturing operations in Asia.

Reflecting the long-term decline in the U.S. piano market, the number of suppliers in the U.S. market has also decreased and there is greater reliance on single-sources for crucial piano parts. O.S. Kelly is the only cast-iron piano plate manufacturer in the United States, providing plates for almost all domestic producers. Wickham Plate Co., which also produced cast-iron plates, ceased operations in 1994. Baldwin accounted for 75 percent of O.S. Kelly's plate sales before Baldwin switched to a new supplier in 1999.[9] This supplier is based in the United States, but the plate production facility is in Brazil. Baldwin helped establish the Brazilian plant by financing $3.7 million in equipment purchases,[10] and switched suppliers because the company wanted to cut costs and improve plate quality.[11] Industry sources question whether O.S. Kelly can remain in business without Baldwin as a customer,[12] but O.S. Kelly stated that the company would survive through downsizing and expanded service in the grand piano plate market.[13]

Mapes Piano String Co. in Tennessee is the only piano string producer in the United States. Posey Lumber, one of a small number of firms supplying wood for soundboards and backs, went out of business in 1998.

Importers, Distributors, Suppliers, and Retail Dealers

U.S. Customs data indicate that almost 200 firms imported pianos in 1998.[14] These importers included domestic producers that import pianos to complement their U.S. production (including Baldwin, Kawai, Story & Clark, Steinway, and Yamaha), subsidiaries of foreign producers (including Samick and Young Chang), and independent firms that purchase from foreign producers. Some of the independent importers act as agents for firms that are the actual consignees. Based on responses to Commission questionnaires, virtually all importers act as their own distributors, selling pianos directly to retail dealers.

Many domestic producers, importers, and dealers of pianos have developed arrangements with producers in Korea and China to supply relatively low-priced, entry-level pianos to the U.S. market. Some companies use contract manufacturing and then "stencil" their respective names on the imported piano.

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[9] Ted Golba, vice president, O.S. Kelly Co., interview by USITC staff, Feb. 23, 1999.

[10] E-mail submission from Baldwin counsel, Mar. 10, 1999.

[11] "Baldwin to Purchase Higher-Quality, Lower-Cost Plates from Southland Marketing," Baldwin press release, Feb. 8, 1999.

[12] Obtained from industry sources during field interviews conducted by USITC staff, Jan.-Feb., 1999.

[13] Golba, O.S. Kelly Co., interview by USITC staff, Feb. 23, 1999.

[14] Based on data through Aug. 1998.

These importers and distributors buy the rights to piano brand names (from out-of-business piano companies) and contract a low-cost producer to manufacture the products. This change of ownership and manufacturer makes it difficult to know whether the quality of a brand name has been maintained. There is a history of more than 12,000 brand names for pianos, and keeping track of who owns which brand name and where it is produced is difficult. Since 1994, the piano market has also witnessed the appearance of several previously lesser-known foreign products, such as pianos from Belarus, China, the Czech Republic, and Estonia.[15]

Used pianos are a large source of piano supply.[16] Many of these pianos are sold by individuals to other individuals, and data on the amount of these sales do not exist. Importers also supply the U.S. market with used pianos. Some of these importers supply both used and new pianos, and some just used pianos.

Keyboard Carriage is estimated to control 80-85 percent of the U.S. piano transportation business.[17] This company transports both domestically-produced and imported pianos to its warehouses in Kentucky and California and to dealers. Many domestic producers also use the company for interplant transfers of partially completed pianos. Yamaha, Music Transport Inc., Schaffer Transport Inc., and Gilstone Movers account for the remaining transportation of U.S. shipments.[18]

Apart from large sales or institutional arrangements, few producers deal directly with retail sales. A few producers own retail stores, but the majority of retail pianos are sold by independent dealers. Reflecting contraction in U.S. piano sales, the number of storefronts displaying pianos has declined by 24 percent, from 3,776 at year-end 1993 to 2,854 at year-end 1998. According to industry representatives, this concentration of dealers has increased the influence of larger dealers on pricing and sales practices.

Typically, dealers take title to the pianos, and negotiate price and sales terms with the consumers. The retail purchase may involve cash transactions or credit, either arranged by the consumer or by the dealer. Most of the sales to the dealers are based on company-specific dealer agreements.

Generally, the producer arranges transportation to the dealers, using Keyboard Carriage or another transport company. Pianos are transported almost exclusively in trucks; a much smaller number are shipped by rail. The majority of the respondents (both domestic producers and importers) indicated that during 1994-98, virtually all of their piano deliveries to customers from plant/storage facilities required transportation of more than 100 miles, and most involved transportation of more than 500 miles. This supports the unanimous contention of respondents to Commission questionnaires that the U.S. market for pianos is a single national market, rather than a segmented group of regional markets.

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[15] Baldwin representatives, interview by USITC staff, Trumann, AR, Jan. 12, 1999.

[16] Baldwin estimates that eight used pianos change ownership for every new piano sold in the United States (Baldwin prehearing brief, p. 6).

[17] This firm is actually two separate companies: Keyboard Carriage, which moves and transports pianos, and Keyboard International, which warehouses pianos.

[18] Baldwin representatives, interview by USITC staff, Trumann, AR, Jan. 12, 1999.

CHAPTER 4
TRENDS IN U.S. CONSUMPTION, SHIPMENTS, PRODUCTION, AND TRADE

This chapter uses data from Commission questionnaire responses, trade associations, and the U.S. Department of Commerce (Commerce) to show trends in U.S. piano consumption, shipments, production, and trade. Commerce trade data on piano parts and accessories and related analyses are also included, because U.S. piano producers are major importers and exporters of these products. The condition of the U.S. piano industry is also analyzed, based on questionnaire responses.

Consumption

The growth in acoustic piano sales in the last two years is a major development in the industry because, until 1997, sales had declined steadily, with few exceptions, from a peak of almost 263,000 units in 1978 (table 4-1). The U.S. piano market contraction coincided with a large increase in digital piano sales, a proliferation of such new consumer products as video games and personal computers, and a sharp increase in the portion of school-age girls involved in athletics at the expense of music studies.[1]

Table 4-1
Acoustic pianos: Sales to U.S. retail dealers, 1975-98
(*units*)

Year	Quantity	Year	Quantity
1975	208,429	1987	169,100
1976	237,092	1988	141,697
1977	247,446	1989	126,317
1978	262,920	1990	111,928
1979	255,039	1991	106,941
1980	212,849	1992	102,882
1981	209,876	1993	99,721
1982	191,319	1994	98,778
1983	187,965	1995	98,229
1984	174,341	1996	84,356
1985	147,487	1997	94,709
1986	163,100	1998	106,759

Note.–Includes sales of domestically produced and imported pianos.

Source: For 1975-87, National Piano Manufacturers Association and industry estimates; for 1988-98, *The Music Trades*, April 1994 and April 1999 issues.

Data collected by the National Association of Music Merchants (NAMM) showing purchases of domestically produced and imported pianos by retail dealers are listed in table 4-2. Sales of vertical pianos to retail dealers dropped by 19 percent during 1994-96 to 53,032 units, but increased 25 percent during 1997-98 to 66,541 units. Although grand pianos are considered a more stable segment of the industry,

[1] Based on interviews of Baldwin, Samick, Yamaha, and Young Chang representatives by USITC staff during Jan.-Feb. 1999.

total sales in this product segment also declined early in the 1994-98 period. Sales of grand pianos to retail dealers decreased by 9 percent to 26,551 units during 1994-96, but increased 27 percent during 1996-98 to 33,600 units.

Table 4-2
Sales to U.S. retail dealers of vertical, grand, electronic player, and digital pianos, 1994-98

Item	1994	1995	1996	1997	1998
			Quantity (*units*)		
Vertical pianos	65,794	66,055	53,032	60,827	66,541
Grand pianos	28,999	27,989	26,551	28,356	33,600
Electronic player pianos[1]	3,985	4,185	4,773	5,526	6,618
Total, acoustic pianos	98,778	98,229	84,356	94,709	106,759
Digital pianos	55,908	55,921	58,012	70,987	74,232
Total, acoustic and digital pianos	154,686	154,160	142,368	165,696	180,991
			Percent of total		
Vertical pianos	42.5	42.8	37.3	36.7	36.8
Grand pianos	18.8	18.2	18.6	17.1	18.6
Electronic player pianos[1]	2.6	2.7	3.4	3.3	3.7
Total, acoustic pianos	63.9	63.7	59.3	57.2	59.0
Digital pianos	36.1	36.3	40.7	42.9	41.0
Total, acoustic and digital pianos	100.0	100.0	100.0	100.0	100.0

[1]These systems include an acoustic piano.

Source: National Association of Music Merchants, *Music U.S. 1997, Statistical Review of the U.S. Music Products Industry* (Carlsbad, CA, 1997).

In contrast to sales of vertical and grand pianos, sales of electronic player pianos and digital pianos expanded every year during 1994-98. As table 4-2 confirms, digital pianos gained share at the expense of acoustic pianos from 1994 to 1997. However, in 1998, the digital piano share declined, suggesting that digital pianos may no longer be eroding the share of total sales accounted for by acoustic pianos.[2]

Industry representatives cite the following macroeconomic, demographic, technological, and cultural factors in explaining the upturn in piano sales during 1997-98:[3]

- Sustained growth of the national economy since 1992;
- An increase in low-priced imports;
- Low interest rates;
- Continued growth in the number of schools and student enrollment, the related population increase in the 5-14 year age group, and a slowed rate of retirement;
- Growing availability of computer-based complements, such as electronic player piano systems, that likely stimulated purchases of acoustic pianos (primarily grand pianos); and
- Evidence that music study tends to improve the academic performance of children.

Data developed from questionnaire responses on vertical piano consumption are shown in table 4-

[2] Testimony of Baldwin representative, transcript of the hearing, pp. 26-27.

[3] Detailed information on how these factors affect piano demand is presented in ch. 2.

3.[4] These data show generally similar trends as the NAMM data.[5] The ratios of domestic shipments to apparent consumption and to domestic consumption for vertical pianos were fairly stable during 1994-96. However, these ratios decreased substantially in 1997-98 because Kimball Piano Co. ceased operations and imports increased during those years.

Table 4-3
Vertical pianos: U.S. apparent and domestic consumption and producers' domestic shipments share of apparent and domestic consumption, 1994-97, January-September 1997, and January-September 1998

					Jan.-Sept.	
Item	**1994**	**1995**	**1996**	**1997**	**1997**	**1998**
Consumption:						
Apparent:						
Quantity (*units*)	62,652	60,716	55,142	59,748	41,496	50,349
Value (*1,000 dollars*)	96,717	98,813	95,237	96,801	70,052	81,927
Domestic:						
Quantity (*units*)	63,254	58,869	53,782	57,344	40,262	44,284
Value (*1,000 dollars*)	110,246	105,742	104,470	106,620	77,403	85,484
Producers' domestic shipments share:						
Of apparent consumption:						
By quantity (*percent*)	72	69	71	65	65	54
By value (*percent*)	69	66	68	65	66	57
Of domestic consumption:						
By quantity (*percent*)	72	71	73	67	67	61
By value (*percent*)	61	61	62	59	59	55

Note:--Data are understated because two small producers did not report shipments. Apparent consumption is the sum of producers' domestic shipments to retail dealers plus imports. Domestic consumption is the sum of producers' domestic shipments to retail dealers plus import shipments to retail dealers. Pianos imported but not shipped to retail dealers reflect import inventories.

Source: Compiled from data submitted in response to USITC questionnaires.

The decrease in the ratio of domestic shipments to domestic consumption of vertical pianos was not as severe as the decrease in the ratio of domestic shipments to apparent consumption because of a growth in import inventories. Also, both ratios decreased more in terms of quantity than value, indicating a higher proportion of lower value imports. Import inventories and unit values will be discussed in more detail in the U.S. import section later in this chapter.

In contrast to the vertical piano situation, the ratio of domestic shipments to domestic consumption for grand pianos remained stable throughout 1994-98.[6] However, imports dominated the grand piano market in the United States, and the domestic shipments to domestic consumption ratio was much lower

[4] Apparent consumption is the sum of producers' domestic shipments to retail dealers plus imports. Domestic consumption is the sum of producers' domestic shipments to retail dealers plus import shipments to retail dealers. Pianos imported but not shipped to retail dealers is shown as import inventories.

[5] Significant differences are evident in several years partly because two small vertical piano producers did not provide questionnaire responses.

[6] Consumption information compiled from questionnaire responses for grand pianos could not be shown because to do so would reveal proprietary business data.

than for vertical pianos.

According to industry sources, several factors that influenced the recent growth in piano sales will continue to prevail in the foreseeable future. Although forecasts for the U.S. economy indicate a slowdown for 1999 and 2000, the large-scale retirement of baby-boomer parents is receding, and their used pianos have been sold, thus removing an important source of competition for new pianos. The indicated technological and cultural trends are also expected to continue to favorably influence U.S. piano sales. Retailers reported 1998 was better in terms of sales volume than 1997, and they are generally optimistic about 1999 sales.[7]

Producers' Domestic Shipments and Exports

Data on U.S. producers' domestic shipments and exports for vertical piano operations are shown in table 4-4.[8] Domestic shipments, by quantity, declined 15 percent during 1994-97, reflecting the long-term contraction of piano sales in the U.S. market, as well as the phaseout of production during 1994-96 of Kimball Piano Co., a major manufacturer.[9] However, the decline was a result of fewer spinet and console shipments; studio shipments actually increased. Industry representatives indicate that the smaller vertical pianos, especially spinets, have been susceptible to digital piano substitution.[10] By value, domestic shipments declined by only 6 percent, reflecting an increasing proportion of the more expensive studio sizes in the product mix, which also contributes to the trend of increasing average unit value. The declining trend in shipments was reversed during 1998. Domestic shipments increased by 1 percent by quantity and 2 percent by value during January-September 1998 as compared with the same period in 1997.

The quantity of grand piano shipments also fell during 1994-97, although not as severely as shipments of vertical pianos, and rose in 1997-98. By value, however, these shipments increased a small amount every year during 1994-98, indicating shipments of a relatively greater proportion of higher-priced models, increasing grand piano prices, or both.

Exports are a modest portion of total U.S. producers' shipments, accounting for 6 to 10 percent of total vertical shipments by quantity and 3 to 6 percent of total grand shipments by quantity during 1994-98. Baldwin reportedly has attempted to export pianos to the key Asian markets (China, Japan, and Korea), but claims that tariffs, taxation, and control of distribution channels by local producers are

Table 4-4
Vertical pianos: U.S. producers' domestic shipments and exports, 1994-97, January-September 1997, and January-September 1998

[7] Bryan Majesky, editor, *Music Trades*, Dec. 14, 1998; also *Music Trades*, Mar. 1999, pp. 138-139.

[8] These data represent responses to Commission questionnaires by U.S. producers. Comparable data for grand piano operations were also submitted by U.S. producers; however, these data cannot be shown because to do so would violate the Commission's proprietary business data rules.

[9] In 1983, Kimball's plant in West Baden Springs, IN, produced more vertical pianos than any other factory in the United States.

[10] Ed Keefer, president, Story & Clark Pianos, interview by USITC staff, Seneca, PA, Jan. 14, 1999; Jun Ando, vice president, and Brian Chung, general manager, Kawai America Corp., interview by USITC staff, Lincolnton, NC, Feb. 8, 1999.

Item	1994	1995	1996	1997	Jan.-Sept. 1997	Jan.-Sept. 1998
	Quantity (*units*)					
Domestic shipments:						
Spinets and consoles	33,062	29,116	24,729	21,871	14,515	14,050
Studios	12,268	12,841	14,272	16,812	12,361	13,125
Subtotal	45,330	41,957	39,001	38,683	26,876	27,175
Exports	3,162	3,621	4,219	3,512	2,022	1,868
Total	48,492	45,578	43,220	42,195	28,898	29,043
	Value (*1,000 dollars*)					
Domestic shipments:						
Spinets and consoles	44,272	42,148	37,833	28,291	20,453	20,154
Studios	22,456	22,808	27,360	34,582	25,455	26,673
Subtotal	66,728	64,956	65,193	62,873	45,908	46,827
Exports	6,011	6,799	7,440	6,924	4,029	3,582
Total	72,739	71,755	72,633	69,797	49,937	50,409
	Average unit value (*dollars per unit*)					
Domestic shipments:						
Spinets and consoles	1,339	1,448	1,530	1,294	1,409	1,434
Studios	1,830	1,776	1,917	2,057	2,059	2,032
Subtotal	1,472	1,548	1,672	1,625	1,708	1,723
Exports	1,901	1,878	1,764	1,972	1,993	1,917
Total	1,500	1,574	1,681	1,654	1,728	1,736

Note.--Figures are understated because two small producers did not provide data. Because of rounding, figures may not calculate to the values shown.

Source: Compiled from data submitted in response to USITC questionnaires.

effective barriers to entry.[11] Baldwin has made a small number of sales in Japan and Korea, but believes that the difficulties it encountered would limit all U.S. producers attempting to penetrate Asia.[12]

Tables 4-5 through 4-7 show Commerce export data for vertical and grand pianos and piano parts and accessories. These export data for vertical pianos are higher in most cases than the data reported by U.S. producers (table 4-4); the differences may exist because in some cases producers record shipments to domestic companies that in turn export the pianos.

According to Commerce data, the quantity of U.S. exports of both vertical and grand pianos declined during 1994-98 (tables 4-5 and 4-6). Canada was the largest market for U.S. pianos during 1994-98, accounting for 38 percent of vertical piano exports and 33 percent of grand exports during 1998. The EU was the second leading market, accounting for 27 percent of U.S. vertical piano exports and 22 percent of grand piano exports; the comparable Mexican shares were 11 percent and 14 percent, respectively. In 1996, 19 percent of U.S. exports of verticals and 21 percent of U.S. exports of grands were to Japan,

[11] Transcript of the hearing, pp. 12-13. See ch. 5 for a more detailed assessment of access to foreign markets.
[12] Ibid.

despite, as noted above, the difficulties U.S. producers have reportedly had in gaining access to this market (however, these exports represent a small share of Japanese consumption).[13] During 1998, those shares dropped to 6 percent and 13 percent, respectively, reflecting the effects of the prolonged financial crisis in Japan.

Table 4-5
Vertical pianos: U.S. exports, by leading markets, 1994-98

Country/country group	1994	1995	1996	1997	1998
			Quantity *(units)*		
Canada	1,582	1,457	1,306	1,592	1,451
EU	2,340	999	1,750	848	1,015
Mexico	695	253	203	249	409
Japan	572	806	980	745	236
Colombia	42	146	100	120	197
All other	1,571	761	807	599	519
Total	6,802	4,422	5,146	4,153	3,827
			Value *(1,000 dollars)*		
Canada	2,727	2,464	2,330	2,684	2,433
EU	1,732	1,641	2,685	1,296	1,546
Mexico	1,149	426	319	372	648
Japan	647	1,174	1,169	1,116	316
Colombia	63	252	177	181	217
All other	1,536	1,191	1,243	1,169	818
Total	7,853	7,148	7,922	6,818	5,978
			Average unit value *(dollars per unit)*		
Canada	1,724	1,691	1,784	1,686	1,677
EU	740	1,643	1,534	1,529	1,523
Mexico	1,653	1,685	1,570	1,494	1,585
Japan	1,131	1,456	1,193	1,498	1,337
Colombia	1,495	1,724	1,767	1,505	1,103
All other	977	1,565	1,541	1,951	1,576
Total	1,154	1,616	1,540	1,642	1,562

[1]Not applicable.

Note.--EU-15 countries are considered a single market for purposes of this table. Countries and country groups are ranked by 1998 export quantities. Because of rounding, figures may not calculate to the values shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

[13] See ch. 5 for more information on the Japanese market.

Table 4-6
Grand pianos: U.S. exports, by leading markets, 1994-98

Country/country group	1994	1995	1996	1997	1998
			Quantity *(units)*		
Canada	168	441	420	410	287
EU	78	57	81	87	192
Mexico	411	56	46	125	127
Japan	583	235	172	161	115
Hong Kong	175	6	0	15	33
All other	283	104	91	254	129
Total	1,698	899	810	1,052	883
			Value *(1,000 dollars)*		
Canada	1,536	2,618	2,614	3,070	2,285
EU	295	304	414	425	1,017
Mexico	780	571	237	638	571
Japan	934	1,149	1,083	838	563
Hong Kong	143	28	0	92	161
All other	583	560	517	1,320	708
Total	4,272	5,230	4,865	6,383	5,306
			Average unit value *(dollars per unit)*		
Canada	9,143	5,936	6,224	7,487	7,962
EU	3,779	5,334	5,116	4,884	5,294
Mexico	1,898	10,194	5,146	5,103	4,499
Japan	1,603	4,891	6,296	5,205	4,895
Hong Kong	819	4,667	([1])	6,147	4,890
All other	2,061	5,385	5,680	5,197	5,491
Total	2,516	5,817	6,006	6,067	6,009

[1]Not applicable.

Note.--EU-15 countries are considered a single market for purposes of this table. Countries and country groups are ranked by 1998 export quantities. Because of rounding, figures may not calculate to the values shown. The wide range in average unit values likely reflects the wide range in grand piano prices (see table 6-5) and exports of used pianos.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Exports of piano parts and accessories during 1994-98 demonstrate the changing structure of foreign piano production (table 4-7). These exports declined significantly, mostly as a result of a sharp decline of exports to Korea, which decreased from $3.7 million in 1995 to under $300,000 in 1996, and remained minor thereafter. These exports declined because Korean piano production contracted as a result of a shift of some production to China and, beginning in 1997, less Korean demand for pianos.[14] Also, exports to Korea declined because Korean producers shifted their supply source of certain wood parts from the United States to China and Indonesia.[15]

[14] Tom Miller, Young Chang America, interview by USITC staff, Apr. 15, 1999. See ch. 5 for more information on the Korean piano industry.

[15] Robert Jones, vice president, Samick Music Corp., interview by USITC staff, Feb. 12, 1999.

Table 4-7
Piano parts and accessories: U.S. exports, by leading markets, 1994-98

(1,000 dollars)

Country/country group	1994	1995	1996	1997	1998
EU	302	948	992	685	710
Japan	853	1,332	1,697	1,813	659
Mexico	1,753	637	410	573	606
Canada	298	243	285	318	275
Switzerland	11	42	3	31	126
All other	2,847	4,394	741	641	297
Total	6,063	7,596	4,128	4,060	2,673

Note.--EU-15 countries are considered a single market for purposes of this table. Countries and country groups are ranked by 1997 exports. Because of rounding, figures may not add to totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

U.S. Imports

Customs Treatment

U.S. imports of pianos and piano parts are classified under subheadings 9201.10.00, 9201.20.00, 9209.91.40, and 9209.91.80 in the Harmonized Tariff Schedule. Table 4-8 shows the applicable U.S. duty rates. Pianos imported from Indonesia are eligible for duty-free treatment under the Generalized System of Preferences, whereas pianos from China, Japan, and Korea are subject to the column 1-general rates of duty. These tariff classifications include entries of both new and used pianos.

Table 4-8
Pianos: Harmonized Tariff Schedule (HTS) subheadings; description; and U.S. rates of duty as of January 1, 1999

HTS subheading	Description	Col. 1 rate of duty		Col. 2 rate of duty
		General	Special[1]	
		Percent		*Percent*
9201.10.00	Upright pianos	4.7	Free (A, CA, E, IL, J, MX)	40
9201.20.00	Grand pianos	4.7	Free (A, CA, E, IL, J, MX)	40
9209.91.40	Piano tuning pins	Free		([2])
9209.91.80	Parts and accessories for pianos other than tuning pins	4.2	Free (A+, CA, E, IL, J, MX)	40

[1]The symbols designate programs under which special tariff treatment may be provided and are as follows: Generalized System of Preferences (A); Generalized System of Preferences for least-developed beneficiary countries (A+); North American Free Trade Agreement-Goods from Canada (CA); Caribbean Basin Economic Recovery Act (E); United States-Israel Free Trade Area (IL); the Andean Trade Preference Act (J); and the North American Free Trade Agreement-Goods from Mexico (MX).

[2]Rate is $1 per 1,000 pins plus 35 percent.

Note.--Col. 1-general rates of duty were subject to staged reductions during 1995-99 pursuant to the implementation of the Trade Agreements resulting from the Uruguay Round of Multilateral Trade Negotiations.

Source: Harmonized Tariff Schedule of the United States (1999).

Trends in U.S. Imports

New piano imports as reported by U.S. importers on Commission questionnaires are shown in table 4-9. These data indicate a large increase in recent years and substantial growth in import market share for Chinese pianos, especially for vertical pianos. The total quantity of U.S. vertical piano imports declined by 7 percent to 16,141 during 1994-96, but increased by 31 percent to 21,065 during 1996-97. The 59 percent increase for January-September 1998 to 23,174 pianos compared with the same period in 1997 exceeded total U.S. imports of verticals for full-year 1997. Imports from China accounted for 67 percent of the increase during the first nine months of 1998 compared with the same period in 1997, and imports from Japan supplied an additional 23 percent (2,007 units). Samick accounted for the remainder, increasing its imports of both vertical and grand pianos from Indonesia in 1998.

The average unit value of imported vertical pianos declined during 1996-September 1998 (table 4-9). This decline appears to have been caused by an increase in imports of Chinese pianos, which have an average unit value considerably less than that of total vertical piano imports, including imports from Japan and Korea. Several U.S. producers have noted an increase in pianos from Asia that were being sold in the U.S. market at low prices.[16] To determine whether declining unit values of imported pianos are reflected in U.S. wholesale selling prices, importer questionnaire respondents were asked to provide data for wholesale prices of specific piano models.[17] An analysis of these data is presented in chapter 6.

The average unit value of imported vertical pianos was greater than the average unit value of U.S. producers' domestic shipments during 1994-96 (table 4-4) because foreign manufacturers tend to produce larger-size and relatively more expensive console and studio pianos, while smaller spinets and consoles make up a greater share of U.S. producers' shipments. During 1997-98, the average unit value of imports was less than the average unit value of producers' domestic shipments, coinciding with the increase of vertical piano imports from China.

Commerce import data for vertical pianos, grand pianos, and piano parts and accessories are shown in tables 4-10 through 4-12. These data differ from import data reported by questionnaire respondents (table 4-9), especially for vertical pianos. For example, the quantity of imports in 1997 reported by Commerce is more than double that reported in response to Commission questionnaires. Industry sources indicate that this difference can be attributed to imports of used pianos (Commerce import data include both new and used pianos) and misclassification of parts.[18] In addition, several firms known to import pianos did not respond to Commission questionnaires. Although total new piano imports of the nonrespondents are estimated to be minor, no estimate of the amount of imports of used pianos from nonrespondents is available. The difference between Commerce and questionnaire data is especially apparent for imports from Japan, which has been identified as a large source of imports of used pianos in recent years.[19]

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[16] Transcript of the hearing, pp. 10 and 45-56.

[17] The average unit value of imports may vary from period to period because of a change in the composition of piano models imported and, therefore, is not a suitable indicator of prices of specific models.

[18] The Piano Manufacturers Association International (PMAI) adjusts Commerce import data in an attempt to remove used piano imports and misclassified items (PMAI eliminates all import entries that do not meet a unit value minimum). Don Dillon, PMAI, interview by USITC staff, Feb. 17, 1999. The quantity of imports in adjusted PMAI import data correlates closely with the data reported in Commission questionnaires by importers.

[19] Baldwin stated that it believes there has been a recent increase in imports of used pianos from Japan and Korea (Baldwin's posthearing brief, p. 6). Kawai stated that there are an estimated 3,000-5,000 used piano

(continued...)

Table 4-9
Pianos: U.S. imports of new pianos, 1994-97, January-September 1997, and January-September 1998

Item	1994	1995	1996	1997	Jan.-Sept. 1997	Jan.-Sept. 1998
	Quantity (*units*)					
Vertical pianos:						
China	(1)	(1)	2,058	4,008	2,522	8,235
Indonesia	0	0	0	(1)	(1)	(1)
Japan	(1)	(1)	(1)	5,040	3,687	4,219
Korea	7,793	9,260	7,315	3,754	3,017	5,024
All other	9,529	9,499	6,768	8,263	5,394	5,696
Total	17,322	18,759	16,141	21,065	14,620	23,174
Grand pianos:						
China	0	(1)	(1)	387	217	1,586
Indonesia	0	0	0	0	0	(1)
Japan	(1)	(1)	(1)	11,485	8,200	10,765
Korea	11,424	13,823	11,010	10,963	7,480	9,571
All other	12,243	12,544	11,647	1,146	824	1,270
Total	23,667	26,367	22,657	23,981	16,721	23,192
	Value (*1,000 dollars*)					
Vertical pianos:						
China	(1)	(1)	2,435	4,446	2,692	9,341
Indonesia	0	0	0	(1)	(1)	(1)
Japan	(1)	(1)	(1)	12,338	9,200	10,426
Korea	9,963	12,718	12,093	6,394	5,173	7,611
All other	20,026	21,139	15,517	10,749	7,079	7,722
Total	29,989	33,857	30,045	33,928	24,144	35,100
Grand pianos:						
China	0	(1)	(1)	1,107	586	4,721
Indonesia	0	0	0	0	0	(1)
Japan	(1)	(1)	(1)	68,107	48,744	65,317
Korea	35,675	46,480	42,431	44,451	30,222	35,961
All other	79,047	85,398	74,886	9,600	6,727	8,193
Total	114,722	131,878	117,318	123,266	86,279	114,192
	Average unit value (*dollars per unit*)					
Vertical pianos:						
China	(1)	(1)	1,183	1,109	1,067	1,134
Indonesia	(2)	(2)	(2)	(1)	(1)	(1)
Japan	(1)	(1)	(1)	2,448	2,495	2,471
Korea	1,279	1,373	1,653	1,703	1,715	1,515
All other	2,102	2,225	2,293	1,301	1,312	1,356
Total	1,731	1,805	1,861	1,611	1,651	1,515
Grand pianos:						
China	(2)	(1)	(1)	2,861	2,700	2,977
Indonesia	(2)	(2)	(2)	(2)	(2)	(1)
Japan	(1)	(1)	(1)	5,930	5,944	6,068
Korea	3,123	3,363	3,854	4,055	4,040	3,757
All other	6,456	6,808	6,430	8,377	8,164	6,451
Total	4,847	5,002	5,178	5,140	5,160	4,924

[19] (...continued)
(primarily vertical) imports from Japan per year (transcript of the hearing, pp. 94-96).

Table 4-9
Pianos: U.S. imports of new pianos, 1994-97, January-September 1997, and January-September 1998

Item	1994	1995	1996	1997	Jan.-Sept. 1997	Jan.-Sept. 1998

[1]Suppressed to prevent disclosure of proprietary business data. Included in "All other" figure.
[2]Not applicable.

Note.–Figures are understated because several firms known to import new pianos did not return questionnaire responses. Because of rounding, figures may not calculate to the values shown.

Source: Compiled from data submitted in response to USITC questionnaires.

According to Commerce data, imports from Japan, China, Korea, and Indonesia dominate the U.S. import market for vertical pianos (table 4-10). These countries accounted for more than 83 percent of the quantity of all vertical imports in 1994, and their share increased to 91 percent in 1998. Vertical piano imports increased 10 percent during 1997-98. Imports from China rose 129 percent to 11,024 units in 1998, thereby increasing their import market share from 11 percent during 1997 to 24 percent in 1998. Imports from Japan increased 5 percent in 1998 to 16,933 units (36 percent of the import market); imports from Korea rose by 13 percent to 8,193 units (18 percent market share). By contrast, imports from Indonesia decreased by 38 percent to 6,390 units (14 percent market share).[20] Imports from the European Union increased by 84 percent in 1998 to 947 units, but accounted for only 2 percent of total imports.

Table 4-10
Vertical pianos: U.S. imports for consumption from China, Indonesia, Japan, Korea, and the EU, 1994-98

Country/country group	1994	1995	1996	1997	1998
			Quantity *(units)*		
Japan	13,622	16,098	15,005	16,117	16,933
China	683	2,121	2,348	4,814	11,024
Korea	8,615	10,854	7,224	7,235	8,193
Indonesia	0	0	2	10,294	6,390
EU	1,304	684	477	514	947
All other	3,501	4,811	3,609	3,251	3,034
Total	27,725	34,568	28,665	42,225	46,521
			Value *(1,000 dollars)*		
Japan	21,669	24,250	18,773	20,239	24,337
China	538	1,780	2,286	4,650	11,635
Korea	10,753	15,292	12,001	12,995	11,760
Indonesia	0	0	3	7,889	6,969
EU	1,670	1,669	1,536	1,562	3,324
All other	3,519	4,276	4,751	3,654	3,402
Total	38,150	47,287	39,350	50,988	61,426
			Average unit value *(dollars per unit)*		
Japan	1,591	1,506	1,251	1,256	1,437
China	788	848	973	965	1,055
Korea	1,248	1,408	1,661	1,796	1,435
Indonesia	(1)	(1)	1,340	766	1,091
EU	1,281	2,440	3,220	3,038	3,510
All other	1,005	889	1,316	1,124	1,121
Total	1,376	1,368	1,373	1,208	1,320

[20] Samick decreased vertical piano production and shifted resources to a new grand piano line which started up in December 1997. Robert Jones, vice president, Samick Music Corp., interview by USITC staff, Feb. 12, 1999.

Table 4-10
Vertical pianos: U.S. imports for consumption from China, Indonesia, Japan, Korea, and the EU, 1994-98

[1]Not applicable.

