

# **A STUDY ON THE CONDITIONS OF COMPETITION BETWEEN IMPORTED AND DOMESTICALLY PRODUCED PIANOS**

**Report to the Subcommittee on Trade,  
Committee on Ways and Means,  
U.S. House of Representatives on  
Investigation No. 332-159 under  
Section 332(b) of the Tariff  
Act of 1930**

**USITC PUBLICATION 1411**

**AUGUST 1983**



# **UNITED STATES INTERNATIONAL TRADE COMMISSION**

## **COMMISSIONERS**

**Alfred E. Eckes, Chairman**

**Paula Stern**

**Veronica A. Haggart**

---

**Kenneth R. Mason, Secretary to the Commission**

---

This report was prepared principally by

Ralph J. Watkins and Richardo L. Witherspoon  
General Manufactures Division

---

Office of Industries  
Norris A. Lynch, Director

---

---

Office of Operations  
Charles W. Ervin, Director

---

**Address all communications to**  
**Office of the Secretary**  
**United States International Trade Commission**  
**Washington, D.C. 20436**

## PREFACE

On February 15, 1983, the United States International Trade Commission received a letter from the Honorable Sam M. Gibbons, Chairman of the Subcommittee on Trade of the Committee on Ways and Means of the U.S. House of Representatives, requesting that the Commission conduct an investigation pursuant to section 332 of the Tariff Act of 1930 (19 U.S.C. 1332) to study the conditions of competition between imported and domestically produced pianos. 1/ The Commission instituted the requested investigation under subsection (b) of section 332 on March 3, 1983. Notice of the institution of the investigation was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, D.C., and by publishing the notice in the Federal Register of March 16, 1983 (48 F.R. 11191). 2/ A public hearing was held in Washington, D.C., on June 23, 1983, at which time all interested parties were afforded an opportunity to present information and data for consideration by the Commission. 3/

The information contained in this report was obtained from fieldwork by the Commission's staff, from the Commission's files, from information presented at the public hearing, from other Government agencies, from responses to questionnaires mailed to all known U.S. producers and importers of pianos, and from other sources.

---

1/ The letter from Chairman Gibbons is presented in app. A.

2/ A copy of the Commission's notice of investigation is presented in app. B.

3/ A calendar of witnesses who appeared at the public hearing is presented in app. C.



## C O N T E N T S

	<u>Page</u>
Preface-----	i
Executive summary-----	1
Description and uses:	
Product-----	7
Manufacturing process-----	7
U.S. customs treatment-----	9
Profile of the domestic industry:	
Producers-----	11
Production-----	12
U.S. producers' shipments-----	13
U.S. exports-----	15
Inventories-----	19
Capacity and utilization-----	19
Employment-----	21
Financial experience of U.S. producers-----	22
Investment in productive facilities-----	24
Major foreign competitors-----	26
The Japanese industry-----	26
The Korean industry-----	26
U.S. imports:	
Importers-----	28
Imports for consumption-----	28
Channels of distribution-----	32
The U.S. market:	
Description of the market:	
Six market segments-----	34
Factors affecting overall market size-----	35
Lower birth rates-----	35
Fewer schools and music programs-----	35
High interest rates-----	35
Lower disposable income-----	35
Sales outlet closures-----	35
Changing consumer tastes-----	36
Trends in consumption and import penetration-----	37
Upright pianos-----	37
Spinets-----	37
Consoles-----	40
Studios-----	40
Grand pianos-----	40
Conditions of competition-----	43
Market penetration techniques used by foreign suppliers-----	43
Price-----	44
Spinets-----	44
Consoles-----	44
Studios-----	46
Grands under 5 feet 6 inches-----	46
Grands 5 feet 6 inches to 6 feet 1 inch-----	46
Grands over 6 feet 1 inch-----	46

## CONTENTS

Page

The U.S. market--Continued	
Conditions of competition--Continued	
Quality-----	46
Market shifts-----	47
Appendix A. Letter from the Honorable Sam M. Gibbons, Chairman of the Subcommittee on Trade, Committee on Ways and Means, U.S. House of Representatives-----	49
Appendix B. Notice of investigation and public hearing-----	53
Appendix C. Calendar of witnesses at the public hearing-----	57
Appendix D. U.S. piano manufacturers and their plant locations; and Japanese and Korean piano manufacturers and their U.S. marketing subsidiaries-----	61

## Tables

1. Pianos: U.S. rates of duty, present and negotiated, by TSUS item-----	9
2. Pianos: U.S. production, by type, 1978-82-----	13
3. Pianos: Shipments of domestically produced pianos in the U.S. market, by types, 1978-82-----	14
4. Pianos: Percentage distribution of the quantity of U.S. producers' domestic shipments, by types, 1978-82-----	15
5. Pianos: U.S. exports, by types, of 1978-82-----	16
6. Pianos: U.S. exports of domestic merchandise, by principal markets, 1978-82-----	17
7. Pianos: Percentage distribution of the quantity of U.S. exports, by types, 1978, 1980, and 1982-----	18
8. Pianos: Ratio of exports to production, by types, 1978-82-----	19
9. Pianos: U.S. producers' inventories, by types, as of Dec. 31 of 1977-82-----	20
10. Pianos: Ratio of U.S. inventories to production, 1978-82-----	20
11. Pianos: U.S. producers' production capacity and capacity utilization, by types, 1978-82-----	20
12. Pianos: Average number of employees, total and production and related workers employed in establishments producing pianos, 1978-82-----	21
13. Pianos: Man-hours worked by production and related workers, by types, 1978-82-----	22
14. Pianos: Average man-hours worked per unit produced, by types, 1978-82-----	22
15. Pianos: Income-and-loss experience of 11 U.S. producers on their piano operations, 1978-82-----	23
16. Pianos: Ratios of certain income-and-loss categories to net sales, by 11 U.S. producers, 1978-82-----	24
17. Pianos: Percentage distribution of U.S. producers' total manufac- turing costs, 1978-82-----	24
18. Pianos: Investment in productive facilities and in research and development by 11 U.S. producers, 1978-82-----	25
19. Pianos: U.S. imports for consumption, by principal sources, 1978-82-----	29
20. Upright pianos: U.S. imports for consumption, by principal sources, 1978-82-----	30

## CONTENTS

	<u>Page</u>
21. Grand pianos: U.S. imports for consumption, by principal sources, 1978-82-----	31
22. Pianos: Percentage distribution of channels of distribution used by U.S. producers and importers for U.S. shipments, 1982-----	33
23. Pianos: U.S. producers' domestic shipments, imports for consumption, and apparent consumption, by types, 1978-82-----	38
24. Upright pianos: U.S. producers' domestic shipments, imports for consumption, apparent consumption, shipments of imported pianos, and domestic consumption, by types, 1978-82-----	39
25. Pianos: Share of apparent consumption supplied by imports from Japan and the Republic of Korea, 1978-82-----	41
26. Grand pianos: U.S. producers' domestic shipments, imports for consumption, apparent consumption, shipments of imported pianos, and domestic consumption, by sizes, 1978-82-----	42
27. Pianos: Weighted-average wholesale prices of U.S. and foreign producers' U.S. shipments, by types, 1978-82-----	45

---

Note.--The whole of the Commission's report may not be made public since it contains certain information that would result in the disclosure of the operations of individual concerns. This published report is the same as the report to the Subcommittee on Trade, Committee on Ways and Means, U.S. House of Representatives, except that the above-mentioned information has been omitted. Such omissions are indicated by asterisks.





## EXECUTIVE SUMMARY

Total consumption of pianos during the past five years peaked in 1978, and fell in three of the next four years. The falling market coincided with demographic changes and a severe recession. Despite a reduction in the market size, imports have increased. U.S. manufacturers claim that imports have achieved a greater market share by offering pianos at low prices. Importers, on the other hand, contend that U.S. producers have neglected to invest in modernizing their plants in order to achieve long-term cost reductions and maximize quality control, and have ignored the rising consumer demand for pianos with high-polish, polyester finishes.

1. Structure of the domestic and foreign industries.

- o U.S. employment, producers' shipments, exports, and industry profitability all declined during 1978-82.

Fifteen U.S. firms manufactured pianos in the United States in 1982, with production concentrated in Indiana, Tennessee, and Mississippi. The four largest firms together accounted for 72 percent of U.S. production in 1982. Employment in the domestic piano industry fell from 6,089 to 4,059 during 1978-82, or by 33 percent. U.S. producers' shipments fell by 34 percent during 1978-82, from 225,277 to 149,384 units. A 43-percent increase in the average unit value cushioned the drop in value to 5 percent, from \$204 million to \$193 million.

Although U.S. exports of pianos rose by 10 percent during 1978-81, from 19,252 to 21,124 units, they decreased by 45 percent, to 11,681 units, in 1982, representing an overall reduction of 39 percent during 1978-82. During 1978-82, exports accounted for 10 percent of producers' shipments. In addition, the industry's operating income fell by 80 percent, from \$22.6 million to \$4.4 million. The industry went from a net income of \$17.8 million in 1978 to a net loss of \$3.5 million in 1982.

- o U.S. producers concentrate production and exports on upright pianos, which account for the bulk of U.S. apparent consumption.

The two types of pianos are (a) uprights, strung vertically within a rectangular case; and (b) grands, strung horizontally within a somewhat wing-shaped case. Grand pianos produce a higher quality sound, but they are more expensive to manufacture.

Upright pianos accounted for 96 percent of U.S. producers' shipments and 98 percent of U.S. exports in 1982. Although the number of uprights shipped fell by 34 percent during 1978-82, the average unit value rose by 40 percent, limiting the decline in value to 7 percent. The decline in the quantity of U.S. producers' shipments of uprights was more severe for low-end uprights (spinets), which fell by 54 percent, than for high-quality uprights (studios), which slipped by 20 percent. Uprights accounted for 89 percent of apparent U.S. consumption in 1982.

- o Japan and the Republic of Korea together accounted for 95 percent of U.S. imports in 1982.

Five Japanese producers and three producers in the Republic of Korea (Korea) export pianos to the United States, and together accounted for 95 percent of U.S. imports in 1982. All of these firms have marketing subsidiaries in the United States through which the bulk of U.S. imports pass. The largest Japanese producers opened marketing subsidiaries in the United States in the early 1960's; Korean exporters opened U.S. subsidiaries between 1978 and 1981. Grand pianos, which have represented a small share of domestic production, constituted 35 percent of the imports from Japan and 47 percent of the imports from Korea in 1982.

- o Korea and Japan are major world piano producers.

Both Korea and Japan export a significant proportion of their total production; approximately 30 percent of Korean and 25 percent of Japanese production enter world markets. The U.S. is the largest single market for both, accounting for 30 percent of their exports. Approximately 80 percent of piano exports from Korea and Japan have a polyester finish, which is available only to a very limited degree on U.S. produced pianos.

## 2. The U.S. market

- o The U.S. market for all pianos declined by 26 percent during 1978-82.

Apparent U.S. consumption of pianos fell by 26 percent overall during 1978-82, from 253,148 to 187,309 units. The value, however, increased by 7 percent, from \$236 million to \$252 million. Although the consumption of upright pianos dropped by 29 percent, by quantity, during 1978-82, consumption of grands rose by 5 percent.

- o Imports constitute a growing share of the U.S. market.

During 1978-82, the share of apparent consumption of uprights accounted for by imports expanded from 8 to 14 percent; the figure for grands climbed from 50 to 70 percent. The increase in imports of upright pianos by 5,380 units during the period represented a 29-percent increase, but domestic

producers' shipments dropped by 34 percent, or 72,238 units. The increase of 4,520 units in grand imports more than offset the decline in domestic producers' shipments of 3,501 units. The share of apparent consumption of uprights accounted for by imports from Japan rose from 6 to 11 percent during 1978-82; Korea's share increased from 1 to 3 percent. The impact of imports from Korea was felt more clearly in the market for grand pianos, whose share of domestic consumption climbed from 6 to 18 percent. Japan's share of domestic consumption of grand pianos increased from 41 to 50 percent. Korea's share of the U.S. market for grand pianos may continue to grow, because two Korean exporters are supplying two major U.S. manufacturers, and one Korean producer has a joint venture with another large U.S. producer; in each case, these imports are primarily grand pianos with high-polish, polyester finishes.

- o The quantity, value, and average unit value of imports increased during the 1978-82 period.

U.S. imports of pianos dipped by 10 percent during 1978-80, from 28,025 to 25,359 units, and then rose by 50 percent, to 37,925 units, in 1982, representing a 35 percent increase over the 5-year period. The quantity of upright pianos imported during 1978-82 grew by 29 percent; imports of grand pianos climbed by 47 percent. The fastest rising categories over the period, in terms of quantity, were imports of studio uprights and grand pianos in the range of 5 feet to 5 feet 5 inches, each having increased by \*\*\* percent. During 1978-82, the value of all imports expanded by 87 percent, from \$31.4 million to \$58.6 million; the average unit value escalated by 38 percent. Japan's share of the import market, by quantity, slipped from 78 to 74 percent during 1978-82; Korea's share rose from 11 to 21 percent. In 1982, Japan supplied 76 percent of the imports of upright pianos to the U.S. market, and Korea accounted for 18 percent. Japan furnished 71 percent of the imports of grand pianos, and Korea accounted for 26 percent.

- o Demographics and high interest rates have contributed to a reduction in the size of the U.S. market for upright pianos; shifting consumer tastes and low-priced imports led to increased consumption of grands.

Demographics and the economic cycle contributed to the recent shrinking of the U.S. market for upright pianos. Traditionally, the chief market for uprights has been parents of beginning piano players between the ages of 5 to 14 years. The declining number of beginning piano players is chiefly a result of falling birth rates during 1965-75, which reduced the number of children aged 5 to 14 years.

