THE EFFECTIVENESS OF ESCAPE CLAUSE RELIEF IN PROMOTING ADJUSTMENT TO IMPORT COMPETITION

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Under Section 332
of the Tariff Act of 1930

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OFFICE OF ECONOMICS

Report Prepared Principally by

Paul R. Golding

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

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EXECUTIVE SUMMARY

This study assesses the role of import relief in affecting adjustment in import injured industries. To accomplish this, the study examines the adjustment of five industries which received escape-clause relief during 1955-61. The five industries--bicycles, sheet glass, stainless steel flatware, watches, and Wilton and velvet carpets--were chosen because, with the exception of one industry which received escape clause relief in 1974, they were the largest industries to receive import protection prior to 1975. Also, because at least 20 years elapsed since they first received protection, ample time has passed to observe their adjustment and the changes in their markets. While this group of cases cannot be taken as representative of all escape-clause cases, they are nonetheless offered to suggest what may be expected from temporarily protecting import injured industries.

Type of Adjustment

In three industries--carpets, stainless steel flatware, and sheet glass--the adjustment pattern was one of "contraction," that is domestic shipments, employment, and capital stock (where the data existed to show it), were lower in 1977-80 (the most recent statistical period) than at the time of the injury finding (1955-61). Contraction also shows up in figures on the number of firms leaving the industry--over half in each case.

One industry--bicycles--modernized, improving its performance and becoming more competitive with imports following escape-clause relief.

The fifth industry--watches--showed signs of both modernization and contraction. The modernization is manifested in the increase of domestic shipments of watches and in the stabilization of employment levels. Nonetheless contraction predominated because only one of the seven domestic firms supporting the petition stayed in the industry.

Role of the Import Relief

By reducing part of the (foreign) competition, protection probably slowed the decline of the contracting industries. Because of the high average age of workers and of capital equipment in the industries examined, the additional time gained by protection may have reduced some of the unemployment costs to these factors by allowing machines to physically depreciate and workers to retire.

Escape-clause protection may also have contributed to the orderly transfer of resources to other uses. For example, many of the larger firms in contracting industries transferred their managerial and financial resources to different industries.

With regard to the bicycle industry's modernization, the temporary respite from import competition probably encouraged the increase in investment and subsequent competitiveness of this industry.

Nonethless, escape-clause relief was only one of many factors affecting the outcome of each industry's adjustment. For example, in the cases of three of the industries examined--carpets, sheet glass, and to a lesser extent, watches--a domestically made substitute product appears to have been the major cause of long-term adjustment. Since the source of the substitute was domestic, efforts to prevent imports were probably of relatively less consequence than other factors in affecting the general direction of adjustment.

Even in the bicycle industry, escape-clause protection was only one of several factors affecting the industry's modernization. Bicycle style changes and demographic shifts--the "baby boom" of the 1940's and 1950's--are among the examples of non-import-related factors that raised the level of demand for the products of this industry.

CHAPTER ONE: INTRODUCTION

This is a study of the effectiveness of escape-clause relief in promoting adjustment to import competition. 1/ The study is divided into two sections. The first, chapter 2, describes how the term "adjustment" will be used in this research. The second part, chapters 3-7, examines the adjustment of five industries which received escape-clause relief under section 7 of the Trade Agreements Extension Act of 1951. The remainder of this introduction provides some background on the escape-clause law and describes the approach of the study in greater detail.

Background of the escape clause

The term "escape clause" refers both to an article in the General Agreement on Tariffs and Trade (GATT) and to several successive provisions of U.S. trade law which establish procedures for determining when the GATT clause may be invoked. The following section describes the GATT clause and the related U.S. laws.

Article XIX of the GATT

Article XIX of the GATT 2/ allows the United States and other parties to the GATT to escape from concessions made under the agreement when imports of an article have the unforeseen consequence of causing or threatening serious injury to domestic producers of the article. This escape clause, inserted in the GATT at U.S. insistence, is similar to that contained in a 1942 United States-Mexico trade agreement. 3/ It was inserted into the GATT because of concerns in the U.S. Congress that moves toward freer trade, while on the whole beneficial, would have some unforeseen consequences, and that there would thus be an occasional need to rescind certain concessions, at least temporarily. 4/

The GATT escape clause has been in effect since 1947. Article XIX, paragraph 1a, provides that certain corrective action can be taken---

> If, as a result of unforeseen developments of the effect of the obligations incurred by a contracting party under this Agreement, including tariff concessions, any product is being imported into the territory of that contracting party in such increased quantities and

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1/ On Sept. 29, 1980, the U.S. International Trade Commission initiated this study of the effectiveness of escape-clause relief in promoting adjustment to import competition as investigation No. 332-115 under sec. 332 of the Tariff Act of 1930. The Commission's notice of investigation was issued Oct. 8, 1980, posted in the Commission's offices in Washington, D.C., and published in the Federal Register of Oct. 16, 1980 (45 F.R. 68811). Written submissions were invited from interested parties, however none were received. Public hearings were not held in connection with this study.

2/ Art. XIX, "Emergency Action on Imports of Particular Products; General Agreement on Tariffs and Trade," Oct. 30, 1947, 61 Stat. A3, T.I.A.S. No. 1700.

3/ Agreement Between the United States and Mexico Respecting Reciprocal Trade Art. XI, 57 Stat. 845-46(1943).

4/ For an in-depth discussion of the art. XIX escape clause, see J. Jackson, World Trade Law and the GATT, pp. 553-573.

> under such conditions as to cause or threaten serious injury to domestic producers in that territory of like or directly competitive products, the contracting party shall be free, in respect of such product, and to the extent and for such time as may be necessary to present or remedy such injury, to suspend the obligation in whole or in part or to withdraw or modify the concession.

Article XIX requires member countries intending to take escape-clause action to give advance written notice to other GATT countries and to afford countries having a substantial interest in the matter an opportunity to consult on the proposed action. Article XIX permits countries adversely affected by an escape-clause action to take retaliatory measures. The United States generally has taken the position that the country taking an escape action should provide compensation to the countries adversely affected by the action.

The U.S. escape clause

The United States and other GATT members have established administrative procedures through which the GATT escape clause might be invoked. U.S. procedures were initially established by Executive Order 10082, but since 1951, the procedures have been set by statute. Since 1948, the U.S. investigations which might provide a basis for invoking the escape clause have been conducted by the U.S. International Trade Commission (until 1975 known as the U.S. Tariff Commission). The Commission gathers information, makes certain findings, and transmits its report to the President. If the Commission finds that certain conditions are present, the President may invoke the escape clause and provide temporary relief to U.S. producers by adjusting tariffs or imposing quotas.

The industries discussed in this study were the subject of Commission investigations under section 7 of the Trade Agreements Extension Act of 1951 (65 Stat. 72 (1951)), the first so-called U.S. escape-clause law. Under section 7(a), the Commission was required, upon the request of the President, upon resolution of either House of Congress, upon resolution of either the Committee on Finance of the Senate or the Committee on Ways and Means of the House of Representatives, upon its own motion, or upon application of any interested party, to--

> promptly make an investigation and make a report thereon not later than one year after the application is made to determine whether any product upon which a concession has been granted under a trade agreement is, as a result, in whole or in part, of the duty or other customs treatment reflecting such concession, being imported into the United States in such increased quantities, either actual or relative, as to cause or threaten serious injury to the domestic industry producing like or directly competitive products.

If the Commission made an affirmative finding, it was then to recommend to the President--

> the withdrawal or modification of the concession, its suspension in whole or in part, or the establishment of import quotas, to the extent and for the time necessary to prevent or remedy such injury.

Section 7(c) provided that the President, upon receipt of the Commission's report--

> may make such adjustments in the rates of duty, impose such quotas, or make other modifications as are found and reported by the Commission to be necessary to prevent or remedy serious injury to the respective domestic industry.

If the President did not take such action within 60 days, he was to advise the House Ways and Means Committee and the Senate Finance Committee why he had not done so.

The U.S. statutory provisions have been substantially modified twice since 1951--in 1962 and 1974. In 1962, section 7 of the Trade Agreements Extension Act of 1951 was superseded by section 301(b) of the Trade Expansion Act of 1962 (76 Stat. 872 (1962)). The procedures were made more detailed and, in the view of most observers, the criteria for injury were made tougher to satisfy. The increase in imports had to be actual and absolute (a relative increase was no longer sufficient), the increase in imports had to have been "a result in major part of concessions granted under trade agreements," and the increase in imports had to be "the major factor" in causing or threatening to cause serious injury.

The Trade Expansion Act criteria were superseded and, by most accounts, considerably relaxed in January 1975 by section 201 of the Trade Act of 1974, the current law (88 Stat. 2011 (1975), 19 U.S.C. 2251). The Trade Act of 1974 eliminated the requirement that there be a causal connection between increased imports and concessions, reduced the cause standard from "major" cause to "substantial" cause, and restored the 1951 increased imports test, which permitted the increase to be actual or relative.

Other changes were made in the law over the years as well. The period for conducting Commission investigations was reduced to a maximum of 6 months, the initial concept of "directly competitive" was broadened, and provision was made for relief in forms which would not require invocation of the GATT article XIX (i.e., negotiation of orderly marketing agreements and the provision of adjustment assistance.)

Commission investigations under all three statutes have been of a factfinding nature. The required public hearings are legislative rather than judicial in character. No party bears a "burden of proof," and there are no "default judgments." Most investigations have been instituted following receipt of a petition from representatives of an industry. Thereafter, the Commission conducts its own investigation and requests relevant data from both domestic producers and importers. The Commission may subpoena data which are not submitted voluntarily.

Since 1951, the Commission has instituted 184 investigations. Of these, 167 were completed and 17 were discontinued, generally at the request of the petitioning parties. Of the 167 completed investigations, a majority of Commissioners made affirmative determinations or the Commission was equally divided in 76 cases (when the Commission is equally divided, the President may select the finding of either group of Commissioners 1/). The President provided relief in 27 of those cases.

1/ Section 330(d), Tariff Act of 1930, (19 USC 1330(d)).

The U.S. law provides that, if the Commission makes an affirmative injury determination and the President either takes action different from that recommended by the Commission or provides no relief at all, Congress may, by majority vote of the Senate and House, direct the President to proclaim the relief recommended by the Commission (see for example sec. 203(c) of the Trade Act of 1974, 19 U.S.C. 2253(C)). Congress has never so directed the President.

The escape clause and this study

The term "escape clause" will be used in this study both to refer to article XIX of the GATT and U.S. laws and investigations under those laws which resulted or could have resulted in the invoking of article XIX.

Approach to Study

The effectiveness of escape-clause relief in promoting adjustment is assessed below in a two-step procedure. The first step examines what happened to industries that received escape-clause relief. The second step examines the relationship between what happened to the industries and the escape-clause relief.

To complete the first step, a definitional problem had to be solved: in spite of the widespread use of the term "adjustment" in the context of escape-clause relief to industries injured by imports, the term is not defined in the various statutes or their legislative histories. Hence, the first task is to define the term, "adjustment," in the context of an industry response to import injury or threat thereof.

In the following chapter, two possible definitions are described. In chapters three through six, these definitions of adjustment are related to five industries which received import protection in the 1950's and 1960's under the 1951 law. By observing how firms and industries adjusted during the 20 to 25 years since receiving protection against a background of two clear and relatively simple definitions of the term "adjustment," we can characterize what has happened to the industries.

The five industries--carpets, watches, bicycles, stainless steel table flatware, and sheet glass--were choosen for several reasons. First, because, with one exception, they were the five largest industries to receive relief assistance prior to 1975, data were more readily available. Also, because of their size, these industries employed more workers than other escape-clause relief recipients, and more imports were potentially affected by the protection. Hence these cases were important at the time they received relief in the 1950's and the early 1960's.

The third reason for choosing these industries was the relatively long time over which they were beneficiaries of import relief. It is often argued that the maximum of eight years of relief (5 years of initial relief and one 3-year extension) permitted under the present law (the Trade Act of 1974) is insufficient to permit adjustment. Since the average period of import relief for the five industries studied here was 12 years, and the minimum was 10 years, 1/ the period of protection was arguably sufficient for adjustment to occur.

1/ In some cases, the import relief, though initiated under the escape clause, was extended under other provisions of U.S. and international trade law.

The final, and most important, reason for choosing cases from the 1950's and early 1960's is that these allow at least a 20-year perspective of the industry's adjustment. This makes it easier to separate temporary changes from long-term trends in the industries studied. It also makes it possible to distinguish the effects of economic cycles, which affect most industries, from industry-specific effects, such as protection, the introduction of substitute products, or demographic changes, all of which can affect an industry's adjustment.

Having described the choice of cases and the first step, it is now possible to describe the second step: determining the relationship between adjustment and import protection. Just as industries must continually adjust to changes in competition, with imports being only one source of competition, adjustment can be influenced by many factors, import protection being only one of them. Hence, assessing the effectiveness of the relief requires noting other factors which also affected adjustment and determining the extent to which each factor affected adjustment.

Because of data limitations and the inability to say with certainty what would have happened in the absence of protection, the study relied on simple concurrences between changes in the five industries' structures and the granting of import relief or other events in the industries' competitive environments. Since many events shaping the adjustment of an industry occurred simultaneously with escape-clause protection, it is extremely difficult to measure precisely the effects of protection. Hence, there is an element of speculation or "educated guess work" in some of the findings. Because of the nature of the type of questions and the data, such speculation is unavoidable.

Sources

Information from many sources was used. Particularly important were previous Commission reports. General business publications and trade journal literature as well as Government publications were also helpful. The last and most valuable sources were field trips to, and personal contacts with, individuals active in the industry since the time of increased protection.

CHAPTER TWO: THE MEANINGS OF ADJUSTMENT

Industrial adjustment is an ongoing economic phenomenon caused by changing market conditions. Changing conditions include technological advances, taste changes, and demographic shifts. Another in the list of changing market conditions that might require industry adjustment is a sudden rise in imports of a competing product. Escape-clause relief is intended to promote adjustment to this kind of market change when the increase in imports causes or threatens injury to the domestic industry. To determine how escape-clause relief promotes adjustment in the cases presented in the following chapters, it is first necessary to describe how the term will be used here. Hence, defining the term "adjustment," in the context of an industry response to import injury or the threat thereof, is the purpose of this chapter.

We will consider adjustment to import injury to have occurred when, in the absence of protection, there has been an end to the industry's state of injury. This can happen in two ways: either through a contraction of the injured industry to a point where only competitive firms survive, or through a modernization of the injured industry in which it improves its performance and becomes more competitive.

The reader should note that contraction and modernization are two poles on a spectrum of adjustment alternatives; the intermediate zones contain various combinations of contraction and modernization. Indeed, most of the cases that we will be looking at involve adjustment which combines contraction and modernization. The point of this chapter is to define these two terms so that they may be used as "tools" in the following chapters to describe what happens to industries protected under the escape clause.

In addition to contraction and modernization, there are other important concepts that will be referred to later. First, there is the distinction between an industry and the firms that make it up. "Industry" refers to the domestic facilities (i.e., firms and the parts of firms) that produce the article which benefits from import protection. If a firm makes only the protected product, then the whole firm is part of the industry. If a firm produces several articles, only one of which benefits from the protection, on y that part of the firm dedicated to the production of the protected article is considered part of the industry.

Second is the distinction between industries and the factors of production--land, labor, and capital--that they employ. Adjustment is usually spoken of in terms of industries, although it is really the factors of production which adjust. For this reason, much of the discussion of this chapter focuses on the adjustment of the factors of production.

In addition to describing adjustment by contraction and by modernization, the chapter also describes the costs and benefits of each type of adjustment to the economy as a whole, and the distribution of the costs and benefits. Finally, we consider the possible effects of relief on the different types of adjustment.

Adjustment by Contraction

Adjustment to import competition, as usually presented in standard trade theory, takes the form of a contraction of the domestic import-competing industry. 1/ This contraction is expected when imports which injure or threaten to injure a domestic industry have a competitive advantage over at least some of the manufacturers of the corresponding domestic product. Frequently this competitive advantage is based on lower relative input costs such as cheaper labor, capital, or raw materials, or on the more efficient use of these inputs. 2/.

Contraction adjustment is often described with the aid of a production possibilities curve, such as in figure 1. The curve shown here illustrates a simple economy with two goods, X and M. Because there are only two goods, it is possible to show all the possible combinations of X and M that the economy can produce given its resources and technology. For instance, if production occurs at point A, then the output of X is OX_A and the output of M is OM_A.

Two points should be noted concerning figure 1. First, the outer edge of the figure, drawn as the arc X-M and called the "production possibilities frontier," shows the maximal combinations of X and M that can be produced when (1) all resources in the economy are fully employed and (2) all resources are used efficiently, that is, in the right combinations according to the latest available technology. Therefore, production combinations beyond the frontier (for example at point C) are not feasible unless resources are added to the economy or superior technology is developed.

Second, the bowed-out shape of the frontier, which results from diminishing returns, means that further production specialization in either good has a progressively higher cost in terms of the amount of the other good that must be given up.

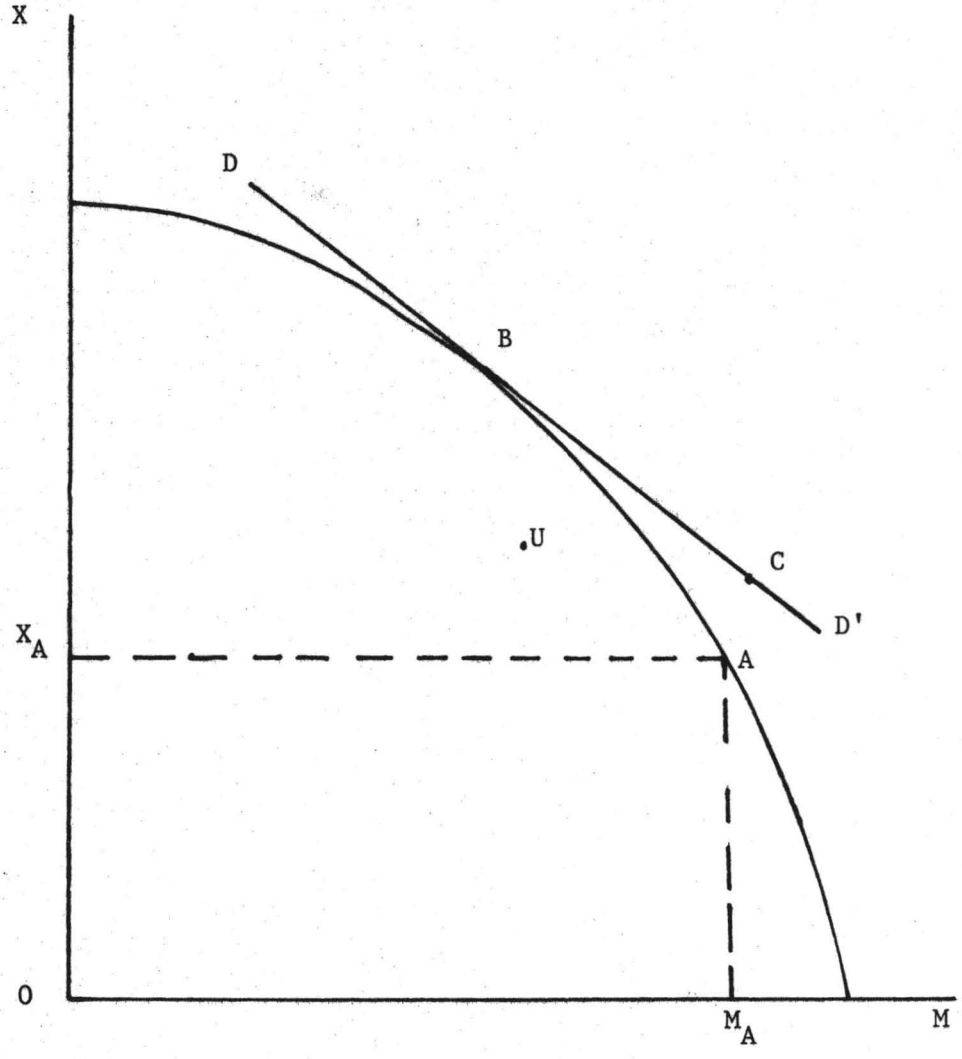
Moving between any two production points along the curve represents a reallocation of productive factors or resources--land, labor, and capital--from production of one good to production of another. Along the frontier, where there is full employment and efficiency, more of one good can be obtained only by reducing the production of the other good, thereby freeing resources to produce more of the first good. The slope of the frontier is called the "marginal rate of transformation" because it reflects the rate at which one type of output can be transformed into another type of output by reallocating inputs.

Let us now turn to the task of showing what happens to this two-product economy when trade is introduced. To do this we start with the case of a full-employment economy in isolation with no chance to trade with other countries. If prices are set competitively, then they will reflect the cost of transforming one good into another by reallocating inputs. Confronted with these prices, consumers choose some combination of X and M, such as point A in Figure 1.

1/ See any text on international trade such as H. Robert Heller, International Trade: Theory and Empirical Evidence, Prentice-Hall, 1968, or Charles P. Kindleberger, International Economics, Irwin, 1968.

2/ Trade is based on comparative advantage rather than absolute advantage. Therefore, even though the United States may use less labor, capital, and raw materials, this advantage can be offset by foreign manufacturers.

Figure 1.--Production possibilities curve.



Now consider the changes that occur when the economy is opened to trade. It was explained that the slope of the frontier is the rate at which one good can be transformed into another domestically by a reallocation of inputs. Similarly, the ratio of world prices, in this case of X to M, is the rate at which one good can be transformed into another via international trade. If, by chance, the ratio of world prices of X and M is the same as the rate of transformation domestically at point A, then no trade will occur. But, in the more likely event that the world price ratio differs from the domestic transformation rate, the economy can trade to a level of consumption above its own production possibility frontier.