Note.--EU-15 countries are considered a single source for purposes of this table. Countries and country groups are ranked by 1998 import quantities. Because of rounding, figures may not calculate to the values shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

The sharp increase in imports from China, the appearance of Indonesia as a new supplier, and the decrease in imports from Korea during 1995-98 reflect investments in piano manufacturing facilities in China and Indonesia in recent years by Young Chang and Samick. These investments changed trade patterns as Young Chang and Samick began to supply the low-end segment of the U.S. market from their Chinese and Indonesian operations, rather than from their Korean plants.[21]

Imports from China also increased because of the growth of Chinese state-owned piano companies, which have become growing U.S. market suppliers, and because of local market contraction due to the regional financial crisis that started in 1997.[22] It appears that rather than close newly constructed or expanded factories in China, surplus production was exported to the United States and the European Union (EU).

Although not reflected in Commerce data because imports of new and used pianos are combined, imports of new vertical pianos from Japan declined during 1994-96.[23] Both Kawai and Yamaha expanded production in their U.S. plants and reduced U.S. imports from their factories in Japan during the period. See appendix E for a discussion of the factors that led each of these companies to shift production from Japan to the United States.

Trends in average unit values of vertical piano imports varied by source (table 4-10). The decline in the average unit value of vertical pianos from Korea during 1997-98 reflects, at least partly, price changes caused by the devaluation of the Korean won. The unit value increase for vertical pianos from Indonesia during 1997-98 reflects Samick's shift from exporting piano kits for assembly in the United States to exporting completely assembled pianos and an upgrade of its piano quality. The relatively low unit value of Japanese pianos during 1996-98 is likely caused by a significant importation of used pianos, as many Japanese families have reacted to the Asian financial crisis by selling nonessential possessions.[24] The unit value data for China, the lowest unit value of the Asian countries, and Korea reflect Young Chang's long-term strategy to shift production of low-priced vertical pianos from Korea to China and to focus Korean production on higher priced, higher quality pianos.[25]

[21] Based on interviews with Robert Jones, Samick Music Corp., Feb. 12, 1999, and Tom Miller, Young Chang America, Feb. 10, 1999. See also transcript of the hearing, p. 166. For more information on Young Chang and Samick, see app. E.

[22] Robert Jones, Samick Music Corp., interview by USITC staff, Feb. 12, 1999. For more information on Chinese producers, see app. E.

[23] Based on responses to USITC questionnaires. Table 4-9 shows new vertical piano imports from Japan for 1997-98, but not for 1994-96 to prevent disclosure of proprietary business data.

[24] Terry Lewis, Yamaha Corp. of America, interview by USITC staff, Feb. 11, 1999.

[25] Tom Miller, Young Chang America, interview by USITC staff, Feb. 10, 1999.

Although Japan and Korea dominated the U.S. import market for grand pianos during 1994-98, China and Indonesia were growing suppliers (table 4-11). These four countries accounted for approximately 95 percent of the total quantity of grand piano imports each year during 1994-98. Imports from these countries accounted for most of the 59 percent increase in total imports by quantity during 1994-98. Imports from Korea grew by 33 percent during 1997-98, imports from Japan rose by 26 percent, while imports from China increased 419 percent. Korea supplied 43 percent of the U.S. import market for grand pianos in 1998; Japan, 44 percent; and China, 5 percent. Imports from Indonesia, where Korean-based Samick added a production line for grand pianos in December 1997, accounted for 2 percent of the U.S. import market in 1998.

Table 4-11
Grand pianos: U.S. imports for consumption from China, Indonesia, Japan, Korea, and the EU, 1994-98

Country/country group	1994	1995	1996	1997	1998
			Quantity *(units)*		
Japan	12,488	12,623	11,991	13,316	16,741
Korea	10,067	14,974	12,869	12,420	16,543
China	14	112	174	400	2,075
Indonesia	0	0	0	0	926
EU	595	474	502	573	874
All other	907	757	894	1,106	1,189
Total	24,071	28,940	26,430	27,815	38,348
			Value *(1,000 dollars)*		
Japan	68,321	71,746	64,130	70,773	89,837
Korea	29,134	46,703	45,044	39,714	54,701
China	48	250	319	1,092	5,725
Indonesia	0	0	0	0	2,388
EU	5,961	6,001	7,304	8,690	13,076
All other	3,591	3,392	4,868	6,022	6,457
Total	107,056	128,093	121,665	126,291	172,184
			Average unit value *(dollars per unit)*		
Japan	5,471	5,684	5,348	5,315	5,366
Korea	2,894	3,119	3,500	3,198	3,307
China	3,422	2,229	1,835	2,731	2,759
Indonesia	([1])	([1])	([1])	([1])	2,579
EU	10,018	12,659	14,549	15,166	14,961
All other	3,960	4,481	5,445	5,445	5,430
Total	4,448	4,426	4,603	4,540	4,490

[1]Not applicable.

Note.--EU-15 countries are considered a single source for purposes of this table. Countries and country groups are ranked by 1998 import quantities. Because of rounding, figures may not calculate to the values shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Imports of piano parts and accessories remained fairly stable during 1994-97, but increased by 28 percent in 1998 (table 4-12). Imports from Mexico reflect parts assembly at the Baldwin plant in Juarez, Mexico which produces keyboards and action assemblies used in Baldwin's U.S. piano manufacturing operations and sold to other U.S. producers. A large share of imports from Japan were parts supplied by Kawai and Yamaha to their U.S. subsidiaries. Imports of piano parts from Korea declined during 1994-98 because of Samick's decision to shut down production in the United States and manufacture pianos in Indonesia for the U.S. market. Samick had been importing parts from Korea for use in its U.S. piano production facility.

Table 4-12
Piano parts and accessories: U.S. imports for consumption, by leading sources, 1994-98

(1,000 dollars)

Country/country group	1994	1995	1996	1997	1998
Japan	10,616	12,699	9,084	8,845	13,558
Mexico	9,298	7,396	7,885	7,237	8,324
EU	4,242	5,220	5,038	6,011	6,991
Slovakia	0	0	207	912	971
China	2	4	16	11	515
All other	1,353	2,061	3,428	1,725	1,293
Total	25,511	27,381	25,658	24,740	31,651

Note.--EU-15 countries are considered a single source for purposes of this table. Countries and country groups are ranked by 1998 imports. Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Import Inventories, Shipments, and Penetration

A large part of the increase in imports resulted in an increase in the inventory of imported vertical and grand pianos in the United States (table 4-13), especially in the January-September 1998 period, for Chinese pianos and, to a lesser extent, imports from Korea and Japan. The increase in piano inventories is also shown by Keyboard Carriage inventory levels, which increased from 8,700 in January 1998 to 18,920 in January 1999 (or by 117 percent),[26] although these inventories include both acoustic and digital pianos.

The surge of piano imports from China and Korea and corresponding increases in import inventories resulted largely from the actions of Young Chang America.[27] The company stated that it made an overly optimistic sales forecast for the U.S. market in late 1997 and imported pianos to meet this expected demand. Sales projections were based in part on the quality of sample pianos from the new Young Chang plant in Tianjin, China. The quality of the pianos from this plant dropped sharply after technicians involved in the start-up phase of the facility returned to Korea. Further, an additional line was installed to produce pianos with relatively sophisticated furniture-style cabinets. The inexperienced Chinese workers and managers had difficulties, and the quality of the pianos was poor. Young Chang sold many of these pianos to dealers in the United States, but when the poor quality became evident, dealers returned the pianos to Young Chang's U.S. subsidiary, which is storing the pianos until it has worked out a plan to repair them.[28] Because of the large build-up in U.S. inventory, Young Chang has sharply curtailed scheduled imports in 1999.[29]

Young Chang reported that its inventory of both Korea-produced vertical and grand pianos increased because the company wanted to take advantage of the depreciating exchange rate of the Korean won versus the dollar as a result of the Asian financial crisis by increasing imports from Korea during

[26] Dennis Robey, owner, Keyboard Carriage, interview by USITC staff, Feb. 18, 1999.

[27] Young Chang representatives, interview by USITC staff, Feb. 10, 1999.

[28] Young Chang representatives indicated that the company has sent top managers from Korea to the Chinese plant to solve the quality problems.

[29] Young Chang America representatives, interview by USITC staff, Feb. 10, 1999.

Table 4-13
Pianos: U.S. importers' inventory and shipments of new pianos, 1994-97, January-September 1997, and January-September 1998

Item	1994	1995	1996	1997	Jan.-Sept. 1997	Jan.-Sept. 1998
	Quantity (*units*)					
Inventory:						
Vertical pianos:						
China and Indonesia	([1])	([1])	([1])	2,997	1,532	6,228
Japan	2,428	3,170	2,359	1,648	1,699	1,897
Korea	1,494	2,278	1,785	1,518	2,981	3,264
Other	747	828	1,558	887	932	554
Total	4,669	6,276	5,702	7,050	7,144	11,953
Grand pianos:						
China and Indonesia	0	([1])	([1])	([1])	([1])	([1])
Japan	3,656	4,391	3,566	2,704	2,680	2,766
Korea	3,632	3,202	3,362	2,155	2,846	4,653
Other	408	307	303	362	411	532
Total	7,696	7,900	7,231	5,221	5,937	7,951
Importers' shipments:						
Vertical pianos:						
Consoles	7,022	7,327	5,456	9,009	6,153	8,141
Studios	10,902	9,585	9,325	9,652	7,233	8,968
Total	17,924	16,912	14,781	18,661	13,386	17,109
Grand pianos:						
Under 5'	6,713	7,058	5,784	5,853	4,048	5,472
5' to 5' 5"	8,723	8,644	8,695	10,243	7,212	8,317
5' 6" to 6' 1"	7,487	7,021	6,381	6,544	4,598	5,482
Over 6' 1"	1,276	1,391	1,371	1,531	1,126	1,286
Total	24,199	24,114	22,231	24,171	16,984	20,557
	Value (*1,000 dollars*)					
Importers' shipments:						
Vertical pianos:						
Consoles	13,158	11,728	9,543	13,680	9,377	12,159
Studios	30,359	29,058	29,734	30,068	22,117	26,498
Total	43,517	40,786	39,277	43,747	31,494	38,657
Grand pianos:						
Under 5'	27,791	29,509	27,175	28,542	20,108	24,944
5' to 5' 5"	52,565	57,184	59,979	71,903	51,000	58,536
5' 6" to 6' 1"	61,912	60,418	58,196	59,095	40,948	49,107
Over 6' 1"	14,658	17,432	18,773	21,860	15,950	18,671
Total	156,926	164,543	164,124	181,401	128,006	151,258

[1]Suppressed to prevent disclosure of proprietary business data. Included in "All other" figure.

Note.–Because of rounding, figures may not add to totals shown. There were no reported spinet imports during 1994-98. Figures are understated because several firms known to import new pianos did not return questionnaire responses. Inventory figures are end-of-period amounts. Because of rounding, figures may not add to the totals shown.

Source: Compiled from data submitted in response to USITC questionnaires.

1998.[30] Young Chang's inventory also grew because it introduced a new, multiple-model line of higher priced pianos and began exporting them from Korea to the United States while also increasing the number of models in its other piano lines.[31]

Weber Piano Co., which sells pianos manufactured by Young Chang, has also increased its U.S. inventory. Weber attributed the build-up to anticipated demand in the U.S. market.[32]

Despite the large increase in import inventories, import shipments increased sharply during 1997-98 (table 4-13). The quantity of import shipments of vertical pianos expanded by 26 percent during 1996-97 and by 28 percent in January-September 1998 compared with the same period in 1997.

Baldwin expressed concern about the inventory of imported pianos, and claims these inventory levels are the highest ever.[33] The company maintains that there is pressure on the owners, because of inventory carrying charges such as interest expenses, to reduce inventory by selling at reduced prices, which would destabilize the U.S. market.[34] However, Young Chang stated that it has no intention of lowering prices to clear its inventory of Chinese-made pianos.[35]

The increase in imports and import shipments may have been inadvertently aided by marketing decisions by Baldwin which essentially created a distribution channel for imported pianos. According to industry sources, Baldwin consolidated its dealers beginning in 1995-96 to focus distribution efforts on large dealers. The small dealers who lost their Baldwin franchise agreements were forced to find other producers to represent, and many of these dealers decided to sell imported pianos.[36]

Imports as a share of apparent and domestic consumption for vertical pianos are shown in table 4-14. Total import share of consumption remained fairly stable during 1994-96, but began to increase substantially in 1997. China's share of U.S. consumption has increased sharply, although more in terms of quantity than in terms of value, reflecting the relatively lower price of these imports.

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[30] Young Chang expected the won to increase in value after the effects of the financial crisis subsided.

[31] Posthearing submission, Young Chang, Feb. 26, 1999.

[32] Posthearing submission, Weber Piano Co., Feb. 26, 1999, p. 2. Weber pianos are manufactured by Young Chang in Korea and China and by Guangzhou Pearl River and Dong Bei in China.

[33] Transcript of the hearing, p. 37.

[34] Ibid., p. 38.

[35] Young Chang representatives, interview by USITC staff, Lakewood, WA, Feb. 10, 1999.

[36] Interviews of two U.S. producers and three importers by USITC staff.

Table 4-14
Vertical pianos: Import share of apparent and domestic consumption, 1994-97, January-September 1997, and January-September 1998

(*Percent*)

Item	1994	1995	1996	1997	Jan.-Sept. 1997	Jan.-Sept. 1998
In terms of quantity:						
Import share of apparent consumption:						
Total	28	31	29	35	35	46
China	([1])	([1])	4	7	6	16
Japan	([1])	([1])	([1])	8	9	8
Korea	12	15	13	6	7	10
Import shipments, share of domestic consumption	28	29	27	33	33	39
In terms of value:						
Import share of apparent consumption:						
Total	31	34	32	35	34	43
China	([1])	([1])	3	5	4	11
Japan	([1])	([1])	([1])	13	13	13
Korea	10	13	13	7	7	9
Import shipments, share of domestic consumption	39	39	38	41	41	45

[1]Suppressed to prevent disclosure of proprietary business data.

Note.--Figures for Indonesia suppressed to prevent disclosure of proprietary business data. Country detail for import shipments of domestic consumption not available.

Source: Compiled from data submitted in response to USITC questionnaires.

Condition of the U.S. Industry

Capacity, Production, Inventory, and Employment

U.S. producers' capacity, production, inventory, and employment data for vertical piano operations are shown in table 4-15.[37] In general, these data show declining trends during 1994-97, which reflected the long-term contraction of piano sales in the U.S. market. However, the data generally show a small increase during January-September 1998. For example, production declined by 18 percent during 1994-97, but increased by 8 percent during January-September 1998 compared with the same period in 1997. These trends also reflect the closure of Kimball Piano Co., a major manufacturer, in 1996, which had a significant effect on capacity and production.

The data also show a significant decline in spinet and console production, as opposed to production of the larger, better quality, higher priced studio models which increased in most periods.

[37] These data represent responses to Commission questionnaires by U.S. producers. Comparable data for grand piano operations were also submitted by U.S. producers; however, these data cannot be shown because of the Commission's proprietary business data rules.

Table 4-15
Vertical pianos: U.S. producers' capacity, production, inventory, and employment, 1994-97, January-September 1997, and January-September 1998

Item	1994	1995	1996	1997	Jan.-Sept. 1997	Jan.-Sept. 1998
Capacity (*units per period*)	59,076	58,276	58,376	54,901	41,614	41,426
Production:						
Spinets and consoles (*units*)	33,127	30,751	25,782	21,821	16,211	16,371
Studios (*units*)	12,879	15,131	16,719	15,714	11,524	13,457
Total	46,006	45,882	42,501	37,535	27,735	29,828
Capacity utilization (*percent*)	78	79	73	68	67	72
Inventory						
Total (*units*)	11,156	11,869	12,449	6,430	7,070	7,400
Percent of production	24	26	29	17	25	25
Employment data:[1]						
Average number of employees for all piano operations	1,651	1,728	1,708	1,733	1,704	1,882
Production and related workers:						
Number	722	728	700	705	698	751
Hours worked (*1,000 hours*)	1,538	1,571	1,513	1,383	1,046	1,206
Wages paid (*1,000 dollars*)	12,674	13,419	13,591	13,120	10,279	10,987
Average hourly wage (*dollars*)	8.24	8.54	8.98	9.48	9.83	9.11
Productivity (*hours/unit*)[2]	41.1	39.4	39.0	36.9	37.7	40.4

[1]Although Kimball provided capacity, production, and inventory data, it was unable to provide employment data.
[2]Does not include Kimball production. Productivity is expressed as hours to produce one unit; therefore, productivity improves when this figure decreases.

Note.--Figures are understated because three small producers did not provide data. Inventory figures are end-of-period amounts. Because of rounding, figures may not calculate to the values shown.

Source: Compiled from data submitted in response to USITC questionnaires.

Much of the downturn in production reflects demand shifts away from smaller types of vertical pianos, especially spinets, which have been the most susceptible to digital piano substitution.[38]

The sharp drop in U.S. producers' inventory in 1997 was caused in large part by a change in marketing practices by Baldwin. Prior to 1997, the company offered a consignment program whereby dealers would take delivery of Baldwin pianos, but not pay for these pianos until sold (dealers did have to pay interest charges for these pianos). These pianos remained in Baldwin's inventory. In 1997, according to industry sources, Baldwin ceased this consignment program, and titles to currently consigned pianos were transferred to the dealers.[39]

[38] Ed Keefer, president, Story & Clark Pianos, interview by USITC staff, Seneca, PA, Jan. 14, 1999; and Jun Ando, vice president, and Brian Chung, general manager, Kawai America Corp., interview by USITC staff, Lincolnton, NC, Feb. 8, 1999.

[39] Stephen Brock, Baldwin Piano & Organ Co., response to USITC questions, facsimile from Bracewell & Patterson of Apr. 9, 1999; and Robert Jones, Samick Music Corp., interview by USITC staff, Feb. 12, 1999.

Productivity increased during 1994-97, demonstrating improvements in U.S. manufacturing equipment and the increasing use of automation at some U.S. producers' operations. However, productivity declines during January-September 1998 were likely caused by Samick's closure. Its plant involved fewer hours per unit than most U.S. producers because it had less extensive operations (the company used subassemblies imported from its parent company in Korea and cabinets made by Kimball in Indiana).[40]

Grand piano data on capacity, production, inventories, and employment show the same trends as vertical piano operations, but the declines were generally not as severe. In addition, productivity gains were more substantial.

Financial Condition

This section of the report provides information on the financial experience of the U.S. piano industry during calendar years 1995-97 and the interim nine months of 1997 and 1998. The information was obtained mainly through questionnaires sent to the firms, with additional material provided from staff discussions with company officials. Six producers provided financial data on their operations manufacturing acoustic pianos.[41] All six producers manufactured vertical pianos, while only three producers manufactured grand pianos.

Vertical piano operations

Information on U.S. producers' operations on vertical pianos is presented in table 4-16. To summarize, net sales values and net sales quantity steadily increased from 1995 to 1997 and from interim 1997 to interim 1998.[42] The cost of goods sold (COGS) decreased during 1995-96; however, COGS actually increased during this time period for all reporting producers except one. This producer introduced a lower priced model line with substantially less costs during this period that was designed to compete with low-priced Asian imports. In subsequent years, COGS increased as a result of steadily increasing raw material costs. One large producer reported increases in the cost of soundboards and plates during 1996-98.

Despite increasing sales, operating income and net income decreased from 1996 to 1997 and decreased from interim 1997 to interim 1998 because of increased COGS and selling, general, and administrative (SG&A) expenses. SG&A expenses may have increased as a result of efforts by U.S. producers to maintain market share by increased discounting and incentive practices, such as dealer rebates and various dealer incentives.[43]

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[40] Explanation of Samick's operations from Robert Jones, Samick Music Corp., interview by USITC staff, Feb. 12, 1999.

[41] Three of the six firms operated on a fiscal year basis other than a calendar year, and three firms had similar fiscal years. When the fiscal years of U.S. producers are different from calendar years, their financial data for fiscal years are presented in the calendar years that approximate their fiscal years; for example, financial data for the period from March 1995 through February 1996 was reported as 1995 financial data.

[42] These results do not reflect Kimball Piano Co., the U.S. producer that went out of business in 1996 and was unable to provide financial data.

[43] Baldwin prehearing brief, p. 3. Additional detail is provided in the pricing section of chap. 6.

Table 4-16
Vertical pianos: U.S. producers' financial results, fiscal years 1995-97, January-September 1997, and January-September 1998

Item	Fiscal year			Jan.-Sept.[1]	
	1995	1996	1997	1997	1998
	Quantity				
Net sales	35,065	39,438	40,851	28,881	29,099
	Value (*$1,000*)				
Net sales	81,607	88,748	95,275	68,121	70,175
Cost of goods sold	72,727	70,640	77,619	56,085	58,664
Gross profit	8,880	18,108	17,656	12,036	11,511
SG&A expenses	7,921	8,504	9,582	6,981	7,593
Operating income	959	9,604	8,074	5,055	3,918
Interest expense	1,135	1,430	1,572	1,174	1,072
Other expense	789	1,226	1,589	715	975
Other income items	1,490	1,479	927	830	437
Net income	525	8,427	5,840	3,996	2,308
Depreciation/amortization	834	1,039	1,129	734	706
Cash flow	1,359	9,466	6,969	4,730	3,014
	Value (*dollars per unit*)				
Net sales	2,327	2,250	2,332	2,359	2,412
Cost of goods sold	2,074	1,791	1,900	1,942	2,016
Gross profit	253	459	432	417	396
SG&A expenses	226	216	235	242	261
Operating income	27	244	198	175	135
	Ratio to net sales (*percent*)				
Cost of goods sold	89.1	79.6	81.5	82.3	83.6
Gross profit	10.9	20.4	18.5	17.7	16.4
SG&A expenses	9.7	9.6	10.1	10.2	10.8
Operating income	1.2	10.8	8.5	7.4	5.6
	Number of firms reporting				
Operating losses	1	0	0	0	1
Data	6	6	6	6	6

[1]One producer's interim data were based on the periods March-November 1997-98.

Note:--Kimball Piano Co. and 3 small producers were unable to provide financial data.

Source: Compiled from data submitted in response to USITC questionnaires.

Financial results on a per unit basis are also presented in table 4-16. Unit net sales value decreased from 1995 to 1996, reflecting the introduction of the lower priced model line noted above. Subsequently, unit net sales increased by a total of 7 percent during 1996-98. However, COGS and SG&A expenses per unit increased by 13 percent and 21 percent, respectively, during 1996-98, resulting in a decline of unit gross profit and operating income.

Selected cost data of the producers on their operations manufacturing vertical pianos are presented

in table 4-17. Total unit COGS declined during 1995-96 and increased thereafter through interim 1998. Raw materials accounted for more than 60 percent of the total of COGS in every period, reflecting the high portion of wood and cast-iron plate costs in piano construction. The decrease in raw materials costs from 1995 to 1996 resulted in an overall decrease of COGS. Total unit costs mirrored the trend of total unit cost of goods sold, decreasing from 1995 to 1996 and increasing from 1996 through interim 1998. The percentage of SG&A expenses to net sales value ranged from 9.6 percent in 1996 to 10.8 percent in interim 1998.

Table 4-17
Selected cost data for U.S. producers on their production of vertical pianos, fiscal years 1995-97, January-September 1997, and January-September 1998

(***Per unit***)

Item	Fiscal year			Jan.-Sept.	
	1995	1996	1997	1997	1998
Cost of goods sold (COGS):					
Raw materials	$1,387	$1,144	$1,198	$1,232	$1,268
Direct labor	244	235	256	264	272
Other factory overhead	443	412	446	446	476
Total COGS	$2,074	$1,791	$1,900	$1,942	$2,016
SG&A expenses:					
Selling	72	76	86	100	108
G&A expenses	154	139	148	142	153
Total SG&A expenses	$226	$216	$235	$242	$261
Total cost	$2,300	$2,007	$2,135	$2,184	$2,277

Note.--Because of rounding, figures may not add to totals shown.

Source: Complied from data submitted in response to Commission questionnaires.

Grand piano operations[44]

For U.S. producers manufacturing grand pianos, net unit sales value, unit COGS, and unit total cost all increased from 1995 through interim 1998. Operating income increased between 1995 and 1997 and between the interim periods, with a minor decline in 1996.

Capital expenditures, R&D expenses, and investment in productive facilities

The U.S. producers' capital expenditures and research and development (R&D) expenditures on vertical and grand piano operations, together with the value of their fixed assets, are presented in table 4-18. U.S. producers' capital expenditures decreased during 1995-96 and then increased in 1997. Capital expenditures in interim 1998 were considerably higher than in interim 1997, largely because of Baldwin's

[44] Providing detailed financial information on grand piano operations would reveal proprietary business data.

investment in a new polyester finishing plant and improvements to its supply chain.[45] Baldwin also invested substantially in previous years in more efficient production equipment and other improvements.[46]

Polyester finishing capability is an important competitive improvement in U.S. piano operations, although it is a recent development, especially compared with Japanese-based and other foreign producers that have had this capability since the 1980s. Baldwin's first shipments of polyester-finished pianos were in September 1998. Kawai also has had this capability since late 1995, when it invested in a plant in South Carolina. Pianos with this type of finish are popular in the domestic market. Further, export market potential is improved because these finishes are also popular in foreign markets.

R&D expenses steadily increased from 1995 to 1997, but slightly decreased during 1997-98. R&D expenditures averaged approximately $300,000 annually during 1995 through interim 1998. The original acquisition cost and net book value of fixed assets were steady over the period, approximately $58 million and $23 million, respectively.

Table 4-18
Capital expenditures, research and development (R&D) expenditures, and assets utilized by U.S. producers in their production of pianos, fiscal years 1995-97, January-September 1997, and January-September 1998

(*1,000 dollars*)

Item	Fiscal year			Jan.-Sept	
	1995	1996	1997	1997	1998
Capital expenditures	7,770	4,220	([1])	1,786	([1])
R&D expenses	([1])	308	357	297	284
Fixed assets:					
Original cost	55,139	57,953	57,368	59,206	58,774
Book value	23,502	24,571	23,391	24,236	23,422

[1]Suppressed to prevent disclosure of proprietary business data.

Source: Compiled from data submitted in response to Commission questionnaires.

[45] Transcript of the hearing, p. 18.
[46] Baldwin prehearing brief, pp. 10-11.

CHAPTER 5
GLOBAL MARKET OVERVIEW AND ASSESSMENT OF FOREIGN PIANO MARKETS

This chapter covers conditions in foreign markets that affect competition in the U.S. market and the ability of U.S. producers to compete in foreign markets. The chapter focuses on competitive conditions and supply and demand factors in China, the European Union (EU), Japan, and Korea; these countries are the principal suppliers of U.S. piano imports and are believed to be also the largest markets outside of the United States.[1] The chapter overview summarizes claims made by U.S.- and foreign-based firms concerning Asian tariffs and nontariff barriers, i.e., the issues of market access and factors that affect market access in the selected countries. Information about assertions concerning tariffs and nontariff barriers made by participants in the study and factors affecting nontariff barriers will be elaborated upon in this chapter for China, the EU, Japan, and Korea.

Little published information exists about the size of the global piano market, and industry representatives did not have a consensus view on the current size of markets and production levels in China, the EU, Japan, and Korea. World sales in leading markets were estimated to be 458,831 units in 1997. Of these, 399,191 were vertical pianos (87 percent of the market) and 59,640 were grand pianos (table 5-1).[2] Major differences exist in consumption patterns in the principal markets for vertical and grand pianos. According to one source, Korea was the largest single market for vertical pianos in 1997, followed by China, the United States, Japan, and the EU.[3] However, the largest grand piano market reportedly was the United States, which accounted for more than half of the grand pianos sold in the world. Japan was the second largest market, although it was less than half the size of the U.S. market. Another source estimated that sales of vertical pianos in China were the largest in the world in 1997 and 1998, amounting to 120,000 and 132,000, respectively.[4]

Industry sources noted a large decrease in the market for vertical pianos in Korea and Japan in 1998 as a result of the Asian financial crisis, and believed that growth in sales of verticals in China may have slowed simultaneously because of decreasing growth in real GDP.[5] One source estimated that the Korean and Japanese markets have contracted by 50 percent and 30 percent, respectively, since the beginning of the crisis. The size of the U.S. piano market increased slightly in 1998.

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[1] The piano market in Indonesia is insignificant, so it is not discussed in detail in this chapter. However, the country is a fast-growing supplier of U.S. imports because of Samick's plant. See app. E for information on Samick and on Yamaha's plant in Indonesia that supplies Asian markets.

[2] Fax submission to the U.S. International Trade Commission by *Music Trades*, Jan. 21, 1999; Paul Majeski, publisher, changed designation of contents of fax from confidential to nonproprietary business information Mar. 8, 1999. The estimate does not include countries with unit sales of less than 400 units.

[3] Ibid.

[4] Letter submitted by Will Leonard of Ablondi, Foster, Sobin & Davidow on behalf of Kawai of America, Jan. 22, 1999, p. 4.

[5] Officials of Baldwin Piano & Organ Co., interview by USITC staff, Jan. 12, 1999; officials of Young Chang America, Inc., interview by USITC staff, Feb. 10, 1999; officials of Yamaha Corporation of America, interview by USITC staff, Feb. 11, 1999; and Robert J. Jones, executive vice president and general manager, Samick Music Corp., interview by USITC staff, Feb. 12, 1999.

Table 5-1
Pianos: World sales, by type, country, and EU,[1] 1997

	Quantity (*units*)		
Country	**Verticals**	**Grands**	**Total**
Korea	105,509	([2])	105,509
United States	61,327	33,482	94,809
China	85,000	500	85,500
Japan	58,550	14,074	72,624
Germany	24,744	3,090	27,834
France	11,469	907	12,376
Italy	8,400	1,105	9,505
Hong Kong	8,322	775	9,097
Australia	5,977	1,244	7,221
United Kingdom	6,321	767	7,088
Canada	5,165	1,466	6,631
Malaysia	4,115	355	4,470
Spain	3,977	433	4,410
Switzerland	2,660	445	3,105
Philippines	1,977	421	2,398
Netherlands	2,165	225	2,390
Greece	1,433	195	1,628
Finland	1,200	100	1,300
Norway	880	56	936
Total	399,191	59,640	458,831
EU	59,709	6,822	66,531

[1]Includes only the EU-15 countries.
[2]Not available.

Note.--Total does not include markets with unit sales under 400 pianos per year. Because of rounding, figures may not add to the totals shown.

Source: *Music Trades*, prepared specially for USITC, Jan. 21, 1999.

Baldwin reported that it faced a general lack of access to markets in Asia because of tariff and nontariff barriers.[6] The firm said that China has particularly high tariffs and applies a value-added tax (VAT) on imported articles. However, the United States Trade Representative (USTR) reported that the VAT applies to both domestic and imported products.[7] Among nontariff barriers, one of the leading problems cited by Baldwin was strong relationships between independent piano dealers and the largest domestic piano producers in Korea and Japan. Baldwin said that these relationships made market penetration very difficult. The company stated that it cannot justify more U.S. capital investment to automate unless it gains greater access to Asian markets.[8] Baldwin noted that it now produces a 48-inch, polyester-finished vertical piano in the continental style that Asian customers favor.[9] The firm imports the cases from foreign suppliers for these pianos and for a 43-inch, polyester-finished vertical console model

[6] Officials of Baldwin, Jan. 12, 1999.

[7] USTR, *1999 National Trade Estimate Report on Foreign Trade Barriers* (Washington, DC: GPO, 1999), p. 54.

[8] Officials of Baldwin, Jan. 12, 1999; transcript of the hearing, pp. 11-13; and posthearing brief, Mar. 1, 1999, pp. 13 and 16.

[9] Baldwin, posthearing brief, p. 15. As noted in ch. 4, Baldwin announced shipments of its first pianos with polyester finish from its newly opened finishing operation in Sept. 1998. It introduced the finish on grands.

that it also exports.[10] Baldwin has sold this 48-inch, continental style with imported cases for about 5 years and this console model for more than 20 years.

Kawai, Samick, Yamaha, and Young Chang presented views contrary to Baldwin's assertion of barriers to market access.[11] Kawai, Yamaha, and Young Chang contend that American furniture-style vertical pianos made by the U.S. industry are not popular in Asia and Europe and that to be cost-competitive in Asia, Baldwin would have to produce pianos in low-labor-cost Asian countries as these foreign producers are doing in China, Indonesia, or both.[12] They noted that, even if the high tariff and VAT were eliminated in China, lack of a retail distribution system for pianos and the very low cost of Chinese-produced pianos would make it difficult for any imported piano to compete in that market. Further, Kawai and Yamaha reported that, in Japan, long-established and costly-to-build relationships, involving piano producer-owned music schools, have established ties and trust between Japanese customers and their companies. As a result, music schools and catalog sales are the principal marketing and sales techniques used in Japan's market compared with the retail dealerships relied on by U.S. manufacturers.

Kawai perceived vast differences in product quality and wage rates among the Asian producers, for example, Japanese wage rates exceed those of both other Asian countries and the United States.[13] Philosophies regarding automation also differ. Yamaha reported that the line between U.S. imports and U.S. production has blurred over the years as the industry imported more pianos to offer dealers a broader product line covering more price points.[14] U.S. and foreign companies are also "globalizing" their sources of parts and materials.