Furthermore, parents of beginning piano players usually buy pianos on installment plans. Obtaining loans for retail purchases became especially difficult after March 1980 because of the recent recession. In addition, high interest rates discouraged discretionary purchases. Concurrently, budget difficulties have led a large number of school districts to drop music programs. Not only has this reduced institutional sales of uprights, it has diminished the exposure of children to music education and the impetus for learning to play the piano. Competing leisure-time activities for children have also been a factor in reducing the size of this market segment.

The increase in consumption of grand pianos is a reflection both of the shift in consumer tastes to a higher quality sound and the increasing availability of relatively low-priced grand pianos from Korea and moderately-priced, high-quality grand pianos from Japan.

### 3. Conditions of competition

- o In general, throughout the period, U.S. imports of upright pianos from Japan and Korea were priced above their U.S. competitors in the U.S. market, but U.S. imports of grand pianos from Japan and Korea were usually priced much lower than the weighted-average wholesale prices for U.S.-made grand pianos each year.

The two major Japanese producers reportedly were successful in penetrating the U.S. market during 1965-75 by beginning with a limited line of medium-quality, low-priced pianos. Over time, they upgraded their quality, raised their prices, and became full-line suppliers. The Korean exporters, which effectively entered the U.S. market during 1978-81, are attempting to follow this pattern by reportedly supplying a modest line of marginal- to good-quality, relatively low-priced pianos. Japanese and Korean producers have been more effective in penetrating the grand piano market, where their cost advantages are greater than in the upright market. For example, in 1982, the weighted-average wholesale price of uprights imported from Japan was much higher than the weighted-average wholesale price of U.S. producers' shipments of uprights, whereas for grand pianos the weighted-average wholesale price of the Japanese import was considerably lower than that of the domestic product. By comparison, Japan's import penetration ratio was 11 percent for uprights and 50 percent for grands. Similarly, the weighted-average wholesale price of upright pianos imported from Korea was consistently higher than that of U.S. producers' shipments. For grand pianos from Korea, the weighted-average wholesale price was much lower than that of the domestic product. Accordingly, Korea's penetration of the upright market was only 3 percent, compared with 18 percent for the grand market.

- o Foreign producers, in line with changing consumer preferences, have exported piano models which have been the least affected by recession and changing demographics.

The types of pianos most severely affected by the recession in terms of reduced consumption during 1978-82 were spinets (-54 percent), consoles (-19 percent), and grand pianos under 5 feet (\*\*\*) percent). Spinets accounted for 24 percent of U.S. production in 1982, and consoles, for 58 percent. By contrast, there were no imports of spinets or grands under 5 feet in 1982, and consoles accounted for only 31 percent of the quantity of total imports. Instead, importers emphasized the types of pianos least affected by the recession. Consumption of all grand pianos grew by 5 percent during 1978-82 and the consumption of studio uprights fell by only 2 percent. Grand pianos constituted 37 percent of imports in 1982, compared with 4 percent

of domestic production, whereas studio uprights accounted for 31 percent of imports, but just 15 percent of production.

- o Domestic and foreign suppliers each have their own particular strengths in the area of marketing.

U.S. producers have an advantage in the large number of dealers with whom they have had longstanding relationships. On the other hand, in the recent recession period, field research indicated that the largest Japanese suppliers limited the number of dealers and restricted the number of pianos available to dealers based on sales. This policy was beneficial to the dealers during the recent recession as it reduced interest and inventory costs and resulted in fewer dealer closings. The domestic industry in the same period encouraged dealers to buy more pianos than they could sell in this period. Further, the Japanese suppliers have placed an emphasis on a full range of services and promotion activities with piano teachers and technicians. The U.S. industry conducts such activities, but they are not viewed as being as uniformly expansive as the Japanese efforts. Individual U.S. companies may offer equal services, while others may offer a lesser range of activities.

- o Domestic and imported pianos are highly competitive in terms of performance and appearance.

The largest portion of U.S. sales of pianos is for home use, where the furniture styles associated with U.S. producers are an important consideration. However, sleek, European styles are becoming increasingly popular. The traditional finish in both the furniture industry and the U.S. piano industry is lacquer, but most pianos in Europe and Japan have polyester finishes. Although more expensive to apply than lacquer, the polyester provides superior protection from common household hazards. Despite the apparent recent growing popularity of polyester finishes in the U.S. market, only one domestic producer has invested in the equipment required to apply the finish. It is generally recognized that U.S. and Japanese pianos are of comparable quality; however, domestically produced and Japanese pianos vary in tone, with the former offering a mellow tone, and the latter having a sharp, crisp tone. Korean pianos are considered to be of lesser quality than both U.S. and Japanese pianos. Korean producers have attempted to incorporate the same type of tonal qualities as the Japanese producers.

- o U.S. manufacturers enjoy a competitive advantage in raw-material costs, which is offset by greater vertical integration, improved manufacturing processes, and lower labor rates of major foreign competitors.

U.S. manufacturers enjoy a cost advantage in the principal raw materials (most wood used in imported pianos has been exported from the United States to Japan and Korea in the form of hardwood logs and spruce cants), which is offset by the higher degree of vertical integration among the major foreign suppliers. The typical level of automation used in producing Japanese pianos is generally regarded by U.S. producers and importers as being higher than

that used by U.S. producers, as Japanese producers use such technology as computer controlled machines and high-frequency gluing. Producers in Japan benefit from greater economies of scale, and producers in Korea have lower labor rates.

#### 4. Market outlook

- o Domestic producers have maintained a dominant position in the U.S. market for upright pianos, but are being challenged, primarily by the Japanese, in the studio end of that market.

U.S. manufacturers have exploited their ability to mass produce spinets and consoles in attractive furniture styles at relatively low prices to appeal to middle-income homeowners. It is anticipated that the market for consoles may improve with lower interest rates and the strengthening of the economy. However, it is believed that the market for spinets will stay weak, reflecting demographic changes and an increasing trend in which homeowners are demanding higher quality sound than is afforded by the spinet.

The trend toward more emphasis on quality has also seen a growing proportion of "professional" or studio uprights being sold to homeowners instead of institutions such as schools and churches. This development has benefited Japanese producers, because studio models constitute the bulk of the market in Japan, and manufacturers there have combined mass-production economies of scale with an attention to quality requisite for success in the studio market. Based on data collected in the investigation, imports of studio uprights from Japan were priced higher than the U.S. industry average during 1978-82.

- o Through low price and an emphasis on quality, imports have captured over two-thirds of the U.S. market for grands.

U.S. manufacturers have not applied the latest production technologies to operations on grand pianos. Domestic firms have lacked the economies of scale to justify the substantial investments that would be required for U.S. producers to keep pace with the advancements made in Japan. Whereas the Japanese producers have an advantage in production efficiencies, the Korean manufacturers have a distinct wage advantage in this labor-intensive end of the piano business. As a result of lower costs of production for both the Japanese and the Koreans, imports from these sources have consistently been priced below grand pianos by all but one of the largest U.S. manufacturers which enjoys the benefit of a combination of economies of scale and a higher degree of vertical integration than other U.S. producers.

## DESCRIPTION AND USES

### Product

Pianos are keyboard string instruments classified as either uprights or verticals, which are strung vertically within a rectangular case, or grands, which are strung horizontally within a somewhat wing-shaped case. Uprights are grouped according to the height of the case. Those traditionally used in the home include spinets, measuring 36 to 37 inches; consoles, 38 to 42 inches; and studio uprights, 43 inches and higher. Uprights for use in schools, churches, small nightclubs, and other institutions usually range from 46 to 52 inches in height. Grand pianos usually 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 uprights in terms of tone, tuning stability, touch, beauty, and performance capability.

A piano is essentially made of strings, action, soundboard, and framework. 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 more in larger pianos.

The piano action is a complex mechanism. A set of 88 actions consists of up to 8,000 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); 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 which is at least three-eighths of an inch thick) that serves as a resonator. The strings pass over strips of wood (bridges) attached to the soundboard, thereby transmitting their vibrations to the soundboard.

A framework, consisting of a case and a cast-iron plate, holds the entire piano mechanism together. A case is made of a veneer of oak, walnut, mahogany, or fruitwood, with a core of poplar, gum, or similar wood. Grand pianos have a bent rim of laminated maple and poplar and have interior bracings of maple or spruce. An upright back is usually made of spruce and maple. A cast-iron plate holds the strings taut by using tuning pins, which are inserted into holes in the plate near the keyboard.

### Manufacturing process

The manufacturing process for pianos does not readily lend itself to automation, due to variations in the acoustical qualities of pieces of wood. These variations require skill in selecting the wood stock and conditioning it

to specific moisture levels. Many of the other labor-intensive functions, such as voicing, tuning, and regulation, require skills based on years of training and experience in the piano factory. For these reasons, the piano is still handcrafted in many respects, although use of automated equipment such as computer-controlled drills and routers, and similar equipment has increased in recent years, particularly in upright piano construction.

Both domestic producers and those in Japan and Korea obtain wood from the United States and, to a much lesser extent, from Canada, in the form of spruce cants and logs of maple, poplar, basswood, and others. Only one U.S. producer has sawmills for processing logs and owns a plywood mill. Most domestic piano manufacturers buy lumber and plywood from vendors. Of the two major producers in Japan and the three major producers in Korea which export pianos to the United States, all reportedly own sawmills and plywood mills. A similar situation exists for other primary components such as actions, keys, hammers, tuning pins and cast-iron plates. Generally, U.S. companies obtain these parts from independent suppliers, but producers in Korea and Japan produce these products in-house. Several domestic producers allege that a lack of attention to quality by domestic vendors has forced them to re-drill and re-finish purchased cast-iron plates and to import tuning pins from Japan, thus adding to the cost advantage of piano producers in Japan and Korea. Further, the one domestic producer which applies a polyester finish to some of its pianos imports the expensive raw material from West Germany and Mexico; Japanese piano producers obtain liquid polyester finish locally.

Because Japan is the largest single-country market for pianos in the world, economies of scale have helped justify vertical integration and investment in state-of-the-art manufacturing technology. Although the largest U.S. firms have invested in high-frequency gluing machines, several still use cold gluing and clamps, and few companies use computer-controlled drills or routers. Only one company felt its volume justified the significant investment required for polyester finishing, whereas several companies indicated they were hampered by the lack of capital available to invest in more technologically advanced processes or in new plants. Efforts toward automation have been concentrated on production of upright pianos.

In upright piano construction, the back of the case is usually assembled first. The back frame consists of back posts and cross timbers, usually of maple, which are joined by flat gluing or glue and dowels. The soundboard is attached after the ribs have been glued on and trimmed ("feathered"). The plate is placed on the back. The tuning pins are inserted by power tools, and the wire is strung. The "strung back" assembly is placed in a conditioning room for equalization of the moisture content and to relieve stress in the assembly.

Different steps are taken in the construction of the grand piano. After the rim has been bent and braced, a soundboard, with ribs attached, and plate are added. Tuning pins, strings, actions, key assemblies, and the top are put into place. Then a series of voicing, <sup>1/</sup> regulation, and conditioning steps are taken.

---

<sup>1/</sup> Voicing is the picking or filing of the felt on the hammer head. The softer the felt, the mellower the tone will be.



## U.S. CUSTOMS TREATMENT

Imported pianos are classified under item 725.01, for upright pianos, and item 725.03 (pt.), for grand pianos, in the Tariff Schedules of the United States (TSUS). Table 1 shows the current rates of duty which apply to imports of pianos.

Table 1.--Pianos: U.S. rates of duty, present and negotiated, by TSUS items

(Percent ad valorem)				
TSUS item No. <u>1/</u>	Description	Present col. 1: rate of of duty <u>2/</u>	Negotiated col. 1 rate of: duty <u>3/</u>	Col. 2 rate of duty <u>4/</u>
	Pianos:			
725.01 A	Including player pianos, except grand pianos----	6.9%	5.3%	40%.
	Other:			
725.03 (pt.)A:	Grand pianos-----	6.9%	5.3%	40%.

1/ The designation "A" means that all beneficiary developing countries are eligible for the Generalized System Preferences.

2/ Effective Jan. 1, 1983.

3/ Rate negotiated in the Tokyo round of the Multilateral Trade Negotiations in Geneva.

4/ Rate provided in the Tariff Act of 1930.

The rates of duty in column 1 are most-favored-nation (MFN) rates, and are applicable to imported products from all countries except those Communist countries and areas enumerated in general headnote 3(f) of the Tariff Schedules of the United States Annotated (TSUSA). 1/ However, such rates do not apply to products of developing countries which are granted preferential tariff treatment under the Generalized System of Preferences (GSP).

The rates of duty in column 2 apply to imported products from those Communist countries and areas enumerated in general headnote 3(f) of the TSUSA.

The GSP is a program of nonreciprocal tariff preferences granted by the United States to developing countries to aid their economic development by encouraging greater diversification and expansion of their production and exports. The GSP, implemented by Executive Order No. 11888 of November 24, 1975, applies to merchandise imported on or after January 1, 1976, and is scheduled to remain in effect until January 4, 1985. It provides for duty-free treatment of eligible articles imported directly from designated beneficiary developing countries.

1/ The only Communist countries currently eligible for MFN<sup>2</sup> treatment are the People's Republic of China, Hungary, Romania, and Yugoslavia.

Upright pianos (entered under item 725.01) were granted duty-free treatment under the GSP, effective March 30, 1980. Such treatment had previously been extended to grand pianos (entered under item 725.03).

Two major U.S. producers assemble actions and keys in Mexico under TSUS item 807.00 1/ and bring them back to their U.S. plants for incorporation into pianos.

---

1/ Item 807.00 provides that duty on articles assembled abroad of U.S.-fabricated components be applied to the full value of the imported articles less the value of the U.S.-made components. For the most part, the duty is assessed on the value added abroad, primarily the cost of assembly and finishing.