Suppose that X can be transformed into M more economically abroad than at home. This is represented by the world price line--the straight line tangent to the curve at point B. In the absence of import protection, market forces will bring about two changes. 1/ First, domestic production will tend to move in the direction of point B because of the relatively higher price of X afforded by the opportunity to export. The expansion of industry X and the contraction of industry M constitute industry adjustment to trade. In the second change, consumption will tend to move toward point C because inexpensive imports reduce the relative price of M.

The attainment of a higher level of consumption by trading represents the welfare argument for lower tariffs. In short, by becoming involved in international trade, the economy pictured in figure 1 becomes more specialized in the manufacture of the good it produces most efficiently--X. As a result, it is possible to consume anywhere along the world price line, D-D', including at point C, outside the production possibilities curve; with trade, it becomes possible to consume a combination of X and M that cannot be produced domestically.

In this discussion we are primarily interested in what happens to the import-competing industry, M, and so we will look a little more closely at M industry's movement from point A to point B. First, if the factors of production in the import-competing sector can be freely transferred to the production in the exporting sector without cost and without delay, then the factors would move because they would anticipate that their wages and rents (i.e. the return to capital) in their present employment are about to change because of trade. Factors would shift from the import-competing sector to the export-competing sector of the domestic economy, where the economy has a comparative advantage. 2/

In this case, adjustment would not be a problem. The workers and the suppliers of the other factors in the import-competing sector would recognize that imports threaten to reduce their wages and rents relative to returns that can be earned in growing export industries. They would respond by transferring their factors to these growing industries. Hence, unemployment of workers and land, and the premature scrapping of capital equipment would be avoided. In figure 1, if the point B level of production were to be attained, then trade would permit consumption at point-C where the level of welfare for the economy is higher.

1/ This discussion assumes that the difference between foreign and domestic rates of transformation is sufficient to overcome transportation costs.

2/ In reality, the factors of production cannot glide costlessly from one production process to another. Nonetheless, having an ideal model helps in describing the more realistic alternatives which follow.

Although aggregate welfare appears to improve, not everyone would necessarily benefit if, as is likely, X and M differ in the intensity with which they use productive factors. For example, if more skilled labor is used to produce the exported good than to produce the imported good, then the wages of skilled labor would tend to rise and the wages of unskilled labor would tend to fall.

Unlike the situation presented above, however, in a real economy, resources cannot be painlessly transferred from one industry to another in response to increased imports. Not surprisingly, workers are reluctant to abandon skills that were useful in their old jobs. In addition, workers may not want to move to new areas, even if jobs are plentiful, or they simply may not have information about job opportunities elsewhere. Similarly, capital assets are usually industry specific. For example, shoe lasts cannot be used for making electronic components. Finally, plants and land are not necessarily located in areas with growing industries. As a result, alternative uses are limited. 1/

Mobility is also limited because factor prices are not entirely flexible. For example, because of union wage contracts, minimum-wage laws, and strongly held beliefs about fair levels of compensation, wages and salaries are not entirely free to fall. Returns to owners of capital assets are generally regarded as more flexible, however. 2/

The likely outcome of adjustment in such a situation is that some workers in the import-competing industry will lose their jobs, and some plants and capital equipment will be abandoned. Until the workers get new jobs in the exporting sector and the capital is physically depreciated, production will not be at the frontier in figure 1, but at some interior point such as point U. During the period of adjustment, consumption will not be at point C. In fact, the unemployment costs of adjustment might reduce overall consumption, and therefore, economic welfare. 3/

In addition to lowering the general level of welfare, adjustment with unemployment has a direct, negative effect on those workers who lost their jobs and on those whose assets are unemployed, and who therefore suffer as a

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1/ Some of the problems of factor adjustment are described in C. Michael Aho and Thomas O. Bayard, "Costs and Benefits of Trade Adjustment Assistance" (unpublished manuscript, Department of Labor); Malcolm D. Bale, "Estimates of Trade Displacement Costs for U.S. Workers," Journal of International Economics, vol. 6, 1976, pp. 245-250 and Jacques de Brandt, "Structural Adjustment in the Textile Industries: Costs and Benefits," Adjustment for Trade: Studies on Industrial Adjustment Problems and Policies, The Development Centre of The OECD, 1975, pp. 29-56.

2/ Robert E. Baldwin, John H. Mutti, and J. David Richardson "Welfare Effects on the United States of a Significant Multilateral Tariff Reduction," Journal of International Economics, vol. 10, 1980, p. 410.

3/ This is illustrated formally by a partial equillibrium analysis in Baldwin, Mutti, and Richardson "Welfare Effects on the United States of a Significant Multi-laterial Tariff Reduction," in an April 1978 (pp. 11-13) manuscript version of this article. However, as subsequently published in the Journal of International Economics, vol. 10, 1980, pp. 405-423, the article did not contain this illustration.

result of lost income. What positive effect does import protection have on such costs? By temporarily lowering the level of imports and by giving the workers and owners of capital in industry M more time to adjust, escape-clause protection may limit the cost to idle workers and to the owners of idle capital.

Allowing the adjustment process additional time to work reduces the cost of adjustment because the frictions which cause factor immobility between industries tend to diminish in importance over time. Workers retire or become resigned to the need for change in occupation or location, machines wear out or can be sold, and so forth. Consequently, a possible way to reduce the cost of unemployment (i.e. to limit the unemployment itself) is to extend the contraction of the industry over a longer time period.

Although this may be the desired outcome of temporary protection, it is not the only possible result; excessive protection could stop or even reverse the adjustment process. The threatened workers and owners of capital and land in the contracting industry may do nothing to find other work or alternative uses for their assets during the period of protection. Even worse, a temporary respite from import competition and the consequent increase in profitability of the domestic industry M could attract resources into the industry. Then, when protection is removed, more workers and capital could become unemployed than would have been the case without protection.

Finally, gradual adjustment may be less costly for the workers and firms in the contracting industry, but the benefits of such an adjustment may be outweighed by a cost to other segments of the economy. By restricting trade, industries that would benefit from increased trade (i.e. exporters) lose during the period of protection, and consumers are not able to take advantage of the lower priced imports.

Adjustment by Modernization

Arguments for escape-clause protection can take another very different form. Rather than accommodating increased foreign competitiveness by contracting, protection can promote investment and better business practices, which will allow the injured industries to compete without contracting. This type of adjustment, characterized here as a modernization, is accomplished by adopting more competitive production, marketing, or pricing practices.

The case for modernization is usually presented in the following way. First, an industry, having lagged behind foreign competition in adopting new technology or business practices, realizes that it has become uncompetitive. The industry reasons that, if it is given a temporary period of protection, productivity will be improved, profitability can be restored, and its creditors reassured. During the protection period, investments are made and modernization takes place. Following the period of protection, the industry will be able to compete successfully with the imports. Hence, successful modernization holds forth the hope of avoiding the costs of expensive unemployment. Also, when successful, it saves a domestic industry from contraction.

This scenario, however, raises a number of questions and suggests problems. First, why did the industry lag behind in the past? Is there reason to believe that, after domestic producers have once caught up to foreign producers, while enjoying the benefits of temporary protection, they will remain abreast of the competition when the protection is removed?

Second, although it may be true that the domestic industry will become competitive after it has adjusted to changed circumstances, temporarily depressed profits do not preclude accomplishing adjustment without import protection. Private capital markets are expected to discern whether firms in an industry can adjust to changing circumstances. If private capital markets agree with domestic producers, that they can regain their competitiveness, then one would expect funds for new investment to be made available without import protection. If capital markets are unwilling to advance these funds in the absence of protection, then is there reason to believe that after the investments are made, the industry will continue to be successful once the protection is removed?

Third, even if the domestic industry is able to improve its efficiency by adopting new technology, will this be sufficient to achieve competitiveness when foreign producers may also be adopting the same or often more improved technologies?

Fourth, another question about modernization is whether it can be accomplished without factor unemployment. Usually an injured industry can increase its efficiency only by using factors which are less costly. In industrialized countries this usually takes the form of substituting capital for labor. 1/ Hence, successful modernization would usually be expected to result in unemployed labor.

The U.S. color television industry, the subject of a recent Commission investigation to extend the period of import protection after 3 years of relief, provides an example of this substitution of capital for labor. According to a majority of the Commissioners, "the adoption of technological improvements is reducing total labor content of television receivers." 2/

Finally, even if unemployment can be avoided, the costs of protection to the economy generally have to be noted. Protection implies that consumers must pay for the modernization of the industry through higher prices to support higher industry profitability. Also, because trade tends to be balanced, preventing imports is tantamount to preventing exports. Hence to the extent this is the case, protection for modernization leaves export industries worse off than they would otherwise have been. Thus, in any case where an industry is protected, there are costs distributed among consumers and exporters that must be weighed against benefits to the industry.

1/ For a discussion of factor reversals, see Martin Wolf, Adjustment Policies and Problems in Developed Countries, World Bank Staff Working Paper No. 349, August 1979, pp. 120-121.

2/ Color Television Receivers and Subassemblies Thereof: Report to the President on Investigation No. TA-203-6 Under Section 203 of The Trade Act of 1974, Publication 1068, May 1980, p. 5. This was the opinion of Commissioners Alberger, Moore, Stern, and Calhoun.

Summary

Having defined two types of adjustment, we are left with the necessary tools to describe what happened to escape-clause-protected industries in the following chapters. Was the predominant pattern in an industry contraction or modernization?

In addition to describing adjustment by contraction and modernization, the chapter has also provided a basis for some other questions. For example, if the protected industry contracted, was the decline prolonged by protection and were the factors spared some unemployment? If the industry modernized, was it able to overcome the problems with modernization mentioned above?

CHAPTER THREE: ADJUSTMENT IN THE WILTON AND VELVET CARPET INDUSTRY

Background

In 1961, the Commission (then known as the U.S. Tariff Commission), after an investigation and a hearing, determined that Wilton and velvet carpets and rugs were being imported into the United States in such increased quantities as to seriously injure the domestic industry. In 1962, the President suspended the tariff concession on these carpets and rugs thereby raising the tariff from 21 percent to 40 percent. This level prevailed until 1973, when it was reduced again to 21 percent. 1/ This chapter presents information on the adjustment of the injured industry from 1962 to the present.

Industry definition

The designated industry consisted of two types of carpets (and rugs) referred to as Wilton and velvet, respectively. Both are produced by a weaving process in contrast to such other methods of carpet manufacture as tufting or knitting. Tufted, knitted, and woven carpets other than Wiltons and velvets were excluded from consideration in the injury determination, and did not receive import relief.

Uses.--Wiltons and velvets and most other types of carpets (and rugs), are used primarily for residential and commercial floor covering. Tufted carpets are also frequently found in automobiles.

Industry history.--Woven carpets were first produced commercially in the United States in the early 1800's on hand looms. The particular type of weave often took the name of the city of its origin, for example, Wilton, Axminster, and Brussels. In the 1840's, power was added to the loom, and productivity increased substantially. Nonetheless, until the combined introduction of tufting and synthetic fibers in the 1950's, carpets were considered luxury items out of reach for most consumers.

The Wilton weave is considered the most complicated of the machine-woven carpets. Using a computer-like (Jacquard) punched card to control the action, several different colors of yarn can be woven together through the mechanized action of wefting and warping, in elaborate custom-made patterns. In contrast, the velvet weave, because it is usually of one color, is among the simplest of weaves.

1/ For the principal reports of the Tariff Commission see Wilton, Brussels, Velvet and Tapestry Carpets and Rugs, Escape Clause Investigation No. 7-104 . . ., TC Publication 28, August 1961; Wilton, Brussels, Velvet and Tapestry Carpets and Rugs, Report to the President on Investigation No. TEA-I-EX-2, under Section 351(d)(3) of the Trade Expansion Act of 1962, TC Publication No. 213, September 1967; and Wilton, Brussels, Velvet and Tapestry Carpets and Rugs, Report to the President on Investigation No. TEA-I-EX-5, . . ., TC Publication No. 302, November 1969. Presidential Proclamation 3458, Mar. 27, 1962; Presidential Proclamation 3815, Oct. 11, 1967; and Presidential Proclamation 3953, Dec. 31, 1969.

Tufting is less complicated than all weaves. The tufted carpet is formed when multiple needles are simultaneously punched through a backing. With tufting, not only are the Wilton weave's complicated color patterns not imitated, but the relatively complex mechanical motions of wefting and warping, needed even for a simple velvet weave, are avoided.

Petitioners.--The petition alleging injury was filed with the Commission in 1961 by the American Carpet Institute, 1/ all but 1 of whose 16 members were manufacturers of Wilton and/or velvet carpets. In addition, there were 12 other domestic companies in 1961 which produced Wilton and velvet carpets. Table A-1 in the appendix contains a list of the 16 members of the petitioning association and the names of 7 of the other 12 companies in the injured industry at the time. 2/

In its determination of injury, the Commission attempted to limit its consideration to the Wilton and velvet portion of the sales of the 27 companies considered to make up the industry at that time. This greatly reduced the size of the industry under consideration in the investigation because only 39 percent of the aggregated output of the 27 firms consisted of Wilton and velvet carpets. Carpets made by the tufted method constituted most of the excluded output of these firms.

History of tariff changes

In the Tariff Act of 1930, Wilton and velvet carpets and rugs were subject to rates of duty of either 40 percent or 60 percent ad valorem, depending upon whether they were valued at more or less than 40 cents per square foot. Beginning in 1939, the tariff rate was reduced in bilateral and multilateral trade negotiations on five separate occasions to the level of 21 percent (regardless of value per square foot) in 1957. The history of the tariff concessions is summarized in table A-2 of the appendix.

The Commission, following The American Carpet Institute's second petition for import relief under the 1951 act, reported its finding of injury to the President in August 1961. It recommended that the tariff concession be withdrawn and the tariff rate be increased from 21 percent to 40 percent ad valorem. 3/

1/ The American Carpet Institute was the manufacturer's association for the woven carpet industry. As consumption and production of carpets shifted away from the woven variety, a new manufacturer's association was formed in Dalton, Ga., primarily for the makers of tufted carpets. In 1972, the two associations merged to form the Carpet & Rug Institute, presently located in Dalton, Ga.

2/ It was not possible to determine the names of the other five, presumably very small, companies. Wilton, Brussels, Velvet, and Tapestry Carpets and Rugs . . ., TC Publication 28, August 1961, pp. 10-11.

3/ During the first investigation on the industry, a majority of the Commissioners found that imports were not being imported "in such increased quantities as to cause or threaten serious injury."

After requesting further information from the Commission, 1/ President Kennedy in 1962 raised the tariff on Wiltons and velvets to the level recommended by the Commission. 2/

Under a provision of the Trade Expansion Act of 1962, 3/ escape-clause protection provided under the 1951 act had to be withdrawn by 1967. Import relief could be extended, however, after the domestic industry petitioned the Commission to hold hearings and to report to the President on the probable economic effects of the tariff reduction. After receiving the report and the advice of the Secretaries of Commerce and Labor, the President could decide to extend the relief for a maximum period of 4 years.

In 1967, the Wilton and velvet carpet manufacturers returned to the Commission to request such an extension. In spite of the Commission's advice that the producers of Wiltons and velvets would be little affected by the termination of the import protection, 4/ President Johnson chose to extend protection until the end of 1969. 5/ In 1969, there was another requested extension, and again the Commission recommended the restoration of the tariff concession rate of 21 percent ad valorem. 6/ President Nixon, like his predecessor, extended the tariff level of 40 percent ad valorem on most Wiltons and velvets until January 1, 1973 7/ when the tariff reverted to the present 21 percent ad valorem level. However, in his 1969 decision, President Nixon withdrew the escape-clause protection on "Imitation Oriental Floor Coverings," a type of Wilton carpet.

Increase in imports

Ninety percent of imported Wiltons and velvets in 1960 came from either Belgium or Japan. Both in quantity and as a proportion of domestic consumption, imports had grown considerably throughout the 1950's, as shown in table 1. Concentrating primarily on what had happened between 1957 and 1960, the Commission, in its 1961 report, found imports up "dramatically," and noted that "in 1959 alone, the actual quantity by which they increased was greater than the total quantity imported in any single year before 1953." 8/

1/ Wilton, Brussels, Velvet, and Tapestry Carpets & Rugs, Report in Response to the President's Request for Information Supplemental to the Report on Escape Clause Investigation No. 7-104, Publication 41, December 1961.

2/ Presidential Proclamation 3458, Mar. 27, 1962 (76 Stat. 1457) became effective June 17, 1962 when the concession was suspended.

3/ Sec. 351(c)(1)(B) of the Trade Expansion Act of 1962.

4/ Wiltons, Brussels, Velvet, and Tapestry Carpets and Rugs, Report to the President on Investigation No. TEA-I-EX-2 Under Section 351(d)(3) of the Trade Expansion Act of 1962, TC Publication 213, September 1967.

5/ Presidential Proclamation 3815, Oct. 11, 1967.

6/ Wiltons, Brussels, Velvet, and Tapestry Carpets and Rugs, Report to the President on Investigation No. TEA-I-EX-5 Under Section 351(d)(3) of the Trade Expansion Act of 1962, TC Publication 302, November 1969.

7/ Presidential Proclamation 3953, Dec. 31, 1969, is entitled a "Partial Extension of Increased Duty on Imports of Carpets and Rugs."

8/ Wilton, Brussels Velvet and Tapestry Carpets and Rugs, Escape Clause Investigation No. 7-104, . . ., TC Publication 28, August 1961, p. 23.

Table 1.--Wilton and velvet carpets and rugs: U.S. production, imports for consumption, and apparent consumption, 1950-70

Year	Production	Imports	Apparent consumption 1/	Ratio of imports to apparent consumption
	1,000 square yards	1,000 square yards	1,000 square yards	Percent
1950	54,669	1,620	56,289	2.9
1951	40,461	1,680	42,141	4.0
1952	40,358	2,340	42,698	5.5
1953	45,658	3,115	48,773	6.4
1954	37,714	2,880	40,594	7.1
1955	41,639	4,008	45,647	8.8
1956	40,648	4,425	45,073	9.8
1957	35,776	4,671	40,447	11.5
1958	34,258	4,632	38,624	12.0
1959	40,570	6,982	47,356	14.7
1960	31,530	8,165	39,509	20.7
1961	28,663	8,234	36,676	22.5
1962	29,473	5,919	35,162	16.8
1963	28,290	1,853	29,955	6.2
1964	24,248	949	25,048	3.8
1965	23,546	519	23,820	2.2
1966	23,359	574	23,698	2.4
1967	20,855	669	21,320	3.1
1968	21,169	879	21,721	4.0
1969	20,331	883	20,813	4.2
1970	17,667	695	18,010	3.9

1/ Production plus imports. Exports have been negligible.

Sources: U.S. Tariff Commission Publication No. 41, December 1961, and U.S. Tariff Commission Publication No. 447, December 1971.

Injury

While noting that there had been an overall decrease in the consumption of Wiltons and velvets (both domestics and imports) in the late 1950's, the Commission nonetheless felt that "A direct corollary of the mounting tide of imports since 1957 has been a decline in domestic sales of Wiltons and Velvets" by 11 percent from 1957 to 1960. 1/ Other signs of injury, caused at least partially by the increase in imports from 1957 to 1960, were a 15-percent fall in production, a 40 percent reduction in profitability (in Wilton and velvet operations only) and a 33-percent decline in the number of hours worked by industry employees. 2/

Adjustment

Adjustment in the Wilton and velvet carpet and rug industry has taken the form of a gradual but constant contraction. In 1977, output, assets, employment, and the number of firms were less than half of their 1960 levels. In its 1967 report to the President concerning the extension of the import protection period, the Commission observed that adjustment was occurring through contraction. After noting that 85 percent of all U.S. carpet sales were tufteds, the Commission commented that the Wilton and velvet firms had adjusted to the "pervasive technological and market change" posed by this relatively new carpet product by going into tufting themselves. Furthermore, the Commission felt that the net benefit from increasing the tariff in 1961 was to "retard somewhat the decline of weaving as opposed to tufting." 3/

However, in addition to its beneficial effects, the report also noted the cost of retarding the decline of the industry. By reducing imports, and hence raising the prices of Wiltons and velvets to the consumer, the escape clause protection probably "accelerated somewhat consumer purchases of tufted products." 4/

The fortunes of the domestic Wilton and velvet industry are demonstrated by the almost unbroken series of declines in their annual domestic production since the 1940's and 1950's. In table 2, this decline is contrasted with the almost tenfold increase since 1960 in the growth of tufted carpet production.

Employment of workers in domestic Wilton and velvet plants, as shown in table 3, was halved between 1960 and 1970. Table 4 shows a similar downward employment trend extended to 1977, even though the data include all woven carpets of which Wiltons and velvets constitute over half. With regard to investment, table 4 shows that the gross value of fixed assets in the woven carpet industry has similarly declined markedly, indicating that capital was being depreciated faster than new investment into the industry.

1/ Ibid.

2/ Ibid, p. 24.

3/ Wiltons, Brussels, Velvet, and Tapestry Carpets and Rugs, Report to the President on Investigation No. TEA-I-EX-2 Under Section 351(d)(3) of the Trade Expansion Act of 1962, TC Publication 213, September 1967.

4/ Ibid., p. 4.

Table 2. Domestic shipments of Wilton, velvet and tufted carpets, 1951-79
(In millions of square yards)

Year	Total shipments	Wilton shipments	Velvet shipments 1/	Tufted shipments
1951	65	11	22	6
1952	73	14	25	12
1953	80	15	22	16
1954	83	14	20	27
1955	98	15	24	35
1956	110	16	26	45
1957	112	14	24	56
1958	123	14	22	71
1959	145	17	27	86
1960	148	13	23	102
1961	161	10	23	117
1962	194	11	29	145
1963	223	10	29	175
1964	264	7	29	221
1965	301	6	29	261
1966	328	7	27	288
1967	497	10	41	530
1968	540	5	19	511
1969	592	4	20	563
1970	631	4	19	604
1971	705	3	17	681
1972	848	3	19	823
1973	967	3	17	944
1974	887	2	16	866
1975	799	1	12	784
1976	887	1	12	872
1977	993	1	12	977
1978	1047	2/	2/	1028
1979	1178	3/	3/	1157

1/ Includes other types of carpets and rugs estimated to be less than 10 percent of the number.
2/ All woven = 19.
3/ All woven = 21.