Local styles and tastes, which Yamaha does not regard as nontariff barriers, prevent a piano producer from selling one style in all world markets.[15] Yamaha suggested that Steinway may be the lone exception because of its unique, high-quality product. Thus, Yamaha and Kawai reported, they established production facilities in the United States to supply the U.S. market with American furniture-style vertical pianos, and they established plants in other markets, including China, to serve them with the appropriate style and priced piano.[16] Comparatively low labor costs, cheaper access to nearby lumber resources, lower transportation costs, and local tax incentives contributed to their decisions to invest in U.S. production facilities. Instead of investing in the United States, Young Chang and Samick supply the local Asian market from relatively new plants in China, and they ship low-end and price-sensitive, furniture-style vertical pianos to the United States from factories in China and Indonesia, where labor and certain raw material costs are lower than in Korea.[17] Foreign company profiles in appendix E include background on the foreign investments of each of these multinational piano producers.

All four of the leading Japanese and Korean producers have established production facilities in China in recent years to supply the market that each company expects to develop there. Although the

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[10] Frank Seta, vice president, music products, Baldwin Piano & Organ Co., interview by USITC staff, May 11, 1999.

[11] Representatives of state-owned Chinese companies did not participate in the Commission's investigation.

[12] Kawai, letter by Ablondi et al., Jan. 22, 1999, p. 3; Terry Lewis, corporate vice president/industry relations and general manager, Yamaha, interview by USITC staff, Feb. 11, 1999; Yamaha, transcript of the hearing, p. 133; and Yamaha, posthearing brief, Mar. 1, 1999, pp. 6-7; and Young Chang, posthearing brief, p. 2.

[13] Kawai America Corp., posthearing brief, Mar. 1, 1999, p. 3.

[14] Terry Lewis, Yamaha, Feb. 11, 1999.

[15] Ibid.; and posthearing brief, pp. 10-11.

[16] Terry Lewis, Yamaha, Feb. 11, 1999; and Kawai officials, Feb. 8, 1999.

[17] Young Chang officials, Feb. 10, 1999; and Robert Jones, Samick, Feb. 12, 1999.

continental-style pianos produced for the local markets in Japan and Korea are acceptable to Chinese consumers, relatively high production costs in Japan and Korea make pianos produced there prohibitively expensive for the vast majority of potential piano consumers in China.[18]

Japan

Overall Economic Conditions

Japan has the second-largest economy in the world and had served in the past as the major market for Asian countries for many products. Japan's economic recession occurred during the worst of the Asian financial crisis that began in mid-1997 and during the subsequent Asian economic crisis. Simultaneously, demand for pianos dropped sharply in Japan and Korea, and its growth slowed in China as well. The Japanese economy has experienced either stagnant or negative growth since the early 1990s. Estimated Japanese real GDP decreased by 2.8 percent during 1998, after having increased by 0.8 percent in 1997.[19] The full-year decrease is the first in a quarter century and marks the worst recession since the end of World War II.[20] The Organization for Economic Cooperation and Development (OECD) predicted a decline of 2.6 percent for full-year 1999.[21]

Consumer spending, which accounts for about 60 percent of the economy, continued to deteriorate in fourth quarter 1998 because corporations have cut jobs, wages, and capital expenditures.[22] Unemployment was at a record high in early 1999. Although orders for new homes were up, consumers in Japan have been so uncertain about the future that they have tended to save tax cuts rather than spend them. The export sector had produced one of the few favorable trends before the yen appreciated against the U.S. dollar in late 1998.[23] Up to that time, the weakness of the yen had made it relatively more difficult for Japan's trading partners in Asia (including China, Korea, and Indonesia) either to export to Japan or to compete with Japanese products in third-country markets than it would have been had Japan had a stronger currency.

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[18] Yamaha and Steinway have production facilities in the United Kingdom and Germany, respectively, to supply the European market. Yamaha also produces pianos in Taiwan and Indonesia. See app. E.

[19] Data for annual change in 1997 from Organization for Economic Cooperation & Development (OECD), "Gross Domestic Product," based on the data submitted by Japan as of Jan. 1999, found at Internet address http://www.oecd.fr/std/gdp.htm, retrieved Mar. 12, 1999. Data for annual change in 1998 from Sheryl WuDunn, "Japan Says Its Economy Shrank for Record 5th Straight Quarter," *New York Times*, Mar. 13, 1999, p. B2.

[20] Sandra Sugawara, "Japan's Economy Posts Another Down Quarter," *Washington Post*, Mar. 13, 1999, p. E1.

[21] Gillian Tett, "Japan: OECD Slashes Economic Forecast," *FT.com*, Oct. 29, 1998, found at Internet site wysiwyg://185//http://www.ft.com/specials98/q423a.htm, retrieved Mar. 17, 1999.

[22] Sugawara, "Japan's Economy Posts Another Down Quarter," p. E1.

[23] Stephanie Strom, "Yen's Rise Against Dollar is Threatening Japanese Exports," *New York Times*, Oct. 10, 1998, p. B1. According to several measures published by the International Monetary Fund (IMF), the value of the yen appreciated against the U.S. dollar during Sept. 1998-Jan. 1999, but depreciated again in Feb. 1999. IMF, *International Financial Statistics* (Washington, DC: IMF, Apr. 1999), p. 409. For an analysis of the yen/dollar rate from 1994 through Sept. 1998, see ch. 6.

Assessment of the Market

Size of the market

Japanese society reportedly places a high value on playing musical instruments, and children are encouraged to learn how to play the piano.[24] Industry sources characterize music education as being more culturally important in Japan and the rest of Asia than in the United States.

Total Japanese sales of pianos were estimated to be 72,624 in 1997, of which 58,550, or 81 percent, were verticals and 14,074 were grands (table 5-1).[25] Yamaha estimated that the market in Japan dropped from 73,000 pianos in 1996 to 53,000 units in 1998.[26] Various industry sources said that the Japanese piano market became saturated in the mid-1980s, prior to the adverse economic conditions experienced by Japan in the 1990s.[27] Kawai reported that Japanese industry realized the threat of overcapacity, causing a voluntary reduction of production.[28] Moreover, the aging of the Japanese population has negatively affected demand.[29]

Production, trade, consumption, and import penetration

Total Japanese production of pianos decreased annually from 177,000 units to 142,000 during 1993-96.[30] Japanese apparent consumption amounted to between 65,000 and 70,000 pianos in 1996,[31] with imports supplying about 7 percent of the Japanese piano market. Tables 5-2 and 5-3 show piano imports and exports for Japan.[32]

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[24] Kawai officials, Feb. 8, 1999; Kawai, transcript of the hearing, p. 87; and Terry Lewis, Yamaha, Feb. 11, 1999. See also Mary Jordan and Kevin Sullivan, "Letter from Japan: A Nation Takes Note of Music," *Washington Post*, Feb. 17, 1999, p. C1, which describes the great value placed on learning to play some musical instrument and to read music. Children are required to buy a small keyboard instrument called a keyboard harmonica (costing about $44) to help them learn to read music and to play. Special honor is accorded to Western classical music, with politicians and celebrities even holding classical music concerts for charity and groups of fans of 19th-century Western composers listening together to their music and traveling to their birthplaces.

[25] *Music Trades*, submission to USITC, Jan. 21, 1999.

[26] Terry Lewis, Yamaha, Feb. 11, 1999.

[27] Ibid.; Kawai officials, Feb. 8, 1999; and Kawai, transcript of the hearing, p. 88; and comments by Jai Sup Kim, chairman, Young Chang, as reported in "Young Chang in China: Advanced $40.0 Million Piano Plant Opens in Tianjin," *Music Trades*, Dec. 1995, p. 82.

[28] Transcript of the hearing, p. 88.

[29] Kawai officials, Feb. 8, 1999; and Terry Lewis, Yamaha, Feb. 11, 1999.

[30] *1997 Japan Statistical Yearbook*, p. 320; and *1998 Japan Statistical Yearbook*, p. 320 (sic), the most current year available.

[31] These data are calculated by adding Japanese imports and subtracting exports, assuming that all trade was new rather than used pianos. Thus these figures very likely understate the quantity of Japanese consumption for new pianos, because both imports and exports include used pianos. For reasons stated above, it is likely that Japanese exports have a larger share of used pianos than do imports.

[32] See app. F for Japanese trade of parts and accessories for pianos. These data reflect exports of parts and accessories to foreign subsidiaries of Kawai and Yamaha.

Table 5-2
Vertical and grand pianos: Japanese imports, by principal sources and by EU-15,[1] 1994-97 and January-September 1998

	Quantity (*units*)				
					Jan.-Sept.
Type and source	**1994**	**1995**	**1996**	**1997**	**1998**
Verticals:					
South Korea	4,146	4,449	2,410	1,083	565
North Korea[2]	998	1,009	739	1,518	527
Germany	137	210	334	285	198
Czech Republic	135	180	160	227	164
China	83	52	126	160	107
United States	500	115	163	446	62
Indonesia	0	2	3	199	44
Italy	66	113	67	112	38
All other	45	34	50	118	36
Total	6,110	6,164	4,052	4,149	1,741
EU-15[1]	213	351	443	450	269
Grands:					
Germany	419	413	343	419	217
South Korea	230	229	38	99	42
Austria	61	52	98	82	34
United States	85	154	75	50	17
Malaysia[3]	0	0	0	0	11
United Kingdom	33	34	14	23	6
All other	33	30	31	42	16
Total	862	912	599	715	343
EU-15[1]	466	510	461	541	263

[1]EU-12 for 1994 and EU-15 for all other time periods.
[2]Industry representatives could not satisfactorily explain the origin of these imports.
[3]No production of pianos is known to occur in Malaysia. These may be used pianos.

Note.--Because of rounding, figures may not add to the totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from Japan Tariff Association, *Japan Exports & Imports, Commodity by Country*.

Market dynamics[33]

Yamaha and Kawai produce virtually all pianos made in Japan.[34] Kawai asserted that labor costs for piano production are lower in the United States than in Japan and that access to financing is more readily available in the United States.[35] However, it is much easier to keep highly trained, skilled technicians in Japan. Further, industry sources indicated that some Japanese-made, piano-production

[33] See profiles of individual producers in app. E.

[34] Kawai officials, Feb. 8, 1999.

[35] Letter by Ablondi et al., Jan. 22, 1999, p. 6. *Music Trades*, Jan. 1, 1997, p. 155, reported that the total wage, benefits, and tax cost of a Kawai factory worker in Japan amounted to an average of $80,000 per year in 1996.

Table 5-3
Vertical and grand pianos: Japanese exports, by principal markets and by EU-15,[1] 1994-97 and January-September 1998

Type and source	Quantity (*units*)				
	1994	1995	1996	1997	Jan.-Sept. 1998
Verticals:					
United States	14,178	16,161	15,079	17,149	13,856
Taiwan	229	615	485	4,119	5,574
Hong Kong	4,249	4,509	5,719	5,569	4,458
Italy	1,601	2,296	2,768	4,498	3,552
Germany	5,083	5,184	5,813	4,438	3,374
Australia	2,763	2,740	2,788	3,825	2,851
Canada	2,482	2,166	1,768	2,350	2,180
France	2,110	2,268	2,287	2,306	1,783
Spain	1,159	2,202	2,116	1,917	1,752
United Kingdom	741	679	1,407	1,554	1,389
Singapore	1,578	1,769	2,276	1,687	1,220
Netherlands	1,239	1,063	1,723	1,899	1,112
Malaysia	2,447	2,646	2,902	2,723	1,023
Philippines	131	372	957	1,347	972
Finland	306	462	497	598	698
Belgium	157	389	518	877	665
Greece	574	685	897	938	596
Thailand	1,167	1,401	1,627	795	590
China	290	746	1,176	1,030	551
South Korea	179	180	531	613	445
All other	4,749	4,439	5,380	4,243	2,358
Total	47,412	52,972	58,714	64,475	50,999
EU-15[1]	12,764	16,006	18,924	20,089	15,545
Grands:					
United States	12,307	12,191	12,127	13,627	11,884
Germany	1,727	1,600	2,104	2,524	1,758
Taiwan	1,068	946	603	909	752
Italy	548	626	716	862	708
Canada	775	580	630	844	688
United Kingdom	274	335	614	685	620
France	500	506	433	619	603
Hong Kong	326	250	278	491	479
Australia	428	362	536	732	378
Spain	266	313	386	403	323
Philippines	84	128	193	279	135
Sweden	77	102	93	171	107
Singapore	186	194	205	229	98
Netherlands	390	212	178	144	98
Finland	62	42	91	126	62
Belgium	8	39	86	75	58
Malaysia	115	103	113	153	57
All other	895	994	1,085	1,103	558
Total	20,036	19,523	20,471	23,976	19,366
EU-15[1]	3,817	3,899	4,854	5,799	4,415

[1]EU-12 for 1994 and EU-15 for all other time periods.

Note.--Because of rounding, figures may not add to the totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from Japan Tariff Association, *Japan Exports & Imports, Commodity by Country*.

equipment is among the most efficient available.[36] Japanese machinery producers are located in a highly industrialized area within a few miles of the factories of Yamaha, Kawai, and other smaller producers in Japan.

Kawai stated that the musical quality of vertical pianos is the "primary competitive factor" in markets outside of the United States. In contrast, the firm declared that price and appearance largely influence the "intense competition" in the U.S. market.[37] Kawai stated that the average vertical piano sold in Japan is a higher quality musical instrument than that sold in the United States and is taller, at 50 inches or higher, and that no entry-level piano existed in Japan until recently because Japanese consumers typically purchased one piano to last a lifetime. In recent years, parents have bought digital or used pianos before trading up to a new piano if their children proved to be serious about lessons.[38] Kawai explained that Japanese parents often sell pianos to get more space when their children leave home, which contributes to the supply of used pianos in the domestic and export markets.[39]

One U.S. producer believed that Japanese manufacturers focus more on making pianos efficiently than on the quality of the sound.[40] Yamaha countered that there has been less consistent quality among U.S.-produced pianos than those produced in Japan, but that consistency of U.S. pianos has improved. Yamaha noted that its U.S.-based affiliate has produced pianos in Georgia for about a decade with consistent quality, comparable with Japanese production.[41]

Distribution system and its relation to customers

Yamaha and Kawai officials testified that sales of pianos occur mainly from catalogs and through door-to-door salesmen in Japan, rather than primarily through dealer networks as in the United States.[42] They described a system of relationships, based on generations of goodwill, that they have developed with Japanese consumers that improves their competitiveness in the market and makes market access by foreign competitors difficult.[43] These relationships include a network of more than 6,000 schools run by Yamaha to teach piano playing to children, a long tradition of compulsory music instruction in Japan, and encouragement to parents by Yamaha and Kawai to deposit money with them even before children are born to purchase a piano when the child is old enough to play.

Kawai claimed that the more consistent quality of production by Japanese manufacturers gave its consumers confidence to see samples of verticals on a floor and then to buy them from catalogs, either at

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[36] Terry Lewis, Yamaha, Feb. 11, 1999. Kawai said in its posthearing brief, pp. 3-4, that the firm pioneered advanced robotic manufacturing of pianos primarily to improve the precision, consistency, and quality of production, not to increase capacity and efficiency. Kawai said that piano-manufacturing machinery that it has designed and helped to be built by equipment builders has been sold by these companies to Chinese piano makers because Kawai does not control the machinery manufacturers. Kawai officials, Feb. 8, 1999.

[37] Letter by Ablondi et al., Jan. 22, 1999, p. 6.

[38] Transcript of the hearing, pp. 98-99. Kawai, posthearing brief, p. 3.

[39] Transcript of the hearing, p. 94.

[40] Charles R. Walter, chief executive officer and engineer, Walter Piano Co., interview by USITC staff, Jan. 13, 1999.

[41] Terry Lewis, Yamaha, Feb. 11, 1999.

[42] Kawai, transcript of the hearing, p. 83; and Yamaha, transcript of the hearing, pp. 131-132.

[43] Kawai officials, Feb. 8, 1999; Kawai, transcript of the hearing, pp. 83-85; Terry Lewis, Yamaha, Feb. 11, 1999; Yamaha, transcript of the hearing, p. 132; and Yamaha, posthearing brief, p. 11.

stores, through door-to-door salesmen, or at Kawai's piano schools.[44] Parents of students and adults taking daily or weekly piano lessons at the Kawai schools tend to buy Kawai pianos for their homes.[45] However, customers see, inspect, and play its grand pianos before buying. Kawai has "some retail outlets" for this purpose. In contrast, retailers in the United States must carry higher inventories and experience higher costs because U.S. customers want to see, touch, and compare pianos, thereby raising marketing costs above Japanese levels.[46]

Steinway reported that it does not have the same access to the Japanese market as domestic firms.[47] Until two years ago, Steinway had one dealer, its most successful in the world, that sold a high-end, concert grand piano to nearly every concert hall in Japan. This gave Steinway a market share of 1 percent to 2 percent, compared with its share of 7 percent of the U.S. piano market (roughly its share of other major markets). Steinway expected to raise its share of the piano market in Japan when it established a new subsidiary 2 years ago, which has engaged more than 20 dealers. However, Steinway has not been able to sign up any major dealers. Steinway reported that all of them are Yamaha dealers. Steinway expressed skepticism that these dealers are truly "independent" because they have not decided to sell "the most profitable line of pianos in the industry." Story & Clark also sells to a piano dealer in Japan that is unaffiliated with any Japanese manufacturers.[48]

Access to the Japanese Market for Imports

There are no duties on imports into Japan of pianos or piano parts and accessories.[49] However, several U.S. producers commented that access to the Japanese market is very difficult for foreign producers because Yamaha and Kawai, dominate the distribution network and both customers and dealers have strong loyalty to them.[50]

Kawai, Yamaha, and Young Chang believed that the reason Baldwin had not been able to export to Japan and Korea was not because of trade restrictions but because it had failed until recently to produce a studio-style piano taller than 48 inches with a polyester finish that Asian customers prefer because of the space constraints of small homes.[51] In contrast, the principal vertical piano sold in the United States is a console model, which accounts for less than 1 percent of sales in Japan.

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[44] Letter submitted by Will Leonard of Ablondi et al. on behalf of Kawai of America, Mar. 1, 1999, pp. 3 and 6. Kawai's president began using door-to-door salesmen during the 1950s. They complemented the schools that he had previously established to bring knowledge of Western music to Japan, to teach piano playing, to train teachers, and to train piano technicians to improve the quality of piano production. Company officials, Feb. 8, 1999; and transcript of the hearing, pp. 83-85.

[45] Transcript of the hearing, p. 85.

[46] Letter by Ablondi et al., Jan. 22, 1999, p. 6.

[47] Steinway, posthearing brief, Apr. 9, 1999, p. 2.

[48] Ed Keefer, Story & Clark, Jan. 14, 1999.

[49] Data for tariff year 1997 supplied to the USITC by the United Nations Conference on Trade and Development (UNCTAD). Parts and accessories entered under HS subheading 9209.91. Baldwin stated that vertical and grand pianos face a 1 percent ad valorem duty, citing the Asia-Pacific Economic Cooperation (APEC) database; no tariff year is given in the APEC database.

[50] Karen Hendricks, Baldwin, Jan. 12, 1999; Charles Walter, Walter Piano Co., Jan. 13, 1999; and Ed Keefer, president, Story & Clark Pianos, interview by USITC staff, Jan 14, 1999. For example, Baldwin asserted that "entrenched dealer leverage over retail sales precludes market access in Japan." Baldwin, posthearing brief, p. 15.

[51] Kawai, letter by Ablondi et al., Jan. 22, 1999, p. 3; Terry Lewis, Yamaha, Feb. 11, 1999, Yamaha, transcript of the hearing, p. 133, and Yamaha, posthearing brief, pp. 6-7; and Young Chang, posthearing brief, p. 2. Yamaha testified that this type of piano is "not the strong suit of domestic manufacturers" in the United States.

Kawai maintained that its market position in Japan results from its customers' strong bond of trust in the quality of Kawai products, rather than from any unspecified nontariff barriers to entry of pianos.[52] Kawai said it tried to export its American-style pianos from the United States to Japan, other Asian countries, and Europe, but failed because "the market was totally different."[53] Kawai established the South Carolina polyester-finishing facility in part to address this export market problem. However, the firm testified that the strength of the U.S. dollar made it difficult to export even pianos with this finish to Europe and other countries.[54] Kawai had established its North Carolina facility to make American-style uprights near the heart of the furniture industry to be abreast of the latest U.S. styles and to avoid exchange rate instability affecting "price-sensitive upright pianos."[55]

Yamaha reported that "no structural or governmental barriers to market access to Japan exist."[56] Yamaha testified that "merchandising, marketing, education, and product portfolio are the difficulties" faced by U.S. exporters to Japan.[57] The firm stated that the Japanese market requires a different business model in the sale and distribution of pianos than that used in the United States.[58]

Yamaha contended that the yen has strengthened during the past 12 months.[59] The firm further maintained that U.S. imports from Japan have become "more expensive" and that U.S. exports to Japan have become "less expensive."[60]

Korea

Overall Economic Conditions

Korea's real GDP decreased by an estimated 6.5 percent during 1998, in contrast with an increase of 5.5 percent in 1997, and growth of 7.1 percent during 1996.[61] The unemployment rate increased from 2.5 percent to 7.6 percent during 1996-98 and to 8.5 percent in February 1999.[62] The Korean piano market reportedly grew from almost zero in the late 1970s to a peak of about 250,000 pianos in the late 1980s, but has since declined to below 100,000 units in 1998 because of existing economic conditions.[63] Some recent reports suggest that the Korean economy may have stabilized somewhat since the depths of its

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[52] Kawai officials, Feb. 8, 1999; and transcript of the hearing, pp. 83-85.

[53] Transcript of the hearing, p. 86.

[54] Ibid., p. 91.

[55] Ibid., p. 100.

[56] Yamaha, posthearing brief, p.11.

[57] Transcript of the hearing, pp. 131-132.

[58] Yamaha, posthearing brief, p. 3.

[59] Ibid., p. 10.

[60] As noted above, IMF data show that the value of the yen against the U.S. dollar appreciated from Sept. 1998 to Jan. 1999 and depreciated in Feb. 1999. For an analysis of the yen/dollar rate from 1994 through Sept. 1998, see ch. 6.

[61] Organization for Economic Cooperation & Development (OECD), "Gross Domestic Product," based on the data submitted by member countries as of Jan. 1999, found at Internet address http://www.oecd.fr/std/gdp.htm, retrieved Mar 12, 1999.

[62] Elizabeth Olson, "Growth Forecast for South Korea; Recovery for Other Asian Nations Uncertain," *New York Times*, found at Internet site http://www.nytimes.com/yr/mo/day/news/financial/asia-econ.html, retrieved Mar. 17, 1999.

[63] Terry Lewis, Yamaha, Feb. 11, 1999.

financial crisis and may be undergoing recovery.[64] Reflecting this optimism, its stock market has been surging in early 1999, and the won has even strengthened recently against the U.S. dollar (figure G-2). Some predictions for the remainder of 1999 are optimistic. For example, one observer forecast real GDP growth of 2.5 percent in 1999.[65] However, another observer was more cautious, believing that a real recovery may not be taking place.[66]

Assessment of the Market

Size of the market

As in Japan, Korean society is reported to place a high value on music and the discipline associated with playing musical instruments, particularly the piano.[67] As a result, a relatively high proportion of Korean children are taught to play the piano. A Samick official reported that although piano ownership is a part of Korean culture, no company-sponsored educational program like that in Japan exists.[68]

Vertical piano sales in Korea were estimated to be 105,509 units in 1997, exceeding total sales to any other market (table 5-1).[69] However, Kawai, Samick, and Young Chang also reported that the size of the Korean piano market decreased significantly because of the Asian financial crisis.[70] Significant local demand in Korea and continued high tariffs on imported pianos enabled the emerging industry in Korea to achieve economies of scale in the 1980s without serious competition from foreign producers. By late 1995, the size of the piano market in Korea reportedly was twice the size of the U.S. market, even though the population of Korea is less than one-fifth that of the United States.[71] Young Chang estimated that up to 180,000 pianos were sold annually in Korea before the Asian financial crisis.[72] Samick estimated the market today to be 80,000-85,000 pianos, with 90 percent being verticals and 10 percent grands.[73] Samick predicts resumed strong growth of piano sales in Korea as the financial crisis subsides.

Production, trade, consumption, and import penetration

To calculate estimated Korean production of vertical pianos, the vertical sales estimate of 105,509 units in 1997 was adjusted for Korean imports and exports (tables 5-4 and 5-5).[74] This

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[64] Sheryl WuDunn, "South Korea's Mood Swings From Bleak to Bullish," *New York Times*, Jan. 24, 1999, sec. 1, p. 3.

[65] Olson, "Growth Forecast for South Korea."

[66] Neil Weinberg, "Symptom Therapy: Thanks to that IMF Transfusion, South Korea's Economy is Looking Healthier. Appearances Are Deceiving," *Forbes*, Jan. 11, 1999, p. 88.

[67] Citing comments by Jai Sup Kim, chairman, Young Chang, as reported in "Young Chang in China," p. 82; and Robert Jones, Samick, Jan. 4, 1999.

[68] He said that in order of priority for large consumer purchases, the piano ranks second behind a house and ahead of an auto. Robert Jones, Samick, Feb. 12, 1999.

[69] *Music Trades*, submission to USITC, Jan. 21, 1999. No estimate was made for grand pianos.

[70] Kawai, letter by Ablondi et al., Jan. 22, 1999, p. 6; Samick, transcript of the hearing, pp. 157-158; and Young Chang officials, Feb. 10, 1999.

[71] Jai Sup Kim, Young Chang, "Young Chang in China," p. 82.

[72] Young Chang officials, Feb. 10, 1999.

[73] Robert Jones, Samick, Feb. 12, 1999.

[74] Estimated sales are used in lieu of apparent consumption to calculate estimated production. Production is calculated by subtracting imports from, and adding exports to, estimated sales, assuming that all trade was new,

(continued...)

Table 5-4
Vertical and grand pianos: Korean imports, by principal sources, 1994-97 and January-September 1998

Quantity (*units*)

Type and source	1994	1995	1996	1997	Jan.-Sept. 1998
Verticals:					
Indonesia	0	0	0	618	835
Japan	153	231	491	451	375
China	167	31	[1]2,296	[1]3,217	34
United States	34	46	17	15	5
Hong Kong	0	3	1	[1]3,834	4
All other	3	3	23	11	4
Total	357	314	2,828	8,146	1,257
Grands:					
Japan	119	159	195	194	22
United States	18	31	24	32	19
Germany	21	30	26	24	11
All other	1	4	10	24	13
Total	159	224	255	273	66

[1]Believed to include piano parts. Charlie Won, executive vice president, Young Chang America, Inc., facsimile to USITC staff, Feb. 11, 1999.

Note.--Because of rounding, figures may not add to the totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from Korean Customs Administration, Korea Customs Research Institute, *Statistical Yearbook of Foreign Trade*, various issues.

adjustment resulted in estimated production of 112,000 verticals in 1997. Imports supplied an estimated 8 percent of apparent consumption of verticals.

Market dynamics[75]

Young Chang and Samick are the two largest producers in Korea, accounting for most domestic production.[76] Both firms have experienced financial problems in recent years. Young Chang entered into bankruptcy in October 1996 and emerged from it in August 1998. Samick entered into a workout agreement in 1998, a procedure just short of bankruptcy. Labor and all other costs of doing business are cited as having "risen dramatically" in Korea, causing Young Chang to build factories in China to

[74] (...continued)
rather than used, pianos. Thus, these figures very likely overstate the quantity of Korean production for new pianos because both imports and exports include used pianos. For reasons stated above, it is likely that Korean exports have a larger share of used pianos than do imports. See app. F for Korean trade of parts and accessories for pianos.

[75] See profiles of individual producers in app. E.

[76] Robert Jones, Samick, Feb. 12, 1999; and Thomas Miller, Young Chang, Feb. 10, 1999.

Table 5-5
Vertical and grand pianos: Korean exports, by principal markets, 1994-97 and January-September 1998

Quantity (*units*)

Type and source	1994	1995	1996	1997	Jan.-Sept. 1998
Verticals:					
United States	9,548	10,224	8,353	4,408	6,713
France	5,703	4,087	2,776	523	1,220
Hong Kong	2,673	3,994	2,613	1,538	1,191
Germany	3,300	2,332	2,225	1,254	842
Japan	4,249	4,309	2,550	802	744
Taiwan	1,652	1,656	724	571	525
United Kingdom	1,130	893	1,172	450	419
Australia	2,157	2,206	855	401	387
Canada	1,941	1,280	453	19	306
Italy	1,517	1,399	1,025	440	290
Spain	1,594	2,453	1,185	321	185
Singapore	876	706	563	391	157
Norway	468	510	359	245	142
China	121	1,669	7,109	1,215	133
Netherlands	2,271	1,772	1,702	430	133
All other	4,475	4,439	3,163	1,584	1,170
Total	43,675	43,929	36,827	14,592	14,557
Grands:					
United States	14,509	15,733	12,248	11,329	12,026
Canada	577	321	177	76	301
Hong Kong	179	316	322	226	207
United Kingdom	235	0	192	156	184
Germany	190	0	173	242	162
France	232	226	151	95	86
Netherlands	304	288	283	149	77
Czech Republic	0	0	99	59	65
Italy	215	236	215	74	54
Taiwan	109	77	80	45	49
Australia	156	163	140	86	42
All other	[1]907	[1]1,429	[1]608	[1]3,848	[1]292
Total	17,613	18,789	14,688	16,385	13,545

[1]Includes 231 grand pianos exported to Japan in 1994, 206 in 1995, 67 in 1996, 70 in 1997, and 41 in Jan.-Sept. 1998; and 3,390 to Brazil in Jan.-Nov. 1997.

Note.--Because of rounding, figures may not add to the totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from Korean Customs Administration, Korea Customs Research Institute, *Statistical Yearbook of Foreign Trade*, various issues.

produce pianos starting in 1995.[77] Reportedly, Korean companies are moving substantial amounts of their production from Korea to China (Young Chang and Samick) and Indonesia (Samick) because costs have increased too much in Korea to allow Korean pianos to remain competitive in world markets.[78] However,

[77] Remarks attributed to Jai Sup Kim, as reported in "Young Chang Commences Production of Grand Pianos in China," *Music Trades*, Jan. 1998, p. 41.

[78] Thomas Miller, Young Chang, Feb. 10, 1999; Robert Jones, Samick, Feb. 12, 1999; and Kawai, letter by (continued...)

Samick reported that Korean-made piano exports are still less expensive in any developed country's market than domestically made or imported pianos with comparable quality made in any developed country.[79] The company reported a "dramatic" increase in the quality of Korean-produced pianos during the past 30 years, making them competitive with Japanese, American, and European pianos. Samick said that certain features on its pianos often are available only on more expensive instruments, giving consumers more "value" for their money.[80] Samick testified that contrary to the views of some other producers, "pianos are fundamentally generic," making the principal factor influencing the difference between an expensive and inexpensive piano the time spent on labor-intensive tone and action regulation, which Korean firms do well.

Young Chang stated that it sold one-fifth of the pianos purchased in the world, indicating the competitiveness of its products in both the Korean and world markets.[81] Young Chang recently consolidated operations to improve the efficiency of its Korean and Chinese operations and the quality of its products to be more competitive, and it reports that productivity at its Korean facilities is higher than in China.[82] The firm said that workers in Korea are hard to lay off and strike every year for 2 weeks to renegotiate their contract. Company officials reported that the firm sold pianos in the United States, China, Canada, Korea, and the EU under its own brand, as well as supplying the brand labels of U.S. and European manufacturers, distributors, or both.

Samick stated that the firm realigned facilities and equipment among its facilities in Korea, China, and Indonesia to reduce costs and improve product quality to improve competitiveness during 1997-98. Moreover, Samick reported that vertical integration of its plants in Korea and Indonesia, along with a hiring freeze initiated in October 1996, helped to keep costs under control.[83] Samick sells pianos through more than 70 distributors located worldwide and has a sales department in Europe, with a branch in Germany.

Samick testified that the lower value of the Korean won and Indonesian rupiah against the U.S. dollar caused by the Asian financial crisis primarily reduced labor costs, but not significantly, and did not effect material costs. Materials are sourced globally, and costs are based on commodity prices set in world markets. Reportedly, direct labor hours needed to produce a vertical piano amount to so few (about 35)[84] as to have little effect on the total cost of production compared with labor costs in Arkansas and Mississippi, where Baldwin manufactures pianos. Samick alleged that overhead constituted the major difference between its cost structure and that of Baldwin, as represented in SG&A expense of 8 percent of net sales companywide for Samick and 22 percent for Baldwin.

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[78] (...continued)
Ablondi et al., Jan. 22, 1999, p. 6.

[79] Robert Jones, Samick, Feb. 12, 1999; and transcript of the hearing, pp. 163-164.

[80] Robert Jones, Samick, Feb. 12, 1999. For example, Jones said that Samick offers the sostenuto (middle) pedal on some lower priced grand pianos and that it is not technically difficult to install. However, Steinway and Baldwin, he alleged, prefer to offer this pedal only on higher priced grands.

[81] "The Young Chang Story," found at Internet address http://www.young.chang.com;ycstory/ycstory.html, retrieved Nov. 23, 1998.

[82] Young Chang officials, Feb. 10, 1999.

[83] Ibid.; and transcript of the hearing, pp. 149-151, 153, and 155-157.

[84] Robert Jones (Samick) used a figure of about 50 hours in his interview with the USITC staff, Feb. 12, 1999. Storey & Clark cited 32 hours at the hearing and suggested that labor costs explained the recent shift in production to China and Indonesia; component costs are basically the same for all U.S. producers. Transcript of the hearing, pp. 46 and 51-52.