## PROFILE OF THE DOMESTIC INDUSTRY

## Producers

Jonas Chickering manufactured the first pianos in the United States in 1823. By 1900, there were dozens of producers, with the greatest concentration in New York and Massachusetts. As assembly-line concepts were applied to pianomaking, the industry went through an extensive period of consolidation. For example, one company, which today owns over 40 registered brand names, is the product of mergers and acquisitions over the years combining 16 domestic piano producers and the largest Canadian producer. As price competition intensified from the mass-production of pianos, the concentration of the manufacturers shifted from New York City and Boston first to the East North Central States, and then to the Midsouth in an effort to reduce expenditures for labor, land, taxes, and transportation of raw materials such as hardwood lumber.

Fifteen U.S. firms produced pianos in 1982; the four largest together accounted for 72 percent of domestic production in eight establishments. In addition to domestic plants, these firms own piano production facilities in Canada, Mexico, Korea, the United Kingdom, and Austria. Another company owns a subsidiary in West Germany. The other 11 U.S. firms operated 1 plant each. Of the 19 total U.S. establishments, 9 were in the Midsouth (Tennessee, Mississippi, North Carolina, and Arkansas), 5 were in East North Central States (Indiana, Ohio, and Michigan), and the remaining 5 were located in New York, Connecticut, California, and Utah. <sup>1/</sup>

All U.S. piano manufacturers make uprights, but until 1977, most grands were supplied by three firms. After 1977, other producers decided to place more emphasis on the grand market, and by 1982, a total of seven U.S. producers manufactured grands.

In 1982, there were minor shifts in production units, but they did not affect the industry's geographic base. In addition, some plants were closed for extended periods of time, reflecting the overall weak position of the piano market in the slow economy.

The production of pianos is characterized by a high degree of labor intensity, as demonstrated by the ratio of production worker wages to value added, which averaged 36 percent, compared with 27 percent for all manufacturing in 1980. Although assembly-line-type operations are used to a great extent, the production process has not undergone significant changes over the years. There has been an increase in the use of automated equipment, with a few producers using computer-controlled machinery. Efforts toward automation have been concentrated on production of upright pianos; however, the degree of automation varies considerably among the producers.

Although the largest domestic manufacturers operate modern, single-story plants, several producers are in multistory buildings, which inhibit efficient work flow. The four largest domestic firms which are somewhat integrated operate plants that are some distance apart and the costs of transporting components between the plants increase the cost of the product.

---

<sup>1/</sup> A listing of U.S. producers and their plant locations is presented in app. D.

No producers of keyboard string instruments in the United States are completely integrated; purchases of various components and parts are made from other manufacturers. In addition, specialized plants or foundries cast the iron plates, draw wire for steel strings, and assemble keyboards and actions.

### Production

U.S. production of pianos decreased by 31 percent during 1978-82, from 247,350 to 170,054 units (table 2). Production of upright pianos declined by 31 percent, from 237,041 to 164,058 units. Among upright pianos, production of spinets dropped the most significantly, from 85,196 units in 1978 to 40,385 units in 1982, or by 53 percent; console production fell by 21 percent, from 124,384 to 98,215 units, and studio uprights declined by 7 percent, from 27,461 to 25,458 units.

Production declines over the period were of an irregular nature. From 1978 to 1979, the number of spinets produced dropped by 31 percent, whereas production of consoles and studios increased by 2 and 8 percent, respectively (table 2). Contributing factors for these changes include a decline in consumer demand for spinet pianos and increased production of consoles and studios in anticipation of growing export markets. Spinet pianos were not exported. However, production of all upright models declined after 1979 as U.S. economic conditions worsened.

Grand piano production dropped by 42 percent during the period, from 10,309 to 5,996 units. Among grand pianos, the trend was similar to production of those less than 5 feet 6 inches in length, decreasing by 53 percent, from 4,817 units in 1978 to 2,270 units in 1982; production of grands measuring 5 feet 6 inches to 6 feet 1 inch fell by 40 percent, from 3,843 to 2,312 units; production of grands longer than 6 feet 1 inch declined by 14 percent, from 1,649 to 1,414 units.

With the exception of the smaller grands, for which production decreased by 2 percent between 1978 and 1979, production of all other grand pianos increased from 1978 to 1979 (table 2). In terms of the number of units produced, 1979 marked the peak year in U.S. production, because more manufacturers entered this market.

Total U.S. production of pianos declined after 1979, because growth of consumer demand slowed due to a reduction in discretionary income, competition from new forms of leisure-time activity, high interest rates for retail financing and other effects of the worldwide recession, and the growing market share of Korean and Japanese imports.

Table 2.--Pianos: U.S. production, by types, 1978-82

Type	1978	1979	1980	1981	1982	Percentage decrease, 1982 from 1978
	<u>Units</u>					
Uprights:						
Spinets-----	85,196	58,944	53,317	47,495	40,385	53
Consoles-----	124,384	126,563	111,577	111,338	98,215	21
Studios-----	27,461	29,578	28,420	29,022	25,458	7
Subtotal-----	237,041	215,085	193,314	187,855	164,058	31
Grands:						
Under 5'6"-----	4,817	4,702	4,566	3,628	2,270	53
5'6" to 6'1"-----	3,843	4,072	3,148	3,308	2,312	40
Over 6'1"-----	1,649	1,972	1,910	1,660	1,414	14
Subtotal-----	10,309	10,746	9,624	8,596	5,996	42
Total-----	247,350	225,831	202,938	196,451	170,054	31

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

#### U.S. Producers' Shipments

U.S. producers' shipments of pianos declined steadily during 1978-82, from 225,277 to 149,384 units, or by 34 percent (table 3). Shipments of upright pianos dropped by 34 percent, from 215,574 to 143,336 units; the sharpest decrease was 54 percent for spinets, compared with 22 percent for consoles and 20 percent for studios. The value of total upright shipments, however, decreased by only 7 percent, from \$170.7 million in 1978 to \$159.0 million in 1982, principally due to an increase of 40 percent in the average unit value. The value of shipments of upright pianos peaked in 1979, reflecting primarily increased shipments of consoles.

Grand piano shipments fell by 37 percent during 1978-82, from 9,549 to 6,048 units. The value of shipments of grand pianos increased, however, partly because the average unit value of all sizes of grand pianos increased by 62 percent, which may have partially been the effect of the exit of some manufacturers of low-end grand pianos from that segment of the market and from an attempt by another manufacturer to upgrade its low-end grands.

Table 3.--Pianos: Shipments of domestically produced pianos in the U.S. market, by types, 1978-82

(Quantity in units, value in thousands of dollars)

Type	1978	1979	1980	1981	1982	Percentage change, 1978 from 1982
Quantity						
Uprights:						
Spinets-----	78,418	65,691	45,668	40,259	36,182	-54
Consoles-----	111,259	114,090	96,209	98,077	86,497	-22
Studios-----	25,897	28,322	26,203	26,978	20,657	-20
Subtotal-----	215,574	208,103	168,080	165,314	143,336	-34
Grands:						
Under 5'6"-----	4,550	4,391	3,491	3,309	2,303	-49
5'6" to 6'1"-----	3,623	3,716	3,108	3,072	2,369	-35
Over 6'1"-----	1,530	1,833	1,623	1,597	1,376	-10
Subtotal-----	9,703	9,940	8,222	7,978	6,048	-38
Total-----	225,277	218,043	176,302	173,292	149,384	-34
Value						
Uprights:						
Spinets-----	50,954	45,780	35,701	34,669	34,085	-33
Consoles-----	94,488	102,590	94,733	103,787	93,309	-1
Studios-----	25,295	29,348	31,678	33,332	31,592	25
Subtotal-----	170,737	177,718	162,112	171,787	158,986	-7
Grands:						
Under 5'6"-----	10,838	12,987	12,282	10,951	8,541	-21
5'6" to 6'1"-----	14,275	16,375	15,750	17,509	14,532	2
Over 6'1"-----	8,407	11,032	11,533	12,650	11,325	35
Subtotal-----	33,520	40,395	39,565	41,110	34,398	3
Total-----	204,257	218,113	201,677	212,897	193,385	-5
Unit value						
Uprights:						
Spinets-----	\$650	\$697	\$782	\$861	\$942	45
Consoles-----	849	899	985	1,058	1,079	27
Studios-----	977	1,036	1,209	1,236	1,529	56
Average-----	792	854	964	1,039	1,109	40
Grands:						
Under 5'6"-----	2,382	2,958	3,518	3,309	3,709	56
5'6" to 6'1"-----	3,940	4,407	5,068	5,670	6,134	56
Over 6'1"-----	5,495	6,019	7,106	8,284	8,230	50
Average-----	3,510	4,044	4,812	5,123	5,688	62
Average, all pianos-----	907	1,000	1,144	1,229	1,295	43

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

The pianos most affected were grands measuring less than 5 feet 6 inches and spinets. By value, shipments of spinets dropped 33 percent, and shipments of the smaller grand pianos (under 5 feet 6 inches), by 21 percent. During 1978-82, the share of consoles increased from 49 percent (1978) to 58 percent (1982), compared with a period decrease in the share of spinets from 35 to 24 percent (table 4). The increase in shares of consoles and studios points up the changing tastes among American consumers for purchases of larger, higher quality uprights over spinets.

Table 4.—Pianos: Percentage distribution of the quantity of U.S. producers' domestic shipments, by types, 1978-82

Type	1978	1979	1980	1981	1982
Uprights:					
Spinets-----	35	30	26	23	24
Consoles-----	49	52	55	57	58
Studios-----	12	13	15	16	14
Subtotal-----	96	95	95	95	96
Grands:					
Under 5'6"-----	2	2	2	2	1
5'6" to 6'1"-----	2	2	2	2	2
Over 6'1"-----	1	1	1	1	1
Subtotal-----	4	5	5	5	4
Total-----	100	100	100	100	100

Source: Compiled from responses to questionnaires of the U.S. International Trade Commission.

#### U.S. Exports

U.S. exports of pianos have traditionally consisted almost entirely of uprights, which accounted for 97.5 percent of U.S. exports during 1978-82 (table 5). U.S. piano exports increased gradually during 1978-81, from 19,252 to 21,124 units, or by 10 percent, before dropping by 45 percent to 11,681 units in 1982 (table 6). The value of exports decreased by only 6 percent during the period, from \$14.1 million in 1978 to \$13.3 million in 1982; however, the average unit value rose by 55 percent, from \$734 to \$1,136.

According to U.S. producers' questionnaire data, by quantity, console pianos constituted 54 percent of total U.S. exports in 1978 and 59 percent in 1982. The export share of spinets is declining, but that of studios is increasing (table 7). The types of pianos exported by U.S. producers varied. Firms generally exported those pianos most consistently successful in domestic sales.

Important export markets during 1978-82 included Canada, the Netherlands, and West Germany. Canada consistently purchased about one-third of U.S. exports of pianos. The increase in the Netherlands' share of U.S. piano exports results from the use of the Netherlands by a major U.S. exporter as the distribution center for its European sales. This is also the primary reason for the decline in exports to West Germany in 1982.

Table 5.--Pianos: U.S. exports, by types, 1978-82

(Quantity in units; value in thousands of dollars)

Type	1978	1979	1980	1981	1982	Percentage change, 1982 from 1978
Quantity						
Uprights:						
Spinets-----	6,192	7,471	7,722	5,247	3,021	-51
Consoles-----	9,683	10,751	13,045	10,580	7,087	-23
Studios-----	1,590	2,896	2,772	2,625	1,757	11
Subtotal-----	17,465	21,118	23,539	18,452	11,865	-32
Grands:						
Under 5'6"-----	308	525	243	181	54	-83
5'6" to 6'1"-----	62	171	193	212	88	42
Over 6'1"-----	90	112	146	115	67	-26
Subtotal-----	460	538	582	508	209	-55
Totals-----	17,925	21,656	24,121	18,960	12,074	-33
Value						
Uprights:						
Spinets-----	4,240	5,269	5,910	4,463	2,609	-38
Consoles-----	7,469	9,001	11,858	10,334	7,047	-6
Studios-----	1,657	2,770	3,038	3,167	2,311	39
Subtotal-----	13,365	17,040	20,806	17,964	11,967	-10
Grands:						
Under 5'6"-----	1,514	668	683	527	174	-89
5'6" to 6'1"-----	744	759	870	235	675	-9
Over 6'1"-----	484	667	914	805	557	15
Subtotal-----	2,742	2,094	2,467	1,196	1,406	-34
Total-----	16,107	19,134	23,272	19,160	13,373	-17
Unit value						
Uprights:						
Spinets-----	\$685	\$705	\$765	\$851	\$863	26
Consoles-----	771	837	865	977	994	29
Studios-----	1,042	956	1,096	1,206	1,315	26
Subtotal-----	765	807	884	974	1,009	32
Grands:						
Under 5'6"-----	4,916	2,620	2,811	2,912	3,222	-34
5'6" to 6'1"-----	11,994	4,440	4,507	5,013	7,666	-36
Over 6'1"-----	5,381	5,956	6,262	6,997	8,315	55
Average-----	5,960	3,893	4,239	4,712	6,726	13
Average, all pianos--	899	884	965	1,074	1,108	23

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



Table 6.--Pianos: U.S. exports of domestic merchandise, by principal markets, 1978-82

(Quantity in units; value in thousands of dollars)							Percentage change, 1982 from 1978
Market	1978	1979	1980	1981	1982		
Quantity							
Canada	6,381	4,551	4,962	6,643	3,829		-40.0
Netherlands	467	1,858	1,740	1,384	1,410		291.9
West Germany	2,244	2,660	2,456	2,195	846		-62.3
Mexico	302	200	382	735	350		15.9
Japan	795	439	524	581	347		-56.4
Australia	665	1,010	1,051	1,860	545		-18.0
United Kingdom	1,106	2,138	1,085	1,377	484		-56.2
Malaysia	149	220	302	425	399		167.8
All other	7,143	7,485	7,649	5,924	3,471		-51.4
Total	19,252	20,561	20,151	21,124	11,681		-39.3
Value							
Canada	3,507	3,988	4,862	6,521	4,167		18.8
Netherlands	416	1,314	1,534	1,396	1,273		206.0
West Germany	1,702	2,149	2,211	2,091	825		-51.5
Mexico	330	335	609	1,149	637		93.0
Japan	722	594	679	851	622		-19.4
Australia	545	1,028	978	2,034	618		13.4
United Kingdom	781	1,674	983	1,460	596		-23.3
Malaysia	110	132	270	447	405		268.2
All other	5,967	6,580	7,920	6,271	4,129		-30.8
Total	14,131	17,794	20,047	22,219	13,270		-6.1
Unit value							
Canada	\$550	\$876	\$980	\$982	\$1,088		97.8
Netherlands	891	707	882	1,009	903		1.3
West Germany	785	808	900	952	975		24.2
Mexico	1,092	1,674	1,595	1,563	1,819		66.6
Japan	971	1,354	1,297	1,464	1,792		84.6
Australia	820	1,018	930	1,093	1,134		38.3
United Kingdom	706	783	906	1,060	1,230		74.2
Malaysia	737	599	895	1,051	1,015		37.7
All other	835	879	1,035	1,059	1,190		42.5
Average	734	865	995	1,052	1,136		+54.8

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

Table 7.--Pianos: Percentage distribution of the quantity of U.S. exports, by types, 1978, 1980, and 1982

Type	1978	1980	1982
Uprights:			
Spinets-----	35	32	26
Consoles-----	54	54	59
Studios-----	9	11	15
Subtotal-----	97	98	98
Grands:			
Under 5'6"-----	1	1	<u>1</u> /
5'6" to 6'1"-----	<u>1</u> /	1	1
Over 6'1"-----	1	1	1
Subtotal-----	3	2	2
Total-----	100	100	100

1/ Less than 0.5 percent.