Sources: American Carpet and Rug Institute, Basic Facts About The Carpet and Rug Industry, 1968. The Carpet and Rug Institute, 1973 Industry Review, 1976-77 Industry Review, and 1978-79 Industry Review.

Table 3.--Plants producing Wilton and velvet carpets and rugs: Indexes of the average number of production and related workers employed and man-hours worked by them, 1960-70

(1960-62 = 100)

Year	Index of average number of workers employed on all products	Index of man-hours worked on--	
		All products	Wiltons and velvets
1960	112	109	110
1961	97	97	96
1962	91	94	94
1963	83	89	87
1964	78	82	74
1965	77	81	71
1966	75	79	67
1967	70	74	62
1968	73	76	61
1969	67	72	56
1970	59	56	34

Source: Derived from data supplied the U.S. Tariff Commission by U.S. firms whose output was estimated to have accounted for more than 90 percent of total U.S. production of Wilton and velvet carpets and rugs during 1960-70.

Table 4.--Average number of U.S. employees engaged in the production of woven carpets and rugs, capital expenditures and assets, 1963-77

Year	Number of employees	Expenditures and assets	
		New capital expenditures	Gross value of fixed assets
	Thousand	Million dollars	Million dollars
1963	13.4	4.2	135.3
1964	12.1	7.6	138.3
1965	10.5	4.7	1/
1966	9.7	5.6	1/
1967	8.7	6.3	102.8
1968	10.0	6.6	107.7
1969	9.9	5.1	106.3
1970	8.5	4.2	109.8
1971	7.6	2.6	96.5
1972	6.5	3.2	88.3
1973	6.3	5.9	92.7
1974	5.9	7.6	97.7
1975	4.8	3.1	97.4
1976	4.8	4.8	94.9
1977	2.8	1.1	1/

1/ Not available.

Source: U.S. Department of Commerce, 1977 Census of Manufacturers, SIC 2271.

A further indication of what has happened over the years may be seen by comparing the number of firms active in the Wilton and velvet industry today with the number at the time of the petition. In 1961, 27 firms made Wilton and/or velvet carpets; 24 of the 27 produced velvets, and 22 made Wiltons. Today, of the original 27 firms, there are 4 producing velvet carpets, 2 producing Wiltons, and 1 firm making both.

At the same time, imports of Wilton and velvet carpets and rugs, having fallen 90 percent from their 1961 high point to their post-tariff-withdrawal lows, increased in the 1970's after the restoration of the tariff concession. Nonetheless, by 1977, imports were equivalent to a mere 21 percent of the 1961 level, as tables 1 and 5 show.

Table 5.--Wilton and velvet carpets and rugs: U.S. production, imports for consumption, and apparent consumption, 1971-77

Year	Domestic production	Imports	Apparent consumption	Ratio of imports to apparent consumption
	Million square yards	Million square yards	Million square yards	Percent
1971	20	1.1	21.1	5.2
1972	22	1.5	23.5	6.4
1973	20	1.6	21.6	7.4
1974	18	1.3	19.3	6.7
1975	13	1.5	14.5	10.3
1976	13	1.8	14.8	12.2
1977	13	1.8	14.8	12.2

Sources: Carpet and Rug Institute Annual Reports 1972-1978 and U.S. Department of Commerce, FT 246, 1971-1977.

Growth of domestic tufted carpet manufacturing.

The rapid increase in the production and consumption of tufted carpets can be attributed to a combination of technological and demand factors. The tufting machine, for example, requires about one-third the amount of labor as a weaving loom and is capable of manufacturing about 25 times as much carpet in the same amount of time. 1/ Hence, the technological innovation, the tufted carpet, introduced commercially in the 1950's, permitted significant immediate carpet price decreases. Similarly, the introduction of manmade fibers, another 1950's technological innovation in the carpet industry, helped to further reduce costs by providing an alternative to wool's high price and unstable supply. Finally, the growth in the homeowning population along with the increasing affluance of the country in the 1950's and 1960's, combined with the tufted product's lower price, helped to make carpets a common household item.

1/ See William A. Reynolds, Innovation in The United States Carpet Industry 1947-1963, Van Norstrand Co, 1968; and Robert Kirk, The Carpet Industry: Present Status and Future Prospects, Wharton School of Finance and Commerce, Report No. 17, 1970; and George Millman and John P. Figh, The U.S. Carpet and Rug Industry: Current Trends and Outlook to 1980, The Chase Manhattan Bank, Technical Services Division, 1972.

Though a tufted carpet is physically not a perfect substitute for a Wilton or velvet carpet, the differences are outweighed by price considerations. With the price of the tufted product only half to a third that of the Wilton and velvet, few consumers were tempted to purchase the high-priced product.

Wilton and velvet firm adjustment

Though firm responses were diverse, it is possible to observe that one of four types of adjustment was experienced by each of the 15 Wilton- and velvet-making members of the American Carpet Insitute and the seven nonmembers about which information could be obtained.

Abandonment of carpet production.--Ten companies, including five members of the American Carpet Institute, left the industry from 1961 to 1980, with all but one of the departures occuring between 1964 and 1975. Most of these were manufacturers of Wilton carpets, and most were among the smallest firms in the industry.

The first to abandon the carpet industry after the import relief action was a Philadelphia company, Archibald Holmes & Son. In 1964, after selling or scrapping its old looms, Archibald Holmes & Son ceased carpet manufacturing. Confronted with union demands for increased wages in 1963, the owner decided to accept an offer from Speigel Inc. to lease their old building for 5 years as a regional mail-order service center. Nothing is known about the reemployment of the firm's employees, which in 1957 numbered 130. 1/

A second example, also from Philadelphia, is the Harwick & Magee Carpet Co.. Harwick & Magee, in 1910 the largest domestic Wilton manufacturer, filed for bankruptcy in 1972. At that time, the company closed its four retail stores and its Philadelphia plant, laid off the remaining 35 workers, and auctioned approximately 250,000 dollars' worth of its plant, equipment, and inventory. 2/

When asked why the company, which at its 1940's peak employed 250 and had sales of $6 million, failed, a former executive told a local newspaper:

> The real reason, I believe, is they couldn't compete with the non-union southern shops and the industry turned to tufting, a new method of weaving. Harwick and Magee only had three tufting machines. They failed to move with the times.
>
> Their production finally moved south in the last year and a half...but it was too late." 3/

Consolidation in the production of tufted carpets.--A second form of adjustment consisted of the abandonment of Wilton and velvet carpet production while shifting resources to the production of tufted carpets. Five companies, all members of the American Carpet Insitute, took this route.

One example of a firm using this adjustment form is the Downs Carpet Co. Founded in 1864, the company finally closed its Wilton carpet production in 1975 following considerable investments in tufted carpet manufacture since the

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1/ "Spiegel Mail Order Firm Leases Plant at K and Erie," The Evening Bulletin (Philadelphia), Jan. 14, 1964. Also "Carpet Workers Win Pay Boost", Philadelphia Inquirer, Sept. 10, 1957.

2/ "An Auction - The End of an Era" Philadelphia Inquirer, Feb. 25, 1972.

3/ Ibid.

1950's. Today the company engages exclusively in the production of tufted carpets at its plant outside Philadelphia, which was opened in 1954 following an investment of $1.5 million. 1/

The demise of the Downs' Wilton carpet manufacturing was very gradual, and company officials note that, with alternative employment nearby, there was no large-scale unemployment when the old Wilton plant was closed in Philadelphia. Furthermore, many of the Wilton workers were beyond retirement age, and hence not interested in further employment.

The company's old Philadelphia plant is today vacant. Most of its aged equipment was scrapped, though some was sold to one of the remaining Philadelphia Wilton makers.

Another example of a company that followed a pattern similar to that of the Downs example is the Philadelphia Carpet Company. This firm began a diversification into the production of tufted carpets by acquiring the Mylu Corp. of Georgia in 1957. 2/ Two years later a company formed by J. C. Shaw purchased the Philadelphia firm. Since 1971, it has been known as Shaw Industries Inc. of Dalton, Ga. Shaw concentrated most of its subsequent growth in tufted carpets, and by 1979, with sales of $213 million, the company manufactured only tufted carpets. 3/ Shaw industries ceased Wilton carpet production in 1978, when it sold its Wilton Carpet Division to the Pennsylvania Wilton Carpet Co., one of the three remaining domestic Wilton makers.

Consolidation in the production of tufteds with some residual production of velvets.--Among today's largest manufacturers of tufted carpets are four firms that participated in the 1961 petition seeking escape-clause protection. Each of these firms still produces velvet carpets as a small proportion (less than 10 percent) of its total carpet output. None of them still makes Wiltons, however.

Subsequent to the escape-clause action, three of these firms were the object of acquisitions by larger companies in related industries. A. & M. Karagheusian and James Lee & Sons were acquired by two large textile companies, J. P. Stevens and Burlington Industries, respectively. Bigelow-Sanford, Inc., was acquired by a company in the home furnishings business, Sperry Hutchinson (S&H Green Stamps). The fourth and fifth companies, Firth and Mohasco, merged in 1962. 4/

Many of these companies took advantage of the growing demand for tufted carpets by opening new tufted plants, often in the labor-union-free Southeast. Table 6 shows how the members of the petitioning organization maintained their substantial share of the tufted market from 1954 to 1966.

To the extent these firms, having ceased or reduced their manufacturing of Wiltons and velvets, could offer employment opportunities in other lines of business to the displaced Wilton and velvet workers, little unemployment of

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1/ "Carpet Firm to Double Production Capacity with $1,500,000 Step", Philadelphia Inquirer, Dec. 14, 1954.

2/ "Philadelphia Carpet Officers Acquire Georgia Firm", Philadelphia Inquirer, Dec. 13, 1957.

3/ Standard & Poors, Standard Corporation Descriptions, vol. 41, No. 23, sec. 2, Dec. 1980, pp. 1817-1818.

4/ William A. Reynolds, op. cit. Robert Kirk, op cit.

Table 6.--Tufted carpet and rug production by members of the American Carpet and Rug Institute, 1954-66

(In millions of square yards)

Year	ACI tufted shipments	Total tufted shipments	ACI tufted shipments as a percent of total shipments
1954	8	27	30
1955	13	35	37
1956	17	45	37
1957	17	56	30
1958	25	71	35
1959	31	86	36
1960	30	102	29
1961	32	117	27
1962	40	145	27
1963	46	175	26
1964	54	221	24
1965	72	261	28
1966	116	288	40

Source: American Carpet Institute, Basic Facts, 1968.

labor resulted. Unfortunately, detailed information on this form of labor redeployment is not available. However, because the shift from weaving to tufting coincided in most cases with a locational change from the Northeast to the Southeast, most displaced Wilton and velvet workers probably could not take advantage of such opportunities. Furthermore, many of the firms that left the business were small, and did not have other lines of production to which workers could be redeployed. As a result, it may be assumed that many of the unemployed had to find jobs outside the carpet industry.

Support for this conclusion is provided by a 1966 Labor Department case study of an anonymous Wilton plant in the Northeast, where all of the 800 laid off carpet workers had to be reemployed in other industries. 1/ Furthermore, because these workers were older, less educated, and less mobile than the average U.S. worker, the cost of unemployment for these 800 was high. The study found the average period of job search was 6 months, and two-thirds of those who were working at the time of the study said they were earning less than previously. To the extent that the experience presented in the Labor Department report can be generalized, Wilton and velvet carpet workers faced costly unemployment after they were laid off.

Maintenance of Wilton carpet production.--Today there are three small Wilton companies manufacturing custom-made woven Wilton carpets. One, the Langhorne company outside Philadelphia, exists as it did at the time of the petition, though because of its small size (fewer than 100 workers), Langhorne did not belong to the American Carpet Institute. Two others companies were formed out of the former Wilton divisions of two companies that today produce

1/ U.S. Department of Labor, M. Arnold Tolles, "The Post-layoff Experience of Displaced Carpet Mill Workers," in Weathering Layoffs in a Small Community, June 1966.

only tufted carpets. The Pennsylvania Wilton Co. was the former Wilton Carpet Division of the Philadelphia Carpet Co. (acquired by Shaw Industries) and the Bloomsburg Carpet Co., which also manufactures velvet carpets, was formed from the looms and employees of the Magee Co., one of the 1961 members of the American Carpet Institute and today a manufacturer of tufteds. 1/

The differences in the manufacture of velvet and Wilton carpets probably explain why the former is still produced by large concerns, and the latter, only by small companies. Since the velvet-manufacturing process is the simplest and most automated of the woven-carpet-manufacturing processes, large firms are more likely, in filling large mixed (i.e. woven and tufted) orders, to find velvet carpet meets the minimum qualification of a woven carpet without at the same time requiring the relatively greater amount of attention that Wilton carpet production requires.

The Wilton weave, on the other hand, requires that a great deal of individual care be applied to each product. Its production process and luxurious quality require a manufacturer of Wiltons to reproduce accurately very intricate patterns. Because of the required attention, and the consequent high price, low demand, and specialized short production runs, only a handful of small companies are capable of, and find it worthwhile, remaining in the business.

Conclusion

Adjustment in the protected Wilton and velvet carpet and rug industry can be described as a contraction, entailing some labor unemployment and capital losses. The effectiveness of the relief in slowing the contraction was reduced by the fact that a domestic substitute product, tufted carpets, so strongly reduced demand for Wilton and velvet carpets. Nonetheless, the higher escape-clause tariff reduced import competition in the domestic industry. The absolute level of imports dropped 86 percent during the 3 years following the tariff increase compared with the level during the 3 years prior to protection. Similarly, the figures showing the decline of imports relative to domestic consumption demonstrate that import protection at least partially did its job. Whereas in 1961, Wilton and velvet carpet imports supplied 22 percent of the U.S. market, in 1963, they supplied only 6.2 percent.

One important result of this protection may have been to promote the further transformation of Wilton and velvet carpet makers into tufted carpet makers. By slowing the contraction and raising revenues above what might have been expected at the lower tariff levels, the import relief possibly assisted manufacturers to make the transition from one product to the other, permitting them funds and time to invest in the new substitute technologies. Whatever the role of the relief in promoting this transition, there is no denying that it took place. Among the largest firms in today's (and also in the 1960's) tufted carpet industry can be found the firms which petitioned relief for their now partially or completely abandoned Wilton- and velvet-carpet-making operations.

1/ As an example of the limited market for Wilton carpets, the U.S. Government purchases Wiltons for very large and important rooms only, such as the congressional chambers, certain rooms in the State and Defense Departments, the White House, and so forth. In 99 percent of the rooms carpeted by the Government, however, the tufted variety suffices.

A slowdown of the contraction, as noted in chapter 2, may also have reduced the inequitable consequences that often follow. Workers conceivably were spared some of the cost of unemployment, and owners were probably able to squeeze out a few more years of production from their capital assets. However, there were costs as the Labor Department study and comments by industry participants on employee lay-offs and idle equipment show.

In sum, adjustment took the form of contraction, entailing some costs to workers and capital. The escape-clause protection probably reduced the full cost of the decline from what it would have been without such protection. However, since the main cause of the contraction was of domestic origin, the escape-clause relief was at best a secondary factor in shaping the final outcome.

CHAPTER FOUR: ADJUSTMENT IN THE SHEET GLASS INDUSTRY

Background

In 1961, the Tariff Commission, after an investigation and hearings, determined that crown, cylinder, and sheet glass were being imported into the United States in such increased quantities as to injure seriously the domestic industry. 1/ In 1962, President Kennedy partially suspended the tariff concessions on the injured items. 2/ This chapter presents information on the adjustment of the injured industry from 1962 to the present.

Industry definition

The industry receiving protection was the sheet glass industry. Although cylinder and crown glass were also included in the original investigation, by 1961 they were obsolete, and their production was insignificant.

Uses.---Sheet glass is a type of flat glass, and the uses of sheet glass are generally similar to the uses of types of flat glass. Clear, colored, and coated flat glass are used for windows in domestic, commercial, and industrial buildings, for glazing in many types of transportation, especially automobiles, and in many other items such as mirrors, microscope slides, and desk covers. Flat glass may also be obscured or figured and used for decorative purposes or for external cladding.

Because about two-thirds of all flat glass is used in construction or in automobiles, flat glass demand is directly related to levels of production in these two major American industries. When the demand for housing and automobiles increases, as it did during most of the 1960's, flat glass demand increases. Similarly, when housing and automobile sales fall, as in 1974 and 1975, so too do flat glass sales.

In 1961, sheet glass was one of the two principal kinds of flat glass, the other being plate glass. The cost and the quality characteristics of these two flat glasses limited the substitutability between them in their main uses, construction and automobiles. Plate glass, with less optical distortion than sheet glass, was preferred in automobiles (especially for the windscreen), even though it was more costly. Sheet glass, on the other hand, was more desired for most residential housing, where optical distortions were not critical, because it was less expensive. For some uses, where price and quality could be traded off, the two glasses were competitive, but such competition was relatively rare, and more often one type of glass was clearly preferable.

Industry history.---Manufacturing processes for sheet and plate glass developed along two different lines. The earliest sheet glasses involved a process of blowing or spinning a glob of glass to make a crown or disc. Small sizes of relatively flat pieces of sheet glass were then cut from the disc. In the next stage of development, large glass cylinders were blown, either

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1/ Cylinder, Crown and Sheet Glass: Report to the President on Escape Clause Investigation No. 7-101 Under The Provisions of Section 7 of The Trade Agreements Extension Act of 1951, as Amended, TC Publication 17, May 1961. Report in Response to the President's Request for Information Supplemental to the Report on Escape-Clause Investigation No. 7-101, TC Publication No. 48, Jan. 1962.

2/ Presidential Proclamation 3455.

mechanically or by hand, split and then re-heated to be flattened into sheet glass plates. The modern sheet-glass-making processes of the 1960's were first developed in the 1920's, when several continuous vertical-drawing processes were invented. These require the continued mixing and heating of substances in large furnaces to form molten glass, after which the molten glass is withdrawn from the furnaces and stretched into a ribbon of the desired thickness. As the withdrawal of the molten glass ribbon proceeds, there are often slight variations in its thickness causing optical distortions in the finished product. 1/

The plate glass process developed from early methods of making sheet glass by grinding and polishing the surfaces until they were plane and parallel. Grinding and polishing create a distortion free, but relatively expensive, plate glass product. 2/

The preponderance of U.S. flat glass production in the early 1960's was of the sheet glass type. The Department of Commerce statistics show, for example, that in 1961, 64 percent of all flat glass was sheet, and 36 percent was plate. 3/ Small quantities of other types of flat glass, such as cylinder, crown, rolled, tempered, and laminated, were also produced in the United States. Three years prior to the section 7 petition in 1958, a new type of flat glass, "float glass," with the properties of plate glass, had been developed by Pilkington Brothers Ltd. of England. U.S. production of float glass did not begin until 1963.

Manufacturers.--In 1961, there were seven firms making sheet glass in a total of 14 plants. Three of the seven also made plate glass, and at the time of the petition, a fourth was building a plate glass plant. The other three firms made only sheet glass. According to the Commission's supplemental report to the President in 1962, the sheet glass industry was highly concentrated in 1960 with three manufacturers having 80 percent of the market. 4/

Table 7 provides the names of the seven firms and the location of the 14 sheet glass plants in 1961. Also included in the table is the name of the one sheet glass plant constructed after 1961 (the Fresno, California plant of PPG Industries).

History of tariff changes

The sheet glass duties, upon which later concessions were made, are found in paragraph 219 of the Tariff Act of 1930. All of the paragraph 219 tariff rates were specific, and the level increased as the surface area of the glass, in a given weight per inch category, became greater. Ad valorem tariff rates

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1/ P. J. Doyle, Glass Making Today, Portcullis Press, Redhill, England, 1979, pp. 187-197.

2/ Ibid.

3/ U.S. Department of Commerce, Flat Glass Industry; Outlook for 1962 and Review of 1961, WO-7-4604, ER-61-44, table 3, p. 4.

4/ Cylinder, Crown and Sheet Glass: Report in Response to The President's Request for Information Supplemental to The Report on Escape Clause Investigation No. 7-101, TC Publication 48, January 1962, p. 8.

Table 7.--Sheet glass: U.S. firms and plant locations, 1961-67

Firm	Plant location
ASG, Industries	Jeannette, Pa.
	Okmulgee, Okla.
	Arnold, Pa.
Blackford Window Glass Co.	Vincennes, Ind.
Ford Motor Co., Inc.	Nashville, Tenn.
Harding Glass Co.	Fort Smith, Ark.
Libby-Owens-Ford Co. (LOF, Inc.)	Charleston, W. Va.
	Shreveport, La.
PPG Industries Inc. (PPG, Inc.)	Henryetta, Okla.
	Mount Vernon, Ohio
	Clarksburg, W. Va.
	Mount Zion, Ill.
	Fresno, Calif.
Rolland Glass Co.	Adamston Plant) Clarksbury
	Rolland Plant) W. Va.

Source: U.S. Tariff Commission, Certain Sheet Glass; Report to the President on Investigation No. TEA-IR-7-73 Under Section 351(d)(1) of the Trade Expansion Act of 1962, TC Publication No. 548, February 26, 1973, p. 8.

in paragraph 224 applied when the imported sheet glass was stained, enameled, or in some other way altered. These rates also became a subject of further concessions and escape-clause relief. Table A-3 in the appendix provides the tariff categories and the rates of duty for sheet glass as they appeared in the Tariff Act of 1930 and in later revisions.

Bilateral, or multilateral tariff concessions on the items described in paragraphs 219 and 224 were made on eight different occasions from 1932 to 1958. The net effect of the concessions was to reduce the tariff rates on sheet glass to 35 percent of their 1930 levels.