Baldwin reported that the financial difficulties experienced by Young Chang and Samick, which the Asian financial crisis compounded by reducing Asian demand for pianos, put pressure on these firms to export low-priced pianos to the United States.[85] To support these allegations, Baldwin supplied reports prepared by Lehman Brothers in Korea concerning the financial condition of Young Chang's and Samick's parent firms, which showed the capitalization of both firms to be highly leveraged.[86] The reports on both firms showed a strategy to increase exports in both fiscal years 1998 and 1999 to compensate for decreased sales in the Korean market. Samick's exports as a share of total sales rose from 56.8 percent in fiscal year 1997 to 74.3 percent in fiscal year 1998, while Young Chang's exports of vertical and grand pianos increased by more than 100 percent and 45 percent, respectively.

According to one industry analyst, Korean pianos became more competitive with Chinese- and Japanese-produced pianos in the U.S. market because of the significant depreciation of the Korean won against the U.S. dollar during 1997.[87] The won then appreciated in 1998, but remained below its 1994-96 value (figure G-2). The narrower price gap between entry-level to midlevel Chinese pianos and similar Korean pianos had improved the competitiveness of Korean pianos, making them "an especially good value for the money at this time" (July 1998).[88] With regard to Japanese pianos, Korean competitiveness reportedly strengthened in the midlevel quality range.

Distribution system and its relation to customers

Samick testified that pianos are sold through independent dealers in Korea.[89] The firm noted that until recently, dealers usually sold only Samick or Young Chang pianos, but that some dealers now sell other models as well. Young Chang reported that Steinway has one large exclusive dealer in Korea.[90] Its officials noted that, in Korea, the Young Chang brand name is very familiar to Korean customers, and these officials compare it to General Electric's GE brand name in the United States.

Access to the Korean Market for Imports

The rate of duty on pianos imported into Korea is 8 percent ad valorem. The same rate applies to imports of parts and accessories for pianos (HS subheading 9209.91).[91] However, several U.S. producers commented that access to the Korean market is very difficult for foreign producers because Samick and Young Chang dominate the distribution network and dealers give them strong loyalty.[92] Samick pointed out

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[85] Officials of Baldwin, Jan. 12, 1999; and transcript of the hearing, pp. 8-10.

[86] I.e., the ratio of total debt to total capitalization was 68 percent for Samick Musical Instruments Manufacturing Co. and 59 percent for Youngchang (sic) Akki Co. Ryan Hong, "Overview of Samick Musical Instruments Manufacturing Co." and "Overview of Youngchang Akki Co.," Lehman Brothers, Mar. 9, 1999, pp. 1-4.

[87] As of July 1998, Fine, *1998-99 Annual Supplement*, pp. 1-2, http://www.tiac.net/users/pianobk/update.html.

[88] Ibid.

[89] Transcript of the hearing, pp. 163-165.

[90] Young Chang officials, Feb. 10, 1999.

[91] Data for tariff year 1997, supplied by Asia Pacific Economic Cooperation Council (APEC), "Economy Korea - Search results for tariff headings 9201 and 9209," found at Internet address http://www.apectariff.org/tdb.cgi/ff3139383336/apeccigi.cgi, retrieved Feb. 18, 1999.

[92] Karen Hendricks, Baldwin, Jan. 12, 1999; Charles Walter, Walter Piano Co., Jan. 13, 1999; and Ed Keefer, Story & Clark, Jan 14, 1999.

that foreign ownership of property is not prohibited in Korea, and U.S. firms could establish a distribution network.[93]

China

Overall Economic Conditions

China's real GDP grew by an estimated 7.8 percent in 1998, down from an 8.8-percent increase in 1997,[94] and followed the trend of slowing growth recorded in 1996 (9.6 percent) and in 1995 (10.5 percent).[95] The Chinese Government acknowledged such problems as "sluggish demand, poor performance of many enterprises," and unemployment and took steps to stimulate domestic demand.[96] Industrial production in 1998 increased by an estimated 8.8 percent to about $240 billion.[97] Consumer retail sales expanded less rapidly than GDP or industrial production, up by an estimated 6.8 percent, to about $350 billion in 1998. Although growth of the piano market in China has slowed as growth in real GDP has slowed in recent years, the size of the market reportedly had been growing very fast in prior years when the growth in real GDP was higher.[98]

The Chinese Government plans to continue to stimulate domestic demand, restructure state-owned enterprises, and expand exports in 1999.[99] Chinese imports decreased by an estimated 3.8 percent to $137 billion in 1998, while estimated exports remained at roughly the 1997 level, totaling $182 billion in 1998. Chinese exports for the first quarter of 1999 fell by 7.9 percent, compared with the same period in 1998.[100] The drop in Chinese exports may be attributable to a 9.1-percent decrease in shipments to Europe, reportedly attributed to the decrease in the value of the Euro currency against the dollar, to which the yuan is tied.[101] First quarter exports to the United States increased by only 8.4 percent, down from 16 percent growth for all of 1998.

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[93] Transcript of the hearing, p. 164.

[94] "China's Economy Grew by 7.8 Percent in 1998," prepared by the Embassy of the People's Republic of China-USA, Jan. 1, 1999, found at Internet address http://www.china-embassy.org/Cgi-Bin/Press.pl?1998growth, retrieved Mar. 17, 1999.

[95] "China: Economic Policy and Trade Practices Report (1997)," *1997 Country Reports on Economic Policy and Trade Practices*, submitted to Congress Jan. 1998, found at Internet address http://www.state.gov, retrieved Mar. 17, 1999.

[96] "China's Economy Grew," http://www.china-embassy.org/Cgi-Bin/Press.pl?1998growth.

[97] 2.012 trillion yuan converted, using 8.3 yuan per dollar.

[98] Terry Lewis, Yamaha, Feb. 11, 1999.

[99] "China's Economy Grew," http://www.china-embassy.org/Cgi-Bin/Press.pl?1998growth.

[100] Seth Faison, "China's Exports Fall 7.9%, Though Those to U.S. Grow: On the Positive Side, Imports Are Up 21%," *New York Times*, Apr. 13, 1999, p. C8.

[101] China has maintained its nominal exchange rate at 8.3 yuan to the dollar throughout the Asian financial crisis (see ch. 6 for a discussion of the real exchange rate). This helped to stabilize exchange rates among the countries in East Asia because they did not have to devalue or allow their currencies to depreciate in response to a Chinese devaluation, which would have made their products less competitive. Chinese state television reported in early 1999 that Prime Minister Zhu Rongji said the renminbi would not be devalued. World Briefing, "China: No Devaluation Seen," *New York Times*, Jan. 26, 1999, p. A8.

Assessment of the Market

Size of the market

Similar to Japan and Korea, "a national consensus that the piano is a highly desirable and sought-after possession" reportedly exists in China.[102] However, Samick stated that there are "no" retail musical instrument stores and "no" network of Yamaha-like music schools or lesson programs to promote sales of pianos in China.[103]

Total sales of pianos in China were estimated to be 85,500 units in 1997, of which 85,000, or 99 percent, were verticals.[104] In contrast, Kawai, a Japanese manufacturer, estimated a much higher figure for 1997, with the quantity of sales of vertical pianos growing from 120,000 in 1997 to 132,000 in 1998.[105] One Korean piano manufacturer, Young Chang, built a plant in China during 1995 reportedly because of its expectations of selling to a piano market of "nearly unimaginable size," with few used pianos available.[106] Company officials estimated that it would require 17 years of producing 60,000 pianos annually to supply one piano to each school in China. Representatives of several other foreign firms with production operations in China also stated that they established plants to have access to the expected large market in China.[107] An official of Yamaha estimated that China has 405 million households and that selling a piano to only 1 percent of these would amount to 4 million units, far surpassing annual sales to any other market and total world sales.[108]

Production, trade, consumption, and import penetration

Production in China may have exceeded an estimated 100,000 pianos in 1994.[109] Manufacturers reportedly were unable to keep up with demand, and customers had to wait as long as 10 months for delivery. Kawai estimated that total production of vertical pianos amounted to 143,000 units in 1997 and 170,000 pianos in 1998.[110] Chinese apparent consumption amounted to between 110,000 and 115,000 vertical pianos in 1997,[111] with imports supplying about 2 percent of the Chinese vertical piano market in 1997. This figure is somewhat higher than the *Music Trades* estimate of total sales in 1997, but close to Kawai's estimate of sales of verticals. Tables 5-6 and 5-7 show piano imports and exports for China.

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[102] "Young Chang in China," p. 80.

[103] Transcript of the hearing, p. 158.

[104] *Music Trades*, submission to USITC, Jan. 21, 1999.

[105] Letter by Ablondi et al., Mar. 1, 1999, p. 4.

[106] "Young Chang in China," p. 80. App. E discusses the high degree of economic vertical integration reported for this plant.

[107] Terry Lewis, Yamaha, Feb. 11, 1999; Samick, transcript of the hearing, pp. 150 and 166; and Young Chang, posthearing brief, p. 2, cited the potential large market as the "long-term reason" for producing in China.

[108] Terry Lewis, Yamaha, Feb. 11, 1999; transcript of the hearing, p. 143; and posthearing brief, p. 12, in which this figure was characterized as an "enormous" potential market.

[109] "Young Chang in China," p. 80.

[110] Kawai officials, Mar. 9, 1999.

[111] These data are calculated by adding Chinese imports to,and subtracting exports from, Kawai's production estimate, assuming that all trade was new rather than used pianos. Because few used pianos are believed to be exported from, or import into, China, this assumption should not greatly distort the estimate.

Table 5-6
Vertical and grand pianos: Chinese imports, by principal sources, 1994-97

	Quantity (*units*)			
Type and source	**1994**	**1995**	**1996**	**1997**
Verticals:				
Japan	249	1,417	1,361	1,379
North Korea[1]	0	0	21	103
South Korea	95	615	164	78
Hong Kong	58	101	53	74
All other[2]	1,071	413	77	14
Total	1,473	2,546	1,676	1,648
Grands:				
Japan	169	159	179	339
Hong Kong	8	21	84	51
Korea	1	30	143	43
United States	2	2	2	3
All other	379	42	4	2
Total	559	254	412	438

[1]Industry representatives could not satisfactorily explain the origin of these imports.
[2]Includes 3 vertical pianos imported from United States in 1994, 37 in 1995, and 42 in 1996.

Note.--Because of rounding, figures may not add to the totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from Economic Information & Agency, Hong Kong, *China Customs Statistics Yearbook*, 1994-96; and United Nations annual microfiche, *Trade of China in terms of HS-1988 for 1997.*

Market dynamics[112]

State-owned factories, led by Guangzhou Pearl River, make most of the pianos sold in the Chinese market. Most pianos sold in China are lower priced products that do not meet the quality standards required to be sold in developed-country markets. Several other state-owned manufacturing companies in China have joint ventures or production contracts with foreign producers, distributors of pianos, or both. The operations of certain state-owned companies and Chinese production by Young Chang and Yamaha supply almost all piano exports to the United States. Samick's plant in China makes pianos exclusively for the Chinese market.[113]

[112] Profiles of individual producers are provided in app. E.

[113] Robert Jones, Samick, Feb. 12, 1999.

Table 5-7
Vertical and grand pianos: Chinese exports, by principal markets and by EU-15,[1] 1994-97

Quantity (*units*)

Type and source	1994	1995	1996	1997
Verticals:				
Hong Kong	58	101	53	4,882
United States	1,333	2,721	2,517	4,854
France	2,913	1,954	2,844	2,995
Italy	706	1,830	1,273	2,414
United Kingdom	943	1,548	1,959	2,125
Netherlands	1,674	1,705	1,581	2,102
Macau	2,878	2,056	1,885	1,994
Spain	573	1,410	1,113	1,941
South Korea	355	71	2,403	855
All other	[2]5,210	[2]7,035	7,499	[2]7,445
Total	16,643	20,431	23,127	31,607
EU-15[1]	7,700	10,221	10,651	13,777
Grands:				
United States	13	72	189	336
Hong Kong	24	42	16	212
Finland	0	0	0	50
Macau	5	2	2	45
Italy	0	19	103	32
France	0	0	0	14
Canada	56	16	2	9
United Kingdom	0	48	81	8
Netherlands	0	113	195	3
Japan	23	10	13	1
All other	63	127	66	90
Total	184	449	667	800
EU-15[1]	2	182	395	111

[1]EU-12 for 1994 and EU-15 for all other time periods.
[2]Includes 9 vertical pianos exported to Indonesia in 1994, 48 in 1995, and 26 in 1997.

Note.--Because of rounding, figures may not add to the totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from Economic Information & Agency, Hong Kong, *China Customs Statistics Yearbook*; 1994-96, and United Nations annual microfiche, *Trade of China in terms of HS-1988 for 1997.*

Baldwin reported that recent investments in new factories and equipment in China by Korean and Japanese piano producers provided those plants with highly automated operations and excess capacity, requiring them to export to the United States after the Asian financial crisis decreased demand in Asia, where they had planned to sell some of these pianos.[114] Young Chang reported that its Chinese plant exported only a small share of its production of verticals to the United States.[115] However, it exported most of its grands to the United States. Samick testified that only Young Chang has "real significant" warranty and market support for Chinese-made pianos in the U.S. market;[116] however, Samick predicted that other independent Chinese producers will establish their own U.S. branches to sell pianos that will make them "formidable competitors."

[114] Officials of Baldwin, Jan. 12, 1999; and transcript of the hearing, pp. 8-9.

[115] Young Chang officials, Feb. 10, 1999.

[116] Transcript of the hearing, p. 167.

Yamaha established a partnership with Guangzhou Pearl River, with no great expectations of profit now, because it decided that a foreign firm has to have a Chinese partner and must invest now to be "at the party" later.[117] Yamaha produces at a separate factory called Yamaha Pearl River and sells the output mainly in China and the Asian market because Yamaha's "first focus is on the Chinese domestic market."[118] Yamaha testified that its joint venture restricts exports from its Chinese factory. A small number of verticals produced in this factory were exported to the United States and sold under the Eterna brand name. Yamaha viewed production at Guangzhou Pearl River's main facility that is exported to the United States as competing with the Yamaha brand because the Chinese firm tries to associate its products with the Yamaha brand. Yamaha Pearl River also exported small amounts to the EU, where it has been more successful because the continental-style cabinet sells better there.

Kawai said that the firm has a licensing agreement with a Chinese firm to produce pianos in China for the local market and the rest of Asia because prices of pianos sold in China and their costs of production are so much lower.[119] Kawai also wants to establish its brand name recognition in China. It does not plan to export these pianos to the United States, pointing out that although the Chinese factory uses considerable automation, the workers have not had the years of experience needed to produce an instrument that rises above "satisfactory" to "special" in musical quality. In addition to market access, Kawai, Samick, Yamaha, and Young Chang invested in China to take advantage of the low labor costs compared with Japan and Korea.[120]

Conflicting information has been supplied about the current productivity and quality of the Chinese workforce. One U.S. producer, who had recently visited Chinese producers, said that although the workforce was good, the wood drying and gluing/pressing techniques needed to be improved.[121] Recently, Samick raised concerns about the productivity of workers in China.[122] Lower labor costs partly offset Chinese productivity, which is lower than that of Korea or Indonesia. Young Chang indicated that production capacity is very flexible in China because staff can be easily hired and laid off; however, workers reportedly are harder to train in China, both for vertical and for grand production, but much more so for grands.[123] Consequently, Young Chang has had some serious problems with the quality of the pianos produced in China. The firm has taken steps to address them. As part of transferring its production technology to China, Young Chang provided training in Korea for workers from its plant in Tianjin, China, which is a 28-hour ferry ride from its plant in Inchon, Korea, a factor that the firm cited as being important to its decision to locate there.[124]

Conflicting information has been presented about the availability and quality of raw materials in China. Recently, Samick testified that the quality of wood and other materials did not meet its standards,

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[117] Terry Lewis, Yamaha, Feb. 11, 1999.

[118] Ibid.; and transcript of the hearing, pp. 128 and 143-144.

[119] Transcript of the hearing, pp. 101-102 and 116; and Kawai officials, Feb. 8, 1999.

[120] Kawai officials, Feb. 8. 1999; Robert Jones, Samick, Feb. 12, 1999; Terry Lewis, Yamaha, Feb. 11, 1999; Thomas Miller, Young Chang, Feb. 10, 1999; and Young Chang, posthearing brief, p. 2, reported that the major short-term reason that it invested in China was the low labor cost.

[121] Ed Keefer, Story & Clark, Jan. 14, 1999.

[122] Robert Jones, Samick, Feb. 12, 1999; and transcript of the hearing, pp. 158 and 165-166.

[123] Young Chang officials, Feb. 10, 1999.

[124] "Young Chang in China," p. 84. The article also reported that Tianjin has a large Korean-speaking population who can communicate easily with Korean factory managers. The Korean speakers and the short distance to Korea, Young Chang stated, gave it an advantage over companies from Japan that would want to establish production facilities in China.

forcing it to import them.[125] Yamaha reported that most of the spruce used is from China, although it has wider grain and is of lower quality than the North American spruce used to produce piano soundboards in Japan, Korea, and the United States.[126] But, Yamaha said, most piano buyers cannot distinguish between the quality of the sound produced by pianos made of Chinese and U.S. spruce. In contrast, in 1995, Young Chang stated that "in China, unlike Korea and Japan, you have access to raw materials required for building pianos."[127] One U.S. producer, who had recently visited Chinese producers, said that China's producers have abundant cheap labor and that all materials are available in China.[128]

Manufacturers in China import equipment, components, and technical expertise from the EU, Japan, Korea, and the United States to improve efficiency and the quality of the pianos produced.[129] Yamaha stated that a foreign firm can export and supply the Chinese market in exchange for the technology it brings to Chinese companies.[130] Kawai, Yamaha, and Young Chang reported that they have highly automated facilities in China.[131]

Yamaha stated that some Chinese pianos from state-owned factories recently sold in the United States at pre-1980s price levels, $800-$1,000 retail.[132] They have a perceived lower quality, but the quality has improved dramatically in the last few years. When introduced at the Frankfurt, Germany, music show in the mid-1980s, Yamaha indicated that the Chinese pianos were very crude, sometimes falling apart on the floor. One U.S. producer also said that its piano imports from China had shown a big improvement in quality in the last few years.[133] This producer negotiated with China's Dongbei Piano Company, which wanted to sell its piano operations, but did not purchase the company reportedly because Chinese banks are not allowed to lend to U.S. companies for acquisition purposes. This producer stated that Chinese verticals have become so competitive in the U.S. market during 1997-98 that his firm will never be able to produce as many verticals as it did prior to 1998.[134]

According to Fine, producers in China only became competitive in the U.S. market during 1996-98.[135] Prior to that, the pianos had too many gross defects to be taken seriously. Reportedly, a combination of foreign assistance in investment and training through a joint venture with the Chinese Government improved the quality. Fine indicates that "most" of the new manufacturing capacity was supplying pianos to the newly emerging middle class in China, with only a "smaller" share going to the United States and other markets. Fine reported that pianos headed for the U.S. market are aimed at customers who would normally buy an inexpensive used piano. However, he cautioned that the quality is not consistent.

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[125] Robert Jones, Samick, Jan. 4, 1999; and transcript of the hearing, p. 166.

[126] Terry Lewis, Yamaha, Feb. 11, 1999.

[127] Citing comments by Jai Sup Kim, Young Chang, as reported in "Young Chang in China," p. 86.

[128] Ed Keefer, Story & Clark, Jan. 14, 1999.

[129] See, for example, Fine, *1998-99 Annual Supplement*, p. 18, http://www.tiac.net/users/pianobk/update.html.

[130] Terry Lewis, Yamaha, Feb. 11, 1999.

[131] Ibid.; Kawai officials, Feb. 8, 1999; and Thomas Miller, Young Chang, Feb. 10, 1999.

[132] Terry Lewis, Yamaha, Feb. 11, 1999.

[133] Ed Keefer, Story & Clark, Jan. 14, 1999.

[134] Ibid.; and transcript of the hearing, pp. 55 and 59-60.

[135] Fine, *1998-99 Annual Supplement*, pp. 1-2, http://www.tiac.net/users/pianobk/update.html.

Distribution system and its relation to customers

Kawai reported that its licensing agreement allowed it to use "the sales network that already existed" for its Chinese partner.[136] Samick found only a few distributors selling pianos, leading the company to sell directly from its factory.[137] Further, Samick stated that business will be "very very difficult and erratic" until China develops a retail infrastructure in which the firm can train its sales and marketing team.

Access to the Chinese Market for Imports

China imposes a duty of 30 percent ad valorem on piano imports. Parts and accessories for pianos (HS subheading 9209.91) enter at 20 percent ad valorem.[138] Baldwin and Kawai also reported that a VAT of 17 percent is collected on imported articles. Baldwin concluded that the combination of the tariff and VAT made imported pianos noncompetitive with Chinese-produced pianos. However, as noted earlier in this chapter, the VAT applies to both domestic and imported products.[139] Young Chang stated that there are no special barriers to selling in China.[140] However, Young Chang believes that although its sales in China are growing, the size of its market is narrow because it sells one of the more expensive pianos in China. The Tianjin-made Young Chang pianos are sold in China for about the same price as Yamaha brand pianos made at the Yamaha-Pearl River joint venture in Guangzhou. Chinese manufacturers, Shanghai Piano and Beijing Piano Company, compete with Young Chang in the lower price points. Kawai said that the added cost of producing pianos outside, and importing them into, China would have made the pianos too expensive for the Chinese market.[141] Yamaha believes that the best way to penetrate the Chinese market is to find a Chinese partner, as it did.[142]

European Union

Overall Economic Conditions

Estimated EU real GDP grew annually, up by 2.9 percent during 1998, by 2.7 percent in 1997, and by 1.7 percent during 1996.[143] Growth rates increased in some EU markets during 1996-98, but declined in others. In anticipation of adoption of the euro currency on January 1, 1999, most EU members pursued economic policies aimed at reducing budget deficits while keeping interest rates low. Jobless rates, averaging about 12 percent for the EU as a whole, did not decline much during 1998.

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[136] Transcript of the hearing, pp. 101-102.

[137] Robert Jones, Samick, Feb. 12, 1999; and transcript of the hearing, pp. 158 and 165-166.

[138] Data for tariff year 1997 supplied to the USITC by UNCTAD. Baldwin, citing the APEC database for tariff year 1996, and Kawai, citing the U.S. Dept. of Commerce's Trade Information Center, reported a 40 percent ad valorem tariff on imports of verticals and grands. Kawai stated that parts and accessories for pianos face a 30 percent ad valorem rate of duty. Baldwin, posthearing brief, Mar. 1, 1999, pp. 13-14; and Kawai, posthearing brief, Mar. 1, 1999, p. 2. China reportedly had "prohibitive duties (that) are guaranteed to keep imported pianos beyond the means of the average consumer" in 1995. "Young Chang in China," p. 80.

[139] USTR, *1999 National Trade Estimate*, p. 54.

[140] Young Chang officials, Feb. 10, 1999.

[141] Kawai officials, Feb. 8, 1999.

[142] Transcript of the hearing, p. 11.

[143] Organization for Economic Cooperation & Development (OECD), "Gross Domestic Product" based on the data submitted by member countries as of Jan. 1999, found at Internet address http://www.oecd.fr/std/gdp.htm, retrieved Mar 12, 1999.

Assessment of the Market

Size of the market

Total sales of pianos in Europe, in countries with unit sales above 400, were estimated to be 70,572 pianos in 1997 (table 5-1).[144] Of this amount, 63,249, or 90 percent, were verticals and 7,323 were grands. In 1998, the European market amounted to an estimated 90,000 pianos annually, with 10 percent grands, according to an official of one leading European manufacturer.[145] Yamaha, which has operations in Europe, estimated that the EU market is probably about 20 percent smaller than the U.S. market, making it about 75,000-80,000 pianos, although the EU's many niche producers make accurate numbers hard to estimate.[146]

Production, trade, consumption, and import penetration

Estimated sales of pianos of 70,572 units in 1997 were used in lieu of apparent consumption to estimate EU production by adjusting for imports and exports (tables 5-8 and 5-9),[147] which amounted to 50,000 pianos in 1997.[148] Imports supplied an estimated 45 percent of EU apparent consumption of pianos.

Market dynamics[149]

An official of Schimmel stated that although Asian producers sell notable amounts in the European market, they do not pose much of a threat to European producers because most European producers manufacture higher quality pianos than the imports.[150] In contrast, the German musical instrument association, Bundesverbandes der Deutschen Musik-instrumenten-Hersteller, reported that its piano-producing members faced "stiff price competition, mainly from Asian competitors" during 1998 in a stagnant market.[151] Firms that report to the association export about half their sales, but experienced drops in sales to Asia because of the financial crisis there. Some of these lost sales were offset by increased sales to the United States and prospering countries in the EU. Total sales by the association's members were about 11,000 vertical pianos and 3,000 grands in 1998, a decrease of 6 percent from 1997.

Pianos made in Germany, Austria, and Italy often have a reputation for high quality and craftsmanship.[152] In contrast, pianos from Russia and Eastern Europe reportedly experienced a lack of good-quality materials, production equipment, or both, caused by economic problems in recent years.

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[144] *Music Trades*, submission to USITC, Jan. 21, 1999.

[145] Nicholas Schimmel, Wilhelm Schimmel Pianofortefabrik GmbH, Friedrich Seele Str. 20, Braunschweig, Germany, interview by USITC staff, Jan. 19, 1999.

[146] Terry Lewis, Yamaha, Feb. 11, 1999.

[147] See app. F for EU trade of parts and accessories for pianos.

[148] Sales are adjusted by subtracting EU imports and adding exports and assuming that all trade was new rather than used pianos to estimate production. Because few used pianos are believed to be exported from, or import into, the EU, this assumption should not greatly distort the estimate.

[149] See app. E for information about individual foreign producers.

[150] Nicholas Schimmel, Wilhelm Schimmel, Jan. 19, 1999.

[151] Robert Koenig, "German Musical Instrument Industry Orchestrates Export Growth Crescendo," *Journal of Commerce Online*, Mar. 16, 1999 (sic), found at Internet address http://www.joc.com/issues/current/t1rade/e37042.htm, retrieved Mar. 15, 1999.

[152] Fine, *Piano Book*, pp. 74 ff.

Table 5-8
Vertical and grand pianos: EU-15[1] imports, by principal sources, 1994-97 and January-June 1998

Quantity (*units*)

Type and source	1994	1995	1996	1997	Jan.-June 1998
Verticals:					
Japan	13,029	15,079	17,137	1,959	9,886
China	6,989	9,241	11,918	1,550	7,637
Czech Republic	8,754	8,984	7,388	6,847	3,120
South Korea	16,068	14,782	11,319	5,174	1,544
Poland	2,920	3,765	3,717	3,512	1,172
Indonesia	0	0	66	1,138	562
Belarus	3,693	4,091	1,260	1,337	466
Switzerland	0	846	1,013	851	427
Ukraine	4,080	4,203	237	1,076	386
Russia	3,413	2,945	1,044	630	171
United States	341	426	712	337	146
All other	2,870	1,537	1,308	1,136	408
Total	62,157	65,899	57,119	25,547	25,925
Grands:					
Japan	3,471	3,210	3,988	4,468	2,497
South Korea	1,256	1,188	1,085	643	278
Czech Republic	380	334	273	290	198
China	7	97	39	101	125
United States	68	56	64	163	112
Poland	32	71	141	177	97
Switzerland	116	103	130	132	56
Latvia	4	8	6	8	9
Estonia	3	8	9	16	8
All other	155	96	51	28	33
Total	5,492	5,171	5,786	6,026	3,413

[1]EU-12 for 1994 and EU-15 for all other time periods. EU countries have been excluded.

Note.--Because of rounding, figures may not add to the totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from data from Statistical Office of the European Communities (EUROSTAT), Comext CD-ROM.

These pianos have been price-competitive, entry-level instruments because lower cost labor has offset inconsistent workmanship.

An industry source reported that Europeans are very selective and primarily purchase a piano based on touch and tone.[153] Homes are smaller than in the United States, causing Europeans to prefer a taller upright-style, although shorter in height than that common in Japan, and a "very boxy," little-decorated style. More attention has to be paid by European manufacturers to the details of the cabinet finish. This source said that the strength of the U.S. dollar against European currencies made exporting from the United States difficult. Moreover, a piano made in Japan is preferred to one made in the United States.

[153] Kawai officials, transcript of the hearing, pp. 90-92; and Kawai officials, Feb. 8, 1999.

Table 5-9
Vertical and grand pianos: EU-15[1] exports, by principal markets, 1994-97 and January-June 1998

Quantity (*units*)

Type and source	1994	1995	1996	1997	Jan.-June 1998
Verticals:					
Switzerland	2,263	1,770	1,437	1,441	606
United States	1,395	1,140	438	4,558	371
Hong Kong	465	523	441	584	188
Japan	260	496	598	440	164
Norway	121	278	193	302	126
Turkey	64	38	61	111	122
China	5	0	1	34	53
Czech Republic	25	65	34	91	49
Singapore	295	286	217	241	47
Venezuela	11	0	0	14	45
All other	2,829	1,962	2,179	1,366	241
Total	7,733	6,558	5,599	9,182	2,012
Grands:					
United States	429	414	450	465	287
Japan	425	401	496	579	122
Switzerland	217	279	246	233	91
Singapore	37	37	42	61	28
Hong Kong	18	30	38	52	24
Norway	9	20	40	39	21
Czech Republic	9	3	13	10	14
Slovenia	23	74	36	26	13
South Korea	25	31	27	22	11
All other	368	266	258	297	108
Total	1,560	1,555	1,646	1,784	719

[1]EU-12 for 1994 and EU-15 for all other time periods. EU countries have been excluded.

Note.--Because of rounding, figures may not add to the totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from data from Statistical Office of the European Communities (EUROSTAT), Comext CD-ROM.

Distribution system and its relation to customers

Young Chang reported that the distribution system in the EU differs from that in the United States.[154] Germany does have about 100 independent dealers, but the other countries operate through exclusive distributorships. Samick reported having a sales department in Europe, with a branch in Germany.[155]

Access to the European Market for Imports

The rate of duty on imports of vertical pianos into the EU is 4.7 percent ad valorem, and the rate on grand pianos is 4.9 percent ad valorem. Parts and accessories for pianos (HS subheading 9209.91)

[154] Young Chang officials, Feb. 10, 1999.

[155] Transcript of the hearing, p. 153.

enter at 3.6 percent ad valorem.[156] No barriers to entry to the EU market were identified other than Europeans' preference for continental-style pianos with a high-gloss finish, rather than American furniture-style pianos that U.S. manufacturers specialize in making, and this is not a barrier, per se.

[156] Data for tariff year 1997 supplied to the USITC by UNCTAD.

CHAPTER 6
STRENGTHS AND WEAKNESSES OF U.S. AND FOREIGN PRODUCERS

In this chapter, the strengths and weaknesses of U.S. piano producers versus the principal producers in China, Indonesia, Japan, and Korea are analyzed as they relate to competition in U.S. and foreign markets. The first two sections of this chapter assess the change in competitive conditions in the piano industry and describe the methods that producers use to compete. Subsequent sections assess the relative advantages of U.S. and foreign producers regarding 12 factors of competition. The chapter concludes with an analysis of the effects of currency fluctuations.

Conditions of Competition

Competition has intensified in the U.S. piano market since the early 1990s.[1] Although retail sales have expanded since 1997 as a result of the combination of favorable factors mentioned earlier, the conditions faced by most of the U.S. industry became increasingly unfavorable during 1994-98. This was particularly true regarding competition with imports from China and Indonesia at the lower end of the market.

U.S. piano producers were asked to report any adverse effects to their firms from imports of pianos and. Four firms reported lower profits and sales, inability to attain financing, lower credit rating, unabsorbed overhead, and cancellation or rejection of expansion projects as the negative causalities from piano imports, while four of the eight respondents indicated no negative effects.[2] One of the firms claiming negative effects stated that diminished production due to lower sales resulted in layoffs during the peak piano production and sales season in 1998.

Regarding the future, four U.S. producers indicated no anticipated negative impact from imports of pianos. However, the other four respondents anticipated potential negative impacts affecting the U.S. piano industry. Lower sales, prices, and profits, along with reduced capital spending, were some of the potential consequences identified by producers with the continuance of piano imports.

Story & Clark stated that it has cut vertical piano production by two-thirds as a result of increased lower-cost vertical piano imports and will not likely return to previous production levels because of problems finding and training employees.[3] The company plans to concentrate on other products, including electronic piano-playing systems and grand pianos.[4]

Walter Piano Co. also had to curtail operations in 1998. This company stated that it laid off employees and plans to increase production of grand pianos because of increasing competition from lower cost Asian vertical pianos.[5]

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[1] Compiled from responses to USITC questionnaires.

[2] Ibid.

[3] Transcript of the hearing, pp. 48 and 68.

[4] Ibid., pp. 49 and 66.

[5] Walter Piano Co. representative, interview by USITC staff, Jan. 13, 1999.