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

The quantity of exports of U.S.-produced upright pianos increased during 1978-80 by 35 percent; the value of the exports increased by 56 percent, before decreasing by 50 and 43 percent, respectively, by 1982 (table 5). The sharpest declines in exports during 1978-82 occurred in spinets, consoles and smaller grands. The causes of the sharp decline in U.S. exports of pianos in 1982 have been attributed primarily not only to the worldwide recession in Canada and Europe, but also, in part, to an unwillingness by U.S. manufacturers to offer pianos with a polyester finish and uprights with a continental styling. Numerous industry representatives contend that a strengthened U.S. dollar caused U.S.-made pianos to be less price competitive in foreign markets.

U.S. producers' exports of pianos peaked in 1980, representing almost 12 percent of total U.S. production (table 8). The ratio of exports to production for all pianos, as well as for each type, generally increased to a peak in 1980, and then decreased through 1982.

Table 8.--Pianos: Ratio of U.S. exports to production, by types, 1978-82

(In percent)					
Type	1978	1979	1980	1981	1982
Uprights:					
Spinets-----	7.3	12.7	14.5	11.0	7.5
Consoles-----	7.8	8.5	11.7	9.5	7.2
Studios-----	5.8	9.8	9.8	9.0	6.9
Average-----	7.4	9.8	12.2	9.8	7.2
Grands:					
Under 5'6"-----	6.4	5.4	5.3	5.0	2.4
5'6" to 6'1"-----	1.6	4.2	6.1	6.4	3.8
Over 6'1"-----	5.5	5.7	7.6	6.9	4.7
Average-----	4.5	5.0	6.0	5.9	3.5
Average, all pianos-----	7.2	9.6	11.9	9.7	7.1

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

### Inventories

Questionnaire data received on inventories make evident the declining market for pianos in the period. U.S. producers' inventories increased substantially between the years ending December 31 of 1977 and 1982, from 12,176 to 32,779 units, or by 169 percent (table 9). The ratio of inventories to production for all pianos during 1978-82 rose from 6.6 to 19.3 percent (table 10), reflecting the experience for upright pianos, inventories of which nearly tripled over the period, with the largest buildups occurring in 1982. Inventories of grand pianos jumped by 745 percent to 1,192 units between December 31 of 1977 and 1981, before dropping by 23 percent in 1982 (table 9). During 1978-82, inventories of grands increased from 2.7 to 14.9 percent of U.S. production (table 10).

### Capacity and Utilization

The market for pianos reached a then-record level in 1978, and several producers expanded their capacity during 1975-80. U.S. producers' capacity to produce upright pianos increased by 4 percent during 1978-80, to 313,130 units in 1980, before declining by 10 percent to 282,385 units in 1982, representing a 6-percent decrease over the 5-year period (table 11). Production capacity for grand pianos peaked in 1981, when it totaled 16,674 units, but decreased to 12,960 units in 1982, representing a decrease of 17 percent over the 5-year period. Capacity utilization during 1978-82 reflects similar patterns for both uprights and grands, registering higher in the earliest years and trending downward to 1982.

Table 9.--Pianos: U.S. producers' inventories, by types, as of  
Dec. 31 of 1977-82

Type	1977	1978	1979	1980	1981	1982	Percentage increase, 1977-82
Units							
Uprights-----	12,035	15,927	17,074	17,581	23,034	31,887	165
Grands-----	141	279	505	1,160	1,192	892	533
Total-----	12,176	16,206	17,579	18,741	24,226	32,779	169

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

Table 10.--Pianos: Ratio of U.S. inventories to production, 1978-82

(In percent)					
Type	1978	1979	1980	1981	1982
Uprights-----	6.7	7.9	9.1	12.3	19.4
Grands-----	2.7	4.7	12.1	13.9	14.9
Average, all pianos-----	6.6	7.8	9.2	12.3	19.3

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

Table 11.--Pianos: U.S. producers' production capacity and capacity  
utilization, by types, 1978-82

(Capacity in units; capacity utilization in percent)						
Type	1978	1979	1980	1981	1982	Percentage increase, 1982 from 1978
Capacity						
Uprights-----	299,980	300,130	313,130	288,300	282,385	6
Grands-----	15,640	15,865	15,865	16,674	12,960	17
Capacity utilization						
Uprights-----	79	72	62	65	58	27
Grands-----	66	68	61	52	46	30

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

## Employment

U.S. employment of all persons in establishments producing pianos decreased by 33 percent during 1978-82, from 6,089 to 4,059 (table 12). The number of production workers engaged in producing pianos also decreased over the period, from 5,180 in 1978 to 3,244 in 1982, or by 37 percent, as plant closures and layoffs were called by some manufacturers. Production workers accounted for 85 percent of the workforce in 1978, but by 1982, they amounted to 80 percent. There was a somewhat larger percentage decline in workers assigned to the manufacturing of uprights, compared with those manufacturing grand pianos.

Table 12.--Pianos: Average number of employees, total and production and related workers employed in establishments producing pianos, 1978-82

Item	1978	1979	1980	1981	1982	Percentage decrease, 1982 from 1978
All persons employed in establishments producing pianos-----	6,089	5,898	5,244	4,900	4,059	33
Production and related workers:						
Uprights-----	4,357	4,122	3,539	3,322	2,687	38
Grands-----	823	872	779	701	557	32
Average-----	5,180	4,994	4,318	4,023	3,244	37

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

The number of man-hours worked by U.S. piano production workers reflected the downturn in the number of employees. Man-hours worked fell by 43 percent during 1978-82, from 10.2 million to 5.8 million (table 13). The trend was down for grands, and down more so for the man-hours for upright production. Workers engaged in the production of grand pianos tend to be more highly skilled than those producing upright pianos, and during periods of lessened demand, the former workers may be shifted to upright production in order to prevent the permanent loss of such highly skilled workers.

Questionnaire data received indicate an improvement in productivity for upright piano production. The average man-hours per unit produced decreased by 19 percent for upright production, from 36.2 to 29.2, during 1978-82 (table 14). U.S. producers emphasize the production of upright pianos, which enjoy a much larger market than grand pianos. Economies of scale have justified investment in facilities and equipment to enable more efficient production of uprights. On the other hand, average man-hours per grand piano produced increased during 1978-82, from 158.4 to 165.3, or by 4 percent. Also in 1982, for example, the 30-percent drop in the quantity of grands produced was not matched by the 20 percent decrease in employment, resulting in a

decline in productivity. Industry sources explained that U.S. producers' grand piano production operations have not benefited from technological advances because economies of scale did not justify the investment required, and recent conditions in the industry have restricted investment capital. In addition, several manufacturers began production of grand pianos during the period, and their relative lack of experience increased the average man-hours required for production. Grand piano operations require longer periods for startup than those for uprights, including training of the workforce in this relatively labor-intensive process.

Table 13.--Pianos: Man-hours worked by U.S. production and related workers, by types, 1978-82

Type	1978	1979	1980	1981	1982	Percentage decrease, 1982 from 1978
	-----1,000 man-hours-----					
Uprights-----	8,572	7,914	6,770	6,290	4,795	44
Grands-----	1,633	1,713	1,475	1,356	991	39
Total-----	10,205	9,627	8,245	7,646	5,786	43

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

Table 14.--Pianos: Average number of man-hours worked per unit produced, by types, 1978-82

Type	1978	1979	1980	1981	1982	Percentage change, 1982 from 1978
Uprights-----	36.2	36.8	35.0	33.5	29.2	-19
Grands--	158.4	159.4	153.2	157.7	165.3	4

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

#### Financial Experience of U.S. Producers

Eleven U.S. firms, accounting for about 99 percent of the value of total U.S. shipments of pianos in 1982, supplied income-and-loss data relative to their piano operations. In the aggregate, the industry reported diminishing profits during 1978-82.

Net sales for the industry rose by 11 percent between 1978 and 1979, from \$257 million to \$286 million, averaged \$284 million during 1979-81, and then dropped by 8 percent to \$265 million in 1982 (table 15). On the other hand, profitability declined in each year except 1981. Operating income was reduced by 80 percent during 1978-82, from \$22.6 million to \$4.4 million. Net income of \$17.8 million in 1978 declined, and there was a net loss of \$3.4 million in 1982. The ratio of operating income to net sales dropped from 8.8 to

Table 15.--Pianos: Income and-loss experience of 11 U.S. producers on their piano operations, 1978-82

Item	1978	1979	1980	1981	1982	Percentage change, 1982 from 1978
	1,000 dollars					
Net sales-----	257,441	285,681	278,578	286,795	264,643	3
Cost of goods sold--	202,228	227,557	231,130	232,456	220,003	9
General, selling, and administra-						
tive expenses-----	32,633	38,714	38,578	44,507	40,192	23
Operating income----	22,580	19,410	8,870	9,832	4,448	-80
Interest expense----	2,957	5,188	7,890	9,660	8,091	174
Other income or (expense)-----	(1,861)	(218)	(959)	(149)	115	106
Net income or (loss)-----	17,762	14,004	21	23	(3,428)	-119
Depreciation and amortization-----	2,751	3,795	4,369	4,701	4,602	67

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

1.7 percent during 1978-82, and the ratio of net income to net sales slipped from 6.9 to -1.3 percent (table 16).

The faster rate of decline for net income than for operating income was caused by an increase in interest expense during 1978-82. Manufacturing costs and operating expenses also increased at a faster rate than sales revenue during the period (table 15). As a share of net sales, the cost of goods sold rose from 78.6 percent in 1978 to 83.1 percent in 1982 (table 16). Operating expenses climbed from 12.7 to 15.2 percent of net sales during 1978-82. The ratio of interest expense to net sales escalated from 1.1 to 3.1 percent during the period.

Table 17 shows the shares of total manufacturing costs accounted for by raw materials, direct labor, and other factory costs during 1978-82. Other factory costs rose steadily as a share of the total, from 24.4 to 29.8 percent, reflecting the increased expense of maintaining growing inventory. The ratio of labor costs to raw-material costs was constant over the period.

Table 16.--Pianos: Ratios of certain income-and-loss categories to net sales by 11 U.S. producers, 1978-82

(In percent)					
Item	1978	1979	1980	1981	1982
Cost of goods sold-----	78.6	79.7	83.0	81.1	83.1
General, selling, and administrative expenses-----	12.7	13.6	13.8	15.5	15.2
Operating income-----	8.8	6.8	3.2	3.4	1.7
Interest expense-----	1.1	1.8	2.8	3.4	3.1
Net income or (loss)---	6.9	4.9	<u>1/</u>	.1	(1.3)

1/ Less than 0.05 percent.

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

Table 17.--Pianos: Percentage distribution of U.S. producers' total manufacturing costs, 1978-82

(In percent)					
Cost factor	1978	1979	1980	1981	1982
Raw materials-----	60.1	59.5	58.8	57.4	56.1
Direct labor-----	15.5	15.7	14.8	14.8	14.1
All other-----	24.4	24.8	26.4	27.8	29.8
Total-----	100.0	100.0	100.0	100.0	100.0

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

### Investment in Productive Facilities

Industry investment in piano production facilities rose from \$3.3 million in 1978 to \$12 million in 1980, and then fell to \$2.5 million in 1982 (table 18). \* \* \* were the chief reasons for the large increase in investment in 1980. Investment in research and development ranged from \$1.2 million to \$1.5 million annually during 1978-82.



Table 18.--Pianos: Investment in production facilities and in research and development by 11 U.S. producers, 1978-82

(In thousands of dollars)

Item	1978	1979	1980	1981	1982
Production facilities:					
Land and land improvements	-	***	218	-	-
Building or leasehold improvements	1,507	723	7,878	1,184	802
Machinery, equipment, and fixtures	1,808	2,941	3,922	2,030	1,665
Total	3,315	***	12,018	3,214	2,467
Research and development	1,279	1,243	1,375	1,225	1,465

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

## MAJOR FOREIGN COMPETITORS

Total world production of pianos annually ranges from 800,000 to 1 million units. About two-thirds of the total is produced by the U.S.S.R. and Japan, each manufacturing approximately 300,000 pianos annually. The United States is the third largest producer, making slightly less than 200,000 pianos a year, or about one-fifth of total world output. Western Europe annually produces about 100,000 pianos, and Korea, 70,000 to 80,000 units.