In early 1962, President Kennedy, in response to the Tariff Commission unanimous finding of injury the year before, approximately doubled the tariffs on most sheet glass items. Because the Trade Expansion Act of 1962 established 1967 as the terminaton date for all relief granted under section 7, in 1965 the industry petitioned for an extension of the relief. 1/ Despite an investigation and report by the Commission, in which half of the Commissioners felt a serious negative economic effect would result from a tariff reduction, the President terminated escape-clause rates of duty on most of the specific items of sheet glass. 2/

The one category of sheet glass that still enjoyed escape-clause protection after 1967 was "window glass," that is, sheet glass weighing between 16 and 28 ounces per square foot of no more the 100 united (length plus width) inches in area. Since the annual imports of window glass accounted for over half of all U.S. sheet glass imports in 1967, escape-clause protection remained significant. 3/ However, the President did reduce the level of protection on window glass. For example, whereas in 1966 the ad valorem equivalent of the tariff on window glass measuring between 40 and 60 united inches was 28 percent, in 1967, as a result of the President's action, the ad volorem equivalent fell to 15 percent. The 1967 change--scheduled to expire by 1969--was extended for another year following a 1967 investigation by the Commission.

In 1969, four domestic glass manufacturers petitioned for import relief under the Trade Expansion Act of 1962. The petition covered all their flat and tempered glass products including plate, float, rolled, and tempered glass, in addition to sheet glass (both window and other sheet glass). With regard to the non-sheet-glass products, a majority of the Commissioners voted against a relief recommendation to the President, but on the question of sheet glass, the vote of the Commission was equally divided. 4/ On February 27, 1970, the President accepted the affirmative finding of the divided Commission

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1/ TC Publication 158, June 1965.

2/ The termination applied to "drawn or blown flat glass," which was the term adopted in the Tariff Schedules of the United States in 1963 for "cylinder, crown and sheet glass." Presidential Proclamation 3762, Jan. 11, 1967.

3/ Sheet Glass (Blown or Drawn Flat Glass), Report to the President on Investigation No. TEA-I-EX-6, Under Sec. 351(d)(3) of the Trade Expansion Act of 1962, TC Publication 306, December 1969. Table 6, p. 55 shows that in 1968, approximately 55 percent of all sheet glass imports at MFN duty rates were in the window glass category.

4/ Flat Glass and Tempered Glass: Report to the President on Investigation No. TEA-I-15 Under Section 301(b)(1) of The Trade Expansion Act of 1962, TC Publication 310, December 1969.

with respect to the window glass part of the sheet glass finding, and extended the post-1967 level of protection to January 1972. After this date the rates were to revert to the trade agreement concession rates in three annual staged reductions. 1/ The President also decided that firms and worker groups in the industry might apply for adjustment assistance from the Departments of Commerce and Labor.

The first stage of the reduction was postponed 3 months, however, due to a request by the industry for an extension of the modified escape-clause relief. 2/ Following an investigation and hearing, the Commissioners reported to the President that the first stage reduction would probably "impair the efforts of the domestic industry to achieve viable operations." 3/

The last escape-clause-related action concerning sheet glass was the result of a second petition in 1971 under the Trade Expansion Act of 1962. As with the 1969 petition, all flat glass products were included. With nonsheet glass, the Commission was unanimous in its negative opinion. However, the Commission again divided equally on the question of sheet glass. 4/ This time the President accepted the negative finding of the Commission, and as a consequence, the staged reductions initiated in 1972 were completed in 1974.

In summary, part of the domestic sheet glass industry (window glass) received import relief under the escape clause for 12 years, from 1962 to 1974. The extensive history of the sheet glass industry's escape-clause-related investigations at the Commission is summarized in table 8 below.

During 1962-77, the sheet glass industry also was party to a different set of trade actions, a series of antidumping proceedings. The U.S. Treasury found seven instances of imported sheet glass at less than fair value, in three of which the Commission determined there was injury, and antidumping duties were imposed. Table 9 provides summary information on the dumping cases.

Increased imports

In its 1961 report, the Commission pointed out that sheet glass imports had risen 64 percent from 1955 to 1960. Most of these imports (approximately 60 percent) were window glass, i.e., sheet glass of between 16 and 28 ounces per square foot.

1/ Presidential Proclamation 3951, Dec. 24, 1969.

2/ Sheet Glass (Blown or Drawn Flat Glass) Report to the President on Investigation No. TEA-I-EX-7 Under Sec. 351(d)(3) of the Trade Expansion Act of 1962, TC Publication 449, December 1971, and Presidential Proclamation 4102; Jan. 29, 1972.

3/ Sheet Glass (Blown or Drawn Flat Glass) Report to the President on Investigation No. TEA-I-EX-7 Under Sec. 351(d)(3) of the Trade Expansion Act of 1962, TC Publication 449, December 1971, p. 6.

4/ Flat Glass and Tempered Glass, Report to the President on Investigation No. TEA-E-23 Under Sec. 301(b)(1) of the Trade Expansion Act of 1962, TC Publication 459, January 1972.

Table 8.—Chronology of U.S. International Trade Commission investigations and of modifications of trade-agreement rates of duty on sheet glass by the President, May 1961-February 1973

Investigations		Action of the President
No. and date	Description	
No. 7-101, May 1961; Supplemental report, January 1962	Industry investigation requiring the Commission to determine whether sheet glass was, as a result in whole or in part of trade-agreement concessions granted thereon, being imported into the United States in such increased quantities, either actual or relative, as to cause or threaten serious injury to the domestic industry producing like or directly competitive products. The Commission unanimously made an affirmative finding.	Imposed escape-action rates of duty (i.e., rates higher than existing trade-agreement rates) on sheet glass, effective June 17, 1962 (Proclamation No. 3455, Mar. 19, 1962, and Proclamation No. 3458, Mar. 27, 1962).
TEA-IR-7-63, September 1963	Annual review of the escape-action rates pursuant to sec. 351(d)(1) of the Trade Expansion Act of 1962 (TEA).	
TEA-IA-4 June 1965	Report on the probable economic effects of terminating or reducing the escape-action rates of duty 1/ pursuant to sec. 351(d)(2) of the TEA.	Pursuant to sec. 351(c)(1)(a) of the TEA, the President on Jan. 11, 1967, terminated the escape-action rates of duty on all sheet glass except window glass not over 100 united inches. 2/ The escape-action rates on window glass not over 100 united inches were reduced and made effective through Oct. 11, 1967 (Proclamation No. 3762, Jan. 11, 1967).
TEA-IR-7-66, June 1966	Annual review of the escape-action rates pursuant to sec. 351(d)(1) of the TEA.	
TEA-I-EX-4, September 1967	Report on the probable economic effects of terminating the modified escape-action rates of duty on certain window glass pursuant to sec. 351(d)(3) of the TEA.	The modified escape-action rates of duty on window glass were continued unchanged through Dec. 31, 1969 (Proclamation No 3816, Oct. 11, 1967).
TEA-IR-7-68 September 1968	Annual review of escape-action rates pursuant to sec. 351(d)(1) of the TEA.	
TEA-I-EX-6, December 1969	Report on the probable economic effects of terminating the modified escape-action rates of duty on certain window glass pursuant to sec. 351(d)(3) of the TEA.	The modified escape-action rates of duty were continued unchanged through Mar. 31, 1970 (Proclamation No. 3951, Dec. 24, 1969).

Footnotes at end of table.

Table 8.--Chronology of U.S. International Trade Commission investigations and of modifications of trade-agreement rates of duty on sheet glass by the President, May 1961-February 1973--Continued

Investigations		Action of the President
No. and date	Description	
TEA-I-15, December 1969	Industry investigation requiring the Commission to determine whether sheet glass 3/ was, as a result in major part of concessions granted thereon under trade agreements, being imported into the United States in such increased quantities as to cause, or threaten to cause, serious injury to the domestic industry producing like or directly competitive products. The vote of the Commission was equally divided on sheet glass.	The modified escape-action rates of duty were continued unchanged until Jan. 31, 1972, after which such rates were to revert to the trade-agreement rates in 3 annual stages (Proclamation No. 3967, Feb. 27, 1970).
TEA-IR-7-71, February 1971	Annual review of the escape-action rates pursuant to sec. 351(d)(1) of the TEA.	
TEA-I-EX-7, December 1971	Report on the probable economic effects of terminating the escape-action rates of duty pursuant to sec. 351(d)(3) of the TEA.	Modified escape-action rates of duty were continued unchanged until Apr. 30, 1972 (Proclamation No. 4102, Jan. 29, 1972).
TEA-I-23, January 1972	Industry investigation requiring the Commission to determine whether sheet glass 3/ is, as a result in major part of concessions granted thereon under trade agreements, being imported into the United States in such increased quantities as to cause, or threaten to cause, serious injury to the domestic industry producing like or directly competitive products. The vote of the Commission was equally divided on sheet glass.	The President took no action on the Commission's 3 to 3 vote.
TEA-IR-7-73 February 1973	Annual review of the escape-action rates pursuant to sec. 351(d)(3) of the TEA.	No action taken. Escape-action rates of duty reverted to trade-agreement rates at close of Jan. 31, 1974.

1/ The Commission would ordinarily have submitted an annual review to the President on Sept. 28, 1964. This annual review was not undertaken, however, because of the investigation instituted on Mar. 30, 1964, under sec. 351(d)(2).

2/ The term "united inches" means the sum of the length and width of a rectangle of glass.

3/ This investigation also covered all other forms of flat glass and tempered glass.

Table 9.--Sheet glass: Investigations conducted by the U.S. International Trade Commission under sec. 201(a) of the Antidumping Act, 1921, as amended, 1962-77

Year	Article	Source of imports	Finding of the Commission
1962	Sheet glass	Czechoslovakia	No injury (2-1)
1964	Window sheet glass	------do------	No injury (5-0)
1964	------do----------	U S.S.R.	No injury (5-0)
1971	Clear, plate, float, and sheet glass.	Japan	Injury (4-1)
1971	Sheet glass	Taiwan	Injury (2-2)
1971	------do----------	France, Italy, and West Germany	Injury (3-3)
1977	------do----------	Romania	No injury (3-2)

Source: USITC, Clear Sheet Glass From Romania; Determination of No Injury or Likelihood Thereof in Investigation No. AA1921-163 Under the Antidumping Act, 1921, as Amended, Together with the Information Obtained in the Investigation, USITC Publication 811, April 1977, p. A-15.

About 81 percent of the imports came from Western Europe. Japan (13 percent) and Eastern Europe (4 percent) also exported significant amounts to the United States in 1960. Because most Eastern European countries had not yet received most-favored-nation status, they were unable to take advantage of the concession rates. The others, however, being members of GATT, had been recipients of the lower rates for many years prior to the escape-clause action.

The main reason for the rise in imports was their lower prices based on lower manufacturing costs. Since substantially the same equipment and processes were used in Europe and Japan as in the United States, the cost difference can be attributed to labor expenses, which represented approximately half of American manufacturers' total sheet glass production costs in 1960. 1/ During the Commission hearing, for example, one U.S. manufacturer noted that American wages were over four times those of the Belgian glass workers, and were over eight times those of the Japanese. 2/

Injury.--Among the signs of injury noted by the Commission during 1955-60, domestic production had declined 18 percent, sales had decreased 25 percent, and the average number of production and related workers declined 16 percent. Furthermore, in 1961, only half of domestic sheet glass capacity was used.

Adjustment

Two phases of industry adjustment

Post-1961 adjustment in the sheet glass industry is best described in two phases. During the first 12 years of escape-clause protection (1962-73) domestic production of sheet glass (tables 10 and 11) fluctuated around the preimport relief average. During the later phase, from 1974 to the present, sheet glass production and sheet glass imports declined.

The figures on plant shutdowns reflect changes in production. During the first phase, 3 of the 14 sheet glass plants mentioned in the intitial section 7 investigation closed, although one new plant opened in 1966. However, between 1974 and 1981, all but two of the sheet glass plants closed or converted to other types of glass manufacture.

Following a similar pattern, employment of production and related workers grew slightly in the early 1960's, but subsequently decreased in spite of the constant production levels maintained in the late 1960's. Though table 10 shows employment statistics through 1970 only , it is likely, with only two sheet glass plants in operation today, that employment continued to drop. The fact that the decline in the number of workers preceded the decline in production can probably be ascribed to increases in productivity and to management's desire not to fill vacancies created through attrition in jobs soon to be eliminated as plants closed.

Since imports of window glass (table 10) fell during the second phase, it is clear that the decline of the domestic sheet glass industry at that time was a response to something beyond the foreign competition from which the escape clause was designed to protect the industry. A much more likely cause was the gradual substitution of sheet glass by a superior and less costly product--float glass.

1/ Transcript of the hearings, Mar. 14, 1961, p. 48.
2/ Ibid., pg. 154.

Table 10.--Sheet glass and window glass: U.S. domestic shipments of sheet glass and imports of window glass, 1955-80

Year	Shipments of sheet glass	Imports of window glass 1/	Ratio of imports to shipments
	-----Million boxes 2/--		Percent
1955	27.1	4.1	15
1956	28.6	5.3	19
1957	21.9	3.6	16
1958	17.9	5.0	28
1959	26.1	8.4	32
1960	20.7	6.8	33
1961	20.8	3.9	19
1962	23.3	4.3	18
1963	25.0	3.7	14
1964	24.3	3.7	15
1965	24.1	3.3	14
1966	22.9	3.4	15
1967	21.3	3.7	17
1968	23.1	5.6	24
1969	23.2	4.3	19
1970	22.0	3.0	14
1971	23.7	3.2	14
1972	23.9	6.4	27
1973	23.9	5.7	24
1974	18.0	2.0	11
1975	9.1	2.8	31
1976	11.8	3.7	31
1977	3/	2.1	-
1978	3/	3.1	-
1979	3/	2.1	-
1980	3/	1.0	-

1/ Window glass is sheet glass weighing over 16 oz. but not over 100 united inches (i.e. width plus length).

2/ A box of sheet glass is equivalent to 50 single square feet pieces of glass.

3/ Not available.

Source: Department of Commerce, Current Industrial Reports, 1954-1976 and FT 246. After 1976 data on domestic sheet glass shipments are no longer provided as a separate category.

Table 11.--Sheet glass: Index of domestic shipments, employment of production and related workers, and number of plants, 1955-80

Year	Index of sheet glass shipments	Employment of production and related workers	Number of sheet glass plants
	(1955-60 = 100)		
1955	114	8,523	-
1956	120	8,668	-
1957	92	7,248	-
1958	75	6,673	-
1959	110	8,527	-
1960	87	7,134	-
1961	89	8,572	14
1962	98	9,505	14
1963	105	9,109	14
1964	103	9,369	14
1965	102	9,348	14
1966	97	8,636	14
1967	90	7,989	13
1968	97	8,046	13
1969	98	7,668	13
1970	95	5,268	12
1971	100	-	11
1972	101	-	11
1973	101	-	11
1974	78	-	9
1975	39	-	8
1976	50	-	7
1977	-	-	6
1978	-	-	3
1979	-	-	1
1980	-	-	2

Source: The first column is based on domestic shipments data presented in table 10 (after 1976 data on sheet glass shipments are no longer provided as a separate category). Data in the second column come from Tariff Commission reports Nos. 17, 215, and 459. (After 1972 the information on industry employment is no longer available). Information for the last column was provided by the sources mentioned above and by industry officials.

The growth of domestic float glass production

Float glass, as mentioned previously, was the product of a process first developed in 1958 by the English glass company, Pilkington Brothers Ltd., in which molten glass is poured over a bed of melted tin. The process yields a plane, undistorted flat glass, similar in quality to plate glass, which is obtained without grinding and polishing. Due to the elimination of this final labor-intensive step, productivity increases of 300 percent and more over the plate method were easily achievable.

Pilkington's first U.S. license for float glass was to Pittsburgh Plate Glass Co. (PPG) in 1962. Soon the largest U.S. companies supplying glass to the heavy sheet glass and automotive glass markets, PPG, Libby-Owens-Ford (LOF), and Ford, opened new float glass plants. Because the technology was not available in the 1960's to produce the thinner, residential window glass by the float method, window glass production was initially affected very little by the new technology, as the figures on sheet glass production, plant closings, and employment from 1961 to 1973 show. Plate glass production, on the other hand, was displaced very rapidly. For example, in 1964, the ratio of U.S. plate glass production to float glass production was 20 to 1. In 1968, it was about 1 to 1, and by 1972, the amount of plate glass sold was equivalent to a mere 5 percent of float glass sales. 1/

The cost advantages of the float glass process, are evident in the figures of the Department of Commerce's 1972 Census of Manufacturers. For instance, although man-hours worked increased only from 35.9 million in 1958 to 38.2 million in 1969, value added by manufacturer went from $205.2 million to $514 million. 2/

By the early 1970's, the technology of float glass production had progressed so that thin, distortion-free window-size float glass could be made at a price competitive with sheet window glass. With about 10 times more capital being invested in float glass production than in sheet from 1967 to 1972, it is not surprising that after 1972, float glass facilities and levels of production surpassed those of sheet glass, as tables 12 and 13 show. 3/

The escape-clause protection probably helped the industry to sustain itself during the first phase by reducing the intensity of competition with the imported product. Table 7 shows how the ratio of imported window glass to domestic shipments of sheet glass fell sharply in 1961 following 2 years of increases.

In addition to the import relief, other factors, such as the housing boom of the early 1970's (housing starts increased 47 percent during 1971-73 compared with those during 1968-70) also played an important role in maintaining general demand for flat glass, thereby keeping some of the otherwise obsolete sheet glass plants open a few more years.

Sheet glass firm adjustment

LOF.--Prior to the 1961 escape-clause action, LOF had two sheet glass plants, one in Shreveport, La. and one in Charlestown, W. Va. Neither manufactures sheet glass today. The Shreveport, La., plant was closed in 1971 and sold to Owens-Illinois for conversion to a glass container plant. 4/ The Shreveport plant was closed before the Charlestown plant, probably because it was the smaller and therefore less efficient to operate. Although some of the sheet-glass-manufacturing equipment left behind by LOF was suitable for the glass-container manufacturing of Owens Illinois, most was scrapped. However, some of the LOF workers were rehired by the new owners.

1/ William M. Bethke, "The Outlook for the Flat Glass Industry," Financial Analyst Journal, January-February 1973, pp. 44-45.

2/ U.S. Department of Commerce, 1972 Census of Manufacturers, p. 21.

3/ William M. Bethke, op. cit.

4/ Glass Digest, September 1972.

Table 12.--Number of sheet glass plants and float glass production units, 1967-75

Year	Sheet glass plants	Float glass lines
1967	13	4
1969	13	9
1971	11	15
1973	11	21
1975	8	22

Source: U.S. Tariff Commission Reports on the sheet glass industry, and W. M. Bethke, "The Outlook for The Flat Glass Industry," Financial Analyst Journal, vol. 29, No. 1, January-February 1973.

Table 13.--Estimated production of float and sheet glass, 1967, 1972, and 1976

(In millions of square feet)

Item	1967	1972	1976
Float	1/ 280	1/ 1,200	2/ 2,675
Sheet	1,096	1,264	591

1/ William Bethke, "The Outlook for the Flat Glass Industry," Financial Analyst Journal, vol. 29, No. 1, January-February 1973, pp. 43-44.

2/ Figure includes plate glass, and rolled and wire glass which are assumed to be a small proportion (i.e., less than 5%) of the total.

Source: Compiled from statistics of U.S. Department of Commerce, Current Industrial Reports except as noted.

The Charlestown, W. Va., plant was closed in 1980, resulting in the dismissal of 346 people. 1/ According to company officials, employees were offered work elsewhere, but most were about to retire and preferred to do so ahead of schedule rather than relocate. Most of the Charlestown equipment and the plant today are lying idle with apparently little prospect of sale for more than scrap value.

Long before the closure of its first sheet glass facility, LOF had invested heavily in float glass plants so that by 1971, when the Shreveport operation was closed, LOF already had five float glass units in place. 2/

Harding, Rolland, and Fourco.--Two of the smaller sheet glass companies, Harding and Rolland, merged with their former sales agency, Fourco Glass Co., in 1970. The consolidated company took over three functioning sheet glass

1/ "Changes at Charleston Plant," National Glass Bulletin, Apr. 19, 1980.

2/ "Furnance Lighting Signals Start-up of Mammoth Float Glass Facility," American Glass Review, May 1973.

plants, one of which was closed in 1977, the other two were shut down in 1978. The place of Fourco's three sheet glass operations was taken by a single float glass plant opened in 1976. Seven million dollars of this investment of $30 million was provided under a firm adjustment assistance loan from the U.S. Government, a product of the 1969 proceedings under section 301 of the Trade Expansion Act of 1962 (the U.S. escape-clause law in effect at that time). 1/

What explains Fourco's relatively late entrance into the float glass market? Perhaps its delay in making the transition was due to the lack of a prior position in the plate glass business. Hence, without a threat to its 1960's markets, it could afford to wait, but PPG and LOF could not. It also probably lacked the capital to make the large investment needed for a float plant until it received the adjustment assistance loan.

Of the three closed sheet glass plants, Fourco was able to sell two. One was sold to the West Virginia Flat Glass Co. (80 percent owned by Asahi Glass Co. of Japan) in 1980 and still makes sheet glass. According to trade journal reports, the investors in West Virginia Flat Glass believe sheet glass is still competitive, producing specialty or odd-lot types of flat glass where shorter production runs are appropriate. 2/ In addition to having found a market niche to compete in, Asahi is reported to have installed a more efficient sheet-glass-making process in the old plants.

Fourco's one other plant, in West Virginia, is used today for storage and for cutting float glass manufactured in the company's float plant nearby.