Competition at the Retail Level

Since most of the dealers in the United States offer a variety of models in both domestically produced and imported pianos, manufacturers often compete at the same dealership. The reduction in the number of retail outlets[6] combined with a growing variety of pianos sold has increased competition at dealerships across the country.[7] Many dealers sell both new and used pianos. An industry representative noted that prices advertised on used pianos often serve as a leader to entice customers into the store and provide the opportunity to sell them a new piano.[8]

In the late 1980s, new methods of retailing, called "event sales" and "academic sales" were introduced. These methods were designed to remove excess inventories. The event sales take place at locations such as an armory, stadium parking lot, or hotel ballroom. The academic sales take place at a college or university that advertises the sale of its used pianos in the local newspaper. The prestige of the academic establishment's music department is used to sell instruments that have been at the department for varying lengths of time. New pianos are also brought to colleges and universities for these sales. Alumni are often inclined to buy pianos on these occasions and are willing to pay relatively high prices because they believe that their purchases will benefit the institutions. Although this type of sale was originally designed to remove excess inventories, it has become a more regular method of marketing for certain U.S. producers and importers based on cooperation between the piano manufacturer or dealer and the academic institution.[9]

Barriers to Unlimited Global Competition

U.S. producers indicated that it is difficult to shift products made for the domestic market to other markets. One reason may be the differing national tastes for pianos. Whereas Asian and European customers prefer tall vertical pianos, U.S. customers prefer fashion-oriented American furniture-style consoles.[10] However, some domestic producers maintain that the Asian market, comprising several national markets and representing the largest current and potential regional market for pianos, is protected by high tariff and nontariff barriers. As noted earlier, Baldwin contended that a combination of prohibitive tariffs and taxation in Asia, along with the Asian manufacturers' dominance of their respective domestic customers, ". . . have effectively excluded U.S. producers from these markets."[11] Representatives of foreign manufacturers assert that marketing techniques in Asian countries differ considerably from those followed in the United States.[12]

Several U.S. producers indicated that restricted access to foreign markets has reduced the

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[6] See ch. 3 for more information on retail dealers.

[7] Tom Miller, vice president, Young Chang, interview with USITC staff, Feb. 10, 1999, and telephone interview, Feb. 26, 1999. Brian Chung, vice president and general manager, Kawai, characterized this situation as ". . . we are all fighting for our piece of the pie on the sales floor." Transcript of the hearing, p. 105.

[8] From the testimony of Ed Keefer, president, Story & Clark Pianos (transcript of the hearing, p. 56).

[9] For example, piano companies will be allowed to use the university's letterhead on specific occasions and obtain alumni mailing lists.

[10] See the explanations of Ed Keefer, Story & Clark (transcript of the hearing, p. 61) and Junichi Ando, executive vice president, Kawai (transcript of the hearing, p. 86).

[11] Stephen Brock, executive vice president and general manager, Baldwin (transcript of the hearing, pp. 10-11).

[12] For example, see the explanation of Brian Chung, Kawai (transcript of the hearing, pp. 83-84). For further details on marketing approaches in Asia, see ch. 5.

competitiveness of U.S. producers compared with the major foreign manufacturers. Baldwin said that, in general, access to all markets is a precondition for U.S. piano producers to remain competitive.[13] Some representatives of Asian producers emphasized that perceptions about the competitive difficulties of U.S. producers stem from the organizational and technological inefficiencies of certain U.S. domestic producers.[14] Moreover, Yamaha contends that tariff and nontariff barrier issues aside, most of the U.S.-produced vertical pianos are not well suited to compete internationally.[15] Nonetheless, given the distribution system in Japan,[16] the poor economic conditions in Korea and Southeast Asia, and the still dormant nature of the potentially huge Chinese market, it appears that at least at the relatively lower price points, Asian piano producers can penetrate the U.S. market more easily than U.S. producers can penetrate Asian markets. See chapter 5 for a more detailed discussion of access to Asian markets.

Methods of Competition

Devising and executing an effective pricing strategy is an important method of competition in the piano industry, particularly for lower priced verticals. However, there are other methods, some of which have grown in importance as competition has intensified in the U.S. market in recent years.

Competition Through Product Diversification

In addition to the head-on price competition caused by excess capacity for a particular product line, competition has further intensified through product diversification, primarily through the use of electronic complements. Yamaha and Baldwin, for example, manufacture recording and reproducing (player piano) systems that are available only with their respective pianos. However, a variety of other systems which can be installed on most vertical or grand pianos are becoming commercially more available. Two developments are emerging: one is a trend toward compatibility between pianos and electronic complements that will tend to intensify future price competition; the other is further technical innovation in complements, about which industry observers are optimistic. One of the most promising prospects is the linking of the acoustic piano with the personal computer.[17] The increased variety of choices made possible by the diversification of electronic complements would tend to diminish price competition and encourage the development of segmented market niches. These high-tech complementary products create a demand for relatively expensive, high-quality pianos because the complements themselves are expensive. For the most part, however, these products are used in conjunction with grand pianos and have not benefitted vertical piano sales.

Competition Through Product Improvement and Production Technology

According to responses to Commission questionnaires, producers in the United States and in Asia have made significant efforts to improve the quality of their products. Improvements have been noted in the quality of sound, the appearance of pianos, and overall quality control. Competition has led to an increased variety and quality of products available to the U.S. customer.

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[13] See Baldwin, posthearing brief, Mar., 1, 1999, p. 16.

[14] For a reference to high overhead costs at certain U.S. domestic firms, see the testimony of Robert J. Jones, executive vice president and general manager, Samick (transcript of the hearing, p. 157).

[15] Yamaha, posthearing brief, Mar. 1, 1999, p. 7. For more on this subject, see ch. 5.

[16] The Japanese piano market is largely dominated by Yamaha and Kawai. See ch. 5.

[17] Representatives of Yamaha, interview with USITC staff, Feb. 11, 1999.

When asked to compare the quality of U.S.- and foreign-manufactured pianos, all respondents (both producers and importers) showed a preference for their own products. In general, U.S.-based firms without a foreign parent consider U.S.-manufactured pianos to be of the highest quality; however, most importers and foreign-based U.S. producers expressed contrary views.

Seven of the eight respondent producers claimed that pianos imported from China were of lower quality than U.S. pianos. With the exception of one respondent, who claimed no knowledge of the quality of Indonesian pianos, all respondents found them to be of lower quality than U.S. pianos. Apart from two producers who found the quality of Korean pianos to be either higher than, or similar to, that of U.S.-manufactured pianos, all respondents stated that Korean pianos were also of lower quality. All producer respondents agreed that the quality of Japanese pianos was either higher than, or similar to, the quality of U.S. pianos.

Of the 13 importers who responded to this query, 11 claimed to have knowledge of the overall quality of Chinese pianos and said that they were of lower quality than U.S.-produced pianos.[18] Six respondents stated that Indonesian pianos were of lower quality than, but one respondent claimed that they were of equal quality to, pianos produced in the United States. Seven respondents claimed that Korean pianos were of lower quality than U.S.-produced pianos, but four found Korean pianos to be of comparable or higher quality relative to U.S.-produced pianos. Eleven importers stated that Japanese pianos were of similar or higher quality than U.S.-produced pianos.

The conclusion that may be drawn from these disparate views is that U.S.-manufactured pianos are of better quality than most pianos made in China and Indonesia. However, there has been a general view that the quality of pianos manufactured in China is rapidly improving.[19] The responses also indicate that the quality of pianos manufactured in Japan are at least comparable to those manufactured in the United States.

An important area of competition is in the production process and in the equipment used. Automation of particular processes along the assembly line tends to improve the quality of the instrument because of standardization and greater precision. It also tends to reduce unit costs, making the producers with automated facilities more competitive. The consensus of company officials interviewed by the Commission staff is that the Japanese facilities of Kawai and Yamaha make the most extensive use of robotics, followed by Young Chang and Samick in Korea.[20] In the United States, the level of automation varies widely by company. Overall, U.S. facilities are not as highly automated as those in Japan and Korea.

Competition Through Transnational Cooperation

Intense competition in both the U.S. market and global markets has led to a number of cooperation agreements and business combinations between U.S. and foreign companies and between foreign companies. The following examples illustrate the increasing globalization of the U.S. piano industry, as U.S. producers supplement their high-priced pianos with a line of lower priced pianos made overseas:

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[18] Six of the 19 importers who received questionnaires did not provide information concerning quality comparisons.

[19] For example, a well-known European piano producer stated: “China will get better and better at making pianos.” Based on response to Commission questionnaire.

[20] Certain functions that are automated in Korea have not been automated at the Chinese and Indonesian facilities of Young Chang and Samick.

Kawai produces Boston brand pianos in Japan for Steinway & Sons; Samick makes Wurlitzer brand grand pianos in Korea for Baldwin; Beijing Piano Group makes Wurlitzer brand vertical pianos in China for Baldwin; and Beijing Piano Group and Dongbei Piano each make pianos in China for Story & Clark (see appendix E for profiles of these and other foreign producers). Competition tends to spawn international cooperation agreements that complement the domestic producer's line of products in given market niches.[21]

Competition Through Used Pianos

The availability of inexpensive used pianos with brand names that have reputations for good quality, whether domestically produced or imported, hurts sales of both U.S. and foreign producers. According to Yamaha, most used pianos from Asia have "continental-style" cases that do not appeal to the average U.S. customer. Yamaha contends that most imported used pianos are sold to Asian Americans and take away sales only from Asian producers of new continental-style pianos, rather than from U.S. producers of "furniture-style" pianos.[22] However, Kawai maintains that ". . . non-Asian consumers in America will buy these used pianos when the price is extremely low. . . . When given an opportunity to purchase a tall used upright at a low cost, many Americans will override their preference for furniture and go for a great deal on a tall piano with a big sound."[23]

Factors of Competition

In its questionnaires, the Commission requested that U.S. producers and importers indicate which producers have a major or minor advantage on 12 factors of competition for vertical and grand pianos. The results showing individual rankings for U.S. producers versus producers in China, Indonesia, Japan, and Korea are presented in tables 6-1 through 6-4, respectively, and each factor is discussed in the following sections.

Production and Related Factors

Production costs

Most respondents believed that producers in China, Indonesia, and Korea have an advantage over U.S. producers in production costs. Respondents provided no consensus when comparing U.S. and Japanese producers.

Most of the production-cost advantage for pianos made in China, Indonesia, and Korea derives from lower labor rates for workers in the piano industry in these countries, while Japan has higher wage rates than U.S. producers (labor rates are discussed more extensively in a following section). However, raw material costs are the largest component of production costs, and wood constitutes a significant portion of the raw materials used in piano manufacturing.[24] Extensive wood resources for piano cabinets

[21] Donald W. Dillon, executive director, Piano Manufacturers Association International, interview with USITC staff, Feb. 23, 1999.

[22] Yamaha, posthearing brief, Mar. 1, 1999, p. 9.

[23] Kawai, posthearing brief, Mar. 1, 1999, p. 3.

[24] Cast-iron plates are also a significant portion of raw material costs.

Table 6-1
Pianos: Ranking of factors of competition between U.S. and Chinese producers

Competition factor	Number of responses	U.S. producer advantage: Major	U.S. producer advantage: Minor	Neither has advantage	Chinese producer advantage: Minor	Chinese producer advantage: Major	Did not know
		Percentage distribution					
Vertical pianos:							
Production and related factors:							
Production costs	10			10	20	60	10
Access to raw materials	10		30	30	10	10	20
Labor costs	10				10	80	10
Availability of skilled and experienced labor force	10	50	30			10	10
Level of technology in the manufacturing process	10		30	30		20	20
Financing of production, debt service, and expansion of operations	10		10	10	20	10	50
Product appearance	10	40	10	40		10	
Quality as a musical instrument	10	50	10	30		10	
Pricing:							
At the factory level	10			10	20	20	50
At the retail level	10			10	30	30	30
Market strength:							
In U.S. market	10	40	30		10	20	
In foreign market	10		10			40	50
Grand pianos:							
Production and related factors:							
Production costs	7			14	14	57	14
Access to raw materials	7		14	29	14	14	29
Labor costs	7					86	14
Availability of skilled and experienced labor force	7	29	43			14	14
Level of technology in the manufacturing process	7		14	43		14	29
Financing of production, debt service, and expansion of operations	7		14		14	14	57
Product appearance	7	14	29	29		14	14
Quality as a musical instrument	7	43	29		14	14	
Pricing:							
At the factory level	7	14		14	14	14	43
At the retail level	7			14	29	29	29
Market strength:							
In U.S. market	7	43	29			29	
In foreign market	7					43	57

Note.--Based on responses provided by U.S. producers (including U.S. subsidiaries of foreign producers) and importers. Because of rounding, the percentage distribution for a competition factor may not total 100 percent.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 6-2
Pianos: Ranking of factors of competition between U.S. and Japanese producers

Competition factor	Number of responses	U.S. producer advantage: Major	U.S. producer advantage: Minor	Neither has advantage	Japanese producer advantage: Minor	Japanese producer advantage: Major	Did not know
		Percentage distribution					
Vertical pianos:							
Production and related factors:							
Production costs	10	20	10	30	10	10	20
Access to raw materials	10	20	30	20			30
Labor costs	10	30	30		10	10	20
Availability of skilled and experienced labor force	10	10		20	20	40	10
Level of technology in the manufacturing process	10			20	30	40	10
Financing of production, debt service, and expansion of operations	10			30	10	20	40
Product appearance	10	20	20	20	20	10	10
Quality as a musical instrument	10	10		20	40	30	
Pricing:							
At the factory level	10		30		20		50
At the retail level	10	10	30	20	20		20
Market strength:							
In U.S. market	10		10	50	20	10	10
In foreign market	10			10	10	60	20
Grand pianos:							
Production and related factors:							
Production costs	8		25		25	13	38
Access to raw materials	8	25	13	25			38
Labor costs	8	25	25		13	13	25
Availability of skilled and experienced labor force	8	13		25	13	38	13
Level of technology in the manufacturing process	8			25	25	38	13
Financing of production, debt service, and expansion of operations	8			38		13	50
Product appearance	8		25	38	25	13	
Quality as a musical instrument	8	13		25	38	25	
Pricing:							
At the factory level	8		25	13	13		50
At the retail level	8	13	38	13	13		25
Market strength:							
In U.S. market	8	13	25	25	13	13	13
In foreign market	8	13			25	38	25

Note.--Based on responses provided by U.S. producers (including U.S. subsidiaries of foreign producers) and importers. Because of rounding, the percentage distribution for a competition factor may not total 100 percent.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 6-3
Pianos: Ranking of factors of competition between U.S. and Korean producers

Competition factor	Number of responses	U.S. producer advantage: Major	U.S. producer advantage: Minor	Neither has advantage	Korean producer advantage: Minor	Korean producer advantage: Major	Did not know
		Percentage distribution					
Vertical pianos:							
Production and related factors:							
Production costs	11		9	9	27	36	18
Access to raw materials	11	9	27	18		27	18
Labor costs	11		9	27	45	9	9
Availability of skilled and experienced labor force	11			36	27	27	9
Level of technology in the manufacturing process	11		18	18	9	36	18
Financing of production, debt service, and expansion of operations	11		55	9			36
Product appearance	11	9	18	36	18	9	9
Quality as a musical instrument	11	27	9	18	36		9
Pricing:							
At the factory level	11		18	9	18		56
At the retail level	11		18	18	18	27	18
Market strength:							
In U.S. market	11	18	64		9	9	
In foreign market	11		9		9	64	18
Grand pianos:							
Production and related factors:							
Production costs	8		13		25	38	25
Access to raw materials	8	13	13	13	13	25	25
Labor costs	8			25	50	13	13
Availability of skilled and experienced labor force	8			38		50	13
Level of technology in the manufacturing process	8		13	25		50	13
Financing of production, debt service, and expansion of operations	8		50	13			38
Product appearance	8		63	25	13		
Quality as a musical instrument	8	13	13	38	25		13
Pricing:							
At the factory level	8				38		63
At the retail level	8				38	38	25
Market strength:							
In U.S. market	8	13	50		25	13	
In foreign market	8				13	63	25

Note.--Based on responses provided by U.S. producers (including U.S. subsidiaries of foreign producers) and importers. Because of rounding, the percentage distribution for a competition factor may not total 100 percent.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 6-4
Pianos: Ranking of factors of competition between U.S. and Indonesian producers

Competition factor	Number of responses	U.S. producer advantage: Major	U.S. producer advantage: Minor	Neither has advantage	Indonesian producer advantage: Minor	Indonesian producer advantage: Major	Did not know
		Percentage distribution					
Vertical pianos:							
Production and related factors:							
Production costs	7					100	
Access to raw materials	7	43			29	14	14
Labor costs	7					100	
Availability of skilled and experienced labor force	7	43	57				
Level of technology in the manufacturing process	7		29	14			57
Financing of production, debt service, and expansion of operations	7		43	14			43
Product appearance	7	43	14	14	29		
Quality as a musical instrument	7	86			14		
Pricing:							
Pricing at the factory level	7				29	57	14
Pricing at the retail level	7				14	71	14
Market strength:							
In U.S. market	7	86				14	
In foreign market	7	14			14	57	14
Grand pianos:							
Production and related factors:							
Production costs	4					100	
Access to raw materials	4	25			25	25	25
Labor costs	4					100	
Availability of skilled and experienced labor force	4	50	50				
Level of technology in the manufacturing process	4		25		25		50
Financing of production, debt service, and expansion of operations	4		25	25			50
Product appearance	4	25	50		25		
Quality as a musical instrument	4	75		25			
Pricing:							
Pricing at the factory level	4				25	50	25
Pricing at the retail level	4					75	25
Market strength:							
In U.S. market	4	75				25	
In foreign market	4					75	25

Note.--Based on responses provided by U.S. producers (including U.S. subsidiaries of foreign producers) and importers. Because of rounding, the percentage distribution for a competition factor may not total 100 percent.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

provide producers in China and Indonesia with an additional labor cost advantage over piano producers in Korea, Japan, and the United States (see following section for related discussion on access to raw materials).[25] However, this advantage in wood costs is mitigated by the reliance of Samick's Indonesian plant and Young Chang's China plant on certain wood parts from the United States and plates, action assemblies, and keys from their parent companies in Korea. Japan probably has the highest raw material costs because it must import wood. However, Japanese producers have the most automated operations, which counters their relatively high raw material costs to some degree and reduces their relative production costs.

Lowering production costs is a major goal of most piano producers. Young Chang and Samick invested in production facilities in China and Indonesia to reduce the prices of pianos that they offered in world markets. Yamaha, Kawai, and Samick invested in China so that they could offer a price-competitive line of pianos in the Chinese market. Baldwin has made significant investments to improve operational efficiencies in an attempt to cut costs during the past several years. Baldwin has also helped develop a new lower cost cast-iron plate supplier. Kawai stated that reducing the cost of parts is a major survival strategy for its U.S. operations, and this may involve sourcing parts from other countries.[26] This also appears to be the strategy of other U.S. producers. For example, Baldwin cited cost savings in its decision to source plates from a new supplier in Brazil. Some producers have chosen to purchase entire pianos from low-cost suppliers instead of producing themselves. Baldwin, Kawai, Steinway, Story & Clark, and Yamaha have contracted production of certain pianos to producers in Korea, China, and Japan to reduce the price of these pianos in the U.S. market.

Access to raw materials

Regarding access to raw materials, most respondents gave a major advantage to U.S. producers compared with Japanese producers, but provided no consensus when comparing U.S. producers and producers in China, Indonesia, and Korea. U.S. producers have ready access to U.S. and Canadian wood resources, which are some of the best in the world, including maple, poplar, and high-quality spruce for the crucial soundboard. However, much of the U.S. spruce resources are in environmentally sensitive areas, and access has been more problematic in recent years. China has domestic resources for all raw materials, but the quality of its spruce is reportedly lower than that of the United States and Canadian. Korea and Japan are dependent on imports for virtually all wood; however, Young Chang, one of the major Korean producers, owns a sawmill in Tacoma, WA, from which it supplies high quality North American spruce and maple to its Asian piano operations. Indonesia is also dependent on North American spruce for soundboards, although it is well endowed with high-quality wood for piano cabinets. Samick, the largest producer in Indonesia, has developed locally grown tropical hardwoods as substitutes for U.S. maple for its lower priced pianos assembled in Indonesia.

Labor costs and availability of a skilled and experienced labor force

All of the respondents to the Commission's questionnaire indicated that producers manufacturing vertical pianos in Indonesia had a major labor cost advantage over U.S. producers; 80 percent indicated that Chinese producers also had a major labor cost advantage over U.S. producers. By contrast, 47 percent indicated that labor costs were only a minor advantage for Korean producers relative to U.S. producers,

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[25] This advantage relates in part to labor costs of the raw material suppliers in China and Indonesia. See testimony of Ed Keefer, Story & Clark, transcript of the hearing, p. 46.

[26] Kawai submission, Jan. 22, 1999.

and 27 percent indicated that neither the United States nor Korea had an advantage with regard to labor costs. Sixty percent judged that the U.S. producers had a labor cost advantage relative to Japanese producers.

The consensus of U.S. and foreign producers of pianos was that labor costs in the piano industry are highest in Japan, followed by the United States.[27] High labor costs have provided Japanese producers added incentive to automate manufacturing processes to the maximum extent possible. Officials of Kawai and Yamaha both asserted that automated production also yields greater precision in manufacturing and, in turn, more standardization and improved quality in the production of piano parts and fully assembled pianos.

Although labor costs are significantly lower in Korea than in the United States, they were rising quickly until reduced by the regional financial crisis in 1997. Industry representatives interviewed predicted a full recovery in the Korean economy and a continued rise in labor costs. Korea's piano industry has also experienced work stoppages amid demands by organized labor for higher wages and additional benefits. The combination of rising wage rates and labor unrest have led the Korean manufacturers to invest in China and Indonesia, where wages are lower and the labor movement less developed. Korean investors have found Indonesian workers to be more easily trained and motivated than workers in China. As a result, there have been more quality problems with pianos made in China than with pianos made in Indonesia.

Questionnaire respondents gauged that U.S. vertical piano producers had an advantage over Chinese and Indonesian producers in terms of the availability of a skilled and experienced labor force, but not over Japanese and Korean producers. All respondents indicated that U.S. producers had an advantage over Indonesian producers, and 80 percent judged that U.S. producers had an advantage over producers in China regarding skilled labor availability. Sixty percent assessed Japanese producers as having an advantage in the availability of a skilled and experienced labor force over U.S. producers. Similarly, 54 percent judged that Korean producers had an advantage over U.S. producers, while 36 percent indicated that neither country had an advantage.

Several representatives interviewed indicated that it takes several years to train piano workers to their maximum skill level. Consequently, the best skilled workers tend to be those who have been making pianos for the longest period of time. As a result, the presence of experienced workers at mature facilities with low turnover such as those of Steinway in Long Island City, NY, and Walter Piano Co. in Elkhart, IN, allows those companies to charge a premium for the high quality of the pianos that they produce. Conversely, poor-quality pianos produced by inexperienced workers may not be marketable at any price, as was the case with some pianos made by Young Chang in Tianjin, China.

Level of technology in the manufacturing process

Most respondents indicated Japanese producers had a major advantage over U.S. producers regarding the level of technology used in the manufacturing process. Respondents gave an advantage to Korean producers as well, but less pronounced than the Japanese advantage. There was no consensus on technological advantage between U.S. and Chinese producers. U.S. producers were reported to have a minor technological advantage compared with Indonesian producers for vertical pianos, but neither had an advantage in grand piano production.

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[27] Based on interviews of company representatives by USITC staff during Jan.-Feb. 1999.

The Japanese producers are the most automated in the world, and they use sophisticated machinery for all aspects of the production process. Producers work closely with Japanese machinery companies to design and build automated equipment. The lack of a consensus regarding the technology advantage of U.S. and Chinese producers was likely caused by the diverse nature of operations in China, which range from new foreign-owned plants with near state-of-the-art equipment to Chinese-owned producers that rely on old equipment.

The level of technology in U.S. operations also covers a wide range. Baldwin has a high degree of automation at some of its operations, but lacks technologically advanced equipment at other operations.[28] Yamaha and Kawai have advanced equipment, but their U.S. operations are not as automated as their Japanese operations.[29] The smaller U.S. producers have little automated equipment, and rely to a large extent on hand crafting.

Financing

The Commission questionnaires asked respondents to compare conditions governing the ability of U.S. and foreign producers to finance production, debt service, and the expansion of operations in vertical and in grand piano manufacturing. When U.S. producers were compared with producers in Japan, the opinions were divided. Half of the respondents thought that producers in Japan had an advantage, and half thought that conditions were roughly equivalent. Chinese producers are believed to have an advantage relative to producers in the United States. However, in comparing the conditions of financing in the United States with those in Korea and Indonesia, respondents supported the view that U.S. firms have a minor advantage.

One U.S. producer suggested that Young Chang may have borrowed funds from U.S.-based financial institutions, using its inventory of imported pianos in the United States as collateral for loans. These loans, according to the U.S. producer, assist Young Chang's financially distressed operations in Korea. Young Chang attributed its U.S. inventory to marketing decisions and poor quality of certain models.[30]

Product Appearance

Respondents indicated no advantage in product appearance among U.S., Japanese, and Korean producers. Most respondents indicated a major or minor advantage for U.S. producers over Chinese and Indonesian producers.

The U.S. producers maintain a strong or equal ranking in this category because of their ability and experience in making furniture-style cabinets, which are popular in the U.S. market, but much less so in foreign markets. Yamaha and Kawai established their U.S. operations in part so that they could better produce pianos with these types of cabinets.

Piano finish is also a major factor affecting sales. Polyester finishes have been popular with consumers for many years, but the U.S. industry was slow in offering pianos with this type of finish,

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[28] Baldwin representatives, interview by USITC staff, Jan. 12, 1999.

[29] Yamaha representatives, interview by USITC staff, Feb. 11, 1999; and Kawai representatives, interview by USITC staff, Feb. 8, 1999.

[30] Young Chang representative, interview by USITC staff, Feb. 10, 1999. For more information, see ch. 4.

unlike many foreign producers. However, two U.S. producers now have polyester-finish capability, which they established within the past few years.

Quality as a Musical Instrument

A majority of the respondents indicated that Japanese producers have a minor or major advantage in sound quality compared with U.S. producers. Compared with Korean producers, there was no consensus. Compared with Chinese and Indonesian producers, the U.S. producers have a major advantage.

Sound quality is dependent on the quality of the parts and on the ability to voice, regulate, and tune a piano. Industry sources indicate that the Japanese piano industry comprises highly skilled, experienced workers, and producers implement the latest technology to improve the quality of pianos. As a result, the Japanese producers have outstanding reputations for sound quality. U.S. producer Steinway also has an outstanding reputation.

China and Indonesia are late entrants into the piano business and do not have the level of expertise established by other producers.[31] The reputation among U.S. producers and importers is that pianos made in these countries are of lower quality that serve as entry-level products. However, the prices for Chinese and Indonesian pianos in the U.S. market are also low (see next section for price information).

Pricing

Distribution and pricing practices

Neither domestic producers nor importers appear to have an advantage regarding distribution in the U.S. market. Most use Keyboard Carriage for storage and delivery. This company charges all users $6.25 a month per unit for piano storage. The typical industry costs of U.S. inland transportation are approximately $130 for vertical pianos and $195 for grand pianos. Oceanic shipping, however, imposes extra costs on imports. Pianos have to be cased and wrapped, and the freight damage is more frequent than in domestic transportation.[32]

There is little advantage for either regarding order lead times as well. Lead times for U.S.-produced pianos typically vary from less than 1 business week to 1 month from the date of purchase to delivery to the dealer when shipments are made from inventory (one producer reported a lead time of 120 days). The order lead times vary between 2 weeks and 45 days if the piano is supplied from current production (one producer reported a lead time of 3 to 6 months). Lead times between the purchase agreement and delivery to dealers of foreign-produced pianos from inventory varies from less than 1 week to no more than 1 month, but may be as high as 100 days if the piano comes from current production.

Both domestic producers and importers use price lists in offering their pianos for sale, and in general, they claimed to have adhered to these lists during 1994-98.[33] Nevertheless, competition prompted most of the major manufacturers and importers to cut dealers' costs, thereby enabling them to reduce their prices to the final customer. The methods used to achieve this objective included quantity discounts off the

[31] Based on interviews with U.S. industry representatives.

[32] Based on responses to Commission questionnaires. See ch. 4 for more information.

[33] Responses to Commission questionnaires.

published wholesale price lists. This practice was particularly prevalent for lower end vertical pianos.[34] According to Baldwin, discounting to dealers was intense, if not unprecedented during 1998. ". . . The issue in 1998 was not discounting in the absolute; it was the depth of discounting and the fact that it was on top of already significantly reduced wholesale prices. So, the depth or the extent of the discounting, to our minds, was far beyond what we have seen in what I call the normal course of business previous to 1998." [35]

In addition to quantity discounts, producers used the following methods to reduce the retailers' costs, to create incentives to buy their pianos, or both: free or discounted flooring terms,[36] free or discounted freight, salesperson incentives (such as cash, gifts, and trips), yearly or quarterly cash rebates, other dealer rebates (such as gift catalogs and trips), and loans for piano purchases at below-market rates.[37]

Piano producers make their sales to retailers mostly in the framework of exclusive dealer arrangements, rather than by contracts that specify quantities, prices, or both. In the rare occasion where contracts are used, companies indicated that the duration of such a contract is usually 1 year. The price depends to some extent on the volume purchased by the dealer. Both domestic producers and importers quote f.o.b. plant/warehouse selling prices for their respective products, and both arrange freight. To the question of whether individual producers or traders influenced the U.S. wholesale market prices for acoustic pianos during the period under consideration, certain domestic producers answered in the affirmative. They contended that some imports from China, Korea, and Indonesia exerted a downward influence on wholesale prices.

Competition among manufacturers using the same dealer complicates the purchase of pianos at the retail level. This circumstance, combined with the proliferation of brands, models, styles, and the expanding use of specialized terminology by dealers, have made the purchase of a piano almost as complex as buying a car, including the setting of list prices deliberately high in anticipation of negotiation.[38]

Several industry officials indicated that Baldwin, the largest U.S. producer of vertical pianos, reduced its prices during 1998 to stop the erosion of its customer base.[39] These sources indicated three principal reasons for this erosion:

- To reduce the company's debt and encourage faster turnover on showroom floors, Baldwin discontinued the practice of providing pianos on consignment and preferential financing. Without a financial incentive to carry only Baldwin pianos, which were often priced higher than competing pianos of comparable quality, Baldwin dealers began to put lower priced models in their showrooms, including U.S.-made vertical pianos by Yamaha and Kawai, as well as imports from Asia.

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[34] Responses to Commission questionnaires. Terry Lewis, Yamaha, interview with USITC staff, Mar. 8, 1999.

[35] From the testimony of Stephen Brock, Baldwin, transcript of the hearing, p. 35.

[36] Retail stores generally use the so-called flooring companies (inventory financiers) to settle their purchases from the supplying manufacturers. Deutsche Financial Services Corporation, Textron, and Transamerica are some of the best known flooring companies. Typical deals call for 30-day settlements and 12-13 percent annual rates of interest.

[37] The order of enumeration corresponds to the frequency of the practice indicated in Commission questionnaires.

[38] This practice is often carried to extremes "such as when the salesperson reduces the price three times in the first fifteen minutes, until it is barely half of the sticker price." Larry Fine, *1998-99 Annual Supplement to The Piano Book* (Boston, MA: Brookside Press, 1998).

[39] Based on interviews by USITC staff during Feb. 1999

- In an effort to reduce overhead, Baldwin consolidated its Baldwin and Wurlitzer dealerships, keeping the larger volume dealers and dropping those with small volumes. Approximately 300 dealerships lost their affiliation with Baldwin. Many of these small, often under capitalized outlets began selling lower priced pianos from China, Korea, and Indonesia to replace their traditional Baldwin and Wurlitzer lines.

- Real depreciation of the yen and the won in 1997 allowed Yamaha and Kawai to maintain their prices on imported models at a time when Baldwin increased its prices, while Korean producers Young Chang and Samick lowered their prices.

Baldwin disagreed with the above assessment of its consignment program and stated that it experienced no weakening of dealer commitment because of the discontinuation of this program.[40] Baldwin further stated that it had instituted a new inventory financing program that resulted in better financial terms for the dealers.

Trends in pricing

Most respondents rated Chinese and Indonesian producers as having a major or minor advantage on both factory and retail pricing compared with U.S. producers. Korean producers have a major or minor advantage on grand piano pricing, but respondents provided no consensus on vertical piano pricing. Respondents indicated a slight advantage for U.S. producers compared with Japanese producers.

To accurately compare wholesale prices between U.S. and foreign producers, the Commission staff collected price data from domestic producers and importers for specific vertical and grand piano models. The requested price was f.o.b., net of discounts and other dealer incentives. The following four vertical piano models were included: 42-inch console, Queen Anne style with a cherry or equivalent finish; 42-inch console, Continental style with a polyester high-gloss ebony finish; 45-inch studio, Queen Anne style with a cherry or equivalent finish; and 45-inch studio, Classic style with a polyester high-gloss finish. The following two grand piano models were included: 5-foot grand with a polyester high-gloss ebony finish and 5-foot-8-inch grand with a polyester high-gloss ebony finish.

Prices were collected from 1994 through the third quarter of 1998. The data collected were semiannual for 1994-96 and quarterly for the remainder of the period under consideration. Because of the small number of domestic producers and importers, price data cannot be shown because to do so would reveal proprietary business information. Nevertheless, some information gleaned from the assembled data may be shown without divulging proprietary information.