### The Japanese Industry

The Japanese piano-manufacturing industry consists of approximately 25 to 30 companies located principally on the main island of Honshu. The largest piano manufacturers in the world are based in Japan, and the five largest manufacturers in Japan together are estimated to account for over 90 percent of Japan's annual production. In 1982, Japanese piano production is estimated to have totaled 325,000 units, of which about 25 percent were exported. The United States accounted for about 30 percent of those exports.

A major Japanese producer purchased a U.S. manufacturing facility in 1973. The Japanese producer currently manufactures a low-priced line of upright pianos under their own label as well as the former U.S. company label. In addition, it began to produce studio pianos under both labels in 1983 and has tentative plans to manufacture grand pianos in the future under their own label.

The typical level of automation used in producing Japanese pianos is generally regarded by U.S. producers and importers as being higher than that used by U.S. producers using technology such as computer-controlled machines and high-frequency gluing. However, piano production is still considered labor intensive, and skilled laborers are employed as woodworkers and finishers. The major Japanese producers are vertically integrated. With the exception of certain raw materials, such as logs and cants, and iron ore, and certain components, such as tuning pins and felt, most parts of the pianos, including both wood and metal parts, are fabricated or developed within that firm. Tuning pins are usually purchased from a supplier in Japan, whereas felt is usually imported from Europe. Logs and cants are imported principally from the United States and Canada.

### The Korean Industry

The Korean piano-manufacturing industry consists of approximately 10 firms located in Southeastern Korea and in the cities of Inchon and Seoul. The three largest Korean manufacturers together account for almost 95 percent of that country's production. The two largest Korean piano manufacturers reportedly rank among the world's largest producers. Production of pianos in Korea during 1982 was estimated at 80,000 units, of which about 32 percent were exported. The United States accounted for approximately 30 percent of those exports.

The level of automation used in the Korean production process is not regarded as equivalent to that of the Japanese producers, but rather as more

equivalent to that of the U.S. producers. The piano industry in Korea is not as well established as the Japanese industry, and although some producers in Korea attempt to pattern their operations after those of Japanese producers, the Korean piano industry is characterized by a great degree of labor intensity.

The two largest producers in Korea are somewhat vertically integrated, since they cast their own plates and manufacture actions and tuning pins. Other components are purchased from Korean vendors. Logs and cants are imported principally from the United States.

## U.S. IMPORTS

## Importers.

Forty-eight U.S. firms imported pianos in 1982, of which 36 were independent keyboard dealers which imported the pianos directly for retail sale. Four Japanese and three Korean piano manufacturers have set up subsidiaries 1/ in the United States to import their pianos and market them to independent keyboard dealers. In addition, the four largest U.S. manufacturers imported pianos in 1982, chiefly grand pianos with polyester finishes, which are produced by only one domestic manufacturer. 2/

## Imports for Consumption

In terms of quantity, U.S. imports of pianos for consumption decreased by 10 percent during 1978-80, from 28,025 to 25,359 units, and then rose by 50 percent to 37,925 in 1982, representing a 35-percent increase over the 5-year period. The value of imports increased by 87 percent, from \$31.4 million to \$58.6 million, during 1978-82, as the average unit value escalated by 38 percent (table 19).

Japan's share of the import market slipped from 78 to 74 percent, by quantity, during 1978-82, and Korea's share of the import market rose from 11 to 21 percent. During 1978-82, the average unit value of imports from Korea rose by 51 percent, compared with a 34-percent increase by those from Japan. The remaining 5 percent of U.S. imports in 1982 consisted chiefly of used pianos from the United Kingdom and expensive, high-quality pianos from Austria and West Germany. In 1982, it is estimated that over 80 percent of total imports from Japan and Korea had cases which were coated with a polyester finish. In that year 90 percent of Korean imports and 80 percent of Japanese imports had this finish.

---

1/ A listing of major U.S. importers from Japan and Korea is presented in app. D.

2/ Imports by these 4 manufacturers totaled 940 units in 1982, accounting for 0.9 percent of total imports of uprights and 5.1 percent of total imports of grand pianos.

Table 19.--Pianos: U.S. imports for consumption, by principal sources, 1978-82

(Quantity in units; value in thousands of dollars)						
Source	1978	1979	1980	1981	1982	Percentage change, :1982 from 1978
Quantity						
Japan	21,960	21,957	21,714	24,024	28,219	28.5
Republic of Korea	3,195	2,484	1,440	4,351	7,939	148.5
West Germany	327	354	267	198	212	-35.2
Austria	147	139	62	98	139	-5.4
United Kingdom	2,239	1,967	1,544	1,194	1,143	-49.0
All other	157	288	332	231	303	93.0
Total	28,025	27,189	25,359	30,096	37,925	+35.3
Value						
Japan	25,193	27,597	26,386	34,302	43,429	72.4
Republic of Korea	3,277	3,144	2,057	6,020	12,294	275.2
West Germany	1,497	1,665	1,196	1,481	1,397	-6.7
Austria	688	1,435	644	1,003	745	8.3
United Kingdom	501	495	569	294	385	-23.3
All other	233	572	632	440	390	67.4
Total	31,389	34,909	31,485	43,539	58,641	86.8
Unit value						
Japan	\$1,147	\$1,257	\$1,215	\$1,428	\$1,539	34.2
Republic of Korea	1,026	1,266	1,428	1,384	1,549	51.0
West Germany	4,578	4,703	4,479	7,480	6,590	43.9
Austria	4,680	10,324	10,387	10,235	5,360	14.5
United Kingdom	224	252	369	246	337	50.4
All other	1,484	1,986	1,904	1,905	1,287	-13.9
Average	1,120	1,284	1,242	1,447	1,546	38.0

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

U.S. imports of upright pianos fell by 15 percent during 1978-80, before increasing by 53 percent during 1980-82, representing an overall increase of 29 percent during 1978-82, from 18,450 to 23,830 units (table 20). As the average unit value of imported uprights rose by 46 percent during the period, the value of imports increased by 89 percent, from \$12.2 million to \$23.2 million.

The share of imported uprights supplied by Japan slipped from 77 to 76 percent, despite a 29-percent increase in quantity during 1978-82; the quantity from Korea more than doubled and boosted its share from 11 to 18 percent. In addition, the average unit value of uprights from Korea climbed by 56 percent; and those from Japan increased by 36 percent.

Table 20.--Upright pianos: U.S. imports for consumption, by principal sources, 1978-82

(Quantity in units; value in thousands of dollars)						
Source	1978	1979	1980	1981	1982	Percentage change, 1982 from 1978
Quantity						
Japan-----	14,131	13,268	13,320	14,831	18,217	28.9
Republic of Korea----	2,048	1,362	590	2,651	4,223	106.2
United Kingdom-----	2,086	1,847	1,365	1,135	1,038	-50.2
West Germany-----	33	88	44	16	38	15.2
Austria-----	40	23	18	19	80	100.0
All other-----	112	254	268	160	264	135.7
Total-----	18,450	16,842	15,605	18,812	23,830	29.2
Value						
Japan-----	10,492	10,641	10,284	13,729	18,419	75.6
Republic of Korea----	1,266	1,002	464	2,518	4,206	232.2
United Kingdom-----	347	327	252	218	174	-49.9
West Germany-----	45	168	42	58	97	115.6
Austria-----	13	8	7	7	48	269.2
All other-----	80	366	356	198	227	183.8
Total-----	12,242	12,513	11,405	16,727	23,172	89.3
Unit value						
Japan-----	\$742	\$802	\$772	\$926	\$1,011	36.3
Republic of Korea----	618	736	786	950	966	56.3
United Kingdom-----	166	177	185	192	168	1.2
West Germany-----	1,361	1,911	953	3,599	2,563	88.3
Austria-----	318	350	429	350	605	90.3
All other-----	713	1,442	1,327	1,238	861	20.8
Average-----	664	743	731	889	972	46.4

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

During 1978-82, U.S. imports of grand pianos rose from 9,575 to 14,095 units, or by 47 percent. When combined with a 29-percent increase in the average unit value, the value of imports climbed from \$19.1 million to \$35.5 million, or by 85 percent (table 21).

Despite a 28-percent rise in the quantity of grand pianos imported from Japan during 1978-82, its share of the U.S. import market dipped from 82 to 71 percent, as a tripling of imports from Korea lifted the latter's share from 12 to 26 percent.

Table 21.- Grand pianos: U.S. imports for consumption, by principal sources, 1978-82

(Quantity in units; value in thousands of dollars)						
Source	1978	1979	1980	1981	1982	Percentage change, 1982 from 1978
Quantity						
Japan	7,829	8,689	8,394	9,193	10,002	27.8
Republic of Korea	1,147	1,122	850	1,700	3,716	224.0
West Germany	294	266	223	182	174	-40.8
Austria	107	116	44	79	59	-44.8
United Kingdom	153	120	179	59	105	-31.4
All other	45	34	64	71	39	-13.3
Total	9,575	10,347	9,754	11,284	14,095	47.2
Value						
Japan	14,701	16,956	16,102	20,573	25,010	70.1
Republic of Korea	2,011	2,142	1,593	3,502	8,088	302.2
West Germany	1,452	1,497	1,154	1,423	1,300	-10.4
Austria	675	1,427	637	996	697	3.3
United Kingdom	154	163	317	76	211	37.0
All other	153	206	276	242	163	6.5
Total	19,147	22,396	20,080	26,812	35,469	85.2
Unit value						
Japan	\$1,878	\$1,951	\$1,918	\$2,238	\$2,500	33.1
Republic of Korea	1,754	1,909	1,875	2,060	2,177	24.1
West Germany	4,959	5,628	5,175	7,820	7,470	50.6
Austria	6,313	12,306	14,481	12,610	11,805	87.0
United Kingdom	1,006	1,397	1,773	1,283	2,012	100.0
All other	3,402	6,065	4,306	3,405	4,182	22.9
Average	1,948	2,165	2,059	2,376	2,516	29.2

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

## CHANNELS OF DISTRIBUTION

Domestic producers and importers both essentially rely on the same universe of keyboard dealers to sell their pianos. These dealers usually sell organs as well. Other products they may sell are guitars, amplifiers, and marching band instruments. Nearly all pianos are sold directly to independent retail dealers by manufacturers or importers (table 22). <sup>1/</sup> Both domestic producers and subsidiaries of foreign manufacturers usually own or lease a fleet of trucks specially equipped for delivering pianos.

Dealers usually pay the cost of shipping the piano between the suppliers' warehouse and the retail outlet. Exceptions occur during temporary sales promotions by suppliers. Manufacturers usually ship to dealers directly from their factories. Only one producer maintains regional distribution warehouses.

The two largest importers of Japanese pianos have warehouse facilities on both the Atlantic and Pacific coasts, giving their products an advantage of lower transportation costs within the United States to dealers on the coasts than U.S. pianos, shipped from factories in the Midsouth, for example. However, this advantage of maintaining warehouses on the Atlantic coast is partially offset by the added time required for ocean freight between Japanese and Atlantic ports, since the additional lag time necessitates maintaining larger inventories on the East Coast, thus driving up inventory costs in this area. The other five U.S. marketing subsidiaries of Japanese and Korean manufacturers distribute from one warehouse each. Four of these five subsidiaries, as well as the two largest importers of Japanese pianos, maintain warehouses in the Los Angeles area, which is the largest metropolitan market for pianos in the United States.

Dealers usually carry at least two or more piano brands. However during periods of reduced consumption, dealers reduce the number of brands and or models that they carry at a given price level. Often, they will emphasize a certain, probably higher priced, line, but carry a companion line for the customer whose selection is more price sensitive. It is quite common for dealers to carry both a domestically manufactured and an imported line usually covering differing price points. Because many suppliers tend to restrict the number of dealerships through which their pianos are marketed in a given area, dealers new to a market are frequently limited to carrying lines not already sold in their area. New dealers or dealers expanding the number of lines they carry often rely on imports to compete with established dealerships.

In addition to trying to supply dealers with the types of pianos that they can sell, suppliers cultivate dealers by educating them regarding the technical features of the pianos and about approaches toward retail marketing. In order to generate sales, many keyboard dealerships offer group piano lessons. Several suppliers offer special assistance to such dealerships. A number of suppliers conduct seminars for these purposes, and a major producer in Japan has reportedly been particularly effective in this regard.

---

<sup>1/</sup> Some retail keyboard dealers also import pianos directly from foreign suppliers, bypassing the foreign supplier's sales organization in the United States. Most pianos imported by these retailers are made in Korea and, to a lesser extent, East Germany. The largest retailer which imports pianos obtains its imports directly from Korea. Pianos from East Germany are principally expensive grand pianos.



Table 22.--Pianos: Percentage distribution of channels of distribution used by U.S. producers and importers for U.S. shipments, 1982

(In percent)		
Channel of distribution	Producers	Importers
Independent retail outlets-----	95	91
Company-owned retail stores-----	5	7
Independent distributors-----	<u>1</u> /	<u>1</u> /
Sales to employees-----	1/	0
Other-----	-	2
Total-----	100	100

1/ Less than 0.5 percent.

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

Customary terms are a 2- to 3-percent downpayment within 10 to 15 days of invoice, with the balance due in 30 to 45 days, but sometimes, suppliers will offer the dealers special financing terms in order to get their business. At various times during 1978-82, certain producers and importers offered free flooring 1/ for differing lengths of time. During the period, several suppliers extended their terms. Some producers have offered attractive interest rates through corporate financing plans which were lower than the cost of money to the supplier, effectively translating to a discount. Several firms offered direct discounts for volume purchases; one offered rebates for purchases by music schools and other institutions. In 1982, one domestic producer offered discounts of 10 to 19 percent under its "COD Program." 2/ After 1980, it also became a common practice for suppliers to sell pianos to dealers on consignment, whereby dealers would not be responsible for payment until the pianos were sold at retail. It was also common during the period for companies to offer free freight or freight sharing to enhance the supplier's competitive position in general or to spur sales of specific models for which inventory had built up excessively. Additionally, one importer reportedly attracted dealers by offering free trips to Japan, and for a period in 1981, a domestic manufacturer offered free trips to Hawaii to dealers which made volume purchases of grand pianos.