ASG Industries.--Another of the smaller glass companies also closed its three sheet plants in the 1970's. All three plants were sold, and today two are used as storage facilities for non-glass-related products. The third plant, in Jeannette, Pa., was purchased in 1980, a year after its closure, and reopened a year later by 400 of its former 420 employees who each invested $2,000. Like the West Virginia Flat Glass plant, the new Jeannette Sheet Glass Co. concentrates on odd-lot specialty flat glass. 3/

In 1973, ASG opened its first float glass manufacturing facility in Kingsport, Tenn. This plant, like the Fourco plant, was granted an adjustment assistance loan ($4 million). 4/ The plant was combined with Fourco's West Virginia float plant in 1979, when a new company, AFG, was formed. Hence, three companies operating a total of six sheet glass plants in 1970 evolved into one new company making only float glass. Additionally, two other new companies purchased two of the original owners' sheet glass plants. 5/

PPG Industries.--The largest sheet glass manufacturer in 1961 was PPG. However, in 1974, two of its five plants (in Henryetta, Okla., and Clarksburgh, W. Va.) were closed, resulting in the layoff of 1,200 workers. 6/

1/ "Fourco Starts Up Float Glass Plant", Glass Digest, Apr. 15, 1976.
2/ "Sheet Glass Scene," Glass Industry, April 1980.
3/ "Workers Reopen Plant By Taking Matters Into Their Own Hands," American Glass Review, November 1979.
4/ TC Publication 459, January 1972, p. A-20.
5/ "ASG Reports on '78 Sales" American Glass Review, May 1978.
6/ "PPG Permanently Closing Two Sheet Plants," Glass Digest, Nov. 15, 1974.

Also in 1974, PPG began to convert its most recently constructed sheet glass facility, the Fresno, Calif., plant opened in 1966, into a float plant. 1/ Because the two glass-making processes require markedly different manufacturing equipment, converting a plant saves little except the cost of building facilities not directly related to manufacturing, such as railroad lines, cut ing equipment, and storage and packing facilities. Hence, in spite of the conversion, the planned cost for the Fresno facility was still $20 million in 1974.

In 1976, another PPG facility was closed (Mt. Vernon, Ohio) and in 1979, PPG's last sheet glass plant (in Mt. Zion, Ill.) was converted to a float glass facility with an investment of $50 million. 2/

The closure of PPG's sheet operations took place well after its expansion in the float glass area, which began, as mentioned above, in 1963. By 1974, PPG had six float-glass-manufacturing lines.

Blackford Window Glass Co.--Blackford, with only one sheet glass plant, in Indiana, was the first of the sheet glass companies to leave the industry. Unlike the others, however, Blackford did not continue in other types of glass production. Rather, when its plant was closed in 1966, the company went out of existence. Approximately 165 workers were laid off as a result. Most of the plant was demolished, and most of the old glass-making equipment was scrapped.

Ford Motor Co., Inc.--Ford's glass production prior to 1970 was concentrated in plate glass which was used in the company's automobiles. Its one sheet glass plant, in Nashville, Tenn., was closed in March 1970. Ford's first float plant had been opened in 1967, and by 1971, Ford had four units manufacturing float glass. 3/

Conclusion

With sheet glass production all but non-existent today, the industry's adjustment, like that described in the previous chapter on Wilton and velvet carpets and rugs, can best be described as a contraction, entailing some labor and capital unemployment. With regard to labor, the statistics on adjustment assistance show that at least 1,400 workers were laid off their jobs between 1968 and 1971. Furthermore, most of the sheet glass capital equipment, because it was industry specific, was of little value when sheet glass production stopped.

Unlike the Wilton and velvet carpet case, the transformation of sheet glass manufacturing to float glass took place over many years after escape-clause protection began. Hence, the escape-clause relief, to the extent it reduced import competition, may have played a more significant role in the glass industry in easing the transformation of the industry. This

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1/ "PPG Begins Conversion of Coast Facility From Sheet to Float, "American Glass Review, Nov. 1974.

2/ "PPG Breaks Ground for Illinois Float Plant," Glass Digest, January 1980.

3/ Flat Glass and Tempered Glass, Report to the President on Investigation No. TEA-I-23 Under Sec. 301(b)(1) of the Trade Expansion Act of 1962, TC Publication 459, January 1972, p. A-47.

transformation clearly took place, as all but one of the petitioners in the sheet glass industry are today manufacturers of float glass, having long ago left the sheet glass industry to smaller companies.

As with carpets, escape-clause relief seems to have been very effective in reducing imports. Imports fell 39 percent during the 1962-64 period compared to the level of imports during the three years before to 1962. Furthermore, sheet glass imports, as a proportion of domestic consumption reached a high of 33 percent in 1960, but 2 years later they contracted to only 18 percent and imports were still falling.

CHAPTER FIVE: ADJUSTMENT IN THE BICYCLE INDUSTRY

Background

In 1955, following an investigation and hearing, the Tariff Commission determined that bicycles were being imported into the United States in such increased quantities as to seriously injure the domestic industry. In the same year, President Eisenhower partially suspended a 1947 tariff concession on the injured items, thereby raising the tariff level. The import protection remained in effect until 1968. 1/

Industry definition

The U.S. industry receiving import relief in 1955 included all the principal bicycle models domestically manufactured at the time, of which all but a very small proportion (fewer than 5 percent) were produced by the 10 members of the petitioning agency, the Bicycle Manufacturers Association. The names of the 10 companies, with a brief description of their present status, are given in appendix table A-4.

History of tariff changes

Paragraph 371 of the Tariff Act of 1930 established the starting point from which later revisions in the bicycle tariff were made. Under this and subsequent tariff arrangements, bicycle imports were divided into four categories, depending upon their wheel size and weight. Within its wheel-size/weight category, if the import was below a designated price, a specific tariff was applied. Above the designated price, an ad valorem rate was applicable. From at least 1950 onwards, bicycle import prices were such that the ad valorem rate prevailed over 99 percent of the time, and so only ad valorem rates will be discussed below. 2/

The ad valorem tariff rate for bicycles established in the Tariff Act of 1930 was 30 percent for all categories as summarized (along with subsequent tariff changes) in appendix table A-5. The first bicycle tariff concession was made with the United Kingdom in 1939, when the ad valorem tariff was halved to 15 percent on most categories. 3/ Under the most-favored-nation principle, the concession was extended to other suppliers. Following multilateral concessions granted under the General Agreement on Tariffs and Trade in 1948, the earlier reductions on bicycle imports were continued, and the tariff on bicycles having wheels in diameter over 25 inches and weighing less than 36 pounds (usually called lightweights) was reduced to 7.5 percent. 4/

1/ Bicycles (1955); Report To The President on Investigation No. 37 Under the Provision of Section 7 of the Trade Agreements Extension Act of 1951, March 1955, also Bicycles (1955): Supplimentary Report To The President, July, 1955. President Eisenhower's decision was given in Presidential Proclamation 3108, Aug. 19, 1955.

2/ See table 2 in the U.S. Tariff Commission Report mentioned in U.S. Tariff Commission, Bicycles (1955): Report To The President, ..., March 1955.

3/ Trade agreement with United Kingdom, effective Jan. 1, 1939.

4/ Part I of Geneva Protocols--schedule XX annexed to the GATT.

In 1955, as a result of its investigation and hearings, the Tariff Commission recommended that the tariffs for all wheel size/weight categories be increased to 22.5 percent. This recommendation was accepted by President Eisenhower for three of the four tariff categories. The exception was lightweight imports (i.e., over 25-inch wheel diameter, under 36 pounds), with regard to which the President halved the Commission's recommendation so that the prior 7.5 percent tariff was increased to 11.25 percent instead of 22.5 percent. 1/

In a letter explaining this deviation from the Commission's recommendation, President Eisenhower noted that lightweight bicycles were virtually all imported and that the most popular domestic model, the balloon tire bicycle, was not directly competitive with them. In fact, he felt an increase in the tariff on lightweights was justified only because of "indirect competition" between balloon tire bicycles and lightweights. 2/

The first challenge to the tariff action came from the domestic producers who returned to the Commission in 1957 seeking quotas and/or an increase in the tariff on bicycle imports. They contended the 1955 import relief was inadequate to remedy their injury. After an investigation, the Commission reported to the President that bicycles were not being imported in such increased quantities as to cause or threaten serious injury warranting a further tariff increase. 3/

The second challenge was made by the domestic bicycle importers in 1958. They argued in United States Customs Court that under the terms of the Trade Agreements Extension Act of 1951, the President could either reject or accept the Commission's recommendation, but that he had no authority to alter it as he did in the case of lightweight bicycles. 4/ The importers argued that because the President did alter the Commission's recommendation, he exceeded his congressionally delegated authority, and the import relief action should be declared invalid.

When the Court of Customs and Patent Appeals, affirmed the lower court's judgement in favor of the importers in July 1960, the President was obliged to proclaim new tariff rates. As a result, President Kennedy in February 1961 invoked article XXVIII of the GATT and proclaimed new permanent tariff levels

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1/ Presidential Proclamation 3108, Aug. 18, 1955.

2/ Letter from President Dwight D. Eisenhower to the Chairman of the U.S. Tariff Commission, Aug. 18, 1955.

3/ The Commission's decision is contained in Bicycles: Report on Escape-Clause Investigation No. 58, Under the Provisions of Section 7 of the Trade Agreements Extension Act of 1951 as Amended, Aug. 1957.

4/ Schmidt Pritchard & Co., Mangano Cycles Co. v. United States, C.D. 2029, Oct. 6, 1958. Also Richard Tilden, "Impact of the Bicycle Case on the Trade Agreements Program," The Business Lawyer, vol. 14, No. 3, April 1959, pp. 796-806.

identical to those established by President Eisenhower in 1955. 1/ Hence, in spite of having lost its status as a recipient of import protection under the escape clause, the industry continued to receive import relief at the previous level. However, by virtue of having lost its escape-clause status, the bicycle industry was in jeopardy of further tariff reductions in the Kennedy round of multilateral tariff negotiations unless it could prove to a majority of the Commissioners, during hearings in 1964, that economic conditions had not substantially improved since the 1955 injury finding. In the Kennedy round, concessions were made reducing the higher escape-clause tariff rates annually beginning in 1968. 2/ In 1972, the current rates of 5.5 percent ad valorem for lightweights and 11 percent ad valorem for the other categories were established.

Imports

Table 14, depicting the level of imports from 1950 to 1979, shows more than a tenfold increase from 1950 to 1955. About 65 percent of these imports were in the lightweight "English" bicycle category, which had traditionally been considered the importer's market niche. However, since 1950, other categories of bicycles, which had previously been the almost exclusive preserve of the domestic industry, were suffering from increasing import competition.

The appeal of imports, mostly from the United Kingdom, Germany, and France, was primarily their lower price. The lower price was based upon the lower European wage rates, estimated at less than half that of the United States. 3/ Not surprisingly, the lower foreign wages conferred the greatest competitive advantage on those bicycles whose production, at least in Europe, was most labor intensive, and these tended to be lightweight bicycles.

One reason for the greater labor intensity of the lightweights is that although the domestic manufacturers used a variety of automated welding processes to join the frames, the frames of imports usually were joined by

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1/ Art. XXVIII of the GATT provides that a contracting party may modify a concession after consultation with the principal supplying parties. Under U.S. law this was accomplished by following the procedures established in art. 3 of the Trade Agreements Extention Act of 1951, entailing hearings at the Tariff Commission, which in the bicycles case were held on Jan. 7, 1961.
For a comparison of the GATT's escape clause and art. XXVIII, see Kenneth Dam, The GATT Law and International Organization, The University of Chicago Press, 1970, pp. 99-107.
President Kennedy's reinstatement of the Eisenhower tariff is contained in Presidential Proclamation 3394 "Modification of Trade Agreement Concessions on Bicycles and Pineapples," Feb. 25, 1961.

2/ Sec. 225(a)(3) of the Trade Expansion Act of 1962 directs the President to reserve articles which received import relief under the 1951 law from tariff negotiations while the protection is still in effect. Sec. 225 (b)(1) directs that any industry found injured by a majority of the Commissioners, but either which did not receive import protection under the 1951 law, or for which import relief was no longer in force, (i.e., bicycles), be allowed a reprieve from tariff negotiations until Oct. 1967 if economic conditions had not substantially improved.

3/ Wall Street Journal, Mar. 21, 1956.

Table 14.--Bicycles: U.S. producers' shipments, exports of domestic merchandise, imports for consumption, and apparent consumption, 1950-79

Year	Producers' shipments	Exports	Imports	Apparent consumption	Imports as a percent of total market
1950	1,963,716	25,141	67,789	2,006,364	3.4
1951	1,925,797	17,394	176,644	2,085,047	8.5
1952	1,920,179	12,202	245,763	2,153,740	11.4
1953	2,111,899	9,209	592,999	2,695,629	22.0
1954	1,531,857	8,167	963,667	2,487,357	38.7
1955	1,794,968	7,217	1,223,990	3,011,741	40.6
1956	1,746,818	5,212	1,173,346	2,914,952	40.2
1957	1,884,846	7,981	748,689	2,625,554	28.5
1958	2,116,344	9,118	823,614	2,930,840	28.1
1959	2,562,338	3,446	1,013,396	3,572,288	28.3
1960	2,584,622	2,961	1,188.034	3,769,698	31.5
1961	2,579,093	2,748	1,087,318	3,663,663	29.6
1962	2,954,215	4,828	1,266,790	4,216,177	29.9
1963	3,118,260	3,512	1,294,901	4,409,649	29.3
1964	4,082,563	4,113	1,010,035	5,088,485	19.8
1965	4,618,743	3,503	1,038,884	5,654,124	18.4
1966	4,829,122	8,642	927,223	5,747,703	16.1
1967	5,180,352	5,404	1,117,246	6,292,194	17.8
1968	5,966,184	6,466	1,534,168	7,493,886	20.5
1969	5,089,023	6,134	1,970,528	7,053,417	27.9
1970	4,950,879	7,193	1,947.396	6,891,082	28.3
1971	6,518,806	9,036	2,339,470	8,840,240	26.4
1972	8,750,597	9,698	5,156,068	13,896,967	37.0
1973	10,072,356	16,977	5,154,903	15,210,282	33.8
1974	10,161,291	34,741	3,979,225	14,105,775	28.2
1975	5,605,981	30,082	1,717,885	7,293,784	23.6
1976	6,466,122	40,662	1,667,537	8,092,997	20.6
1977	7,483,585	38,669	1,967,801	9,412,717	20.9
1978	1/ 7,492,475	73,446	1,959,896	9,378,925	20.9
1979	1/ 9,038,156	52,035	1,866,906	10,853,027	17.2

1/ Includes shipments of the Bicycle Manufacturer's Association members, one non-member firm, and estimates for other producer's shipments.

Sources: (1) Domestic industry shipments:
1946-1974-Bicycle Institute of America (BIA)
1975-1978-Bicycle Manufactures Association (BMA)
(2) Exports and imports: Compiled from official statistics of the U.S. Department of Commerce.

Note.--Total U.S. Market-Apparent Consumption: Industry figures minus exports plus imports.

lugging, a relatively labor-intensive process particularly suited to making sturdy, lightweight frames. This helps explain why the European labor cost advantage was particularly great in the lightweight category.

Injury

The main indicator of injury was the domestic industry's sales stagnation and decline from 1950 to 1955 in the face of a 50-percent market growth in terms of units sold. Other indicators of injury were a fall in profitability and a decrease in employment from 5,000 workers in 1948 to 2,900 in 1954. 1/

Adjustment

Adjustment in the U.S. bicycle industry has proceeded along the sanguine lines anticipated by President Eisenhower in his 1955 letter to the Commisssion. He wrote that "the American industry is showing encouraging signs of striving to meet the challenge of competition from abroad. It is improving its technology and appeal to consumer tastes." 2/

While the American bicycle industry did follow an adjustment pattern of expanding production, employment and capital expenditures, factors in addition to the tariff increase, were helping at the same time. To discuss the principal market changes, the efforts of the domestic industry to adjust, and the adjustment process itself, it is helpful to subdivide the post-1955 years into the periods 1955 to 1970, and 1971 to the present.

1955-70

Market growth.--A fundamental characteristic of the U.S. bicycle market during these years was its gradual, but constant growth so that, as table 14 shows, by 1970, over twice as many bicycles were purchased annually in the United States than in 1955. A large part of the growth in overall consumption was probably caused by the increase in the number of children of bicycle-riding age. The following tabulation shows that from 1955 to 1970, the U.S. population aged from 5 to 14 years grew by 50 percent:

Year	U.S. population 1/ In (Thousands)
1955----------	30,248
1960----------	35,735
1965----------	39,426
1970----------	40,733

1/ From 5 to 14 years of age.

Other influences such as rising per capita income during these years, and the growth of suburbs may also have stimulated bicycle consumption, but clearly population growth was a principal cause.

1/ U.S. Tariff Commission, Bicycles (1955); Report To The President on Investigation No. 37, . . ., March, 1955, also Bicycles (1955): Supplimentary Report To The President, July, 1955.

2/ Letter from President Dwight D. Eisenhower to Chairman of the U.S. Tariff Commission, Aug. 18, 1955.

This market increase, forseeable 5 years in advance, would most likely have been an element encouraging the domestic industry to make the necessary product and manufacturing changes to overcome the importer's cost and style advantages.

New bicycle models.--The product changes entailed developing new bicycle styles with more consumer appeal. At the time of the petition, the domestic industry almost exclusively made balloon tire bicycles. As mentioned previously, the main competition for this type was the "English" lightweight racer with 26-inch narrow gage wheels, caliper (hand) brakes, lugged frames, and three-speed gear hubs, all of which made it a comparatively sportier and faster bicycle. To counter the competition, in 1954 the U.S. industry introduced a new bicycle model called the "middleweight," which was closer in style to the lightweight than the balloon tire model, but did not have the former's relatively delicate and costly lugged frame. As a consequence of these manufacturing advantages, the industry was able to price an appealing bicycle more competitively than it had been able to do with the balloon tire model.

A later industry style change was the "high rise" bicycle introduced in the early 1960's. Distinguished by high handlebars and a banana-shaped saddle, the high-rise has evolved into a "motor cross"-style bicycle, 1/ which since the late 1970's, has been the most popular juvenile model.

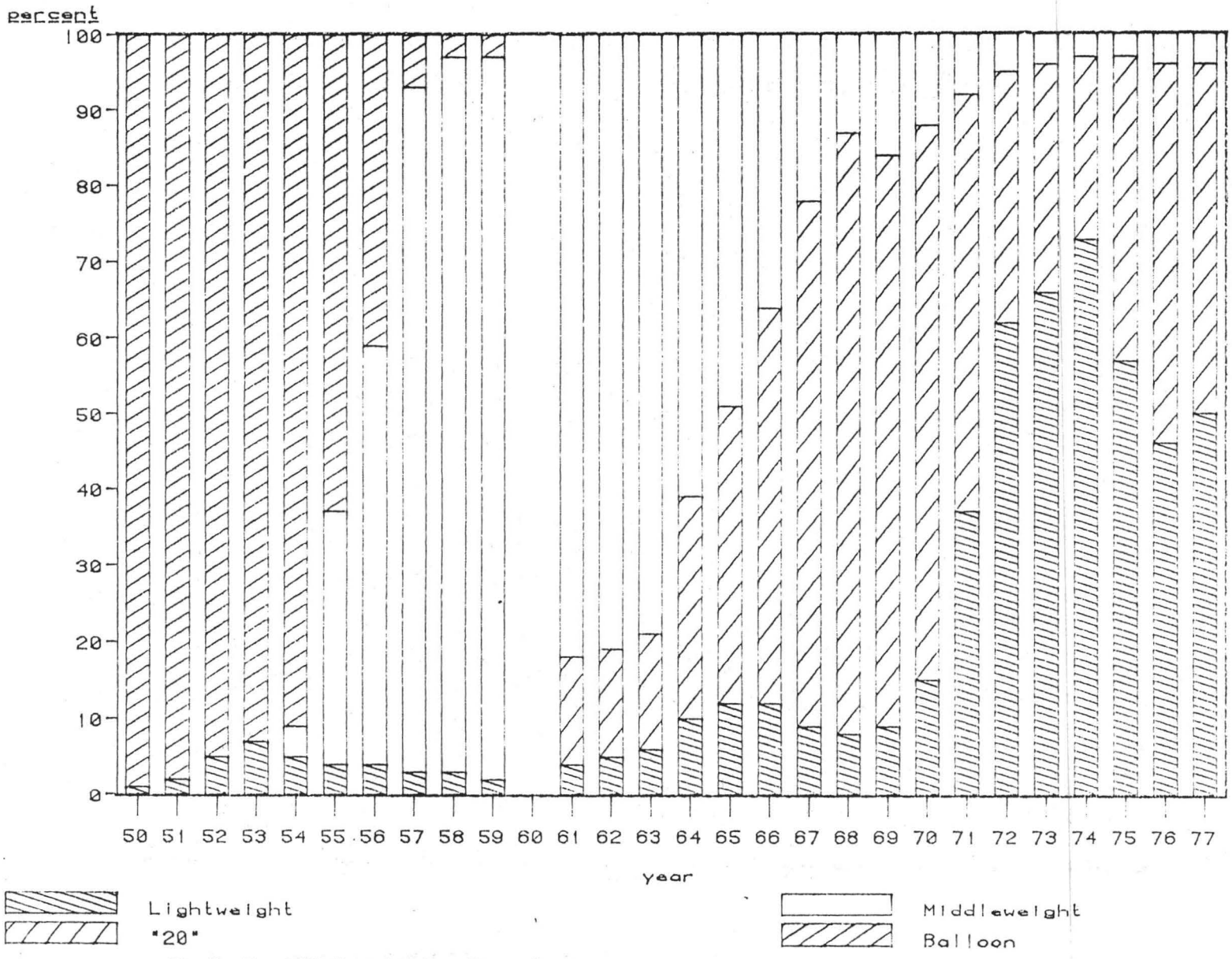
Figures 2 and 3 show how domestic and imported bicycle shipment patterns changed during the period 1950-77. It is especially notable that these patterns changed markedly in the 2 to 3 years following the introduction of the new middleweight in 1955. Whereas in 1954, 91 percent of domestic bicycle shipments were of the balloon tire type, by 1959, this figure had plummeted to 7 percent, replaced by the rising popularity of the middleweight. Manufacturers of imported bicycles, confronted with the style change and the tariff increase, seem also to have been affected. Whereas their shipments of bicycles in the 19-inch to 25-inch size range had been a growing proportion of their total U.S. sales, this growth trend seems to have been reversed by 1957, and replace by their traditional reliance on the lightweight model with a lower protective tariff. In fact, the imports of nonlightweight bicycles did not return to the 1955-1956 levels until 1967, whereas, lightweight bicycles regained their 1955 level by 1960.