Comparisons of piano models based on the weighted average delivered wholesale prices showed that most U.S. prices significantly exceeded the average of the principal Asian countries' import prices, with the exception of a 45-inch studio, Classic style with a polyester high-gloss finish. Moreover, the U.S. price disadvantage increased from 1997 to the first three quarters of 1998. In the exception noted, the U.S. price advantage declined over the period. These apparent price differences may have contributed to the growth in import penetration in the U.S. piano market during the period under consideration. The price differences are consistent with quality differences. For example, Chinese and Indonesian pianos were considered of lower quality than U.S. pianos, but were also lower priced. More information on wholesale pricing of specific models is provided as follows.

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[40] Facsimile from Baldwin, Apr. 9, 1999.

42-inch console, Queen Anne style with a cherry or equivalent finish.--The prices of U.S.-produced pianos for this model exceeded those of the principal Asian countries' producers without exception as to country or time period since January 1997. Specifically, the prices of U.S.-produced pianos were 15 percent higher during 1997 and 31 percent higher during the first three quarters of 1998. Prices on these products from China were the lowest, followed by products from Indonesia and Korea. No shipments from Japan were registered in this model during the period under consideration. Compared with the volume of domestically produced pianos, shipments from China and Korea were statistically insignificant (that is, less than 0.05 percent). Shipments from Indonesia first appeared during the second half of 1997.

42-inch console, Continental style with a polyester high-gloss ebony finish.--Prices of U.S.-produced pianos exceeded all principal Asian country-produced piano prices for this model in all the periods considered. Specifically, the prices of U.S.-produced pianos were 79 percent higher during 1997 and 81 percent higher during the first three quarters of 1998. Prices on pianos from China and Indonesia were the lowest, followed by pianos from Korea and Japan. Shipments from Indonesia began in 1997.

45-inch studio, Queen Anne style with a cherry or equivalent finish.-- Imports entered the United States only from Korea among the principal Asian countries. For each period considered, prices on imports from Korea were significantly lower than prices on the domestically produced pianos. These imports grew in volume during 1998. The percentage by which U.S.-produced pianos exceeded the prices charged on pianos from Korea increased significantly from 1997 to the first three quarters of 1998.

45-inch studio, Classic style with a polyester high-gloss finish.--The prices of pianos imported from the principal Asian countries exceeded the prices of U.S.-produced pianos in this model by 72 percent during 1997 and by 60 percent during the first three quarters of 1998. The prices of pianos from Japan were significantly higher than those of domestically manufactured products. Prices on pianos from Korea were also higher than U.S.-manufactured products during 1996 and 1997. Prices of U.S.-manufactured pianos rose above the prices of Korean-manufactured pianos during the second and third quarters of 1998. Products from China, numbering fewer than 100 since shipments began in the second half of 1996, were priced considerably lower than U.S.-manufactured products. Shipments from Indonesia that began during the second quarter of 1998 were priced closer to products shipped from Korea than to those shipped from China. Since the volume of imports from Japan far exceeded the volume of imports from the rest of the principal Asian countries during the period under consideration, the average price also significantly exceeded the price of U.S.-produced pianos.

5-foot grand with a polyester high-gloss ebony finish.--The prices of U.S.-produced pianos in this model exceeded the prices of pianos imported from the principal Asian countries by 80 percent during 1997 and by 96 percent during the first three quarters of 1998. U.S. producers provided less than 4 percent of these pianos during 1997 and the first three quarters of 1998. Prices of the products from China were the lowest, followed by prices of pianos shipped from Korea and Japan. Among the principal Asian countries, Japan and Korea were the significant suppliers. Shipments from China were close to the level of U.S. production during the first three quarters of 1998, and there were no shipments from Indonesia during the period under review.

5-foot-8-inch grand with a polyester high-gloss ebony finish.--With only Japan and Korea as suppliers among the principal Asian countries, prices on U.S.-manufactured products exceeded foreign country average prices by 47 percent during 1997 and by 58 percent during the first three quarters of 1998. U.S. products represented 7 percent of principal Asian country shipments during 1997 and 5 percent during the first three quarters of 1998.

In summary, pianos imported into the United States from facilities established by Japanese and Korean investors in China were generally priced higher than imports from other sources in China. This comparison was based on price data obtained from importers' questionnaires for 42-inch Continental style (or most comparable) pianos. Shipments in this product category dominated U.S. piano imports from China from 1994 through the first three quarters of 1998.

To compare prices on the retail level, the Commission used published price lists. Although discounting from list prices is common in the U.S. market, these prices may provide some indication of price differences among producers. Table 6-5 shows such comparisons for U.S. companies[41] and for the principal Asian countries[42] in specific size groupings. Each price represents the lowest priced model in the brand indicated in the price lists.[43] Since there are several brands within each size grouping, the lower prices also form a range. The table also shows some offers on used pianos found in the public domain and actual average sales prices provided by the Piano Manufacturers Association International.

The table shows that the prices of imported pianos are generally lower than those of domestically produced pianos. This seems to be particularly true for the vertical categories reported. In the category of grand pianos, U.S. prices appear to be more competitive. As mentioned in chapter 2, a significant number of buyers of grand pianos have large budgets and clearly defined preferences in terms of sound, touch, and esthetic appeal.

The share of raw materials to total production costs is relatively high in piano manufacturing.[44] Consequently, a given change, such as a 1 percent increase, in the cost of raw materials affects the total costs of manufacturing more than it would affect such costs in most other industries. Even during the past two decades when sales declined, raw material costs increased at a greater rate than final product prices in the piano industry. If the current rebound in the sale of pianos continues, growing demand for raw materials is expected to cause raw material costs to increase at an even greater rate than in the past.[45] Under these circumstances, a cost-push increase in the price of pianos is conceivable in the future. Although piano production accounts for a relatively small percentage of overall wood consumption, growing restrictions pertaining to environmental protection tend to reduce the availability of the wood products needed for piano production.[46]

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[41] Kimball, which ceased production in 1996, is not included in these comparisons.

[42] Young Chang, one of the leading exporters of pianos from Korea and China, lowered its list prices in 1998 to reflect its discounted prices. It no longer offers discounts from the list price.

[43] The prices shown may not include some discounts, other dealer incentives, or both. Nonetheless, the comparison of price lists showed that for the minimum price within each size grouping, wholesale prices and manufacturers' recommended retail prices coincided.

[44] For vertical pianos, the ratio of material costs to total production costs ranged from close to 50 percent to nearly 90 percent during the period under review. The ratio tends to increase with automation, which reduces the ratio of direct labor and other factory costs. In the United States, based on the 1992 U.S. input-output table, the average ratio of material inputs in durable goods production is in the 51-54 percent range. Official at the U.S. Bureau of Economic Research (BEA), interview with USITC staff, Feb. 19, 1999.

[45] Representatives of Yamaha, interview by USITC staff, Feb. 11, 1999.

[46] For details on the availability of raw materials for piano production, see earlier in ch. 6.

Table 6-5
Recommended retail prices in selected piano size groupings: Domestic producers and imports from principal Asian countries, 1998[1]

(*Dollars*)

Producer	Vertical pianos under 45 inches	Vertical pianos in the 45-52 inch range	Grand pianos from under 5 feet through 5 feet 5 inches	Grand pianos from 5 feet 6 inches upwards[2]
Domestic producers:				
Astin-Weight	6,700	10,000	([3])	([3])
Baldwin	3,500-4,400	5,250-9,440	13,200	16,000-67,500
Mason & Hamlin	([3])	13,400	([3])	37,000-47,000
Steinway	([3])	15,400-20,200	([3])	36,000-76,000
Story & Clark	4,700	5,000	([3])	([3])
Walter Piano Co.	6,900	6,500	([3])	29,000
Kawai	4,100-6,350	4,000-5,050	([3])	([3])
Yamaha	3,600	4,800	([3])	([3])
Imports from principal Asian countries:				
Japan	([3])	5,600-10,300	11,100-16,800	16,800-98,000
Korea	3,600-6,000	3,900-6,900	9,200-14,700	11,200-46,800
China	2,500-3,900	2,800-4,900	8,000-10,200	9,600-18,000
Indonesia	2,800-3,000	3,800-4,000	7,400-7,600	([3])
Other:				
Used pianos[4]	1,700-2,400	1,900-6,000	([3])	42,000
Actual sales prices[5]	2,000-4,600	4,600-10,000+	3,500-6,500	6,500-30,000+

[1]Larry Fine, *1998-99 Annual Supplement to The Piano Book* (Brookside Press: Boston, MA, 1998); and Ancott Associates, *Music Product Directory*, Fall/Winter 1998/99, vol. 13, No. 2 (Cincinnati, OH). The first source defines the prices it lists as ". . . computed from the published wholesale price according to a formula commonly used in the industry." The second source publishes average suggested retail prices. The lowest prices from both sources coincide within rounding to the nearest 100 dollars. Only these lower threshold prices are shown in this table, mainly because they do not include electronic complements. Prices higher than these may or may not include electronic extras, thereby invalidating comparisons.

[2]At $175,980, an Austrian-manufactured Bosendorfer concert piano was the most expensive item.

[3]No quote available in this category.

[4]Internet sites on used piano offers.

[5]Piano Manufacturers Association International, facsimile transmission, received by USITC staff on Dec. 3, 1998. The information obtained shows a rough correlation between price and size of domestically produced and imported pianos combined for Jan.-June 1998.

Market Strength in U.S. and Foreign Markets

Most questionnaire respondents gave U.S. producers a clear advantage over Chinese, Indonesian, and Korean manufacturers for market strength in both the U.S. vertical and grand piano markets. At the same time, these foreign manufacturers were rated as having a major advantage over U.S. producers in their home country markets for both verticals and grands. Most respondents saw either no advantage, or did not know of an advantage, for U.S. producers compared with Japanese producers in terms of U.S. market strength for verticals. U.S. producers had a very slight advantage over Japanese manufacturers in

U.S. market strength for grands, according to respondents. However, Japanese manufacturers had a clear advantage over U.S. producers in market strength for both verticals and grands in Japan, although not nearly so decisive for grands as the strength of Japanese producers for verticals.

A combination of such factors as product appearance, quality as a musical instrument, pricing, and market access entered into the judgments concerning which manufacturers had an advantage in market strength in the U.S. and foreign markets for vertical and grand pianos. Very low prices based on low production costs give Chinese and Indonesian producers an advantage in their respective home markets.[47] In addition, piano tariffs are relatively high, and the distribution system reportedly is not well developed in China, both of which make it difficult for foreign producers to export to China and contribute to market strength for Chinese producers. Reportedly, domestically produced pianos in Korea are less expensive in that market than pianos imported from the United States. The reputed quality and consistency of production assisted Japanese producers in gaining a market advantage in Japan and to a certain extent in the United States. Additional factors contributing to home market strength were also identified for Japan and Korea. As noted earlier, the two major Japanese producers run music schools and financing programs that have established strong bonds with Japanese customers over many years. Most pianos reportedly are sold mainly from catalogs and through door-to-door salespersons in Japan, rather than through independent dealers as in the United States. Korean pianos are also sold through dealers, but the two major Korean producers dominated Korea's dealer network until recent years. Part of the basis for U.S. producers' advantage in the U.S. market is their expertise in manufacturing pianos with furniture-style cabinets, which are popular with U.S. consumers.

Currency Fluctuations

The East Asian financial crisis has led to large-scale real depreciations versus the U.S. dollar in most of the region's currencies, including the Japanese yen, the Korean won, and the Indonesian rupiah. However, in 1998, the won showed signs of real appreciation, and the real depreciation of the rupiah seemed to have come to a halt. Although the lack of certain macroeconomic data for China prevents the calculation of a real exchange rate, estimates indicate that the Chinese renminbi appreciated versus the U.S. dollar during 1994-97, but may have started to depreciate in late 1998.

The real depreciation of the yen, won, and rupiah have restrained the increase of prices charged for pianos imported from Japan, Korea, and Indonesia. In some instances, it may have even led to reductions in imported piano prices. By importing from these countries for resale in the U.S. market, U.S. producers have also benefitted from the indicated currency depreciations. However, the reliance of several Asian producers on imported raw materials priced in dollars moderates the advantage of currency depreciation.

Currency movements may at least partially explain the buildup of U.S. inventories of pianos from certain Asian countries. Certain importers considered the currency devaluations in the wake of the Asian financial crisis as temporary and brought into the United States the maximum number of pianos considered marketable while the exchange rate was favorable.[48]

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[47] Because of the lack of economic development, the size of the piano market is very small in Indonesia, and home market strength is somewhat moot.

[48] For supplemental information on currency fluctuations, see app. G.

APPENDIX A

Request letter from the Committee on Ways and Means of the U.S. House of Representatives

The request letter is not included in the electronic version of this report.

APPENDIX B

U.S. International Trade Commission's Notice of Investigation and Public Hearing

U.S. INTERNATIONAL TRADE COMMISSION
Washington, DC

(Investigation 332-401)

PIANOS: ECONOMIC AND COMPETITIVE CONDITIONS AFFECTING THE U.S. INDUSTRY

AGENCY: United States International Trade Commission

ACTION: Institution of investigation and scheduling of public hearing.

EFFECTIVE DATE: December 4, 1998

SUMMARY: Following the receipt of a request on November 12, 1998, from the Committee on Ways and Means of the U.S. House of Representatives, the Commission instituted investigation No. 332-401, Pianos: Economic and Competitive Conditions Affecting the U.S. Industry, under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)).

FOR FURTHER INFORMATION CONTACT: Industry-specific information may be obtained from Mr. David Lundy (202-205-3439) or Mr. Ralph Watkins (202-205-3492), Office of Industries, U.S. International Trade Commission, Washington, DC 20436. For information on the legal aspects of this investigation contact Mr. William Gearhart of the Office of the General Counsel (202-205-3091). Hearing impaired individuals are advised that information on this matter can be obtained by contacting the TDD terminal on (202) 205-1810.

BACKGROUND: The Commission received the Committee's letter on November 12, 1998. The Committee asked that the Commission institute a factfinding investigation of the current conditions affecting the domestic piano industry, particularly that portion of the industry producing upright pianos. As requested by the Committee, the Commission will include the following information in its report to the extent possible:

(1) An overview of the global market for pianos, including such factors as consumption, production, and trade during the period 1994-98.
(2) A profile of the U.S. piano industry, including leading producers, importers, distributors, and suppliers of pianos.
(3) Profiles of leading manufacturers in Japan, Korea, China, and Indonesia.
(4) A comparison of the strengths and weaknesses of U.S. and foreign producers regarding factors of competition such as production costs, access to raw materials, labor costs, availability of skilled/experienced labor force, financing, level of technology in the manufacturing process, product appearance, quality as a musical instrument, pricing, and home market strength.

The Committee requested that the Commission in its examination of foreign industries and markets concentrate principally on Japan, Korea, China, and Indonesia. The Committee also requested the Commission take into account currency fluctuations and devaluations in considering the factors of competition. The Commission expects to submit its report to the Committee by May 12, 1999.

PUBLIC HEARING: A public hearing in connection with the investigation will be held at the U.S. International Trade Commission Building, 500 E Street SW, Washington, DC, beginning at 9:30 a.m. on February 17, 1999. All persons shall have the right to appear, by counsel or in person, to present information and to be heard. Requests to appear at the public hearing should be filed with the Secretary, United States International Trade Commission, 500 E Street SW, Washington, DC 20436, no later than 5:15 p.m., January 29, 1999. Any prehearing briefs (original and 14 copies) should be filed not later than 5:15 p.m., February 5, 1999; the deadline for filing post-hearing briefs or statements is 5:15 p.m., March 1, 1999. In the event that, as of the close of business on January 29, 1999, no witnesses are scheduled to appear at the hearing, the hearing will be canceled. Any person interested in attending the hearing as an observer or non-participant may call the Secretary of the Commission (202-205-1816) after January 29, 1999 to determine whether the hearing will be held.

WRITTEN SUBMISSIONS: In lieu of or in addition to participating in the hearing, interested parties are invited to submit written statements concerning the matters to be addressed by the Commission in its report on this investigation. Commercial or financial information that a submitter desires the Commission to treat as confidential must be submitted on separate sheets of paper, each clearly marked "Confidential Business Information" at the top. All submissions requesting confidential treatment must conform with the requirements of section § 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. 201.6). All written submissions, except for confidential business information, will be made available in the Office of the Secretary of the Commission for inspection by interested parties. To be assured of consideration by the Commission, written statements relating to the Commission's report should be submitted to the Commission at the earliest practical date and should be received no later than the close of business on March 1, 1999. All submissions should be addressed to the Secretary, United States International Trade Commission, 500 E Street SW, Washington, DC 20436. The Commission's rules does not authorize the filing of submissions with the Secretary by facsimile or electronic means.

Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (*http://www.usitc.gov*).

By order of the Commission.

Donna R. Koehnke
Secretary

Issued: December 7, 1998

APPENDIX C

List of Hearing Witnesses

CALENDER OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject: PIANOS: ECONOMIC AND COMPETITIVE CONDITIONS AFFECTING THE U.S. INDUSTRY

Inv. No.: 332-401

Date and Time: February 17, 1999 - 9:30 a.m.

Sessions were held in connection with the investigation in the Main Hearing Room 101, 500 E Street, S.W., Washington, D.C.

ORGANIZATION AND WITNESS

PANEL 1

Bracewell & Patterson, L.L.P.
Washington, D.C.
on behalf of

Baldwin Piano and Organ Company ("Baldwin")

Stephen P. Brock, Executive Vice President
and General Manager, Music Division,
Baldwin Piano and Organ Company

Gene E. Godley)
)–OF COUNSEL
Marc C. Hebert)

PANEL 2

Story & Clark Pianos, Seneca, Pennsylvania

Ed Keefer, President, Story & Clark Pianos

-MORE-

ORGANIZATION AND WITNESS

PANEL 3

Ablondi, Foster, Sobin & Davidow, P.C.
Washington, D.C.
on behalf of

Kawai America Corporation ("Kawai")

Junichi Ando, Executive Vice President,
Kawai America Corporation

Brian Chung, Vice President and General Manager,
Kawai America Corporation

Will E. Leonard--OF COUNSEL

PANEL 4

Lipstein, Jaffe & Lawson, L.L.P.
Washington, D.C.
on behalf of

Yamaha Corporation of America ("Yamaha")

Terry Lewis, Corporate Vice President, Yamaha
Corporation of America

Robert A. Lipstein)
)–OF COUNSEL
Matthew P. Jaffe)

PANEL 5

Shearman & Sterling
Washington, D.C.
on behalf of

Samick Music Corporation (USA) and
Samick Musical Instruments Company Limited (Korea),
City of Industry, California

Robert J. Jones, Executive Vice President and
General Manager, Samick Music Corporation

Jeffrey M. Winton–OF COUNSEL

-END-

APPENDIX D

Information Request of Counsel Representing Respective Foreign Companies

OFFICE OF INDUSTRIES

UNITED STATES INTERNATIONAL TRADE COMMISSION

WASHINGTON, DC 20436

Date

Name
Company name
Address
City, State, Postal code

Dear Sir:

The purpose of this letter is to request certain information on the foreign operations of the parent firm of your client, (insert name of client), in connection with the Commission's factfinding study, *Pianos: Economic and Competitive Conditions Affecting the U.S. Industry* (see enclosed notice). We would appreciate the cooperation of the parent firm in assisting the Commission to develop a profile of its non-U.S. facilities and a better understanding of important considerations in the global piano industry and market.

To help us develop such information it would be helpful if you, through your client, could provide us with the following information relating to the non-U.S. operations of the parent firm of your client:

- Location of each non-U.S. plant in which your client produces acoustic upright (vertical) and grand pianos;
- Year established and reasons for selecting specific locations for the production of pianos;
- Current competitive considerations associated with manufacturing at specific locations (include, for example, access to raw materials and financial incentives, and costs such as labor, imported inputs, and transportation;
- Current production capacity, by country of assembly, for upright pianos and grand pianos;
- Quantity of pianos produced at these facilities annually during 1994-98 (by country of assembly) for uprights and grands; share of annual production that was exported to the United States; and
- Investments to expand capacity or improve manufacturing methods during 1994-98. Indicate year, location of investment, and nature of investment, by type of piano.

It would also be helpful if the parent firm of your client could provide

information with regard to factors affecting the competitive position of foreign producers in the U.S. market. Views on each of the following, as well as other factors considered important, would be useful:

- Cost of production inputs
- Access to raw materials
- Labor costs
- Availability of a skilled/experienced labor force
- Access to financing
- Level of manufacturing technology
- Appearance of the pianos and quality as a musical instrument
- Pricing
- Home market strength (please include an assessment of trends in markets for upright and grand pianos in the countries where your client makes pianos)
- Changes in exchange rates

Please be aware that the final report will be made available only as a public document. Therefore, the parent firm of your client should expressly indicate if there is any information provided that should be treated as confidential business information within the meaning of Commission rule 201.6 (19 CFR 201.6), a copy of which is enclosed. If so, such information will be treated as confidential business information and will not be presented in a manner which will reveal the individual operations of any one firm.

Please provide the information requested directly to David Lundy, the Commission's project leader for this investigation, U.S. International Trade Commission, Room 511-N, 500 E Street, SW, Washington, DC, 20436, by no later than January 22, 1999. No copies are necessary. If you have any questions concerning the investigation or this request please contact Mr. Lundy at 202-205-3439 or Ralph Watkins, Chief, Miscellaneous Manufactures Branch, at 202-205-3492.

Thank you for your assistance,

Vern Simpson
Director of Industries

Enclosures: as stated

APPENDIX E

Profiles of Leading Foreign Producers

The four largest piano producers in the world are multinational corporations based in Asia (table 3-1). Yamaha Corporation and Kawai Musical Instrument Manufacturing Company are headquartered in Japan; Samick Musical Instrument Manufacturing Company and Young Chang Akki Company are headquartered in Korea. Each is profiled below. The profiles provide information on manufacturing locations, start-up dates, product mix, brand names used, and contracts to supply other manufacturers with pianos. This appendix also provides information about leading producers in China and Europe that export pianos to the United States.

Japan-Based Companies

Yamaha and Kawai are Japan's only significant exporters of pianos to the United States. Both are headquartered in Hamamatsu, Japan. The large domestic market in Japan has allowed each to achieve significant economies of scale. Each is a leader in the global industry in terms of manufacturing technology.[1] In addition to accounting for most piano production in Japan, collectively, the two companies accounted for more than one-half of all vertical pianos produced in the United States in 1998.[2]

Yamaha[3]

Yamaha is, by far, the world's largest producer of both pianos and other music and sound equipment, and the firm currently manufactures pianos in Japan, the United States, Taiwan, Indonesia, China, and the EU (table E-1). Yamaha has separate facilities in Japan for the production of vertical and grand pianos. Although Yamaha makes most of its own parts, the company imports spruce and certain other wood stock from the United States. Most production equipment is either made by Yamaha or purchased from nearby Japanese suppliers. All cast-iron plates used in the production of Yamaha pianos (regardless of assembly location) are made in a state-of-the-art Yamaha foundry in Japan.

Yamaha's production processes in Japan are reportedly the most highly automated in the world. However, to reduce production costs and hedge against currency fluctuations, Yamaha opened a plant in China in 1997 to produce certain piano parts that require relatively labor-intensive manufacturing processes. Parts made by Yamaha's wholly owned subsidiary, Xiaoshan Yamaha Musical Instrument Co. Inc., are exported to Yamaha's assembly plants throughout the world.

Yamaha operates about 6,000 music schools in Japan, and parents of children attending these schools are the principal market for Yamaha pianos. Because rooms are smaller in Japanese homes than in U.S. homes, most of Yamaha's sales in the Japanese market are tall, vertical pianos. Grand pianos account for a much larger portion of Yamaha's U.S. sales than they do of Yamaha's sales in Japan.

Yamaha began exporting pianos to the United States in 1960. It purchased Everett Piano Co. of South Haven, MI in 1972,[4] but shifted U.S. production in 1986 to Thomaston, GA, where Yamaha had

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[1] Terry Lewis, corporate vice president, Yamaha Corporation of America, interviewed by USITC staff, Buena Park, CA, Feb. 11, 1999.

[2] Based on responses to USITC questionnaires. To prevent disclosure of proprietary business data, the precise share of U.S. production accounted for by Yamaha and Kawai must be suppressed.

[3] Much of the information in this section based on interviews of Yamaha company representatives and other sources as noted.

[4] Pianos produced in Michigan had cabinets fashioned after American furniture styles, complementing Yamaha's piano imports from Japan, most of which had continental-style cabinets. Terry Lewis, Yamaha Corp. of America, Feb. 11, 1999.

Table E-1
Company profile: Yamaha Corporation

Manufacturing subsidiary for pianos	Plant location	Year opened	Types produced	Brands and/or leading U.S. customers
Yamaha Corporation	Hamamatsu and Kakegawa, Japan	1891 (est.)	Verticals, grands	Yamaha
Yamaha Corp. of America	Thomaston, Georgia	1986	Verticals	Yamaha
Schimmel Piano Group (24.9%)[1]	Braunschweig, Germany	1885	Verticals, grands	Schimmel
Kemble & Company Ltd. (92%)[1]	Bletchley, Milton Keynes, England	1911	Verticals	Yamaha, Kemble
Taiwan Yamaha Musical Inst. Mfg. Co., Ltd. (60%)[1]	Taipei, Taiwan	1968	Verticals	No exports to the U.S.
P.T. Yamaha Indonesia (96%)[1]	Jakarta, Indonesia	1974	Verticals	No exports to the U.S.
Guangzhou Yamaha-Pearl River Piano Inc. (60%)[1]	Guangzhou Province, China	1995	Verticals	Yamaha, Pearl River, Eterna
Xiaoshan Yamaha Musical Instrument Co.	Xioshan, China	1997	Piano parts	Not available

[1]Percentage figure refers to Yamaha's share of joint venture.

Sources: Larry Fine, *The Piano Book: Buying and Owning a New or Used Piano, 3*d ed. (Boston: Brookside Press, 1994), chapter 4; Fine's update published in 1998; various issues of *Music Trades;* and Yamaha's faxed response to questions from the Commission, Feb. 3, 1999.

previously established a plant for the manufacture of electronic musical instruments.[5] The vertical pianos made in Georgia combine U.S.-origin parts and materials with plates, action assemblies, and keys imported from Japan. The Thomaston plant now produces nearly 80 percent of all of the vertical pianos sold by Yamaha in the United States.[6] By 1998, Yamaha had a U.S. distribution network of 300 dealers.

Yamaha tries to produce pianos in close proximity to the leading markets and, where possible, establish partnerships with local producers. Hence, Yamaha also has joint production and marketing arrangements with companies in Germany, the United Kingdom, Taiwan, Indonesia, and China. Yamaha owns a 24.9 percent share of Schimmel Piano Group, one of the largest piano manufacturers in Western Europe, and sells German-made Schimmel pianos in Japan.[7]

Kemble, Yamaha's majority-owned joint venture in England, is the largest producer in Western Europe and reportedly accounted for 85 percent of piano production in the United Kingdom in 1993. Kemble makes both Yamaha and Kemble brand pianos, with the Kemble brand priced higher than the company's Yamaha brand pianos, but lower than pianos by Schimmel.[8] Although Kemble brand pianos are marketed primarily in Europe and Asia, the company began exporting Kemble pianos to the United

[5] From 1986 to 1990, Yamaha contracted with Baldwin to produce "Everett" brand pianos at Trumann, AR for distribution through Yamaha dealers. Terry Lewis, Yamaha Corp. of America, Feb. 11, 1999.

[6] Prepared Statement of Terry Lewis, Corporate Vice President, Yamaha Corporation of America, presented at the Commission's public hearing, Feb. 17, 1999.

[7] Larry Fine, *Piano Book*, pp. 112ff. Fine reports that, " . . . **[**T**]**he Schimmel factory combines computer-controlled machinery with its hand craftsmanship . . ."

[8] Kemble began making Yamaha brand pianos in 1985.

States in 1994.

Yamaha officials indicated that the firm's investments in Taiwan and Indonesia were made because high local import duties made the company's pianos exported from Japan prohibitively expensive for the majority of potential consumers in Taiwan and Indonesia. The low costs for both labor and raw materials provided an added incentive for locating manufacturing operations in both countries. None of the pianos produced by Yamaha in Taiwan or Indonesia are exported to the United States, and all of the pianos made by Yamaha in Taipei are sold in Taiwan. Despite Indonesia's large population, its market has been slow to develop, and most of Yamaha's Indonesian-made pianos are exported to other markets in Southeast Asia, such as Singapore, Malaysia, and Thailand.[9]

Yamaha reportedly assembles two lines of pianos in Guangzhou, China, at a joint venture facility with Guangzhou Pearl River Piano Group, Ltd. (Guangzhou).[10] One line is assembled from actions assemblies, plates, and keys made in Japan and backs, soundboards, and cabinetry made by Guangzhou and is marketed at Yamaha dealerships in the United States under the Eterna brand.[11] The other line is assembled from parts made entirely in China by Guangzhou. These pianos are distributed by Guangzhou under the Pearl River label. About three-quarters of the pianos produced at the Yamaha Pearl River factory are marketed in Asia, with roughly 15 percent exported to Europe and 10 percent to the United States.[12]

According to a Yamaha official, Yamaha felt it was imperative to establish a manufacturing presence in China.[13] While demographics indicate that the markets for pianos in the United States, Europe, and Japan are mature and offer little prospect for substantial growth, the market potential in China is quite large. See chapter 5 for a discussion of the size of the market in China. The Yamaha official reported that there are no piano stores in China; instead, customers buy directly from factories. As a result, foreign companies that want to sell pianos in China must produce them in China. Yamaha chose its joint venture partner, Guangzhou Pearl River, because of the latter's experience in local piano production and its location in a Foreign Economic Zone, making it easier for Yamaha to ship product in and out of China. Guangzhou Pearl River, however, also produces pianos under contract with a number of piano producers and distributors in the United States.[14] These private label pianos compete with the Eterna brand pianos offered in Yamaha's dealerships in the United States.

Kawai[15]

Kawai Musical Instrument Manufacturing Company, Ltd., is the second largest producer of pianos

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[9] Terry Lewis, Yamaha Corporation of America, Feb. 11, 1999.

[10] Larry Fine, *Piano Book Update* (updated July 5, 1998), p. 22, found at http://www.tiac.net/users/ pianobk/ update.html, retrieved Dec. 17, 1998.

[11] In markets other than the United States, pianos made on this production line are sold under the Yamaha brand.

[12] Terry Lewis, Yamaha Corporation of America, Feb. 11, 1999.

[13] Ibid.

[14] For more information about Guangzhou Pearl River, see the section of this chapter that profiles producers in China.

[15] Much of the information in this section based on interviews of Kawai company representatives and other sources as noted.

in Japan and the second leading musical instruments producer in the world. All of Kawai's grand pianos and upper-end vertical pianos are produced in Japan, whereas its less expensive vertical pianos are assembled in Kawai's factory in Lincolnton, NC (table E-2). Kawai makes vertical pianos in Maisaka, Japan, and grand pianos in Ryuyo, Japan. Kawai has made "Boston" brand vertical and grand pianos in Japan since 1992.[16] These pianos are designed by Steinway & Sons of Long Island City, NY, and marketed by Boston Piano Co., a subsidiary of Steinway & Sons parent company, Steinway Musical Properties, Inc. Kawai also makes Schiedmayer brand pianos in Japan and markets them globally, except in the United States, under license from Rudolph Ibach Sohn of Schwelm, Germany.

Table E-2
Company profile: Kawai Musical Instrument Manufacturing Co., Ltd.

Manufacturing subsidiary for pianos	Plant location	Year opened	Types produced	Brands and/or leading U.S. customers
Kawai Musical Instrument	Maisaka, Japan (1961) Ryuyo, Japan (1980)	1927 (original factory)	Verticals, grands	Kawai, Diapson, Boston, Schiedmayer
Kawai America Corp.	Lincolnton, NC	1988	Verticals	Kawai
Kawai Asia Mfg. Sdn. Bhd.	Malaysia	1990	Piano parts--backposts	Not for export to the U.S.
Beijing Xing Hai Musical Instrument Corp. (production agreement)	Beijing, China	1995	Verticals	Kawai

Sources: Larry Fine, *The Piano Book: Buying and Owning a New or Used Piano,* 3d ed. (Boston: Brookside Press, 1994), chapter 4; Fine's update published in 1998; and various issues of *Music Trades*.

In 1988, Kawai reportedly invested $10 million to establish its piano factory in Lincolnton, NC, to hedge against appreciation of the yen against the U.S. dollar and related rising labor costs in Japan.[17] Shifting production to the United States also cut transportation costs when selling in the U.S. market and avoided U.S. tariffs then in effect, which were 5.3 percent ad valorem (currently 4.7 percent).[18] Kawai also invested in the Lincolnton facility to take advantage of the region's expertise in furniture making, state and county tax incentives, and financial assistance in training technicians. The manufacturing process in North Carolina combines U.S.-origin parts and materials with selected imported parts and subassemblies.[19] Production at Lincolnton accounts for approximately 80 percent of all Kawai verticals sold in the United States each year.[20] Kawai also exports vertical pianos produced in North Carolina to Canada and Europe, especially Germany and Italy.

[16] Although most Boston brand verticals are made in Maisaka, Japan, some are made in Lincolnton, NC. Exhibit submitted by Will Leonard of Ablondi, Foster, Sobin & Davidow on behalf of Kawai, dated Mar. 1, 1999.

[17] "Kawai in the U.S.A.," *Music Trades*, Jan. 1997, vol. 144, No. 12, pp. 154 ff.