While being exposed to these incentives to increase their purchases, dealers must bear in mind (a) the cost of maintaining inventory in their showrooms; (b) which models of pianos are the cheapest to buy, which models can command the highest markup, which pianos have the fastest rate of turnover; and, (c) what types of models the customer wants to buy, as opposed to the types that the suppliers want to sell.

1/ Flooring refers to the length of time between the delivery of the piano and when payment is due, or the interest rate charged to the retailer by the supplier.

2/ Retailers usually borrowed from third party lending institutions in order to pay the manufacturer in full when the shipment was delivered. The discounts for cash on delivery helped to move the firm's products and to alleviate its cash flow difficulties.

## THE U.S. MARKET

## Description of the Market

Six market segments

According to discussions with six domestic producers and five subsidiaries of Japanese and Korean manufacturers, there are essentially six types of customers in the U.S. market for pianos.

(a) One segment is made up of low- or middle-income consumers who are purchasing a piano as a piece of furniture to decorate the home. The piano will be played rarely, if ever. Their prime concern is price and styling. The piano must match the rest of the decor in the house. Purchases by these customers usually rely on the availability of retail credit. These customers usually choose spinets or consoles.

(b) Traditionally, parents of beginning piano students between the ages of 6 and 12 have been, by far, the largest market for the industry. These purchasers seldom are aware of the features which determine quality. However, they have put a great deal of thought into the purchase, because the piano is usually going to become the most expensive piece of furniture in the house. The piano they finally choose will depend on various factors including access to credit, commitment to their child's music education, styling, and piano teacher's recommendations.

(c) The parents of serious students are far less numerous than those of beginners. These students know what quality features to look for in a piano. They probably want a grand, but family finances may dictate settling for a studio upright. Once again, this sale may hinge on the availability of retail credit. The furniture styling is less important than quality of sound for these consumers.

(d) Unmarried, young professionals and childless, two-income families are the fastest growing of the various market segments. Like the serious student, they usually choose a small grand or a studio upright depending upon available space. Access to credit is usually not a problem for these customers. They demand quality in both sound and styling.

(e) Institutions such as schools and churches are declining in importance as markets. Brand and model choices are usually based on school board specifications, budgets, recommendations by piano tuners, personal preferences of the incumbent music instructor or church pianist/organist, and discounts offered by local piano dealers. The selection is usually a studio upright.

(f) Professionals' tastes vary with regard to tone and styling. Naturally, grands are the first choice. The size and manufacturer selected can depend on the capital available to the performer or the institution for which the artist performs. Another consideration is the size of the stage on which the artist is likely to perform. Small stages may require a studio upright.

### Factors affecting overall market size

Several factors determine the size of the U.S. market, including child population, educational programs, interest rates, disposable income, and the number of dealerships in operation.

Lower birth rates.--An important key is the number of children between the ages of 6 and 12. Portending a smaller market, the birth rate declined by 40 percent between 1965 and 1975, from 96.6 per 1,000 women to 66.7 per 1,000 women. Also indicative of a reduction in the potential market for pianos was a 10.3-percent drop in the U.S. population between the ages of 5 and 14 during 1975-81, the age group for most beginning piano players.

Fewer schools and music programs.--Two elements have reduced the institutional market. Related to the declining birth rate, the number of public elementary schools in the United States dropped by 5 percent, and the number of public secondary schools, by 13.6 percent during 1970-80. Schools seldom have more than one piano. Additionally, fiscal austerity programs and cuts in Federal aid to education have led many school districts to drop music programs. Exposure to music in schools is the principal inspiration for children to take piano lessons. Furthermore, aging pianos are replaced very reluctantly in the music programs remaining.

High interest rates.--High interest rates had a very negative impact on piano sales, which are dependent on financing of purchases by both dealers and by consumers. Dealers borrow to finance the placement of pianos in their showrooms, and customers usually purchase pianos under installment plans. The prime interest rate rose from 8.0 percent in April 1978 to 19.8 percent 2 years later. After a brief dip, it remained in the 20-percent range from December 1980 through September 1981. The prime rate remained above 15 percent until August 1982. Most bank borrowing averaged 3 percent above the prime. Consequently, consumers were reluctant to make purchases at the high rates. According to industry sources, in April 1980, the traditional retail terms in the piano industry shifted from 40 to 60 months, with 10 percent down, to 24 to 36 months, with 25 percent down. Many of those who wished to buy even at the high rates found lending institutions hesitant or unwilling to make loans for consumer purchases. In view of reduced retail sales and the high cost of carrying inventory, most dealers were forced to carry fewer lines and reduce duplications at price levels. After 1980, it became common for dealerships to restrict themselves to a primary line and a companion line--essentially a high- or medium-priced line and a lower priced line. Naturally, dealers chose lines with which they had experienced the most rapid turnover in their inventory. Manufacturers whose lines were dropped due to relatively slow turnover experienced difficulty finding outlets for their products and suffered sharply declining sales.

Lower disposable income.--As a discretionary purchase, piano sales suffered additionally due to the decrease in disposable income during the recession. With the annual unemployment rate increasing from 5.8 to 9.7 percent during 1979-82, sales of low-end pianos were especially reduced.

Sales outlet closures.--A reduction in retail sales and an inability to pay for an excess of inventory in the showroom forced many dealers out of

business during 1980-82. In addition to poor piano sales, organ sales fell by 49 percent during 1978-82, from 200,000 to 101,000 units, putting a further strain on their financial stability. Some domestic manufacturers of pianos responded to their own declining sales by reducing prices to dealers. Many dealers were unable to sell even these bargain pianos because of the high interest rates, and, in turn, could not pay for their inventories or had to sell the pianos at a loss. Exacerbating the situation, many of the keyboard dealers located in malls discovered that mall shoppers do not buy pianos or organs. As a result, between mid-1980 and mid-1982, an estimated 1,200 dealerships went out of business. This 20-percent reduction in the number of dealerships translated to a 20-percent loss of showroom space for both domestically produced and imported pianos.

#### Changing consumer tastes

Based on field research and interviews with several retailers and U.S. manufacturers, there was an indication that an increasing number of consumers prefer high-polish, polyester finished pianos. Consequently, a domestic manufacturer recently introduced two new pianos, one a grand and one a console--both with polyester finish. <sup>1/</sup> However, testimony was presented by U.S. producers at the public hearing indicating that the final judgment was yet to be made concerning consumers' acceptance of the polyester finish. Although a polyester finish instead of a lacquer finish will add about \$500 to the retail price of a grand piano, many customers prefer it, not only because it is shiny, but also because it is more resistant than lacquer to common hazards such as oil from human skin, nail polish remover, spilled alcoholic drinks, and cigarette burns. Producers pointed out that many consumers prefer the more traditional lacquer finish because of its proven durability as well as its closer resemblance to the other furniture in the home. In addition, repairs can be made more easily on lacquer-finished pianos than on those with polyester finishes. They further pointed out that there is no uniform geographic acceptance or preference for the polyester finish which is more acceptable in some markets than in others.

Another shift is the increasing demand for high-quality sound by classes of consumers who previously would not have been as sensitive. Market specialists attribute this higher degree of sophistication to the proliferation of high-quality stereo equipment, which, in turn, has exposed listeners to the nuances of sound. Fewer of these consumers are satisfied with the sound produced by spinets and consoles.

---

<sup>1/</sup> Although some witnesses of the National Piano Manufacturers Association of America denied the popularity of polyester finishes at the hearing on June 23, 1983, the 1982 Annual Report of Kimball International noted on p. 4 that Kimball had introduced two new grand pianos, a 52-inch upright, and two console models, all with a polyester finish. The reports states that "This feature adds to our ability to compete with imported pianos and in the export market." Kimball stated on p. 7 of its 1979 Annual Report that "Applying polyester is high-precision work. But the resulting finish is much longer lived and more attractive than traditional lacquer finishes."

### Trends in Consumption and Import Penetration

As a result of the contracting piano market, apparent U.S. consumption of pianos dropped by 26 percent during 1978-82, from 253,148 to 187,309 units (table 23). The ratio of imports to consumption rose from 11.1 to 20.2 percent during the period, with the bulk of the increase in import penetration occurring during 1980-82. During 1978-82, imports increased by 9,900 units, or by 35 percent, but U.S. producers' shipments decreased by 75,739 units, or by 34 percent. Uprights represented roughly 90 percent of U.S. consumption throughout the period, dropping slightly from 92 percent of consumption in 1978 to 89 percent in 1982 as more consumers switched to higher quality grands.

#### Upright pianos

During 1978-82, apparent consumption of uprights fell from 234,024 (1978) to 167,166 (1982), or by 29 percent. The import penetration of uprights grew from 7.9 to 14.3 percent during 1978-82. The increase in imports of upright pianos by 5,380 units during the period represented a 29-percent increase, but producers' shipments dropped by 34 percent, or 72,238 units. Japan accounted for 76 percent of the increase in imports, and Korea, for 40 percent.

The decline in apparent consumption of upright pianos during 1978-82 was not spread equally among the three types of uprights. Apparent consumption of spinets dropped by 54 percent, consoles, by \*\*\* percent, and studios, by \*\*\* percent (table 24).

Spinets.--The major drop in spinet consumption, from 78,418 units in 1978 to 36,182 units in 1982, reflects not only the recession, but more importantly the impact of demographic changes and a shift in demand toward higher quality pianos (table 24). As a share of the consumption of all uprights, spinets dropped from 34 to 22 percent over the period. There were no imports of spinets.

Table 23.--Piano: U.S. producers' domestic shipments, imports for consumption, and apparent consumption, by types, 1978-82

Item	Producers' domestic shipments (1)	Imports (2)	Apparent consumption (3)	Ratio of (2) to (3) (4)
	Units			Percent
Uprights:				
1978-----	215,574	18,450	234,024	7.9
1979-----	208,103	16,842	224,945	7.5
1980-----	168,080	15,605	183,605	8.5
1981-----	165,314	18,812	184,126	10.2
1982-----	143,336	23,830	167,166	14.3
Percentage change, 1982 from 1978-----	-34	29	-29	-
Grands:				
1978-----	9,703	9,575	19,278	49.7
1979-----	9,940	10,347	20,207	51.0
1980-----	8,222	9,754	17,976	54.3
1981-----	7,978	11,284	19,262	58.6
1982-----	6,048	14,095	20,143	70.0
Percentage change, 1982 from 1978-----	-37	47	5	-
Total:				
1978-----	225,123	28,025	253,148	11.1
1979-----	218,093	27,189	245,202	11.1
1980-----	176,302	25,359	201,661	12.6
1981-----	173,292	30,096	203,308	14.8
1982-----	149,384	37,925	187,309	20.2
Percentage change, 1982 from 1978-----	-34	35	-26	-

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

Table 24.--Uprights pianos: U.S. producers' domestic shipments, imports for consumption, apparent consumption, shipments of imported pianos, and domestic consumption, by types, 1978-82

Item	Producers' domestic shipments (1)	Imports (2)	Apparent consumption (3)	Ratio of (2) to (3) (4)	Shipments of imports (5)	Domestic consumption <sup>1/</sup> (6)	Ratio of (5) to (6) (7)
	Units			Percent	Units		Percent
Spinets:							
1978-----	78,418	0	78,418	-	[***]	[***]	2/
1979-----	65,691	0	65,691	-	[***]	[***]	2/
1980-----	45,668	0	45,668	-	[***]	[***]	2/
1981-----	40,259	0	40,259	-	0	40,259	-
1982-----	36,182	0	36,182	-	[***]	[***]	2/
Percent change, 1982 from 1978-----	-54	-	-54	-	50	-[***]	-
Consoles:							
1978-----	111,259	[***]	[***]	[***]	[***]	[***]	[***]
1979-----	114,090	[***]	[***]	[***]	[***]	[***]	[***]
1980-----	96,209	[***]	[***]	[***]	[***]	[***]	[***]
1981-----	98,077	9,062	107,139	8.5	8,201	106,278	7.7
1982-----	86,497	10,493	96,990	10.8	8,801	95,298	9.2
Percent change, 1982 from 1978-----	-22	[***]	-[19]	-	[***]	-[***]	-
Studios:							
1978-----	25,897	[***]	[***]	[***]	[***]	[***]	[***]
1979-----	28,322	[***]	[***]	[***]	[***]	[***]	[***]
1980-----	26,203	[***]	[***]	[***]	[***]	[***]	[***]
1981-----	26,978	[***]	[***]	[***]	[***]	[***]	[***]
1982-----	20,657	10,439	31,096	33.6	9,180	29,837	30.8
Percent change, 1982 from 1978-----	-20	[***]	-[***]	-	[***]	-[***]	-

<sup>1/</sup> Includes U.S. and foreign producers' shipments to the U.S. market.

<sup>2/</sup> Less than 0.05 percent.

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

Consoles.--Console consumption dropped from \*\*\* units in 1978 to 96,990 units in 1982 (table 24). The reduced demand in this market segment can be attributed chiefly to high interest rates associated with the recession and secondarily to demographics. However, as a share of the consumption of all uprights, consoles grew from \*\*\* to 59 percent over the period as consumers discovered the better value in terms of quality of sound in consoles as opposed to that in spinets. The relatively low level of import penetration, \*\*\* percent in 1978 and 10.8 percent in 1982, is indicative of the importance of U.S. furniture styling in the console market.