Improved manufacturing processes.--During 1955-70, there was evidence of considerable new investment in the domestic bicycle industry. The most complete documentation of this was presented in the 1964 hearings at the Tariff Commission. Some of these data are displayed in table 15. 2/ As the table shows, investment as a share of sales during the 9-year period was consistently higher than investment in other consumer durable goods industries.

1/ A motor-cross bicycle is a modified high-rise bicycle having tires and handlebars designed for off-road racing.

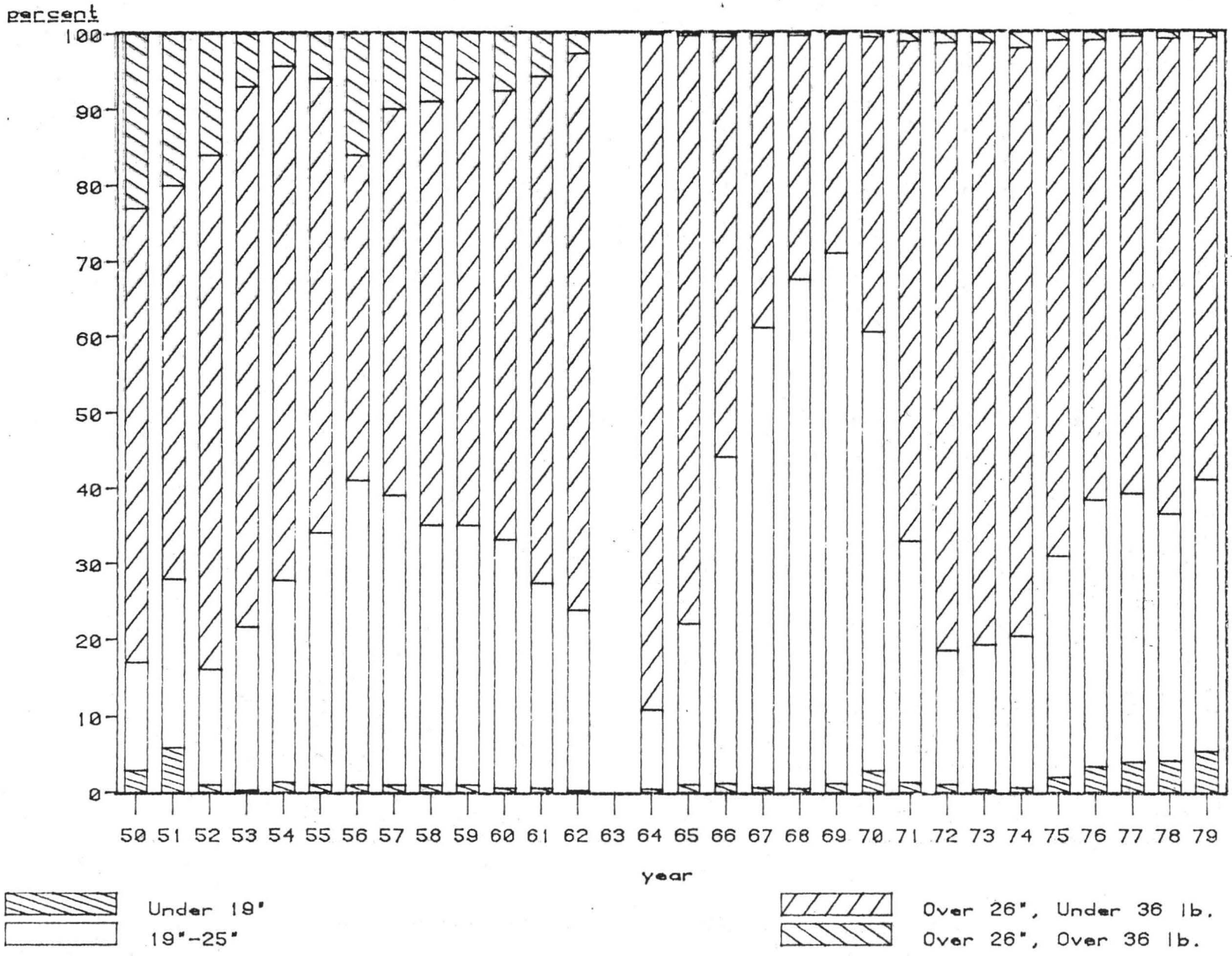
2/ Hearing on Bicycles Pursuant to Sections 221(b) and 225(b) of the Trade Expansion Act of 1962; Investigation No. TEA-225(b)-12, Mar. 2, 1964.

Figure 2.--Domestic bicycle sales, by types, 1950-77.



Sources: 1950-1959, U. S. Tariff Commission Reports
1961-1977, Schwinn Bicycle Co.

Figure 3.--Imported bicycle sales, by tariff category, 1950-79.



Source: U.S. Department of Commerce

Table 15.--The bicycle industry: Investment and productivity statistics, 1955-63

Year	New plant and equipment ex enditure	New plant and equipment investment as a share of sales		Index of units produced per manhour	Net assets per employee	Price index	
		Bicycles	All consumer durables			Approximate per unit of bicycle	All consumer durables
	1,000 dollars	Percent		1955=100	Dollars	1955=100	1955=100
1955	3,321	7.1	-	100	7,221	100	100
1956	2,740	5.6	-	107	8,406	103	100
1957	3,481	6.2	-	110	7,658	103	104
1958	2,997	5.1	3	121	8,900	96	105
1959	3,301	4.6	3.6	139	9,016	94	108
1960	3,583	5.1	4	149	9,697	94	106
1961	3,038	4.5	3.4	157	10,004	88	106
1962	3,530	4.6	3.4	165	9,890	91	107
1963	5,388	6.4	3.6	169	10,437	88	107

Source: Ernst and Ernst, "Report to Bicycle Manufacturers Association: A Summary Economic Analysis of The Bicycle Manufacturing Industry 1953 through 1963."

The effects of this high investment can be observed in the constantly increasing amount of net assets and output per employee, indicating that the productivity increases came from substituting capital for labor. The end result of these increases in productivity show up in the falling prices of domestic bicycles, especially notable when compared with the consumer-durables price index.

How was the objective of increasing productivity achieved? For three of the companies, whose combined domestic market shares exceeded 70 percent in 1980 and whose experiences were often cited in congressional and Tariff Commission hearings in the 1950's and 1960's, the investment was used: (1) to construct or rent new facilities, (2) to move to lower labor cost areas, and (3) to install more efficient equipment. With the last of these, it is interesting to note that while a major technological breakthrough in bicycle manufacturing did not occur, there were, nonetheless, numerous minor advances in the manufacturing processes which, when taken together, apparently increased productivity considerably.

An example of these three investment strategies is provided by the late-1950's experiences of the Murray-Ohio Manufacturing Co., which is today the second largest domestic company. Murray-Ohio decided to move its bicycle operation from Cleveland, Ohio, to Lawrenceburg, Tenn., in 1954. A company official testified about this move in the 1957 Tariff Commission hearings:

> We had two avenues of approach open to us, either discontinue entirely the manufacture of bicycles and concentrate on our other products, or (2) make a determined effort to relocate our facilities in a lower cost area which might permit us to become more competitive with the importers. 1/

The strategy apparently was successful. Although labor costs fell, productivity in the Tennessee plant, according to the Wall Street Journal, increased 15 percent from 1956 to 1963, and employment grew from 1,700 to 2,000 during the same period. 2/

Apparently Murray-Ohio continued to improve its competitive position. In 1970 testimony before the House Ways and Means Committees, the then President of the company, William Hannon, said:

> Our company over the last 10 years has averaged spending a million and a half dollars a year for capital equipment. We have evaluated and re-evaluated our processing methods. We have cut costs by using foreign parts. We have innovative new bicycle designs. 3/

1/ Transcript of hearings, investigation No. 58, Apr. 10, 1957.

2/ Wall Street Journal, "Tariffs, Promotion Aid Bike Makers Beat Back Foreign Rivals; Nov. 18, 1963, p. 1.

3/ U.S. Congress, the Committee on Ways and Means, House of Representatives, "Tariff and Trade Proposals," Part 14, June 12, 1970, p. 3853.

Another of these three bicycle companies, the Huffy (formerly Huffman) Corp., the largest domestic manufacturer of bicycles in 1980, also moved in 1956. Huffy left its undersized plant in Dayton, Ohio, where it had been forced to rent more space outside its main plant than was available within, for new quarters in Celina, Ohio. In addition to the lack of space in Dayton, another reason given for the move was the desire to escape the very tight Dayton labor market. A third reason given for the move was the opportunity to modernize the production process. The new one-story building in Celina featured "new installed production and enamelling equipment, allowing improved quality and increased production of Huffman bicycles." 1/

In 1959, Huffy purchased the Monarck Silver King Bicycle Co., one of the participants in the 1955 petition. In addition to expanding sales by marketing some of its bicycles under the Monarck label, Huffy was also able to take advantage of its aquisition's California plant to augment output by about one-third. Its location in the burgeoning California market was beneficial in reducing delivery times and shipping costs to west coast customers. 2/

The third bicycle manufacturer, American Machine & Foundry Co., (now AMF, Inc.) was relatively new to the bicycle business in 1955, having acquired the Cleveland Welding Co. in 1951 and the Shelby Cycle Co. in 1953. In fact, AMF was not listed as a member of the petitioning organization, the Bicycle Manufacturers Association but Cleveland Welding and Shelby were. In 1956, after a prolonged labor strike in its Cleveland plant, and feeling the need to modernize its facilities, AMF built a bicycle factory at a cost of $1.25 million in Little Rock, Ark., and closed its Midwest operations, consolidating its bicycle operations into one entity. Some of the changes in the new plant are described in the following 1956 account of the plant's opening:

> Among the modern features of the new plant are 6 separate conveyor systems, covering more than a mile, which integrate all fabrication, finishing and assembly stations. The plant also has an electrostatic painting system. Parts to be painted are hung on a conveyor and then go through a cleaning process, bonderizing, electrostatic painting of aluminum undercoat, baking electrostatic color paint and another baking before they are complete. As the parts travel through this painting system, they are charged with 90,000 volts of electricity to attract paint to the metal. 3/

1/ Ibid., p. 263.
2/ Information obtained in conversation with industry representatives.
3/ The American Bicyclist and Motorcyclist, October 1956, p. 70.

Various fates awaited the remaining five of the petitioning firms during 1955-70. Evans Products Co., located outside of Detroit, and Excelsior Manufacturing Co. of Indiana both exited from the industry. Evans, a large building products company, today based in Oregon, had entered the bicycle industry in 1954 by purchasing and moving the Colson Corp. from Ohio to a Michigan plant previously used for making war materials. Because its bicycle operation was losing money, Evans sold the Michigan plant and equipment in 1963 to Howell Industries, Inc. Howell, after similarly losing money, sold its bicycle-making equipment, by the piece, in 1964 to some of the remaining companies and ceased production. In the process, approximately 200 workers were laid off, and the plant was sold to a company in the safety-belt-manufacturing business. Howell has remained in the automotive metal-stamping business since that time.

Excelsior Manufacturing Co., a subsidy of H.P Snyder Manufacturing Co, which only assembled parts purchased from the parent in New York State, was closed in 1970. At that time, production was moved to the New York plant, as the parent company determined it was no longer feasible to maintain operations in both places. The company's 150 Indiana workers were laid off and the manufacturing equipment worth saving was sent to the parent company. The building was rented for purposes not related to the manufacture of bicycles.

The disappearance of what were most likely the least competitive companies probably contributed to the industrywide increases in productivity.

With regard to the final three petitioning companies (Westfield, Schwinn, and Snyder), information is available for only Schwinn. It shows that the company's output increased 116 percent, from 413,355 units in 1955 to 895,819 units in 1970; this growth rate that, although less than that of the entire U.S. industry (176 percent), reflected considerable investment and modernization.

In summation, the increases in productivity and in demand, new American bicycle styles, lower labor costs, and the import protection all seem to have contributed to the positive experiences of the industry during the period after the import protection was imposed. 1/

1971-present

The bicycle boom.--Similar to the 15-year period prior to 1970, the years 1971 to 1980 were marked by a rise, albeit much more erratic than that in the preceding period, in domestic bicycle purchasing. Whereas during the late 1960's U.S. consumption hovered around 7 million bicycles a year, by 1972-74 consumption had approximately doubled. Subsequently, consumption levels dropped to 7 million units and then climbed to over 10 million. In 1980, total sales, including imports, were about 9 million units.

Imports as a share of apparent consumption have also changed markedly during this period. Filling in for inadequate domestic production capacity during the early 1970's bicycle boom, imports rose to proportional levels reminiscent of the level in 1955. In subsequent years, however, they have come to occupy a market share closer to that held during 1957-70.

1/ Wall Street Journal, November 18, 1963.

What accounts for the bicycle boom of the early 1970's? The answer appears to be related to a change in consumer tastes: adults suddenly became bicyclists. Data collected by the Department of Commerce show an almost fourfold increase in adult bic cling from 1965 to 1977, 1/ and, whereas adults accounted for only 1 in 20 bicycles purchased in the 1960's, in 1973, they purchased approximately half of all bicycles. 2/ The interest in physical fitness, the desire for outdoor activity, environmental concerns, and the 1973 rise in gasoline prices have all been suggested as reasons for the product's sudden popularity.

Along with the change in the average bicyclist's age, the nature of market demand was also altered radically. Lightweight bicycles, at most 15 percent of U.S. sales in prior years, suddenly constituted over 50 percent of all bicycles sold. The lightweights of the 1970's, however, were not the same as those threatening to inundate the U.S. market in the 1950's. The new lightweights were more sophisticated models, almost 80 percent were equipped with a 10-speed derailluer for gear shifting. 3/ Within this category, the lugged-frame import, more frequently from Taiwan and Japan in the 1970's than from Europe, was the top-of-the-line bicycle, whereas most of the domestic manufacurers concentrated in the mass-market, unlugged frame type. Taiwan and Korea a so supply substantial amounts of mass-market, unlugged frame bicycles. In the late 1970's, some domestic companies, especially those such as Schwinn and Chain, which market their bicycles through specialty stores, began to manufacture lugged frame bicycles domestically, but most have stayed with the less expensive adult bicycle to complete their product line in the adult area.

Domestic industry performance.--Not surprisingly, overall domestic industry performance during the boom years of 1971 to 1975 was favorable. According to estimates, manufacturers revenues from bicycles, and their parts, accessories, and so forth rose from under $350 million in 1970 to approximately $750 million in 1973. 4/ Profits increased from $14 million to $30 million.

During 1975-79, indications were that the overall performance of U.S. bicycle companies was also favorable. Examining the publicly available information for the two largest bicycle manufactureres, Huffy and Murray-Ohio, it is possible to observe that overall sales and capital expenditures more than doubled, but the number of employees grew by about 50 percent.

Another indicator that the late 1970's were good years for the U.S. bicycle industry is the number of capacity expansions during this period. Huffy, with plants in Ohio and California, opened a new Oklahoma bicycle facility in 1980, increasing its bicycle capacity 33 percent. Schwinn, after

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1/ Statistical Abstract of the United States, 1970 and 1979 editions. "Participation in selected Outdoors Activities," table nos. 306 and 397 respectively.

2/ "Bicycles - A Changing market" a Schwinn Bicycle Co. marketing analysis dated Aug. 31, 1978.

3/ Bicycle Manufacturers Association, "The 1979 Bicycle Market in Review, and a look at the Seventies."

4/ Fortune Magazine, "How the Customers Thrust Unexpected Prosperity on The Bicycle Industry," Vol. 89, March 1974, pp. 112-116.

opening a new Chicago plant in 1973, began construction of a Greenville, Miss., plant in 1980.

However, not all U.S. manufacturers were able to share in the bicycle market's sudden prosperity. Three companies, including one of the original petitioners, Snyder, entered into bankruptcy between 1975 to 1976. Snyder, Stebler, and LRV were among the smallest manufacturers at the time, and their complete or partial demise had little overall effect on the U.S. industry.

Snyder, sold to the Mossberg & Sons Co. in 1973, went into bankruptcy in 1976. Mossberg had borrowed heavily to finance its acquisition in 1973. With the bicycle demand decreasing in 1975, and unable to pay its debts, the company was left with no alterntive but to leave the industry. Approxiamtely 500 workers were left without jobs, and the former Snyder plant was demolished in an urban renewal program.

The demise of Stebler is attributed to two 1960's bicycle company acqusitions in Austria and Portugal. When the dollar was devalued in the early 1970's, the competitive advantage of these heretofore low-cost sources of supply was eliminated, and, by the spring of 1977, Stebler was no longer able to remain in business.

LRV is a very small California company that during the bicycle boom expanded production to about 200,000 bicycles a year, mostly for the juvenile market. In 1977, the company's management determined that it was no longer worthwhile to manufacture complete bicycles. Today, LRV makes special models such as tricycles and tandems.

Conclusion

The bicycle industry's experience best approximates the ideal of adjustment by modernization. In 1955, the nine manufacturers who petitioned for import relief produced 1.8 million bicycles. By 1979, only six of these companies or their descendents were still in existence, but the level of production nonetheless had increased to over 9 million units. Furthermore, capita investment and new plants, and perhaps increased employment, have dominated the industry's vital signs since import relief was instituted.

In spite of the overall growth of the industry, it is important to note that some contraction nonetheless took place, the most obvious being the layoffs of employees when Murray-Ohio and AMF moved to the South and Huffy left Dayton. It is interesting in this regard to recall the efforts of one bicycle worker's union that supported the tariff increase at the 1955 hearings and succesfully assisted in obtaining import protection for its members. Of the four companies whose workers the union represented in collective bargaining, workers from two, Cleveland Welding and Shelby, lost their jobs when AMF consolidated its bicycle activity and moved to Arkansas, and employees of the other two, Excelsior and Snyder, were laid off in the 1970's when their plants in Indiana and New York closed. Hence, as described in chapter 2, and confirmed by the bicycle industry's experience, the existence of labor unemployment concurrently with modernization is an ironic but real possibility.

What was the role of import protection in the industry's growth adjustment? With regard to reducing competition from imports, the effect of the protection is unclear until 1957, when imports fell. Of course it is dif icult to say what would have happened without the relief, and it may be that the main effect of the increased tariff rates was to prevent the continuation of the rapid import growth of the early 1950's.

Perhaps the most important consequence of the tariff increase, especially of the fact that nonlightweight models were levied a higher import tax than the lightweight, was the gradual shift in the makeup of imports toward the lightweight bicycle. Whereas in 1956 only 40 percent of the imports were lightweights, by 1964, approximately 90 percent were lightweights. The gradual abandonment by foreign manufacturers of efforts to compete in the nonlightweight categories parallels the accomplishments of the domestic industry cut ing costs and prices in their product range.

Whatever form the "breathing spell" from imports took, the coincidence of increased investment and productivity suggests that it was helpful in promoting a modernization type of adjustment. However, as noted, there were other favorable circumstances influencing the particular turn of events in the bicycle industry, such as the enlarged population of bicycle-riding age, and the style changes.

CHAPTER SIX: ADJUSTMENT IN THE WATCH INDUSTRY

Background

In 1954, a majority of the Tariff Commission determined that certain types of watches and watch movements were being imported into the United States in such increased quantities as to injure or threaten to injure seriously the domestic industry. In the same year, as a result of the Commission's finding, 1/ President Eisenhower suspended a 1936 tariff concession on some of the industry's products. 2/ He thereby raised the tariff until 1967, when the lower concession rates were reinstated. This chapter presents information on the adjustment of the injured industry from 1954 until the present.

Industry definition

The parts of the watch industry receiving import protection in 1954 were mechanical jeweled-lever and pin-lever watches and watch movements with from 0 to 17 jewels. Until the mid-1970's, these included all but the most expensive watches and watch movements purchased in the United States. "Nonconventional" watches with electronic quartz movements became very popular in 1975, but these were not a competitive factor in the industry until that time.

Pin-lever and jeweled-lever watches differ in their quality and ease of manufacture. 3/ The pin-lever watch is simpler and less costly to produce than the jeweled-lever watch, but the jeweled-lever watch is more accurate and durable, and is therefore competitive despite its higher cost.

The injured industry in the 1950's and 1960's encompassed three watch-market segments: (1) pin-lever pocket watches, (2) pin-lever, low-priced, wrist watches, and (3) jeweled-lever, medium-priced, wrist watches. Also included in the protected category were watch movements, i.e., uncased watch assemblies. Since many of the watch imports came from importer/assemblers who imported the movements (low- and medium-priced, pin- and jeweled lever) for domestic encasing and marketing, this was an important inclusion. As most of the watch's cost is in the movement, watch movements and watches will be treated below as watches.

1/ Watches, Watch Movements, and Parts; Report to the President on Escape Clause Investigation No. 26 under the Provisions of Section 7 of the Trade Agreements Extension Act of 1951, May 1954. Three of the six Commissioners found injury, one found a threat of injury, and two found neither injury nor a threat thereof. President Eisenhower's decision was conveyed in Presidential Proclamation 3062, July 27, 1954. It is interesting to note that there was considerable feeling at the time that the President's action was motivated by the national defense importance of the watch industry. For a comprehensive summary of the atmosphere surrounding the President's decision see "The Watch Tariff Puzzle," Journal of Commerce, June 3, 1955. For President Johnson's decision see Presidential Proclamation 3761, Jan. 11, 1967.

2/ Unlike the other cases in this study, the suspension of the trade concession on watches and watch movements was not carried out under art. XIX of the GATT, because watches were not scheduled in the GATT until the Kennedy round.