[18] For similar reasons, Kawai also purchased Lowery Organ Co. of La Grange, Illinois in 1998. The organs and digital pianos manufactured in Illinois incorporate parts made in Japan and the United States. Exhibit submitted to the USITC by Will Leonard of Ablondi, Foster, Sobin & Davidow on behalf of Kawai, dated Mar. 1, 1999.

[19] All of the pianos use action assemblies and backs made in Japan. Top-of-the-line models use plates and keyboards made in Japan, while other models use U.S.-made plates and keyboards assembled by Baldwin's subsidiary in Mexico. Ibid.

[20] Ibid.

Kawai entered into an agreement with Beijing Xing Hai Musical Instrument Corporation (Beijing Piano) in 1995, under which Beijing Piano manufactures approximately 250 vertical pianos each month for distribution by Kawai to countries in Southeast Asia. Beijing Piano also manufactures pianos under license from Kawai, using action assemblies made in Japan. Beijing Piano markets these pianos in China under the Kawai brand. Kawai officials reported that the licensing arrangement with Beijing is a less expensive way for Kawai to gain access to the Chinese market than to establish new production facilities.[21] Licensing also eliminates the need for Kawai to set up a sales force in China.

Korea-Based Companies

The two leading Korean producers of pianos rank among the top four manufacturers of music equipment globally (table 3-1). Each of the two started out as distributors of pianos made in Japan and the United States,[22] but became producers because high Korean import tariffs put pianos out of the reach of most potential consumers. Access to foreign production technology, manufacturing equipment, and parts; protection from import competition; and significant local demand enabled the emerging industry in Korea to achieve economies of scale and eventually become competitive in the U.S. market. In recent years, the firms have established operations elsewhere in Asia and in the United States.

Korean producers began exporting significant volumes of pianos to the United States in the late 1970s. By that time, the Korean industry had developed pianos that were adequate as entry-level musical instruments by international standards. Korean producers benefitted from the escalating relative value of the yen, which drove up production costs in Japan compared with costs in Korea and the United States. When Japanese pianos moved up the quality and price scale in the U.S. market in the late 1970's, it created an opening for Korean producers to supply the low end of that market.

The Korean producers Young Chang and Samick have followed in the footsteps of Yamaha and Kawai, consistently upgrading product quality and manufacturing technology. As in Japan, however, rising labor costs in Korea have led Young Chang and Samick to seek out lower cost production sites. Aspirations of gaining shares of the potentially huge market in China for pianos led both companies to invest in production facilities in China. Young Chang's investment in China was much larger than Samick's, because Samick recognized problems associated with production in China (see company profile below) and shifted investment to Indonesia. Investments by Young Chang and Samick have contributed to the recent sharp rise in U.S. imports of pianos from China and Indonesia.

Young Chang[23]

Young Chang is one of the largest piano producers in the world, with the capacity in 1998 to build 135,000 pianos annually.[24] The company also makes guitars, harmonicas, reed organs, and industrial

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[21] Junichi Ando, executive vice president, Kawai America Corp., interviewed by USITC staff, Lincolnton, NC, Feb. 8, 1999.

[22] Much of the assessment of the Korean piano industry was provided by officials of Samick Music Corp. in a telephone interview with USITC staff on Jan. 4, 1999.

[23] Much of the information in this section based on interviews of Young Chang company representatives and other sources as noted.

[24] Young Chang claims to account for 20 percent of world sales of pianos. "The Young Chang Story" (Young Chang home page), found at http://www.youngchang.com/yestory.html, retrieved Nov. 23, 1998. Young Chang

(continued...)

woodworking machinery. Young Chang was founded in 1956 as a distributor of Yamaha pianos.[25] Young Chang currently produces vertical and grand pianos in a highly automated integrated manufacturing plant in Inchon, Korea. Young Chang makes most of its own parts, including cast-iron plates produced at the company's foundry in Inchon. Young Chang also produces much of the manufacturing equipment used at its piano factories.

In 1991, Young Chang invested $32 million in Young Chang America Timber, Inc., a lumber mill in Tacoma, WA, to ensure a reliable supply of spruce, maple, and other North American hardwoods for its factories in Korea (table E-3).[26] Young Chang America's headquarters was eventually moved from Cerritos, CA, to Lakewood, WA, a suburb of Tacoma. Young Chang's North American research and development center is located in Waltham, MA. Engineering staff there develop technology for both Young Chang pianos and Kurzweil brand digital keyboard instruments.[27]

Table E-3
Company profile: Young Chang Akki Company, Ltd.

Manufacturing subsidiary for pianos	Plant location	Year opened	Types produced	Brands and/or leading U.S. customers
Young Chang Akki Co., Ltd.	Seoul, Korea Inchon, Korea	1964	Verticals, grands	Young Chang, Weber, Cline, Knabe, Shafer & Sons, PianoDisc
Young Chang America Timber, Inc. . . .	Tacoma, WA	1991	Sawmill	Not applicable
Tianjin Young Chang Akki Co., Ltd. . . .	Tianjin, China	1995	Verticals, grands	Young Chang, Weber

Sources: Larry Fine, *The Piano Book: Buying and Owning a New or Used Piano,* 3d ed. (Boston: Brookside Press, 1994), chapter 4; Fine's update published in 1998, and various issues of *Music Trades*.

In addition to exporting Korean-made Young Chang brand pianos to the United States, Young Chang also makes pianos for the U.S. and European markets under other brand names. Young Chang has made Cline brand verticals and grands for U.S. distribution by Cline Piano Company of Belmont, CA, since 1992.[28] More recently, Young Chang has begun manufacturing Knabe brand pianos for U.S. distribution by Music Systems Research of Sacramento, CA.

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[24] (...continued)
had a manufacturing workforce of over 5,000 employees in 1995. "Young Chang Bets $40 million on China," *Music Trades*, reprinted from the Dec. 1995 issue.

[25] Yamaha provided Young Chang with technical assistance, manufacturing equipment, and certain components and subassemblies when Young Chang began production of pianos in 1964. The partnership between the two companies ended in 1975 when Young Chang pianos began competing with Yamaha's pianos in export markets. Fine, *Piano Book*, p. 128.

[26] In 1994, Young Chang exported $30 million of wood and processed wood parts from its mill in Tacoma, WA, to its piano assembly plants in Korea. "Young Chang Bets $40 million on China," *Music Trades*, Dec. 1995.

[27] Young Chang purchased selected assets of Kurzweil Music Systems in 1990. "The Young Chang Story" (Young Chang home page), found at http://www.youngchang.com/yestory.html, retrieved Nov. 23, 1998.

[28] Prior to 1992, Cline brand pianos were made first by Kimball (West Baden Springs, IN), then by Daewoo (Korea). Fine, *Piano Book*, p. 89.

For a number of years, Young Chang made Wurlitzer brand verticals and grands in Korea which were marketed in the United States by Baldwin Piano & Organ. The Wurlitzer brand pianos were reportedly identical in construction to their Young Chang brand counterparts.[29] Baldwin eventually terminated its relationship with Young Chang, shifting Asian production of Wurlitzer verticals to Beijing Piano Group in China and Wurlitzer grands to Samick in Korea.

Until 1998, Young Chang made pianos for Nakamichi, Inc., of Hamamatsu, Japan. Nakamichi would install German-made hammers at their facility in Japan and make adjustments such as regulating and voicing, then export the pianos to the United States. These pianos were first sold under the Nakamichi label; the name was later changed to Nakamura.[30]

Young Chang built a foundry in Tianjin, China, in 1988 to supplement its Korean production of piano plates.[31] The success of the plate foundry,[32] combined with rising labor costs in Korea and the large size of the potential market for pianos in China, led Young Chang in 1991 to invest $40 million in a piano factory next to its foundry in Tianjin.[33] Young Chang began producing vertical pianos in November 1995 and grand pianos in December 1997 at the new integrated manufacturing complex. According to Young Chang officials, approximately 20 to 30 percent of the vertical pianos and 80 percent of the grand pianos produced at the Tianjin plant are exported to the United States.[34] By comparison, 10 percent of the vertical pianos and 80 percent of the grand pianos produced at Young Chang's Inchon facility are exported to the United States.

In addition to its own brand, Young Chang also makes Weber [35] brand vertical and grand pianos in both Inchon, Korea, and Tianjin, China. Young Chang established Weber Piano Company in 1986 as an alternative brand for those U.S. consumers who prefer pianos with German or American, rather than Korean, brand names. Young Chang sold Weber to Samsung America Inc. in 1987, but still produces all Weber brand pianos.[36] Weber pianos and Young Chang pianos differ only in the cosmetics of the cabinet styles.

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[29] Ibid., p. 123.

[30] Ibid., p. 105; and Fine, *Piano Book Update* (1998), p. 11.

[31] The foundry in Tianjin is 90 percent owned by Young Chang. "Young Chang Commences Production of Grand Pianos in China," *Music Trades*, Jan. 1998, vol. 145, No. 12, p. 40f.

[32] In 1995, Young Chang's foundry in Tianjin was producing 10,000 vertical piano plates per month for export to Young Chang's piano assembly plants in Korea. The plates were made at a cost savings of 40 percent compared with Young Chang's plate foundry in Korea. Employment at the Tianjin foundry totaled 240 workers in 1995. During 1988-95, Tianjin attracted investments from nearly 200 Korean joint venture companies. Tianjin is a short flight or a 28-hour ferry ride from Korea and there is a large Korean-speaking population in Tianjin, giving Korean investors an advantage in the region over potential Japanese investors making competing products. "Young Chang Bets $40 million on China," *Music Trades*, Dec. 1995.

[33] Young Chang owns 90 percent of Tianjin Young Chang Akki Co., Ltd.; the Tianjin government owns the remaining 10 percent. Ibid.

[34] Tom Miller, vice president, Young Chang America, interviewed by USITC staff, Buena Park, CA, Feb. 10, 1999.

[35] Weber pianos were produced in the United States until 1985 when the manufacturer, Aeolian Piano Co., went out of business. Young Chang purchased the rights to the Weber name.

[36] In addition to importing from Young Chang, Weber Piano Company (Secausus, NJ) in 1994 began importing pianos from Dongbei Piano Company of China under the names Sagenhaft and Nordiska.

Samick[37]

Samick was founded in 1958 as a distributor of Baldwin pianos. The company started assembling vertical pianos from imported parts in the early 1960s (table E-4). The company now makes most of the parts it needs to produce pianos and is one of the largest piano manufacturers in the world. It is also the world's largest producer of guitars.[38]

Table E-4
Company profile: Samick Musical Instrument Manufacturing Co., Ltd.

Manufacturing subsidiary for pianos	Plant location	Year opened	Types produced	Brands and/or leading U.S. customers
Samick Musical Instrument Manufacturing Co., Ltd.	Inchon, Korea	1960s	Verticals, grands	Samick, D.H. Baldwin, Wurlitzer, Kohler & Campbell, Konover Cable, Hyundai, Maeari, Otto Altenburg, Bernhard Steiner, Schultz & Sons, Grinnell Bros.
Samick Music Corporation	City of Industry, CA	1982	Verticals	Samick
P.T. Samick Indonesia	Jakarta, Indonesia	1991 - guitars; 1997 - pianos	Verticals, grands	Samick, Kohler & Campbell, Konover Cable
Harbin Samick	Harbin, China	1989	Verticals, parts	Not exported to U.S.

Sources: Larry Fine, *The Piano Book: Buying and Owning a New or Used Piano,* 3d ed. (Boston: Brookside Press, 1994), chapter 4; Fine's update published in 1998; and various issues of *Music Trades*.

The company's pianos have a variety of brand names. Pianos produced by Samick with the Samick and Kohler & Campbell[39] labels are distributed by Samick's wholly-owned U.S. subsidiary, Samick Music Corporation. Hyundai and Maeari pianos are purchased directly from the Samick factory in Korea by Hyundai and distributed by North American Music. D.H. Baldwin pianos are purchased from the Samick factory in Korea by Baldwin Piano & Organ and sold through Baldwin dealers. Samick also makes Otto Altenburg pianos for a piano dealer of the same name in Elizabeth, NJ; Bernhard Steiner pianos for a dealership of that name in Dallas, TX;[40] Grinnell Bros. pianos for Hammell Music, a Detroit-

[37] Much of the information in this section based on interviews of Samick company representatives and other sources as noted.

[38] In addition, Samick opened a new grand piano plant in Korea in 1989. The rims for the Samick grands are made from Philippine mahogany, a softer (lower quality) wood than the more difficult and expensive-to-obtain maple preferred in U.S.- and Japanese-made grand pianos. Fine, *Piano Book,* p. 109.

[39] Kohler & Campbell pianos were produced in Granite Falls, NC. The company went out of business in 1985, and Samick purchased the rights to the name. Robert Jones, vice president, Samick Music Corp., interview by USITC staff, City of Industry, CA, Feb. 12, 1999.

[40] A separate line of pianos is made for Bernard Steiner by Dietmann Klavier of Hamburg, Germany. Final assembly is performed by Dietmann's subsidiary in South Africa. Fine, *Piano Book*, p. 89.

area piano dealer; and Schultz & Sons pianos for a dealer of that name in New York City.[41]

To establish a manufacturing presence in important foreign markets, Samick initiated assembly of vertical pianos in the United States in 1982 and China in 1986. Samick shifted assembly from its facility in City of Industry, CA, to Indonesia in 1998, however, when its supplier of cabinets, Kimball, quit producing piano cabinets in order to focus of its core furniture business.[42] Samick continues to assemble relatively small quantities of vertical pianos at its facility in Harbin, China, for distribution in China and other countries in Asia.[43] Samick officials report they the company has been disappointed with the quality and productivity of its workforce in China, as well as with China's scarcity of timber resources. Samick also has found local government officials in China difficult to work with. Although Young Chang officials reported that the availability of timber resources was one of the reasons the company invested in a production facility in China, Samick officials indicated that the type of timber required to manufacture high quality pianos is in scarce supply in China.[44]

In contrast to its experience in China, Samick officials report they are quite happy with their operations in Indonesia. Samick's achievements producing guitars in Indonesia beginning in 1992 encouraged the company to establish a piano factory in Indonesia when Samick Music Corp. (USA) needed to develop an alternative supplier of piano cabinets. Samick found Indonesian workers easily trained and productive. There were abundant wood resources available in Indonesia, and some of the woodworking skills developed by the guitar production workforce could be transferred to the production of pianos. In addition, Samick already had a fully integrated woodworking plant in place.

Samick began producing vertical pianos in October 1996 and grand pianos in December 1997 at its Indonesian complex.[45] Indonesian-assembled pianos combine keys, action assemblies, hammers, and piano plates made in Korea with soundboards and cabinets made in Indonesia, using production equipment moved from the California plant and additional manufacturing equipment from Korea.[46] A wood indigenous to Indonesia, agatis, is used to produce soundboards for both pianos and guitars.[47] The Samick complex in Indonesia has the capacity to produce 20,000 vertical and 4,000 grand pianos annually.[48] Unlike the Harbin, China, plant, all of the pianos produced in Indonesia are exported, with most going to the United States. The synergy of producing both pianos and guitars in one location contributed to a reduction in Samick Music Corp.'s vertical piano costs, despite the higher transportation costs involved

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[41] Fine, *Piano Book Update* (1998), p.17.

[42] Robert Jones, executive vice president, Samick Music Corp., interviewed by USITC staff, City of Industry, CA, Feb. 12, 1999. Samick established a lumber mill in Indonesia about 20 years ago, after Indonesia enacted a law prohibiting the export of raw logs. At first, processed lumber was sent to Korea for the manufacture of piano parts and cabinetry, as well as guitars. Eventually, Samick started making further processed guitar parts in Indonesia. Finally, in 1992, Samick shifted production of low-end guitars from Korea to Indonesia.

[43] According to Samick officials, production volumes at Samick's factory are small. Quality levels at the facility do not meet Samick's standards for exports to the United States. Pianos produced in China are intended for the entry-level consumer in China. Telephone interview with Robert Jones, Samick Music Corp., Jan. 4, 1999.

[44] Robert Jones, Samick Music Corp., Jan. 4, 1999.

[45] "Smooth Sailing Samick Indonesia," *The Korea Post*, vol. 11, No. 8, Aug. 1998, found at http://www.samick.co.kr/smmaster/enews.html, retrieved Nov. 23, 1998.

[46] Samick reported that although more hand processes are done in Indonesia than in Korea because of the lower cost of labor in Indonesia, the Indonesian facility is probably as automated as the Baldwin plant in the United States. Robert Jones, Samick Music Corp., Feb. 12, 1999.

[47] Fine, *Piano Book Update* (1998), pp. 15 ff.

[48] Samick is also capable of producing 25,000 acoustic guitars and 20,000 electric guitars each month in Indonesia. "Samick Exits Bankruptcy," *Music Trades*, Oct. 1998, p. 25.

with final assembly in Indonesia, instead of California.

A bankruptcy reorganization completed in August 1998[49] reportedly allowed Samick to shift much of its production from high-labor-cost, high-overhead facilities in Korea to lower labor-cost, modern, and more efficient facilities in Indonesia. The company's financial difficulties reportedly stemmed from an expensive diversification program that the company had embarked on in 1988. During the bankruptcy protection, the company shed all nonmusic subsidiaries and focused on the manufacture of musical instruments.

A Samick official reported that the company has had to "go upscale" with its production of guitars and pianos in Korea because the company's Korean-made musical instruments could not compete in terms of price with its instruments produced in Indonesia.[50] Improvements in the quality of Samick's Kohler & Campbell brand pianos made in Korea were reportedly a factor in meeting requirements set by Steinway dealers, who sell Kohler & Campbell brand grand pianos. The Samick official noted that the increase in Samick's U.S. imports of vertical pianos from its Indonesia plant have been offset by a decrease in imports of verticals from its plant in Korea.

Daewoo

Daewoo Precision Industries exported Sojin brand and private label pianos to the United States from 1980 to 1991. After Daewoo purchased a 33 percent interest in prominent German piano manufacturer Ibach, Daewoo replaced Sojin production equipment with copies of Ibach's piano-making machinery. Daewoo now exports Korean-made Ibach brand vertical and grand pianos to Canada, but not to the United States.[51]

China[52]

There are at least seven producers in China that export pianos to the United States (table E-5). The quality of pianos produced in China reportedly improved in the 1980s after three major U.S. manufacturers of pianos went out of business or downsized and sold much of their production equipment to Chinese producers.[53] In recent years, the Chinese industry has been the recipient of manufacturing technology, production equipment, and direct investment from Korea, Japan, and Europe, as well as the United States. All Chinese producers market pianos under their own names and the brand names of other companies, and they supply both the Chinese and foreign markets.

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[49] Ibid.

[50] Robert Jones, Samick Music Corp., Feb. 12, 1999.

[51] Ibach reportedly will market Korean-made Ibach pianos worldwide. Fine, *Piano Book Update* (1998), p.11.

[52] Much of the information in this section based on interviews of Yamaha, Kawai, Young Chang, and Samick company representatives and other sources as noted.

[53] Robert Jones, Samick Music Corporation, Jan. 4, 1999. U.S. companies that sold production equipment to producers in China included Aeolian (Memphis, TN) and Kimball (West Baden Springs, IN).

Table E-5
Leading producers in China: Company profiles

Company	Plant location	Year opened	Types produced	Brands and/or leading U.S. customers
Guangzhou Pearl River Piano Group, Ltd.	South Hua Di Da Dao, Fang Cun, Guangzhou; Macao	1956	Verticals, grands	Pearl River, Fandrich & Sons, Brentwood, Hastings, Maddison, George Steck, Ridgewood (for Weber), Sagenhaft (grands for Weber)
Beijing Piano Company	Beijing		Verticals, grands	Kawai, Story & Clark, Wurlitzer verticals (for Baldwin), Steigerman (grands)
Shanghai Piano	Shanghai	1890 (est.)	Verticals	Strauss
Dongbei Piano Group	Yingkou, Liaoning Province	1995 (est.)	Verticals	Everett, Niemeyer, Nordiska, Sagenhaft (for Weber), Story & Clark, Prelude
Yantai Longfeng Piano Co.	Yantai City	1991	Verticals	Steigerman
Tianjin Young Chang Akki Co., Ltd.	Tianjin	1995	Verticals, grands	Young Chang, Weber
Artfield Piano Ltd.	Not available	1996	Verticals	Krakauer

Sources: "The Global 200: The World's Largest Music & Sound Companies," *Music Trades*, Dec. 1998, p. 84; Fine, *Piano Book*, chapter 4; interviews with industry representatives; and various company brochures and Internet Web sites.

Guangzhou Pearl River Piano Group, Ltd. (Guangzhou), is reportedly the largest producer of pianos in China,[54] with total company sales amounting to $61 million in 1997.[55] Guangzhou officials report that the company has an annual production capacity of nearly 100,000 pianos and that the company supplies nearly 60 percent of the market in China. Guangzhou reportedly sells 80 percent of its production of vertical pianos in the local market in China.[56]

With factories in Guangzhou and Macao, Guangzhou both markets pianos under its own label and produces pianos for many other companies. Guangzhou has a joint venture with Yamaha under which Guangzhou supplies parts to a nearby Yamaha-managed facility, with one line of assembled pianos

[54] The company also does business as Guangzhou Zhujiang Piano Group Co., Ltd., which was formed in 1996 with the merger of Guangzhou Zhujiang Piano Industrial Company and Guangzhou Piano Factory. The conglomerate is owned by the Guangzhou Municipal Government. The company also produces guitars and violins, although pianos are the company's principal products. Within the corporate structure, nine factories are subordinate to the Guangzhou Musical Instrument Industrial Company. From *Guangzhou Pearl River Piano Industrial Corporation*, Introduction, found at http://www.pearlriverpiano.com/1.html, retrieved Jan. 27, 1999; and Fine, *Piano Book*, p. 96. One source reported that Guangzhou is the largest piano producer in the world. See Fandrich & Sons Pianos, home page, found at http://www.fandrich.com/html/home.htm#techCons, retrieved Jan. 25, 1999.

[55] "Pearl River" advertisement in *Music Trades*, Jan. 1998.

[56] "NAMM in Los Angeles," photo caption in *Music Trades*, Mar. 11, 1999.

distributed by Yamaha and another by Guangzhou.[57] At its Guangzhou facilities, the company makes Fandrich & Sons brand pianos to the specifications of the Seattle-based company of the same name; George Steck brand pianos for Mason & Hamlin of Haverhill, MA; and Ridgewood brand vertical pianos and Sagenhaft grand pianos for Weber Piano Company of Secaucus, NJ.[58] Guangzhou's subsidiary in Macao, Macao Piano Factory Ltd., supplies Hastings brand vertical and grand pianos to Coast Wholesale Music, a division of Kaman Music Corp. in Compton, CA, and Maddison brand verticals and grands to Piano Exchange Group in Bradenton Springs, FL. Pianos assembled in Macao use cabinets made locally, while action assemblies and strung backs are made by the parent company in Guangzhou.[59]

Shanghai Piano Company is the oldest piano manufacturer in China, having been established by the British more than 100 years ago. Shanghai makes pianos under a number of different names. The most common label appearing on pianos exported to the United States is Strauss. These pianos are distributed by L & M International of Nashville, TN.

Yantai Longfeng Piano Co. makes vertical pianos under the Steigerman label.[60] The pianos are marketed in the United States by Steigerman Music Corp. Yantai was established in 1991 and outfitted with manufacturing equipment from Japan and Germany. Some of the components used to produce the pianos are also imported from Japan and Germany.[61] The company also employs technical expertise from Germany and the United Kingdom. Yantai was scheduled to produce 7,000 vertical pianos in 1997, with 80 percent expected to be exported.

Beijing Piano Company makes Kawai brand vertical pianos for Kawai Musical Instrument Manufacturing Co. under an agreement entered into in 1995. Beijing Piano also makes vertical pianos for Baldwin Piano & Organ, sold under the Wurlitzer label, and large verticals and grand pianos for Story & Clark.

Dongbei Piano Group reportedly produces 20,000 vertical pianos per year.[62] The company began making Everett brand vertical pianos in 1995. These pianos are marketed by Wrightwood Enterprises, Inc. (Lansing, MI), which owns the Everett name. Dongbei purchased the manufacturing equipment of Nordiska after the Swedish company went out of business. Dongbei began exporting Nordiska brand pianos in 1998 to Geneva International of Wheeling, IL. Dongbei also makes Sagenhaft vertical pianos for Weber Piano Company of Secaucus, NJ, as well as a line of small- and medium-sized verticals for Storey & Clark under the Prelude brand.[63]

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[57] "Industry Forefront: Yamaha Opens in China," *Music Trades*, Apr. 1995, vol. 143, No. 3, p. 33.

[58] Fine, *Piano Book Update* (1998), pp. 6 ff. In addition to importing pianos from Guangzhou Pearl River sold under the Pearl River and Fandrich & Sons labels, Fandrich & Sons also imports vertical and grand pianos from Germany that are sold under the Wilhelm Steinberg label.

[59] Fine, *Piano Book Update* (1998), pp. 10 ff.

[60] "Up and Comers: Steigerman Piano Charts Ambitious Course," *Music Trades*, Jan. 1997, vol. 144, no. 12, pp. 145 f.

[61] Fine, *Piano Book Update* (1998), p. 18.

[62] "QRS Music Technologies and Dongbei Piano . . ." (press release dated Jan. 6, 1998), found at http://mmd.foxtail.com/Archives/Digests/199801/1998.01.11.10.html, retrieved Dec. 17, 1998.

[63] Fine, *Piano Book Update* (1998), pp. 12, 15, and 20. Dongbei Piano exports pianos to QRS Music Technologies Inc., Story & Clark's parent company, under the Prelude label. "QRS Music Technologies and Dongbei Piano . . ." (press release dated Jan. 6, 1998).

Young Chang (of Korea) began production of vertical and grand pianos in 1995 in Tianjin, where the company had previously begun production of cast iron plates used in the company's Korean piano factories. Several models of pianos from the Tianjin plant are exported to the United States. The pianos are reportedly assembled from a Chinese back, plate, and cabinet, while the action assemblies are made in Korea.[64] Some spruce soundboards and certain wood stock are imported from Young Chang's sawmill in Tacoma, WA.[65]

After Kimball closed the last of its piano production facilities in West Baden Springs, IN, in 1996, its production equipment was sold to a new company in China, Artfield Piano Ltd. Artfield reportedly makes vertical pianos under the Krakauer brand (formerly owned by Kimball). These pianos are offered in both American furniture-style and European-style cabinets. The Krakauer pianos incorporate a number of parts imported from Japan and Germany. Artfield also offers private label pianos made entirely from parts of Chinese origin.[66]

Europe

Pianos made in Germany, Austria, and Italy have a reputation for superb quality, with many companies building on century-old traditions of craftsmanship. Such pianos are often considered a long-term investment, and the purchase price is generally of secondary consideration compared with the quality and resale value of the instrument.[67] Five of the leading companies that manufacture these top-of-the-line pianos are C. Bechstein, L. Bosendorfer Piano Factory, Fazioli Piano Factory,[68] Schimmel Piano Group, and Steinway & Sons. (See profiles in table E-6 at the end of this appendix.) All except Fazioli have been the targets of foreign investors. Bechstein, which has reportedly balanced traditional craftsmanship and modern production technology, was owned by Baldwin Piano & Organ from 1963 to 1989.[69] Bosendorfer, which makes one of the highest rated grand pianos,[70] was purchased by Kimball International in 1966 to complement the line of vertical pianos the company produced in West Baden Springs, IN, until 1996l. Steinway & Sons is a subsidiary of Steinway Musical Properties, Inc. of Long Island City, NY. The factory in Germany supplies Steinway pianos to markets in Europe, Africa, and Asia. The sister subsidiary in New York, Steinway, Inc., supplies the markets in North and South America from its factory in Long Island City.

Yamaha Corporation (Japan) owns a controlling interest in Kemble & Company and a 24.9 percent stake in Schimmel. With a factory in England, Kemble is the largest piano producer in Western Europe and accounts for 85 percent of piano production in the United Kingdom. The company makes vertical pianos and markets them under both the Kemble and Yamaha labels. The Schimmel line allows Yamaha to offer its customers a uniquely-styled, high-end, German-made alternative. Schimmel exports approximately 300 vertical and 350 grand pianos to the United States each year, which are marketed by independent dealers, and approximately 100 vertical pianos to Japan, which are marketed by Yamaha.

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[64] Fine, *Piano Book Update* (1998), p. 23.

[65] Tom Miller, Young Chang America, Jan. 21, 1999.

[66] Fine, *Piano Book Update* (1998), p. 10.

[67] Fine, *Piano Book*, pp. 74 ff.

[68] Fazioli Piano Factory of Italy is one of the most recent entries into the piano market, initiating production in 1978. Fazioli pianos are regarded by some as among the highest quality grand pianos ever made. Fine, *Piano Book Update* (1998), pp. 12 ff.

[69] Fine, *Piano Book*, pp. 84 ff.

[70] Ibid., p. 86.

At the other end of the spectrum are pianos from the former Eastern Bloc countries, where economic constraints have reportedly led to difficulties in obtaining good-quality materials or modern production equipment for building pianos. Workmanship for many pianos from Russia and Eastern Europe has been inconsistent in recent years. Nevertheless, low-cost labor has made pianos from Eastern Europe attractive as price-competitive, entry-level instruments. The two largest of these Central and Eastern European manufacturers are Tallinn Klaveri Vabrik and Tovarna na Piana. Tallinn was formed when the Government of Estonia consolidated the country's production of pianos into a single factory in 1950. The company is reported to be the largest producer of grand pianos in Scandinavia and Eastern Europe.[71] Similarly, Tovarna is the result of the consolidation of piano producers by the Government of Czechoslovakia in 1965. Petrof brand pianos, which are now produced in a number of locations in the Czech Republic, are one of the fastest growing lines exported to the United States from Europe. They are reportedly noted for their tone and the quality of the workmanship in their cabinetry.[72]

Nordpiano is the most recent entry among European piano producers exporting to the United States. It was established in Mecklenburg, Germany, in 1996 and markets one model each of vertical and grand pianos, both under the Mecklenburg brand. Nordpiano reportedly competes directly with pianos produced in Korea, Poland, and the Czech Republic. According to Steffan Hoffman, company founder, Nordpiano has been able to keep its costs low by (1) government "rewards" for each person hired in the Mecklenburg region, which is experiencing high unemployment; (2) additional government "kickbacks" for investment in technology; and (3) production sharing in Russia.[73] By having certain processes done in Russia instead of Germany (including the application of polyester and drying of keyboards), the company reportedly reduces both labor costs and costs involved in complying with Germany's stricter environmental protection standards.

Table E-6
Leading producers in Europe: Company profiles

Company	Plant location	Year opened	Types produced	Brands and/or leading U.S. customers
Bechner Piano Co.	Chernigov, Ukraine	([1])	Verticals	Bechner
C. Bechstein	Seifhennersdorf and Berlin, Germany	1853	Verticals, grands	Bechstein, Feurich, W. Hoffman, Zimmermann
Belarus Piano Co.	Belarus	([1])	Verticals	Sangler & Sohne, Wieler, Belarus, Charles Albrecht
Julius Bluthner Piano Factory . . .	Leipzig, Germany	1853	Verticals, grands	Bluthner
Bohemia Piano Co. (formerly IFM Piana s.r.o.)	Jihlava, Czech Republic	1993	Verticals	Rieger-Kloss (for Weber)
L. Bosendorfer Piano Factory	Vienna, Austria	1828	Verticals, grands	Bosendorfer

See footnotes at end of table.

[71] Fine, *Piano Book Update* (1998), pp. 12 ff.

[72] Fine, *Piano Book*, p. 107.

[73] "Keyboards: Mecklenburg–A New Name in Pianos from Germany," *Music Merchandise Review*, Mar. 1999, pp. 50 ff.

Table E-6--*Continued*
Leading producers in Europe: Company profiles

Company	Plant location	Year opened	Types produced	Brands and/or leading U.S. customers
Dietmann Klavier	Hamburg, Germany	1903	Verticals	Dietmann, Otto Bach, Bernhard Steiner
Fazioli Piano Factory	Sacile, Italy	1978	Grands	Fazioli
Julius Feurich Piano Co.	Gunzenhausen, Germany	1851	Verticals, grands	Feurich
August Forster	Lobau, Germany	1859	Verticals, grands	August Forster
Grotian-Steinweg	Braunschweig, Germany	About 1850	Verticals, grands	Grotian
Hellas Piano	Halkai, Finland	([1])	Verticals	Fazer
Kemble & Company Ltd. (majority ownership by Yamaha)	Bletchley, Milton Keynes, England	1911	Verticals	Yamaha, Kemble
Legnicka Piano Factory	Legnicka, Poland	1887[2]	Verticals	Th. Betting, Schirmer & Sons
Nordpiano Factory	Mecklenburg, Germany	1996	Verticals, grands	Mecklenburg
Pleyel Pianos	Ales, France	1807	Verticals, grands	Pleyel, Gaveau
Carl Sauter Piano Company	Spaichingen, Germany	1819	Verticals, grands	Sauter
Schimmel Piano Group (minority ownership by Yamaha)	Braunschweig, Germany	1885	Verticals, grands	Schimmel
Eduard Seiler	Kitzingen, Germany	1962	Verticals, grands	Seiler
Wilhelm Steinberg Piano	Eisenberg-Thuringen, Germany	1877	Verticals	Wilhelm Steinberg
Steingraeber & Sohne	Bayreuth, Germany	1852	Verticals, grands	Steingraeber & Sohne
Steinway & Sons	Hamburg, Germany	([1])	Verticals, grands	Steinway (Not exported to U.S.)
Tallinn Klaveri Vabrik	Tallinn, Estonia	1893	Grands	Estonia, Schirmer & Son
Tovarna na Piana	Hradec Kralove, Czech Republic	1864	Verticals, grands	Petrof, Weinbach, Nordiska
Whelpdale Maxwell & Codd	London, England	1936	Verticals	Knight, Welmar, Marshall & Rose, Broadwood
Woodchester Piano Co. Ltd.	Gloucestershire, England	1994	Verticals	Woodchester

[1]Not available.
[2]Plant is post-WWII.