Studios.--Consumption of studio model pianos grew by \*\*\* percent during 1978-81, and then fell by \*\*\* percent in 1982 representing for an overall decline of \*\*\* percent, from \*\*\* to 31,096 units (table 24). As a share of the consumption of all uprights, studios rose from \*\*\* percent in 1978 to 19 percent in 1982. The increase in consumption during 1978-81 was part of the trend in consumer preference toward higher quality pianos. Sustained high interest rates undercut the expansion of the market for studio models in 1982. Import penetration grew from \*\*\* to 33.6 percent. The rise in Japan's share of studio consumption from \*\*\* percent in 1978 to \*\*\* percent in 1982 (table 25) is partially accounted for by the increased Japanese share of the declining institutional market. In addition, the Japanese are capturing a share of the home market for studio pianos.

#### Grand pianos

Apparent consumption of grand pianos rose by 5 percent during 1978-82, from 19,278 units in 1978 to 20,143 units in 1982 (table 23). Import penetration escalated from 49.7 to 70 percent. The increase of 4,520 units in grands imports more than offset the decline in producers' shipments of 3,501 units. The increase in consumption of grand pianos is a reflection both of the shift in consumer tastes to a higher quality sound and the increasing availability of relatively low-priced, high-quality, grand piano imports from Japan and Korea. Korea accounted for 57 percent of the import increase, and Japan, 48 percent.



Table 25.--Pianos: Share of apparent U.S. consumption supplied by imports from Japan and the Republic of Korea, 1978-82

(In percent)					
Source and type	1978	1979	1980	1981	1982
Japan:					
Uprights:					
Spinets-----	-	-	-	-	-
Consoles-----	[***]	[***]	[***]	[***]	[***]
Studios-----	[***]	[***]	[***]	[***]	[***]
Average-----	6.0	5.9	7.3	8.1	10.9
Grands:					
Under 5'-----	-	-	-	-	-
5' to 5'5"-----	[***]	[***]	[***]	[***]	[***]
5'6" to 6'1"-----	[***]	[***]	[***]	[***]	[***]
Over 6'1"-----	[***]	[***]	[***]	[***]	[***]
Average-----	40.6	43.0	46.7	47.7	49.7
Average, all pianos-----	8.7	9.0	10.8	11.8	15.1
Republic of Korea:					
Uprights:					
Spinets-----	-	-	-	-	-
Consoles-----	[***]	[***]	[***]	[***]	[***]
Studios-----	0	1/	[***]	[***]	4.9
Average-----	.9	.6	.3	1.4	2.5
Grands:					
Under 5'-----	-	-	-	-	-
5' to 5'5"-----	[***]	[***]	[***]	[***]	23.9
5'6" to 6'1"-----	[***]	[***]	[***]	[***]	16.8
Over 6'1"-----	[***]	[***]	[***]	[***]	8.4
Average-----	5.9	5.6	4.7	8.8	18.4
Average, all pianos-----	1.3	1.0	.7	2.1	4.2

1/ Less than 0.05 percent.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission, and from official statistics of the U.S. Department of Commerce.

The rise in U.S. consumption of grands was fairly even among the different sized grands, each increasing within a range of \*\*\* to \*\*\* percent (table 26). In all cases, import penetration and the growth in penetration is significant; imports of goods under 5 feet 6 inches increased the most significantly, by \*\*\* percent over the period, causing market penetration to rise from \*\*\* percent in 1978 to 69.3 percent in 1982. Korea, emphasizing low-end grands, increased its share of U.S. consumption in this class from \*\*\* percent in 1978 to 23.9 percent in 1982 (table 25).

Table 26.--Grand pianos: U.S. producers' domestic shipments, imports for consumption, apparent consumption, shipments of imported pianos, and domestic consumption, by sizes, 1978-82

Item	Producers' domestic shipments (1)	Imports (2)	Apparent consumption (3)	Ratio of (2) to (3) (4)	Shipments of imports (5)	Domestic consumption 1/ (6)	Ratio of (5) to (6) (7)
	Units		Percent		Units		Percent
Under 5'6":							
1978-----	4,550	***	***	***	***	***	***
1979-----	4,441	***	***	***	***	***	***
1980-----	3,491	***	***	***	***	***	***
1981-----	3,309	3,951	7,260	54.4	3,560	6,869	51.8
1982-----	2,303	5,209	7,512	69.3	4,607	6,910	66.7
Percentage change, 1982 from 1978-----	-51	***	***	-	***	-(***)	-
5'6" to 6'1":							
1978-----	3,623	***	***	***	***	***	***
1979-----	3,716	***	***	***	***	***	***
1980-----	3,108	***	***	***	***	***	***
1981-----	3,072	5,985	9,057	66.1	5,534	8,606	64.3
1982-----	2,369	6,751	9,120	74.0	5,853	8,222	71.2
Percentage change, 1982 from 1978-----	-35	***	***	-	***	-(***)	-
Over 6'1":							
1978-----	1,530	1,088	2,618	41.6	864	2,394	36.1
1979-----	1,833	1,034	2,867	36.1	1,089	2,922	37.3
1980-----	1,623	***	***	***	***	***	***
1981-----	1,597	1,455	3,052	47.6	1,261	2,858	44.1
1982-----	1,376	1,385	2,761	50.2	1,189	2,565	46.4
Percentage change, 1982 from 1978-----	-10	27	5	-	38	7	-

1/ Includes U.S. and foreign producers' shipments to the U.S. market.

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

### Conditions of Competition

Competition in the U.S. market is based on a variety of factors, the most important of which are price; styling; brand name; availability; service; and perceived determinants of quality such as tone, tuning stability, workmanship, beauty, and durability. Each brand of imported and domestically produced pianos has its advantages. Certain U.S. producers have advantages over those of imported pianos because of name recognition due to traditionally high quality or an association with an organ line. Some imports offer price advantages over U.S.-made pianos in some models, particularly grands. Many dealers allege that the polyester finish and continental styling are an advantage for the imported pianos in appealing to the market. During the public hearing the technical expert for the domestic industry pointed out that tonal quality was a key factor in piano selection. It was further pointed out that the domestically produced U.S. piano has a more mellow tone, needs voicing less often, and stands up to U.S. climate variations better than imports. The technical witness pointed out that the Japanese piano tone was sharper than that of the U.S. instrument. Generally, it is recognized that pianos from Korea incorporate the same type of tonal qualities, since Korean models imitated the Japanese item. In terms of quality, the U.S. and Japanese pianos are generally viewed to be comparable. Korean pianos are considered to be of lesser quality.

Imports are concentrated in areas where it was felt that they could establish a market niche, i.e., in large, professional quality uprights, lower-priced grands and by offering styling and finish that is available on a limited basis from U.S. producers. However, when all of the factors are taken into account, imported and domestically produced pianos are extremely competitive.

### Market penetration techniques used by foreign suppliers

The two major producers in Japan used similar approaches to enter the U.S. market in 1960. Each offered a limited selection of moderately-priced, fair-quality uprights and grands to the U.S. market. Over the next two decades, each upgraded the quality of its pianos and broadened its range of price points, models, styles, and finishes. In addition, they expanded their technical and educational services to dealers, piano tuners, teachers and potential customers.

The two principal Japanese producers chose to maintain a limited number of dealers, generally not allowing more than one each per market area. Once a dealership is established and a beginning inventory shipped, future shipments are made only to replace sales. Consequently, when the high interest rates adversely affected business during 1980-82, few of their dealers went out of business. As dealers sought to limit the lines they carried in order to reduce inventory, one Japanese producer became especially attractive because of its broad range of price levels, styles, and finishes and the other Japanese producer appealed to dealers because of a fast turnover rate.

Three Korean producers began exporting to the U.S. market in 1978, 1980, and 1981. Korean producers quickly began emphasizing low-end grand pianos. In 1982, grands constituted 47 percent of the pianos imported from Korea,

compared with 35 percent of those imported from Japan and 4 percent of those shipped by U.S. producers. Grand pianos are more labor intensive than uprights, giving the Koreans a greater cost advantage in producing the former. <sup>1/</sup> Furniture styling is not as important for grand pianos as for uprights; thus, Korean producers could avoid competing against U.S. producers where they were strongest. In addition, some U.S. producers started importing Korean pianos to round out their price lines and in 1982, grands made up 77 percent of the Korean-made pianos imported by U.S. manufacturers.

### Price

A critical factor affecting the retail price of a piano is the manufacturer's costs, which vary considerably depending on labor, raw material, purchased components, and overhead. The most significant portion of a piano's production cost is material, which ranges from about 50 to 60 percent of total cost. In general, domestic producers have a competitive advantage in raw-material costs over their chief competition in Japan and Korea. However, improved manufacturing process, vertical integration, and lower labor costs in foreign firms have offset this advantage in many cases. Lower labor rates give manufacturers in Japan and Korea a cost advantage over U.S. producers. <sup>2/</sup> This advantage is more significant for grand pianos than uprights and is greatest for Korean pianos.

Weighted-average annual wholesale prices of all principal producers and importers have been determined from average unit values of their shipments to the U.S. market (table 27). In general, throughout the period, U.S. imports of upright pianos from Japan and Korea were priced above their U.S. competitors in the U.S. market, but they were usually priced much lower than the weighted-average wholesale prices for U.S.-made grand pianos each year.

Spinets.---The weighted-average wholesale prices of spinets by U.S. producers increased by 45 percent during 1978-82, when there were no imports of spinets.

Consoles.---Imported consoles were priced higher than domestically produced consoles throughout the period, exceeding the domestic average by 43 percent in 1982. Imports from both Japan and Korea were priced higher than the average U.S. producers' price in each year. Prices of the Japanese models were \*\*\* percent higher in 1982, and consoles from Korea were \*\*\* percent higher.

---

<sup>1/</sup> Applying average hourly labor rates estimated by the U.S. Department of Labor to the typical number of man-hours required to build a grand piano in the United States, the labor cost in producing the product domestically in 1982 was \$1,886.40, compared with \$931.20 in Japan and \$195.20 in Korea.

<sup>2/</sup> Applying average hourly labor rates estimated by the U.S. Department of Labor to the typical number of man-hours required to build a grand piano in the United States, the labor cost in producing a grand piano domestically in 1982 was \$1,886.40 compared with \$931.20 in Japan and \$195.20 in Korea.

Table 27.--Pianos: Weighted-average wholesale prices of U.S. and foreign producers' U.S. shipments, by types, 1978-82

Type and source	1978	1979	1980	1981	1982	Percentage change, 1982 from 1978
Spinets:						
United States-----	\$650	\$697	\$782	\$861	\$942	45
Consoles:						
United States-----	849	899	985	1,058	1,079	27
Imports:						
Japan-----	***	***	***	***	***	***
Korea-----	***	***	***	***	***	***
All other-----	1,605	1,737	1,557	1,204	767	-52
Import average--	***	***	***	1,428	1,540	***
Studios:						
United States-----	977	1,036	1,209	1,236	1,529	56
Imports:						
Japan-----	***	***	***	***	***	***
Korea-----	1/	***	***	***	1,511	2/ ***
All other-----	2,573	2,969	6,649	1,280	2,202	-21
Import average--	***	***	***	***	1,746	***
Grands under 5'6":						
United States-----	2,382	2,924	3,518	3,310	3,709	56
Imports:						
Japan-----	***	***	***	***	***	***
Korea-----	***	***	***	***	3,033	***
All other-----	4,791	3,902	5,500	2,945	2,582	-46
Import average--	***	***	***	3,114	3,354	***
Grands 5'6" to 6'1":						
United States-----	3,940	4,407	5,068	5,699	6,134	56
Imports:						
Japan-----	***	***	***	***	***	***
Korea-----	***	***	***	***	3,445	***
All other-----	8,042	6,342	3,658	3,982	4,524	-44
Import average--	***	***	***	3,859	4,155	***
Grands over 6'1":						
United States-----	5,495	6,019	7,106	7,921	8,230	50
Imports:						
Japan-----	***	***	***	***	***	***
Korea-----	***	***	***	***	5,051	***
All other-----	13,125	15,194	15,935	19,311	18,139	38
Import average--	5,922	6,296	***	6,732	6,935	17

1/ There were no imports of studio uprights from Korea in 1978.

2/ A 5-year trend is not available; calculation covers 1979-82.

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

Studios.---Total imports of studio uprights, as well as imports from Japan, were priced higher than the U.S. industry average during 1978-82; Korean models were priced close to the domestic average. In 1982, studio uprights from Japan were priced \*\*\* percent above the industry average, whereas imports from Korea were 1 percent below it.

Grands under 5 feet 6 inches.---Imports of smaller grand pianos from all sources and from Japan were priced below the average for the U.S. product in each year during the period except 1978, finishing 10 percent less in 1982 for all imports and \*\*\* percent less for the Japanese units. The weighted-average wholesale price of imports from Korea was above the industry average in 1978 and 1979, but finished 18 percent below in 1982. The margin by which imports are lower priced is even greater when the prices of grand pianos under 5 feet are considered separately. There were no imports in that category.

Grands 5 feet 6 inches to 6 feet 1 inch.---Total imports and imports from both Japan and Korea of intermediate-sized grand pianos were lower in price than the U.S. industry average in each year during 1978-82. Total imports were priced 32 percent below the average for the domestic product in 1982; imports from Japan and Korea were \*\*\* and 44 percent less, respectively.

Grands over 6 feet 1 inch.---As with intermediate-sized grand pianos, imports of larger grand pianos from Japan and Korea were below the weighted-average prices for the U.S. industry in each year during 1978-82, with the price of pianos from Japan finishing \*\*\* percent under the industry average in 1982, and the price of imports from Korea, 39 percent less. The weighted average price for all imports was higher than the average for domestic producers' prices in 1978 and 1979, but lower thereafter, finishing 16 percent less in 1982.