3/ For a complete description of the differences between pin- and jeweled-lever watch technologies, see Note on The Watch Industries in Switzerland, Japan and the United States, Intercollegiate Case Clearinghouse, Harvard Business School, No. 9-373-090.

High-priced jeweled-lever watches with over 17 jewels were excluded from the escape-clause action. Since, at that time these were not the subject of a tariff concession, they could not receive escape-clause protection.

The petition for section 7 escape-clause protection was first filed in September 1953 by three manufacturers of jeweled-lever watches, the Elgin National Watch Co., the Hamilton Watch Co., and the Waltham Watch Co. The petition requested that the tariff concession be withdrawn on midpriced watch and watch movement imports with from 8 to 17 jewels. The Tariff Commission, on its own motion, extended the scope of the investigation to include all watches and watch movements subject to the previous trade concession (that is watches and movements with from 0 to 6 jewels as well as those with from 7 to 17). The original three petitioners were then joined by four manufacturers of pin-lever watches (which usually use no or very few jewels); the E. Ingraham Co., General Time Corp., New Haven Clock & Watch Co. and United States Time Corp. (known today as Timex).

Though there were some watch manufacturers in the United States that chose to oppose the petition, only Bulova (apart from those petitioning) manufactured complete watches domestically. However, since 1917, Bulova had also manufactured watches overseas, and like the others who opposed the petition, was an importer/assembler.

History of tariff changes

The Tariff Act of 1930 established the preconcession tariff level for watches in paragraph 367. In this so-called "watch paragraph," most tariff rates were of the specific type levied on the basis of the physical units, though a few, covering items not affected by the escape-clause action, were of the ad valorem type (i.e., a percentage of the import's value). The tariff on an individual watch and watch movement was (and still is) derived by adding together the tariff corresponding to the width, jewel count, and the number of extra adjustments (such as shock resistence, self-winding, and so forth) of the import. In general, the narrower the watch and the greater its jewel count, the greater the specific tariff. Table A-6 in the appendix shows the tariffs affected by the section 7 proceedings as they appeared in 1930, along with the subsequent changes until 1981.

Paragraph 367 did not distinguish between pin- and jeweled-lever watches. Nonetheless, because pin-lever watches usually have no or very few jewels, the result was to provide a lower absolute tariff level for pin-lever than for jeweled-lever watches. However, since pin-lever watches were usually less costly, the tariff rate as a proportion of price (i.e., the ad valorem equivalent) may sometimes have been greater.

Under the 1936 Trade Agreement with Switzerland, watch tariffs were reduced for all pin-lever and jeweled-lever watches with from 0 to 17 jewels. As mentioned previously, the tariff on watches with over 17 jewels was not changed (which is the reason why the protective action left this category of watch tariff unaltered.)

As a result of the injury finding, and President Eisenhower's suspension of the trade concessions, 15 tariff rates were changed. Eight were raised to a level slightly less than the original 1930 tariffs, and seven were raised completely to that level. On the average, the tariff increase was equal to 43 percent of the concession level.

Because the specific tariff rates were invariant to price but did vary according to the characteristics of the import, the ad valorem equivalent tariff varied greatly, depending upon the watch's characteristics and cost. Nonetheless, to obtain a general idea of the tariff's 1954 effect on import prices, it is useful to deal with an average ad valorem equivalent. The concession specific tariff rates in 1953 were estimated to be equivalent to a 33-percent ad valorem tariff on all watch and movement imports. Multiplying the 43-percent average increase times the ad valorem equivalent of 33 percent prior to the rise, yields an estimated total average ad valorem equivalent of approximately 47 percent after withdrawal of the concession. A comparison of the tariff rates before and after the action yields an average increase of 11 percent in the import's 1954 price.

In 1967, after two unsuccessful attempts to extend the protection, the tariff concession was restored. As the watch tariffs affected by section 7 were exempted from further cuts under the Kennedy round of multilateral tariff reductions, it was not until 1980, as a result of the Tokyo round negotiations, that watch tariffs, with the exception of those having between 7 and 17 jewels, were reduced again. Nonetheless, inflation, combined with constant specific tariffs, greatly reduced the ad valorem tariff equivalents and the real level of protection.

U.S. watch imports have also been affected by a change in the treatment of imports from U.S. insular possessions. Beginning in 1957, in an effort to stimulate the development of light industry in the Virgin Islands, Guam, and American Samoa, exports from these islands to the U.S. mainland entered duty free provided a certain minimum percentage of the value (50 percent until 1975, 30 percent thereafter) is added on the islands. Now, imported watches and watch movements can be assembled and readied for marketing in the islands, thereby attenuating the protective effects of the tariff. 1/ In fact, this provision created such a large hole in the tariff wall that in 1966, after a few years of rapidly increasing imports from the islands, a law was passed limiting the amounts of such imports to one-ninth of the apparent U.S. consumption for the previous year.

Increase in imports

Both in absolute quantity and as a proportion of domestic consumption, total watch imports had increased during the 3-year period prior to the section 7 proceedings (1951-53) compared with levels in the period 1946-50. Table 1 below shows the data considered by the Commission in regard to this fact. It is interesting to note that the turning point for jeweled-lever watch imports appears to have been the World War II period. During this time, production in the U.S. jeweled-lever industry was partially diverted to certain war materials such as mechanical time fuses, navigation watches, and

1/ "Watch Movement to the West Indies," Business Week, June 5, 1965, p. 132.

other precision war-related horological devices. Into the void created by this diversion stepped the Swiss watch industry, and, following the war, the U.S. industry was never able to regain its former preeminence.

There is some difficulty in describing what happened prior to 1953 in each of the market segments to which protection was eventually applied because the import statistics were not broken down by pin- or jeweled-lever categories. The Commission took the view at the time, however, that watches with from 0-1 jewels could be assumed to be pin lever and that the majority of those with 2 or more jewels were likely to be jeweled-lever watches. With this distinction, the Commission noted that although imported jeweled-lever watches were increasing in number, the consumption of their domestic counterpart was falling. The same was said with regard to domestic versus imported pin-lever watches, though it was recognized that the situation was really more complicated. Although it was true that the consumption of domestic pin-lever pocket watches was falling precipitously, the consumption of pin-lever wrist watches remained constant. 1/ Furthermore, it was generally assumed in the Commission's report that the bulk of the imports of pin-lever watches were wrist watches and that the decline of the U.S. pocket watch was therefore attributable to changes in taste (i.e., pocket watches were falling out of fashion), and not to import competition.

Injury

In addition to the decline in U.S. production of watches and watch movements, a majority of the Commissioners also noted other signs of injury. For example, employment in both the pin-lever and jeweled-lever indusries had decreased since the 1940's. Also, the petitioner's ratio of profits to sales had fallen below the average for all U.S. industries. 2/

Background summary

Before proceeding to a discussion of adjustment in the watch industry, it might be useful to summarize, in the following tabulation, the trends in consumption during 1951-54 as they appeared to the Commissioners.

Market segment	Domestic product	Imports
Pin-lever:		
Pocket watches	Down	Small.
Wrist watches	Constant	Constant.
Jeweled-lever:		
17 jewels and less	Down	Up.
Over 17 jewels	Mixed	Believed small.

1/ U.S. Tariff Commission, Watches, Movements and Parts, pp. 7-10 and table 10.

2/ Ibid., pp. 12-17.

Adjustment

The adjustment of U.S. watch producers after the protection was granted in 1954 consisted of the contraction of the watch-related activities of all manufacturers except Timex, the only domestic maker of conventional watches still in operation in 1981. The other six companies participating in the petition had ceased producing watches in the United States by 1968 (with the exception of General Time's small pocket watch operation) in spite of both the tariff increase and a steady rise in the consumption of domestic and imported watches from 1954 to the mid-1970's. Post-1975 changes in watch technology have so completely altered the nature of the watch industry that it is difficult to consider it the same industry as the one that received escape-clause protection.

Behind the contraction of most of the domestic watch companies were two changes in watch consumption patterns which began around the time of the section 7 investigation in 1954 and continued until the 1970's. One was the rapid sales increase of inexpensive, imported and domestic pin-lever wrist watches. With regard to the U.S. domestic industry, this increase in consumption seems to have benefited the imports and Timex, which had developed a very successful product and marketing program. The other pin-lever manufacturers had ceased domestic production of wrist watches by the early 1960's.

The other change in watch consumption was the stagnation of jeweled-lever watch sales at the 1951-54 level. As a result, medium-priced jeweled-lever imports (mostly from Switzerland) declined slightly and lost a share of the overall U.S. market to low-price pin-lever watches, but achieved a growing absolute volume of U.S. sales in their market segment as manufacturing of domestic jeweled-lever watches gradually ceased by the late 1960's. One exception to the domestic jeweled-lever demise was Bulova, which continued making a small number of watches domestically until the late 1970's. 1/ As mentioned earlier, Bulova did not participate in the escape-clause petition because, since the early 1900's, it had also relied heavily on imports.

Complete and reliable data demonstrating these changes unfortunately are deficient after 1959, because statistics on domestic production, consumption, employment and investment are no longer broken down into pin-lever and jeweled-lever, domestic and imported categories. An important reason for consolidating categories is that after 1959, Timex's size in relation to the market was so great that publication of this information would have violated the confidentiality of the company. As a result, this description of watch industry adjustment has had to rely heavily on comments from industry representatives in addition to the limited statistical evidence.

1/ According to a June 7, 1973, letter to the House Ways and Means Committee from the American Watch Association, of the 21,776,000 watches produced in 1972 in the United States, about 21 million were from Timex, and the remainder were from Bulova. See U.S. Congress, the Committee on Ways and Means, House of Representatives, Hearings on the Trade Reform Act of 1973, May 30, 1973, p. 3185.

The Decline of U.S. jeweled-lever watch production

Looking at Table 16, it can be seen that domestic production of jeweled-lever watches continued to decline until the last year for which there is data, 1959--a period which includes 5 years of import relief. Since most of the domestic manufacturers of jeweled-lever watches closed their watch-making operations between 1959 and 1967, it is likely that this decline continued both during this period and afterward.

Interestingly, imports of watches with two or more jewels (i.e., those presumed to be jeweled-lever) do not show any significant growth until the last half of the escape-clause period. Even after the protection was removed, however, jeweled-lever watch imports grew only slightly, being apparently unable to take advantage of the overall U.S. watch market growth. This is reflected in their diminishing market share; whereas in 1951-53 jeweled-levered imports supplied 44 percent of U.S. watch consumption, during 1967-70, they accounted for only 24 percent. The sudden decline of jeweled-levered watch imports for the late 1970's reflects the growing popularity of nonconventional watches.

In addition to problems mentioned above with regard to imports, the pin-lever substitute product, and the lack of market growth for jeweled-lever watches, another difficulty faced by the U.S. jeweled-lever industry was its relatively high labor costs. Wages constituted 80 percent of U.S. manufacturers' costs and were three times the per-worker rate of Switzerland at the time of the escape-clause hearings.

What did the U.S. jeweled-lever watchmakers do to adjust to their bleak market situation? Waltham, 1/ taking one route, declared bankruptcy in 1957, and Elgin and Hamilton gradually wound down their domestic watch operations and invested in watch-manufacturing facilities in Switzerland and/or the Virgin Islands from which they could participate in the watch import market, at the same time diversifying into nonwatch products. 2/ By 1968, a year after the escape-clause protection was withdrawn, neither Elgin nor Hamilton produced watches in the United States. 3/ Today, the name "Hamilton" is owned by a Swiss watch-importing firm with a U.S. base in Lancaster, Pa., and the "Elgin" and "Waltham" names are owned by an American watch-importing company in Florida.

While the Hamilton name was purchased by a Swiss company, most of the other assets stayed with the original firm, renamed HMW Industries. HMW, in the years before and after the section 7 protection, diversified into other lines of business where it has been able to take advantage of both its watch-manufacturing and sales expertise. An example of the former is HMW's present position as a major supplier of fuses to the Department of Defense. The company is also a maker of precision metals, such as ultrathin foil. The

1/ For the history (up to 1945) of the oldest watch manufacturer in the United States see, Charles W. Moore, Timing a Century: History of the Waltham Watch Company, Harvard University Press, 1945.

2/ "Watch Movement to the West Indies," Business Week, June 5, 1965, p. 132. In 1951, Hamilton made all of its watches in the United States. By 1963, only 26 percent were made domestically, and 59 percent come from the Virgin Islands. In 1959, both Hamilton and Elgin were acquired by Swiss subsidiaries.

3/ "Gains for Watchmakers," Financial World, Apr. 17, 1968, p. 72.

Table 16.--Watch movements: Estimated apparent U.S. consumption, by types and origins, 1946-79

(In thousands of units)

Year	Domestic watch movements					Imported watch movements			All watch movements 1/	Imports as a percent of all watch movements
	Jeweled-lever	Pin-lever			Total	Containing--		Total		
		Pocket	Wrist	Total		2 or more jewels	0-1 jewel			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1946	1,678	2,723	1,977	4,700	6,378	8,347	418	8,765	15,143	58
1947	2,280	4,541	4,283	8,824	11,104	6,873	300	7,173	18,277	39
1948	2,918	6,523	4,495	11,018	13,936	7,332	1,115	8,447	22,383	38
1949	2.620	4,018	2,172	6,190	8,810	6,367	1,160	7,527	16,337	46
1950	2,398	4,504	2,757	7,261	9,659	7,594	1,333	8,927	18,586	48
1951	3,093	5,099	3,230	8,329	11,422	8,759	2,248	11,007	22,429	49
1952	2,312	3,320	2,729	6,049	8,361	8,607	2,270	10,877	19,238	57
1953	2,301	2,744	3,292	6,036	8,337	9,613	2,262	11,875	20,212	59
1954	1,670	2,611	2,902	5,513	7,183	7,045	1,972	9,017	16,200	56
1955	1,871	2,852	3,635	6,487	8,358	6,062	3,293	9,355	17,713	53
1956	1,996	3,592	3,698	7,290	9,286	6,904	5,358	12,262	21,548	56
1957	1,453	1,663	4,666	6,329	7,782	6,910	5,333	12,243	20,025	61
1958	917	2,528	6,003	8,531	9,448	5,581	4,806	10,387	19,835	52
1959	1,574	2/	2/	9,708	11,282	7,068	6,404	13,472	24,759	54
1960	2/	2/	2/	2/	9,475	6,846	6,312	13,158	22,677	58
1961	2/	2/	2/	2/	9,668	6,928	5,699	12,627	22,468	56
1962	2/	2/	2/	2/	11,919	8,083	5,715	13,798	26,137	53
1963	2/	2/	2/	2/	12,135	7,838	4,907	12,795	25,937	49
1964	2/	2/	2/	2/	11,970	7,217	5,797	13,019	27,353	48
1965	2/	2/	2/	2/	13,609	8,154	8,966	17,120	34,354	50
1966	2/	2/	2/	2/	15,192	9,604	12,142	21,746	42,237	51
1967	2/	2/	2/	2/	16,599	10,748	12,225	22,973	43,294	53
1968	2/	2/	2/	2/	17,118	10,351	12,750	23,447	44,384	52
1969	2/	2/	2/	2/	17,715	10,697	12,018	22,715	45,191	50
1970	2/	2/	2/	2/	19,394	10,402	11,302	21,704	45,481	48
1971	2/	2/	2/	2/	21,496	9,435	12,414	21,926	47,535	46
1972	2/	2/	2/	2/	21,600	9,393	13,787	23,180	50,535	46
1973	2/	2/	2/	2/	22,200	9,335	13,420	22,755	49,755	45
1974	2/	2/	2/	2/	23,200	9,519	13,419	22,938	49,484	46
1975	2/	2/	2/	2/	27,300	8,697	12,699	21,396	51,060	41
1976	2/	2/	2/	2/	29,000	9,381	24,128	33,506	63,899	52
1977	2/	2/	2/	2/	27,055	6,169	27,277	33,446	69,170	48
1978	2/	2/	2/	2/	21,990	7,343	34,014	41,357	67,694	61
1979	2/	2/	2/	2/	18,627	6,040	35,609	41,649	63,526	65

1/ Includes shipments from the U.S. Virgin Islands and Guam; such shipments are not included in cols. 1-8.
2/ From 1959 onward, data in cols. 1-4 when available are confidential.

Sources: 1946-1965: Tariff Commission Reports on the watch industry, 1954 and 1966.
1966-1979: Cols. 5 & 6: U.S. Tariff Commission and U.S. International Trade Commission.
Col. 7: FT 246, U.S. Department of Commerce.

manufacture of both products draws on worker skills developed in watch production. In fact, the similarity of the fuse- and watch-manufacturing processes is such that even today some of the machinery used in watchmaking has been retained and is still used in making Hamilton's fuses. Similarly, the ability to make ultrathin foil, used by the computer industry in memory devices, grew out of Hamilton's need for watch springs. Another diversification attempt which demonstrates how the company took advantage of its prior expertise, in this case related to sales, was the acquisition of a company making high-quality tableware. Building on its extensive watch-related contacts with jewelry stores across the country, and on its team of jewelry salesmen, the management of Hamilton reasoned their company could add a new line of jewelry store items without incurring substantial additional sales costs. As a result, in 1959, the Wallace Silversmiths company was acquired by Hamilton. Wallace's main products, silverware and crystal, were at first sold along with Hamilton watches. Wallace products are still made and sold by HMW.

The former Elgin Watch Co, is presently known as Elgin National Industries. Today, under another brand name, it imports watches and clocks, and is also in the specialized engineering, manufacturing, and construction business.

Details of labor unemployment and capital asset disposal consist primarily of the recollections of former and present employees of what is left of the companies. In all three cases (i.e., Waltham, Hamilton, and Elgin) reports were that unemployment at the closing of watch production was substantial. However, as the end was in sight for quite a long time prior to the final closings, the companies had time to adjust partially their labor needs by not filling slots vacated by retiring workers.

With regard to the disposition of capital assets, most of the companies' watchmaking equipment was scrapped, though some was sold or converted to other purposes. All of the plant buildings, on the other hand, have been converted to other uses. Both the Waltham and Hamilton watch factories were converted to condominimums. Elgin's South Carolina plant was sold to the B. F. Goodrich tire company in 1972.

The rise of pin-lever watch consumption in the United States

Since most domestic jeweled-lever watch manufacturing declined in the 1950's and 1960's, it is probably safe to assume that the increase in domestic watch manufacturing shown in table 16 following the imposition of import relief was accounted for by growth in pin-lever watchmaking. This growth was less notable during 1954-61 because of the gradual shutdown of so many non-Tim x U.S. watch plants. However, from 1962 to 1974, domestic production more than doubled. Pin-lever imports increased along with domestic production. From 1954, when the concession was withdrawn and the tariff increased, to 1975, pin-lever imports tripled.

Timex.--Growth in the pin-lever segment of the watch industry is largely the story of Timex's success in the 1950's and 1960's. A large part of the credit for Timex's growth is attributable to the company's foresight in taking an inexpensive "working man's" watch product and adding the styling of a high-cost watch. The result was that consumers, choosing between an

attractive $8 Timex with a 1-year guarantee or a much more expensive and presumably higher quality alternative, purchased the Timex. Furthermore, Timex marketed the product anywhere it could, including drug stores, hardware stores, super markets, and, if possible, in conventional jewelry stores. By pursuing a low-margin/high-volume strategy, lower prices were possible. 1/

Enchancing the success of this strategy was an extensive television advertising campaign. Timex watches were repeatedly dunked in water and wrapped around outboard motor propellers during the live "torture tests" when they always "took the licking and came out ticking." 2/

Of course, the ability to produce a watch cheaply was crucial to the Timex approach. Apparently the company was able to avoid the high labor costs of U.S. manufacturers of jeweled-lever watches. The relative simplicity of a pin-lever compared with a jeweled-lever watch mechanism and the consequent ability to achieve a higher degree of automation kept Timex watches competitive with the cheap imports. 3/ Another element of Timex's cost advantage was the company's formula of rigid standardization and interchangeable parts. Hence, "parts fit together whether they [were] made . . . in Connecticut or in Germany. . . ." 4/ The interchangability of parts, however, also blurs the distinction between a U.S.-made Timex and an import from one of the company's many overseas plants. With international sourcing and the low cost of shipping watches and their parts, it is conceivable that a "made in U.S.A." Timex has more than half of its value added overseas. 4/

The extent to which Timex has been able to stabilize the otherwise declining fortunes of the U.S. watch industry can be observed in watch industry employment statistics from 1951 to 1966 and 1972 to 1976. Table 17 shows that from 1951 to 1954 there was a rapid decline in the number of workers making domestic watch movements (from 11.6 thousand to 6.8 thousand, where the number remained until 1965). Unfortunately there is no data for the years 1966 to 1971, but from 1972 to 1976 employment increased. Without statistics from the company, there is no way of being certain that Timex's growth is the reason, but it seems quite likely to be the case since it has virtually been the only U.S. watch manufacturer during most of these years.

What happened to the other U.S. pin-lever manufacturers that petitioned, along with Timex, for import relief? In brief, the answer is that they left the watch industry. Facing an aggressive and innovative domestic company and growing imports, and strapped with aged facilities and equipment (many of them had been in the watch business since the last century), they probably reasoned that it was either too late and/or too costly to overcome the new industry created by Timex.

1/ "Their Finest Hour" Barrons, Aug. 1, 1966, p. 11.

2/ Since Timex is a privately held company, information about it is scarce. One of the best summaries of the little that is known can be found in Timex Corporation, Intercollegiate Case Clearing House, Harvard Business School, No. 6-373-080, October 1972.

3/ Ibid.

4/ By 1965, Timex had five plants in Europe and one in Puerto Rico, "Watch Movement to West Indies," Business Week, June 5, 1965, p. 132, and in 1966, Timex imported half of its pin-lever watches, "The Watch Industry Clocks a New Record," Business Week, Dec. 24, 1966, pp. 58-60.