Sources: "The Global 200: The World's Largest Music & Sound Companies," *Music Trades*, December 1998, p. 84; Larry Fine, *Piano Book*, Chapter 4; interviews with industry representatives; and various company brochures and Internet Web sites.

APPENDIX F

Selected Foreign Trade Data

Table F-1
Parts and accessories for pianos: Japanese imports, by principal sources, 1994-97 and January-September 1998

(*1,000 dollars*)

Country/country group	1994	1995	1996	1997	Jan.-Sept. 1998
Malaysia	1,640	2,000	1,421	1,877	734
South Korea	645	1,508	1,598	1,231	534
United States	411	813	692	816	513
Indonesia	232	358	290	367	294
Taiwan	3	31	15	24	188
Germany	379	645	300	349	141
Italy	0	313	105	35	81
Austria	7	0	0	7	36
China	10	6	43	54	15
All other	140	48	143	14	8
Total	3,465	5,723	4,606	4,775	2,544
EU-15[1]	501	984	548	399	263

[1]EU-12 for 1994; EU-15 for all other time periods.

Note.–Because of rounding, figures may not add to totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from Japan Tariff Association, *Japan Exports & Imports, Commodity by Country*.

Table F-2
Parts and accessories for pianos: Japanese exports, by principal markets, 1994-97 and January-September 1998

(*1,000 dollars*)

Country/country group	1994	1995	1996	1997	Jan.-Sept. 1998
United States	10,207	12,557	8,822	8,043	8,685
Taiwan	13,544	14,594	9,557	7,595	5,267
United Kingdom	3,013	3,590	4,270	4,533	4,314
China	694	261	1,045	1,951	3,179
Indonesia	792	1,632	2,196	3,287	2,270
Germany	668	773	809	783	356
North Korea	241	294	200	422	244
Denmark	273	185	161	144	114
Italy	43	62	104	118	81
Philippines	104	103	71	92	74
All other	801	844	711	548	258
Total	30,379	34,897	27,946	27,518	24,842
EU-15[1]	4,195	4,846	5,468	5,711	4,927

[1]EU-12 for 1994; EU-15 for all other time periods.

Note.–Because of rounding, figures may not add to totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from Japan Tariff Association, *Japan Exports & Imports, Commodity by Country*.

Table F-3
Parts and accessories for pianos: Korean imports, by principal sources, 1994-97 and January-September 1998

(1,000 dollars)

Country/country group	1994	1995	1996	1997	Jan.-Sept. 1998
China	2,248	3,629	3,402	3,961	2,011
Indonesia	4,710	11,286	5,384	4,520	1,700
Germany	1,029	2,090	1,847	1,238	413
Italy	327	3,313	1,170	637	213
Malaysia	0	0	0	187	91
Japan	205	218	102	270	77
United States	3,835	4,168	143	252	16
All others	0	166	8	24	6
Total	12,354	24,871	12,057	11,089	4,534
EU-15[1]	1,356	5,403	3,017	1,887	632

[1]EU-12 for 1994; EU-15 for all other time periods.

Note.–Because of rounding, figures may not add to totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from Korean Customs Administration, Korea Customs Research Institute, *Statistical Yearbook of Foreign Trade*, various issues.

Table F-4
Parts and accessories for pianos: Korean exports, by principal markets, 1994-97 and January-September 1998

(1,000 dollars)

Country/country group	1994	1995	1996	1997	Jan.-Sept. 1998
Indonesia	0	5	143	3,160	3,518
China	0	35	841	3,145	2,407
Japan	187	662	907	759	328
United States	1,497	1,814	3,194	786	315
Hong Kong	0	2	0	0	218
Turkey	0	0	4	307	50
Malaysia	1	0	0	0	49
Germany	120	167	57	17	19
Philippines	4	28	19	25	14
All other	1	49	1,212	155	42
Total	1,810	2,762	6,378	8,354	6,961
EU-15[1]	120	211	1,211	50	41

[1]EU-12 for 1994; EU-15 for all other time periods.

Note.–Because of rounding, figures may not add to totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from Korean Customs Administration, Korea Customs Research Institute, *Statistical Yearbook of Foreign Trade*, various issues.

Table F-5
Parts and accessories for pianos: Chinese imports, by principal sources, 1994-97

(*1,000 dollars*)

Country/country group	1994	1995	1996	1997
South Korea	3	571	2,041	2,768
Japan	1,059	460	918	2,421
United Kingdom	34	196	338	268
Germany	297	98	82	180
Hong Kong	131	178	42	77
United States	38	113	15	22
Denmark	0	0	4	3
Czech Republic	0	0	0	2
Italy	2	0	0	1
All other	77	39	8	0
Total	1,641	1,655	3,448	5,742
EU-15[1]	338	304	428	452

[1]EU-12 for 1994; EU-15 for all other time periods.

Note.–Because of rounding, figures may not add to totals shown.

Sources: Compiled by the staff of the U.S. International Trade Commission from Economic Information & Agency, Hong Kong, *China Customs Statistics Yearbook*, 1994-96; and United Nations annual microfiche, *Trade of China in terms of HS-1988 for 1997.*

Table F-6
Parts and accessories for pianos: Chinese exports, by principal markets, 1994-97

(*1,000 dollars*)

Country/country group	1994	1995	1996	1997
South Korea	2,588	3,038	3,945	4,921
Japan	19	14	199	611
United States	3	17	15	168
Hong Kong	19	33	205	95
Malaysia	115	103	71	72
Italy	0	10	81	15
Singapore	2	4	2	15
Netherlands	0	6	6	11
Germany	1	6	17	8
All other	24	13	61	44
Total	2,771	3,244	4,604	5,959
EU-15[1]	14	30	149	48

[1]EU-12 for 1994; EU-15 for all other time periods.

Note.–Because of rounding, figures may not add to totals shown.

Sources: Compiled by the staff of the U.S. International Trade Commission from Economic Information & Agency, Hong Kong, *China Customs Statistics Yearbook*, 1994-96; and United Nations annual microfiche, *Trade of China in terms of HS-1988 for 1997.*

Table F-7
Parts and accessories for pianos: EU-15[1] imports, by principal sources, 1994-97 and January-June 1998
(1,000 dollars)

Country/country group	1994	1995	1996	1997	Jan.-June 1998
Japan	4,965	5,881	6,873	5,607	3,301
Czech Republic	1,222	1,731	1,569	1,643	1,434
United States	799	989	1,226	1,117	606
Poland	84	382	543	836	234
India	23	4	15	2	50
Russia	7	0	10	0	50
Slovakia	1	8	24	53	44
Slovenia	181	162	94	108	39
China	6	25	110	534	30
South Korea	49	107	93	24	27
All other	219	212	136	93	51
Total	7,555	9,501	10,692	10,018	5,867

[1]EU-12 for 1994; EU-15 for all other time periods. Non-EU European countries have been excluded.

Note.–Because of rounding, figures may not add to totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from data from Statistical Office of the European Communities (EUROSTAT), Comext CD-ROM.

Table F-8
Parts and accessories for pianos: EU-15[1] exports, by principal markets, 1994-97 and January-June 1998
(1,000 dollars)

Country/country group	1994	1995	1996	1997	Jan.-June 1998
United States	1,583	1,690	1,438	1,853	880
Czech Republic	10	293	597	2,743	317
Turkey	2	0	4	0	209
China	228	68	210	189	165
South Korea	156	852	25	110	160
Brazil	81	191	53	113	117
Ukraine	94	99	0	447	85
Singapore	57	85	23	5	75
Norway	146	195	159	104	47
Slovenia	453	127	8	9	45
All other	8,049	10,293	10,371	939	180
Total	10,859	13,893	12,888	6,513	2,279

[1]EU-12 for 1994; EU-15 for all other time periods. Non-EU European countries have been excluded.

Note.–Because of rounding, figures may not add to totals shown.

Source: Compiled by the staff of the U.S. International Trade Commission from data from Statistical Office of the European Communities (EUROSTAT), Comext CD-ROM.

APPENDIX G

Supplemental Information on Currency Fluctuations

Figures G-1, G-2, and G-3 show the extent of real depreciation in the Japanese yen, the Korean won, and the Indonesian rupiah, respectively, during 1994-1998.[1] The yen showed a secular trend of real depreciation since 1995. The depreciation of the won and the rupiah was particularly sharp in 1997. These currency movements were closely tied to the East Asian financial crisis that has led to large-scale real depreciations in most of the region's currencies.[2] However, in 1998, the won showed signs of real appreciation, and the real depreciation of the rupiah seemed to have come to a halt.

The lack of a published producer price index for China prevented the calculation of indices comparable with the other Asian currencies. Nonetheless, estimates indicate that China's currency did not depreciate in real terms during 1994-97. The renminbi's nominal exchange rate to the dollar remained more or less constant (figure G-4), while its inflation rate, as measured by the CPI, exceeded that of the United States during the period.[3]

The real depreciation of a partner country's currency creates an advantage for the country's exporters. The real depreciation of the yen, the won, and the rupiah makes Japanese, Korean, and Indonesian exports less expensive in U.S. dollars, respectively. (Conversely, it also makes Japanese, Korean, and Indonesian imports more expensive in yen, won, and rupiahs, respectively.) Exporters from a country whose currency has depreciated will receive more in local currency than they received before the depreciation occurred. This will allow them to reduce their prices in dollars, making them more competitive in U.S. markets. However, the inflation rates used in calculating the real exchange rate index affect the level of profitability associated with nominal depreciation. Consequently, they also indicate the extent to which exporters can reduce their dollar prices.

When inflation in the partner country whose currency has depreciated in nominal terms against the dollar has been less over the period than inflation in the United States, exporters in that country have an additional advantage in relation to U.S. producers compared with the reference case of equal inflation rates. Over the period examined, certain foreign producers saw their production costs increase less than did producers in the United States. Thus relatively less inflation in the partner country would reinforce

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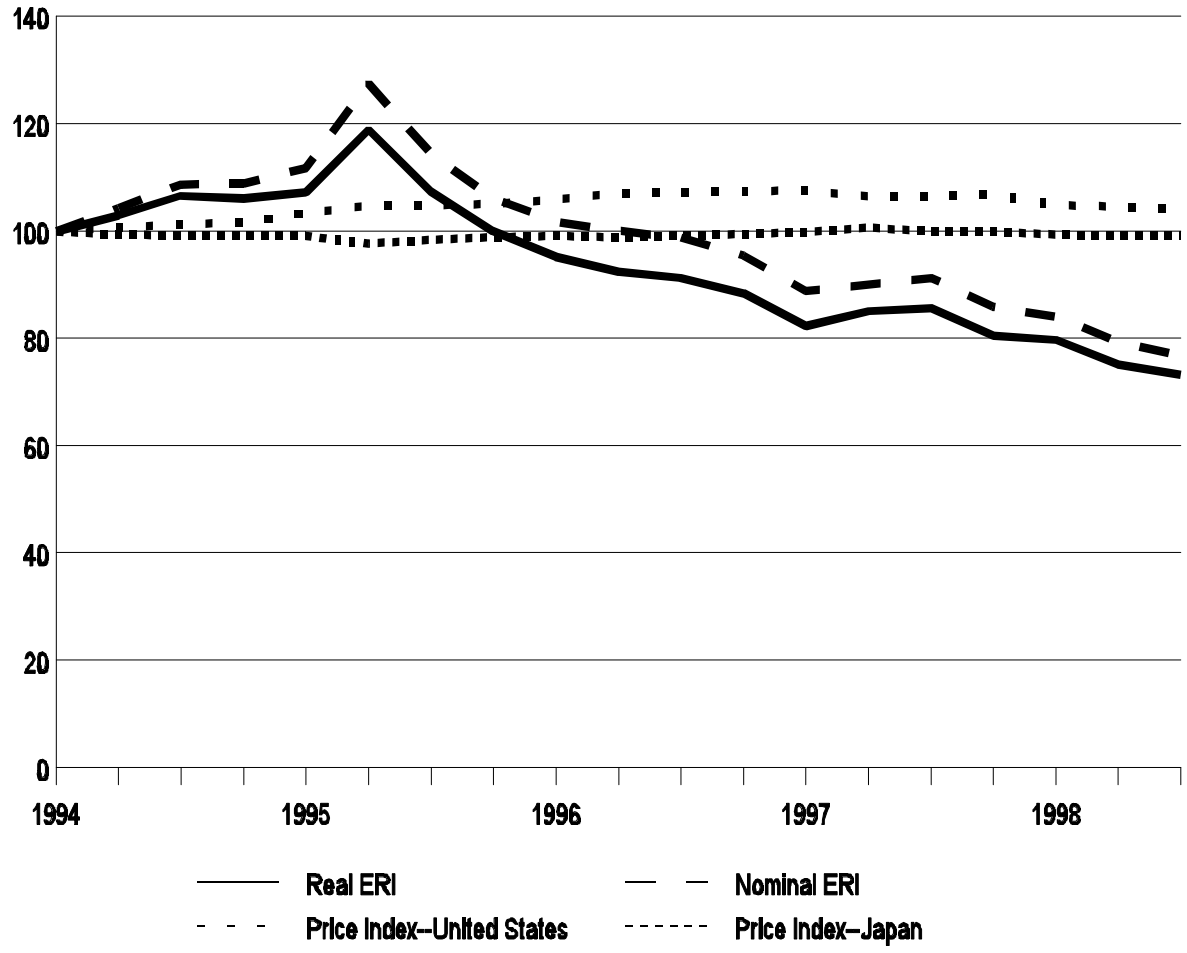
[1] Exchange rates quoted in newspapers (for example, $0.006/yen) are called nominal exchange rates. Shifts in nominal rates do not capture changes in the competitiveness of a country's exports and its incentives to import. Parallel movements in the overall level of prices of the two countries whose currencies are valued by a nominal exchange rate should also be taken into consideration. Changes in nominal rates corrected for the respective inflation rates over a given period are called real exchange rate indices. If changes in the nominal rate mimic changes in the relative price levels in a given period, the value of the index is 1. This may be considered an ideal equilibrium target toward which market forces tend to push exchange rates. A movement away from 1 in a given period signals real currency depreciation or appreciation. Downward movement in the real exchange index is equivalent to real depreciation of a currency. Upward movement means the exact opposite. Real exchange rate movements are relevant to individual sectors or subsectors, such as piano manufacturing, insofar as the producer or wholesale price indices used in the calculation resemble price movements confronting producers and traders in the given sector or subsector.

[2] For details on the East Asian financial crisis, see USITC, *Shifts in U.S. Merchandise Trade in 1997*, publication 3120, July 1998.

[3] According to some sources, the renminbi appreciated in real terms from 1994 to 1997, but began to depreciate in real terms during 1998. Official of the Board of Governors of the Federal Reserve System, interview with USITC staff, Mar. 30, 1999. See also John G. Fernald and Oliver D. Babson, "Why Has China Survived the Asian Crisis So Well? What Risks Remain?" Board of Governors of the Federal Reserve System, *International Financial Discussion Papers*, No. 633, Feb. 1999; and M. Noland, Li-Gang Liu, S. Robinson, and Zhi Wang, *Global Economic Effects of the Asian Currency Devaluations*, Institute for International Economics, Washington, DC, July 1998.

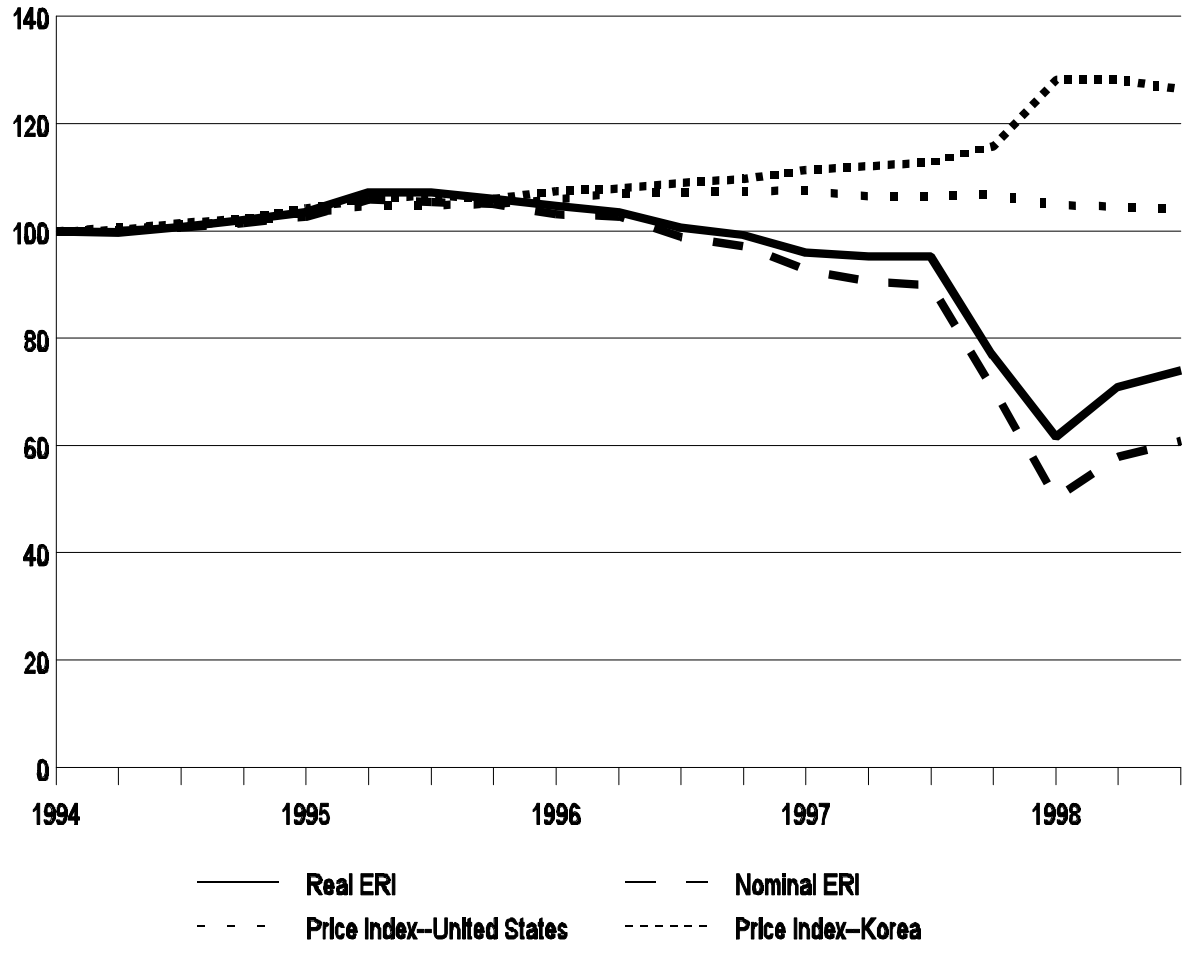
Figure G-1
Real and nominal exchange rate indices (ERIs) of the Japanese yen, the wholesale price index in Japan, and the producer price index in the United States, by quarters, January 1994-September 1998



Note: Index (Jan.-Mar. 1994 = 100). Exchange rates are in U.S. dollars per unit of foreign currency.

Source: International Monetary Fund, *International Financial Statistics*, Apr. 1996, Apr. 1997, and Dec. 1998.

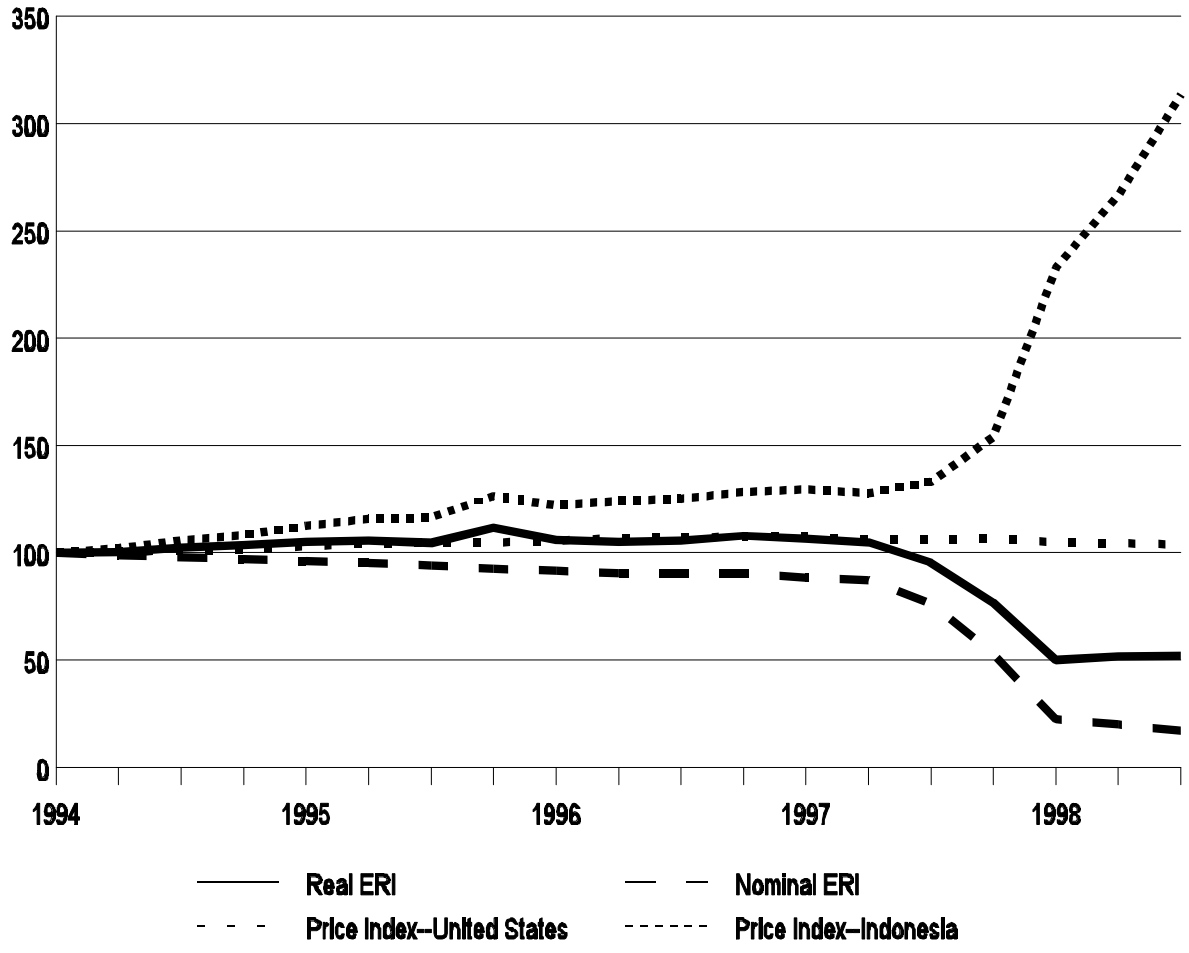
Figure G-2
Real and nominal exchange rate indices (ERIs) of the Korean won, the producer price index in Korea, and the producer price index in the United States, by quarters, January 1994-September 1998



Note: Index (Jan.-Mar. 1994 = 100). Exchange rates are in U.S. dollars per unit of foreign currency.

Source: International Monetary Fund, *International Financial Statistics*, Apr. 1996, Apr. 1997, and Dec. 1998.

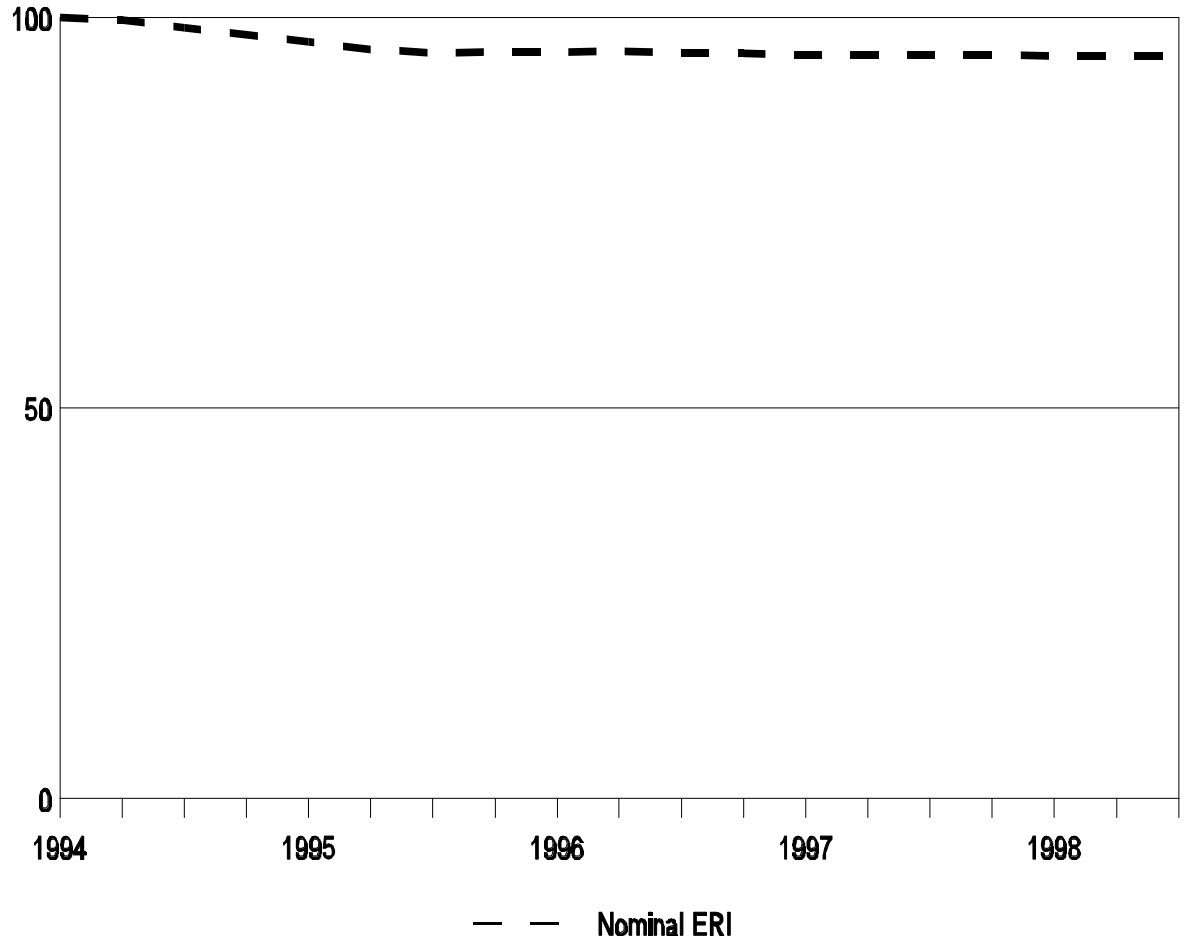
Figure G-3
Real and nominal exchange rate indices (ERIs) of the Indonesian rupiah, the producer price index in Indonesia, and the producer price index in the United States, by quarters, January 1994-September 1998



Note: Index (Jan.-Mar. 1994 = 100). Exchange rates are in U.S. dollars per unit of foreign currency.

Source: International Monetary Fund, *International Financial Statistics*, Apr. 1996, Apr. 1997, and Dec. 1998.

Figure G-4
Nominal exchange rate index (ERI) of the Chinese yuan, by quarters, January 1994-September 1998



Note: Index (Jan.-Mar. 1994 = 100). Exchange rates are in U.S. dollars per unit of foreign currency.

Source: International Monetary Fund, *International Financial Statistics*, Apr. 1996, Apr. 1997, and Dec. 1998.

nominal depreciation of the partner country's exchange rate. This was the case for the yen during most of the period examined. However, when inflation in the partner country whose currency has depreciated in nominal terms against the dollar has been greater over the period than inflation in the United States, exporters in that country would have a lesser advantage in relation to U.S. producers compared with the reference case of equal inflation rates. This was the case for the won and the rupiah for most of the period examined.

By tending to restrain or even lower prices, the real depreciation of the yen, won, and rupiah have further intensified the competition in the U.S. market not only between domestic and imported pianos but also among pianos imported from the principal Asian countries. Numerical estimates on the impact of currency depreciation on the U.S. piano prices and the market are sparse. Nonetheless, according to one source, the depreciation of the won, for example, following the declaration to allow its float on December 16, 1997, led to a 10-25 percent reduction in the price of pianos purchased from Korea.[4]

The appreciation of the dollar, which is the exact mirror image of the depreciation of another country's currency, makes U.S. exports more expensive. This fact, which may have played a part in the decline in U.S. exports of vertical pianos since 1996, tended to further intensify domestic competition in the U.S. market. Producers unable to sell their pianos destined for the world market have tried to sell them in the domestic market, where increasing imports exerted a downward pressure on prices.

As mentioned earlier, the ratio of raw materials is relatively high in piano manufacturing. This circumstance moderates the advantage of currency depreciation for foreign producers who have to pay higher bills to import a large share of the raw materials they use.[5] Nevertheless, a reduction in prices charged for exports in dollar terms (that is, in terms of the currency against which the producer country's currency has depreciated) is still arithmetically feasible. [6]

Currency fluctuations may at least partially explain the buildup of inventories of pianos imported from certain Asian countries with depreciated national currencies. Market forces tend to correct at least some real currency depreciation or appreciation, guiding the exchange rate back toward an equilibrium path.[7] Empirical evidence on the adherence to long-term trends in currency values in the postwar era

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[4] See Larry Fine, *The Piano Book: Buying & Owning a New or Used Piano,* book review, Internet site www.tiac.net/users/pianobk/pbpage.html, retrieved Dec. 17, 1998.

[5] Robert J. Jones, executive vice president and general manager, Samick, interview with USITC staff, Feb. 12, 1999.

[6] For example, let the final product price of 100 in terms of a local foreign currency consist of 50 for raw materials, 40 for other costs, and 10 for profits. In the extreme case when all raw materials are imported, let a 10 percent depreciation in the country's currency increase its raw material costs to 55. However, depreciation has also raised the price and each of its components by the same rate. Thus the rate of profits remained the same. The foreign firm still has the opportunity to reduce its dollar price at the expense of reducing the rate of its profits. The appreciation in the value of foreign currency would have the reverse effect on the foreign firm: its import bill would become cheaper, but its final product would become more expensive in terms of the export market's currency.

[7] The following numerical example illustrates the self-equilibrating nature of exchange rates. Suppose that the United States and a euro-zone country (EZC) are the only producers of a certain top-of-the-market grand piano. The U.S.-made instrument costs $60,000, and the EZC instrument costs 50,000 euros. This suggests that the exchange rate between the two currencies is $60,000/50,000 euros = $1.20/euro (or 0.83 euros/ $1). Assume that this is the long-term equilibrium exchange rate, i.e., the exchange rate at which there is neither real appreciation nor real depreciation. If the exchange rate moved to $1.30/euro (or 0.77 euros/$1), all the European customers

(continued...)

supports this expectation. For example, the yen (in terms of real effective rates) moved from 360 yen to the dollar in 1968 to below 170 yen to the dollar from 1986 to the present. Since 1992, the yen has been below 130 yen to the dollar.[8] The won depreciated (in terms of real effective rates) more or less steadily since 1968, leaving out the 1982-85 period noted for the exceptional strength of the dollar.[9] However, its deprecation became unprecedented during 1997. The rupiah can be characterized in a similar way. An important factor behind the process of moving back an exchange rate toward its equilibrium path is the level of production in a foreign country relative to production in the United States.[10] A relative decline in production in a foreign country tends to depreciate its currency in relation to the dollar. A relative increase in production in a foreign country tends to appreciate its currency in relation to the dollar.[11] Therefore, participants in foreign exchange markets are likely to consider the currencies of several Asian countries currently in or near recession as having moved below their respective, observed long-term equilibrium paths. Using the long-term paths of the depreciated currencies as reference, importers are likely to expect these currencies to appreciate relative to the dollar to at least some degree as the economies of the Asian countries in question begin to recover. Such expectations may prompt importers to build up inventories in the country whose currency has appreciated, relative to the exporting country's currency.

[7] (...continued)
would prefer to buy the U.S. product. (The U.S. piano would cost 46,154 euros instead of 50,000 euros.) However, the rush to buy dollars cheaply (each for 0.77 euros) would raise the price of the U.S. currency. A movement of the exchange rate below its long-term equilibrium rate would unleash a similar adjustment in the reverse direction. If the exchange rate became $1/1euro, EZC pianos would offer great savings, and a chase for the euros would tend to bring it back toward the equilibrium exchange rate. Evidently, the price ratio of each traded good might be more-or-less off the equilibrium rate, none of them alone being capable of actually influencing the exchange rate. However, when the exchange rate moves off equilibrium, the prices of all traded commodities will be affected in the same way as was shown for pianos, unleashing movement back to equilibrium.

[8] IMF, *International Financial Statistics*, yearbooks.

[9] Ibid.

[10] USITC, *Floating Exchange Rates and U.S. Competitiveness*, publication No. 1332, Dec. 1982.

[11] Ibid.