As a further indication of the competitive position of domestic and foreign pianos, a comparison of actual prices for comparable models of five types of pianos by each of the principal producers and importers was made. A ranking of the individual producers and importers, by price, revealed that Japanese uprights were generally priced in the upper-middle to upper range of suppliers in the U.S. market; Korean uprights were in the lower-middle to middle. In the grand piano market, the prices of all U.S. producers except one were above those for imported pianos. This single U.S. producer is one of the largest producers of grands and enjoys a combination of economies of scale and vertical integration not currently available to other U.S. grand piano manufacturers.

### Quality

As previously stated, a piano is both a piece of furniture and a musical instrument. Several factors determine quality: (a) the tone, touch, and tuning stability of the musical instrument; and (b) the beauty and durability of the furniture. As previously noted, the tonal qualities of U.S., Japanese and Korean pianos are different. In addition, touch characteristics vary with some U.S. and Japanese higher-priced pianos incorporating an action which permits a quicker touch response. All Korean producers, some Japanese producers, and most American producers utilize an action with a slower response. U.S. producers claim that there is greater stability and

consistency in the voicing and tuning, particularly with respect to stability, in the U.S. product. The degree of quality achieved depends on the material used, the structural design of both the furniture and musical instrument aspects, the manufacturing processes used, and the skill of the work force.

At one end of the quality spectrum is the spinet, a mass-produced item that will generally serve as furniture to decorate the home and will also produce an acceptable sound. At the other end of the spectrum is the concert grand, a precision instrument that, in many ways, has been handcrafted by artisans. Domestic manufacturers produce pianos that fall in the full range of the quality spectrum. Uprights and grands are built on separate assembly lines, in the United States, as well as in Japan and Korea. However, a spinet and a concert grand may be built under the same roof. The production of the grand requires more demanding specifications, less emphasis on speed, and a higher skilled work force. The largest manufacturers may produce different models in a general category which will vary according to specifications and quality in order to offer the consumer a variety of price levels.

### Market shifts

Domestic producers have maintained a dominant position in the U.S. market for upright pianos, though they are being challenged, primarily by Japanese models, in the studio end of that market. U.S. manufacturers have exploited their ability to mass produce spinets and consoles in attractive furniture styles at relatively low prices to appeal to middle-income homeowners. Unfortunately, high interest rates associated with the recession severely restricted this market. It is anticipated that the market for consoles will bounce back with the return of lower interest rates. However, it is believed that the market for spinets will stay weak, reflecting demographic changes (fewer beginning students) and an increasing trend in which homeowners are demanding higher quality sound than that afforded by the spinet.

This trend toward more emphasis on quality has also seen a growing proportion of "professional" or studio uprights sold to homeowners instead of institutions such as schools and churches. This development has benefited Japanese producers, because studio models constitute the bulk of the market in Japan and manufacturers there have wedded the mass production associated with economies of scale together with an attention to quality requisite for success in the studio market. In an effort to better compete with the Japanese, one domestic firm has made a substantial investment in equipment. This firm is also enhancing the cosmetics of its studio models, despite a resulting increase in price.

In contrast to their treatment of the upright market, U.S. manufacturers have not applied modern production technologies to operations on grand pianos. Industry sources explained that domestic firms have lacked the economies of scale to justify the substantial investments that would be required for U.S. producers to keep pace with the advancements made in Japan. Whereas the Japanese producers have an advantage in production efficiencies, the Korean manufacturers have a distinct wage advantage in this labor-intensive end of the piano business. As a result of lower costs of production for both the Japanese and Koreans, imports from these sources have consistently been priced below those of all but one U.S. manufacturer.

Japanese-made grand pianos compete on the basis of both price and quality. As the price of the Japanese grand pianos increased over time, it left a void in pricing now being filled by the Koreans.



APPENDIX A

LETTER FROM THE HONORABLE SAM M. GIBBONS, CHAIRMAN OF THE SUBCOMMITTEE  
ON TRADE, COMMITTEE ON WAYS AND MEANS, U.S. HOUSE OF REPRESENTATIVES



DAN ROSTENKOWSKI, IL  
JAMES A. JONES, OR  
ED JENKINS, GA  
THOMAS J. CONNERY, NY  
DON J. PEARL, OHIO  
BENT MANCE, TX  
EICH, KICHELTEL, MAWAB  
MARTY RUSSO, IL

GUY VANDER JAGT, MICH  
BILL ARCHER, TX  
BILL FAENZEL, MINN  
RICHARD T. SCHWITZ, PA  
PHILIP M. CRANE, IL

EX OFFICIO:  
BARBER B. CONABLE, JR., NY.

51  
COMMITTEE ON WAYS AND MEANS  
U.S. HOUSE OF REPRESENTATIVES  
WASHINGTON, D.C. 20515  
SUBCOMMITTEE ON TRADE

J. SALMON, CHIEF COUNSEL  
JASTON, MINORITY CHIEF OF STAFF  
DAVID S. ROHR, SUBCOMMITTEE STAFF DIRECTOR

February 3, 1983

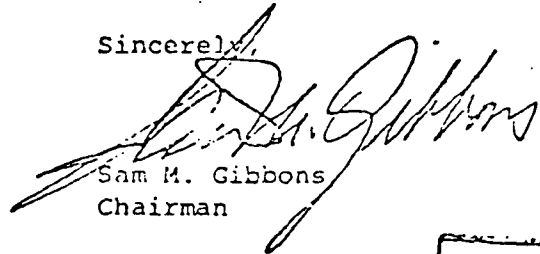
Honorable Alfred E. Eckes  
Chairman  
International Trade Commission  
701 E Street, N.W.  
Washington, D.C. 20436

Dear Chairman Eckes:

On behalf of the Subcommittee on Trade, I would like to request that the International Trade Commission conduct a study pursuant to Section 332 of the Tariff Act of 1930 (19 USC § 1332) on the conditions of competition between imported and domestically produced pianos. In particular, we are interested in obtaining information on price competition between Japanese and American made pianos. In addition, the Committee would be assisted by information on conditions within the domestic industry generally, including data on shipments, production, employment, productivity and other relevant indicators.

We have recently become aware of serious competitive problems within this market. Therefore, I would appreciate it if you could complete your investigation and report to us as expeditiously as possible.

Sincerely,

  
Sam M. Gibbons  
Chairman

SMG/RYN

cc: The Honorable Lee Hamilton  
The Honorable Barber Conable

DOCKET  
NUMBER  
#915  
Office of the  
Secretary  
U.S. House of Representatives  
Committee on Ways and Means  
Subcommittee on Trade

RECEIVED  
FEB 10 1983  
9:29  
U.S. HOUSE OF REPRESENTATIVES  
SUBCOMMITTEE ON TRADE



**APPENDIX B**

**NOTICE OF INVESTIGATION AND PUBLIC HEARING**



55  
UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.

(332-159)

A Study on the Conditions of Competition between Imported and Domestically  
Produced Pianos

AGENCY: United States International Trade Commission

ACTION: Following receipt, on February 15, 1983, of a letter from the Subcommittee on Trade, Committee on Ways and Means, U.S. House of Representatives, the Commission instituted investigation No. 332-159 under section 332(b) of the Tariff Act of 1930 (19 U.S.C. 1332(b)), for the purpose of gathering and presenting information on the conditions of competition between imported and domestically produced pianos. The Commission will be seeking, in particular, information on price competition between Japanese and American made pianos and information on conditions within the domestic industry generally, including data on shipments, production, employment, productivity, and other relevant indicators.

EFFECTIVE DATE: March 3, 1983

FOR FURTHER INFORMATION CONTACT: Mr. Ralph Watkins or Mr. Richardo Witherspoon, General Manufactures Division, U.S. International Trade Commission, Washington, D.C. 20436, telephone 202-724-0976 or 202-724-0978, respectively.

PUBLIC HEARING: A public hearing in connection with the investigation will be held in the Commission Hearing Room, 701 E Street NW., Washington, D.C. 20436, beginning at 10:00 a.m., e.d.t., on June 23, 1983, to be continued on June 24, 1983, if required. 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, 701 E Street NW., Washington, D.C. 20436, not later than noon, June 16, 1983.

WRITTEN SUBMISSIONS: In lieu of or in addition to appearance at the public hearing, interested persons are invited to submit written statements concerning the investigation. Commercial or financial information which 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 CFR 201.6). All written submissions, except for confidential business information, will be made available for inspection by interested persons. To be assured of consideration by the Commission, written statements must be received no later than July 1, 1983. All submissions should be addressed to the Secretary at the Commission's Office in Washington, D.C.

By order of the Commission

Kenneth R. Mason  
Secretary

Issued: March 4, 1983





**APPENDIX C**

**CALENDAR OF WITNESSES AT THE PUBLIC HEARING**



## CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject : A Study on the Conditions of  
Competition between Imported  
and Domestically Produced  
Pianos

Inv. No. : 332-159

Date and time: June 23, 1983 - 10:00 a.m.

Sessions were held in the Hearing Room of the United States International Trade Commission, 701 E Street, N.W., in Washington.

Domestic:

Thorp, Reed & Armstrong--Counsel  
Washington, D.C.  
on behalf of

The National Piano Manufacturers Association  
of America ("NPMA")

Gary R. Grimes, Executive Vice President,  
Baldwin Piano and Organ Company

Ronald J. Thyen, Executive Vice President,  
Kimball Piano and Organ Company--Piano Div.

Elmer F. Brooks, Jr., Chairman, Aeolian  
American Corporation

Harry C. Kapreilian, Chairman of the Board,  
Chas. Ramsey Corporation

Ronald M. Washburn, General Manager,  
Washburn Musicland, Inc.

Catherine Anne Hill, Director, Quality Circle  
Program, Baldwin Piano & Organ Co.

Paul E. Murphy, Jr., Executive Vice President,  
M. Steinert & Sons Co., Inc.

Stephen J. Borell, Piano Technician

Roger M. Golden )  
Preston T. Scott)--OF COUNSEL

Independent Dealers:

Maurice Fox, President, Fox Music House, Inc., Charleston, S.C.

Greene Music Company, Inc., San Diego, California

Michael L. Greene, President

John F. Giovanazzi

Importers:

Arter, Hadden & Hemmendinger--Counsel

Washington, D.C.

on behalf of

Yamaha International Corporation (YIC)

Masazumi "Mike" Miyake, President

Joe Yoshida, Senior Vice President

Karl Bruhn, Corporate Vice President

LaRoy Edwards, Service Division Manager

William H. Barringer)

David B. Hopkins )--OF COUNSEL

Robert G. Kalik )

Daniels, Houlihan & Palmeter, P.C.

Washington, D.C.

on behalf of

Young Chang America, Inc., Samick America Corporation,  
and Daewoo America - importers of pianos from Korea

Jack K. Scott, Exefutive Vice President,  
Samick America Corporation

F. Steve Strauss, Vice President, Young  
Chang America Inc.

Donald B. Cameron, Jr.--OF COUNSEL

Kawai America Corporation, Harbor City, California

John M. Rajcic, Vice President & General Manager

Masao Yamamoto, Senior Vice President

**APPENDIX D**

**U.S. PIANO PRODUCERS AND THEIR PLANT LOCATIONS; AND JAPANESE AND KOREAN  
PIANO MANUFACTURERS AND THEIR U.S. MARKETING SUBSIDIARIES**



## U.S. PIANO MANUFACTURERS AND THEIR PLANT LOCATIONS

<u>Firm</u>	<u>Locations</u>
Aeolian Pianos Inc.	East Rochester, NY Memphis, TN
Astin-Weight	Salt Lake City, UT
Baldwin Piano & Organ Co.	Conway, AR Trumann, AR Greenwood, MS
Call Piano Manufacturing Company	Charlotte, NC
Currier Piano Company	Marion, NC
Everett Piano Company	South Haven, MI
Kimball Piano & Organ Co.	West Baden, IN Berlin, OH
Kohler & Campbell, Inc.	Granite Falls, NC
Marantz Piano Company, Inc.	Morganton, NC
Sohmer Piano Company	Ivoryton, CT
Steinway & Sons	Long Island City, NY
Story & Clark Pianos	Grand Haven, MI
Universal Player Piano Co.	Culver City, CA
Walter Piano Company	Elkhart, IN
The Wurlitzer Company	Holly Springs, MS

Source: U.S. International Trade Commission.





JAPANESE AND KOREAN PIANO MANUFACTURERS AND THEIR U.S.  
MARKETING SUBSIDIARIES

<u>Firm</u>	<u>Subsidiaries</u>	<u>Location</u>
Japanese:		
Kawai Musical Instruments Mfg. Co., Ltd.	Kawai America Corp.	Harbor City, CA
Nippon Gakki Co., Ltd.	Yamaha International Corp.	Buena Park, CA
Tadashi Piano Corp.	Tadashi Piano Corp.	Monrovia, CA
Tokai Gakki Co., Ltd.	Tokai Piano U.S.A., Inc.	Lakeview, OH
Toyo Piano Co., Ltd.	Performance Piano Company <u>1/</u>	Houston, TX
Korean:		
Daewoo Corporation	Daewoo International (America) Corporation	Compton, CA
Sam Ick Musical Instruments Mfg Co., Ltd.	Samick America Corp.	Los Angeles, CA
Young Chang Akki Co., Ltd.	Young Chang America, Inc.	Compton, CA

---

1/ Performance Piano Company is the exclusive distributor of Toyo brand pianos in the United States, but is not a subsidiary of Toyo Piano Co., Ltd.

Source: U.S. International Trade Commission.





UNITED STATES  
INTERNATIONAL TRADE COMMISSION  
WASHINGTON, D.C. 20436

OFFICIAL BUSINESS

ADDRESS CORRECTION REQUESTED

Postage And Fees Paid  
U.S. International Trade Commission



**ADDRESS CHANGE**

- ☐ Remove from List
  - ☐ Change as Shown
- Please detach address  
label and mail to address  
shown above.