Table 17.--Employment in production of domestic watch movements, 1951-1965 and 1972-1976

Year	Average Number of Employees
1951	11,623
1952	9,069
1953	8,300
1954	6,858
1955	6,914
1956	6,854
1957	6,381
1958	6,608
1959	8,124
1960	7,398
1961	6,193
1962	6,815
1963	6,575
1964	6,123
1965	6,283
1972	8,946
1973	9,056
1974	9,396
1975	9,110
1976	7,864

Sources: 1951-1965 - TC Publication 169, Watch Movements, March, 1966.
1972-1976 - U.S. House of Representatives, Committee on Ways and Means, Report on Watches and Parts Therefore (Investigation No. 322-80), June 8, 1977, p. 107.

Other pin-lever watch manufacturers.--The first company to announce its departure was New Haven Clock & Watch Co. which declared bankruptcy in 1956. A maker of timing devices since the mid-1800's, the company's end was particularly traumatic to the 500 or so laidoff workers. 1/ Efforts were made to sell the company's aged equipment to other watch manufacturers, but most was scrapped. The two large old buildings of the company were converted into the "Hamilton Industrial Center" in New Haven and were occupied by small-scale manufacturing establishments in the early 1960's. 2/

Next to leave the watch-manufacturing business was Ingraham Co. of Bristol, Conn. where from 1913 to 1959, pin-lever pocket and wrist watches were made. Pocket watches continued to be manufactured until 1967 in Laurinburg, N.C. where operations had been moved in an attempt to save on labor costs in 1959.

1/ "Clock Co. Failure Laid To Foreign Competition, "The New Haven Register, Dec. 11, 1956.
2/ "Hamilton Co. Dissolves Its Corporation," New Haven Register, Aug. 29, 1962.

For worker redeployment from watch production in Bristol, Conn. during the 1950's, most workers were transferred to the production of military fuses, an old product line of the company. In Laurinburg, N.C., the approximately 300 workers whose jobs were terminated as a result of the discontinuation of pocket watch production in 1967 either retired or were reemployed by the newly opened Abbot Laboratory there.

In both Bristol and Laurinburg, some capital equipment was converted from wrist to pocket watch production, and some was sold. Most, however, was scrapped.

The old Bristol, Conn. plant of Ingraham was torn down. However, prior to its destruction, it was occupied by McGraw Edison, which acquired Ingraham in 1967. Continuing the Ingraham tradition, McGraw Edison today makes electronic fuses in Bristol.

The Ingraham plant in Laurinburg, N.C., was also acquired by McGraw Edison, but has since become the Ingraham Division of Toastmaster, Inc., a manufacturer of toasters, waffle irons, and other appliances.

The last of the three companies to cease producing pin-lever watches, the General Time Corp., began the production of watches in 1930. At its peak the company employed 3,500 workers in pin-lever watch production in La Salle, Ill. However, by the early 1960's, the wrist watch line was discontinued, and the La Salle plant became the company's center for electro-mechanical fuse production. Meanwhile, pocket watch production was moved to Georgia, where it continues today.

Employment in the La Salle plant was down to 700 people when watch production ceased in 1978 and was reduced to zero in 1980, when the company closed its fuse operation. Company officials report that as operations in La Salle were reduced, most workers retired, though some, especially in the middle management category, transferred to other divisions of Talley Industries, which purchased General Time in 1968.

Some of the machinery was either sold or transferred to the remaining watchmaking operations of the company. Most, however, was scrapped. The final disposition of the old La Salle plant has not yet been determined.

Today, Talley Industries is the only remaining U.S. manufacturer of pocket watches. In what has been described as a highly automated production process, its Georgia plant employs approximately 150 people.

The U.S. watch industry since 1975

Electronic watches had been on the U.S. market since the 1960's. However, when semiconductor watches appeared in the early 1970's, an entirely new market began. In 1976, when Texas Instruments came out with a digital watch costing $10, the proportion of nonconventional watches in apparent U.S. consumption jumped immediately from 6 percent to over 30 percent, and by 1979 had grown to over 50 percent. The consumption and technology change from mechanical to nonconventional watches (including both the digital and the quartz analog types) has been even more profound than the earlier shift from jeweled- to pin-lever watches, and also has completely transformed the nature of the watch industry, which received import protection in 1954. Not only has

Japan replaced Switzerland as the largest source of imports, but also within the United States many new watch companies, mostly from the electronics industry, have entered (and some already left) the industry in an effort to gain a share of the burgeoning demand.

Timex, the one domestic survivor of the original escape-clause action, has reportedly been seriously affected by the changing technology. Where once Timex sold half of the watches consumed in the United States, its present share may be closer to 33 percent, a large proportion of which are nonconventional watches. 1/

In spite of these changes, the debate over protecting the U.S. watch industry from import competition continues. Interestingly, the concern today focuses on the ability of watch importers to take advantage of the lower tariff incidence on nonjeweled watches. It might be recalled that under the system of specific tariffs established in 1930, the incidence of the levy was related to the width and the jewel count of the import, these two characteristics being a reflection of the elegance and accuracy of the watch. Since nonconventional watches do not need jewels for accurancy, the relationship between jewel count and accuracy no longer exists. Hence, expensive nonconventional watches can be imported at a low tariff rate. Those who want protection from import competition argue that the relationship between accuracy and tariff protection should be restored. 2/

Conclusion

Because of the differentiated nature of the watch industry, the character of adjustment differs with the industry segment in question. The jewel-levered segment, for example, contracted. Of the three petitioners, today none are in the watchmaking business, and, unless Timex and Bulova make some jeweled-levered watches in the United States, there are no workers in the this country still making jeweled-lever watches.

Although lower priced jeweled-lever imports clearly hurt the domestic jeweled-lever industry, it is likely, given the substitutability between pin- and jeweled-lever watches, that domestic and imported pin-lever watches were also a cause of injury to the jeweled-lever segment. The stagnation of jeweled-lever watch demand while domestic consumption of all watches tripled indicates that more than just jeweled-lever imports was injuring the industry. Hence, although there is some evidence that the protection limited jewel-levered imports, the effectiveness of the protection was reduced because the injury, in part, came from a domestic source as well as from imports. At best, the import protection took some pressure off the jeweled-lever manufacturers, permitting them to contract more gradually.

1/ "Japanese Heat on The Watch Industry," Business Week, May 5, 1980, pp. 92-106.

2/ U.S. Congress, Committee on Ways and Means, U.S. House of Representatives, Report on Watches and Parts Thereof, (investigation No. 332-801, June 8, 1977, pp. XIX-XXI.

The effectiveness of protection was also reduced by the duty-free treatment allowed imports from insular possessions. In fact, escape-clause protection may have had a negative effect to the extent that the higher tariffs made offshore assembly attractive and lucrative.

With regard to the pin-lever segment, the statistics show growth, increasing production, and employment. However, the reality is different, as three of the four pin-lever supporters of relief left the industry before the period of protection was over. Similarly, the figures on labor adjustment mask the changes which took place, such as shifts in the location of watchmaking jobs from the Northeast to the South (where Timex opened its new plants) and from skilled jewel-lever watch craftsmen to a mix of production engineers and relatively unskilled workers.

With three of the four companies abruptly leaving the industry in the late 1950's and early 1960's, the effect of the import relief on the pin-lever watch segment apparently was not large. Only Timex survived, and even though the tariff increase may have complimented the company's own efforts to compete, it was probably less significant than the marketing and manufacturing strategies that Timex's management devised.

CHAPTER SEVEN: ADJUSTMENT IN THE STAINLESS STEEL TABLE FLATWARE INDUSTRY

Background

In 1958, the Tariff Commission determined after an investigation and hearings that stainless steel table flatware (SSTF) was being imported into the United States in such increased quantities as to seriously injure the domestic industry. 1/ In 1959, after supplementary hearings and a followup report, President Eisenhower partially suspended the tariff concession on some of the injured industry's products. 2/ This chapter presents information on the adjustment of the injured industry from 1959 until the present.

Industry definition

The petitioning industry consisted of companies making knives, forks, and spoons (i.e. table flatware) of stainless steel. Silver-plated table flatware and flatware made of sterling silver were not included in the investigation. In addition to the material from which it was made, the flatware receiving import protection was further defined as being shorter than 10.2 inches and costing less than 25 cents per article. Since most SSTF was less than 10.2 inches long, the length distinction was much less significant than that relating to cost. Not surprisingly, the less costly SSTF, under 25 cents, was of lower quality. In general, lower quality SSTF, compared with the more expensive SSTF, has a less eleborate pattern, weighs less, contains no or smaller amounts of nickel as an alloy, and is ungraded, that is, has little or no variation in the thickness of the spoon and fork handle. 3/

At the time of the petition, there were 21 manufacturers in the United States producing SSTF. Some of these manufacturers, especially the larger ones, made other tableware products, such as sterling silver and silver-plated flatware, holloware, kitchen tools, cutlery, and pocket and steak knives. In fact, of the 21 manufacturers' total sales, only 14 percent came from SSTF in 1957. 4/

In addition to their diversification, other factors such as the quality of the SSTF products and the companies' sizes differed greatly among the 21 manufacturers. Table 18 taken from information presented in the 1958 Commission report, divides the 21 firms into four classes differentiated by the average price of the product, its quality, and the diversification of the firm.

History of tariff changes

The statutory tariff rates for SSTF were established in paragraphs 339 (spoons) and 355 (knives and forks) of the Tariff Act of 1930. The tariff on spoons was 40 percent ad valorem, and that for knives and forks was a

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1/ Stainless Steel Table Flatware: Report to the President on Escape-Clause Investigation No. 61, . . ., January 1958, and Stainless Steel Table Flatware: Supplemental Report to the President on Escape-Clause Investigation No. 61, July 1959.

2/ Presidential Proclamation 3323, Oct. 20, 1959.

3/ Stainless Steel Table Flatware: Report to the President on Escape-Clause Investigation No. 61, . . ., January 1958, pp. 17-19.

4/ Ibid., pp. 21-24.

Table 18.--Stainless steel table flatware: Summary of characteristics of SSTF firms 1957

Class of manufacturer	Product characteristics		
	Average price per piece	Number of firms in class 1957	Other product/firm characteristics
A	8¢	5	Low quality/price product made from the scrap metal of other manufactures. SSTF their exclusive or predominant activity.
B	8¢-16¢	5	Low quality/price product made from primary stainless steel. SSTF the exclusive activity of 3 class B companies.
C	16¢-25¢	5	Wide variety in quality of SSTF from highest to lowest. "C" manufacturers are the largest SSTF producers; however SSTF comprises a small part of their total sales (for four of the five SSTF contributed from 5% to 29% of the 1956 sales).
D	25¢ +	6	Medium to high quality SSTF. Most are considered small companies in the SSTF business with most of their sales in other products.

Source: Stainless-Steel Table Flatware Report to The President on Escape Clause Investigation No. 61 Under The Provisions of Section 7 of the Trade Agreements Extension Act of 1951 as Amended, January 1958, pp. 21-23.

combination of specific and ad valorem, the exact level of which would change, depending primarily upon the length of the handle and whether the stainless steel contained nickel. According to the Tariff Act of 1930, knives and forks with handles less than 4 inches long were levied 2 cents each plus a tariff of 45 percent ad valorem. If the handles were over 4 inches, the specific rate increased to 8 cents each, but the ad valorem part of the tariff remained the same.

The tariff rates were reduced and simplified on several occasions prior to the first escape-clause action in 1959. In 1939, the statutory rates for knives and forks were cut in a bilateral trade agreement with the United Kingdom, and beginning in 1948, the rates were reduced in the multilateral trade negotiations of the GATT. The changes, described in appendix tables A-7-A-9, resulted in tariffs approximately one-third their 1930 level.

The first escape-clause petition was filed in 1957. After an investigation and hearing, the Commission unanimously found serious injury and recommended that the President raise the tariff level. Half of the Commissioners recommended that the tariff be raised on all SSTF, and the other half felt that the rise should only apply to SSTF costing less than 25 cents each.

In 1958, President Eisenhower announced that he would not take action on the Commission's recommendations until he could observe whether the Japanese Government would voluntarily limit U.S.-bound shipments of SSTF. This followed a Japanese Government promise to maintain annual SSTF shipments at 5.9 million dozen pieces per year beginning in October 1958. 1/ The effectiveness of Japan's quota, the level of which was changed a number of times as described in table 19, was to be the subject of the Commission's 1959 supplementary report on the U.S. SSTF industry. 2/ In that report, the Comm ssion found that the injured condition of the industry had not improved and that Japanese exporters evaded the voluntary quota by the transshipment of Japanese SSTF (approximately 50 percent over the quota level) into the United States via third countries.

Following receipt of the supplemental report, President Eisenhower imposed a tariff rate quota (TRQ) in 1959. With the TRQ arrangement, imports of SSTF valued at less than $3 per dozen (or 25 cents each) were charged the concessionary tariff rate on the first 5.75 million dozen pieces imported. However, above the level of 5.75 million dozen pieces, imports were levied at a rate almost four times greater than the concessionary levels.

Table 19.--Level of Japanese export quota on stainless-steel table flatware, 1958-66

Year	Quota level
	Million dozen pieces
1958	5.5
1959	5.5
1960	5.5
1961	3.5
1962	4.95
1963	5.5
1964	5.5
1965	5.725
1966	7

Source: App. D of the USITC Publication Certain Stainless Steel Flatware; Report to the President on Investigation TA-201-30 Under Section 201 of the Trade Act of 1974, USITC Publication 884, May 1978, p. A-125.

1/ For details on the history of the Japanese quotas and their role in protecting the U.S. industry, see app. D of Certain Stainless Steel Flatware: Report to the President on Investigation TA-201-30, . . ., USITC Publication 884, May 1978, pp. A-111 to A-142.

2/ The President's letter which requests the supplemental report is reprinted in the report, Stainless Steel Table Flatware: Supplemental Report to the President on Escape Clause Investigation No. 61, . . ., July 1959, pp. 2-3.

Under the Trade Expansion Act of 1962, section 7 escape-clause relief expired automatically in 1967 unless extended by the President after an investigation by the Commission. In 1965, the Tariff Commission held an investigation, including a hearing, and recommended both raising the level of imports allowed under the quota and reducing the tariff on imports above the quota level. 1/ The President concurred, raising the quota level to 7 million dozen pieces. The tariff on imports in excess of the quota was reduced significantly; in the case of knives and forks, the escape-clause ad valorem rate was just 3 percentage points above the concessionary rate, and in the case of spoons, it was over twice the concessionary rate.

In 1967, the industry petitioned for a second extension of escape-clause relief. 2/ However, in spite of a decision of 2 to 1 by the Commissioners for extending the period of protection, President Johnson took no action, thereby allowing the TRQ to expire on October 11, 1967.

In summation, the SSTF industry received escape-clause relief for 8 years, from 1959 to 1967. At the same time, the Japanese Government imposed a voluntary export quota on SSTF. The official Japanese quota levels were either below or equivalent to the escape-clause TRQ level. Only in the years prior to 1962 were the Japanese quotas exceeded, as mentioned above, by transshipments from third countries. From 1962 to 1966, however, the level of Japanese imports was effectively maintained at or below the quota level. 3/

Although escape-clause protection ceased in 1967, the SSTF industry was the recipient of an additional 5 years of TRQ import relief from 1971 to 1976 as a result of negotiations with Japan under article XXVIII of the GATT. 4/ The level of this relief is described in detail in appendix tables A-7-A-9.

In 1976 and 1978, the SSTF industry returned to the Commission seeking an extension of import relief under section 201 of the Trade Act of 1974 (the current escape clause). In both instances the Commission issued an affirmative determination, but the President declined to take action. 5/

The lengthy history of the SSTF industry's attempts to obtain import relief is summarized in table 20.

1/ Stainless-Steel Table Flatware: Report to the President on Investigation No. TEA-IA-5, . . ., TC Publication 152, April 1965.

2/ Stainless-Steel Table Flatware: Report to the President on Investigation No. TEA-I-EX-3, . . ., TC Publication 217, September 1967.

3/ App. D of Certain Stainless Steel Flatware: Report to the President on Investigation TA-201-30, . . ., USITC Publication 884, May 1978, pp. A-111 to A-142.

4/ The President's decision, Proclamation 4076, Aug. 21, 1971, followed a report by the U.S. Tariff Commission, Stainless-Steel Table Flatware: Report on Investigation No. 332-63, Publication 305, 1969.

5/ Stainless Steel Table Flatware: Investigation No. TA-201-8, USITC Publication 759, 1976, and Stainless Steel Table Flatware: Investigation No. TA-201-30, USITC Publication No. 884, May 1978.

Table 20.--Summary of import protection for the SSTF industry, 1958-80

Initiating action	Outcome of action	Years protection in effect
Japanese Government Voluntary Export Quota (1958).	Export Quota	1958-67
Escape clause Sec. 7 (1958).	First tariff-rate quota	1959-65
Escape clause TEA-351(d)(2) (1965).	First tariff-rate quota extended	1965-67
Escape clause TEA-301 (1967).	President rejected Commission recommendation for relief	-
GATT XXVIII (1971)----------	Second tariff-rate quota	1971-76
Escape clause TA-201-8 (1976).	President rejected Commission recommendation for relief	-
Escape clause TA-201-30 (1978).	President rejected Commission recommendation for relief	-

Source: App. D of the USITC Publication Certain Stainless Steel Flatware; Report to the President on Investigation TA-201-30 Under Section 201 of the Trade Act of 1974, USITC Publication 884, May 1978.

Increase in imports

As can be observed in table 21, imports of SSTF during the period 1953-57 grew rapidly from 883,000 dozen pieces to 10.6 million dozen pieces, or by over 1,200 percent in five years. During these years, imports of SSTF from Japan, all but nonexistent prior to World World II, represented from 80 to 95 percent of the total. Other imported SSTF came predominately from Europe. The average price of the European SSTF was well over 25 cents per piece, that from Japan averaged under 14 cents per piece, and hence was a threat to the majority of domestic manufacturers. Though domestic production of SSTF had grown about 30 percent during 1953-57, from 10.8 million dozen pieces in 1953 to 13.2 million dozen pieces in 1957, imports as a share of total consumption had risen from 7.6 percent to 44.7 percent, representing a cause for concern among the domestic companies.

Table 21.--Stainless-steel table flatware: Number of production and related workers employed, shipments by U.S. manufacturers, imports for consumption, and apparent consumption, 1953-80 1/

Year	Number of production and related workers 2/	Shipments by U.S. manufacturers: Total	Shipments by U.S. manufacturers: Exports	Imports for consumption	Apparent consumption	Ratio of imports to apparent consumption
		Million dozen pieces	Million dozen pieces	Million dozen pieces	Million dozen pieces	Percent
1953	2,183	10.8	0.2	0.9	11.6	7.6
1954	2,390	10.8	1.0	1.4	12.1	11.2
1955	3,080	14.7	.1	3.6	18.1	19.8
1956	2,987	14.7	.8	8.0	22.3	35.9
1957	2,888	13.2	.8	10.6	23.7	44.7
1958	3,057	14.9	1.3	9.2	22.8	40.3
1959	3,019	18.6	.3	8.0	27.2	32.9
1960	3,164	18.7	.2	10.9	29.4	37.1
1961	2,973	18.9	.2	4.8	23.4	20.3
1962	3,457	21.1	.2	5.2	26.1	19.9
1963	3,607	22.1	.2	6.9	28.8	23.9
1964	4,092	26.7	.3	7.3	33.7	21.7
1965	3,957	27.2	.3	8.9	35.8	24.0
1966	4,073	30.0	.4	9.2	38.8	23.7
1967	3,763	31.6	.4	11.8	43.0	27.4
1968	3,496	27.0	.5	16.1	42.6	37.8
1969	3,915	26.8	.5	27.1	53.4	50.7
1970	3,597	25.0	.5	37.0	61.5	60.2
1971	3,269	22.4	.5	27.1	49.0	55.3
1972	3,310	23.4	.4	26.2	49.2	53.3
1973	3,196	21.3	.3	30.7	51.8	59.2
1974	3,245	20.9	.2	32.8	53.5	61.3
1975	2,531	16.5	.1	28.5	44.9	63.5
1976	2,463	16.0	.2	41.0	56.8	72.1
1977	2,384	15.7	.1	47.9	63.4	75.4
1978	-	3/ 15	-	3/ 47.0	3/ 62.0	75.8
1979	-	3/ 13.7	-	3/ 43.3	3/ 60.0	72.2
1980	-	3/ 12.2	-	3/ 43.5	3/ 55.7	78.1

1/ With the few exceptions noted in the following footnotes, data compiled from statistics submitted to the Commission by producers and importers of stainless-steel flatware and from official statistics of the U.S. Department of Commerce printed as table 1 in USITC, Certain Stainless Steel Flatware, Report to the President on Investigation TA-201-30, Under Section 201 of the Trade Act of 1974, USITC Publication 884, May 1978, p. A-143.

2/ Compiled from U.S. Tariff Commission reports on stainless steel table flatware, Nos., 7-61, 7-61 (supp.), TC38, TC73, TC113, TC152, TC189, TC217, TC305, USITC 759, USITC 884.

3/ Estimates from University of Kansas, Center for Research, Inc., Evaluation of Strategies for Improving the Competitiveness of the U.S. Stainless Steel Flatware Industry in the World Market, prepared under Department of Commerce E.D.A. grant No. 99-26-09898-10, November 1981, Exhibit Nos. 12 and 14.

Ironically, the production of SSTF in Japan was encouraged by foreign troops stationed there after World War II. When the soldiers left, some U.S. importers encouraged the Japanese manufacturers to improve their quality for export. They realized that, with wage rates estimated to be about one-eight those of U.S. workers in 1957, the Japanese price advantage was considerable.

Injury

In its finding of injury, the Commission emphasized the dramatic change which had taken place: in spite of increased domestic consumption, domestic production and sales had begun to decrease between 1956 and 1957 and were likely to continue doing so at an accelerating rate if something were not done to forestall the growth of imports. Decreases in total employment and profitablity by many of the domestic manufacturers were already being felt.

Adjustment

Stainless steel table flatware adjustment after 1957 is best described in two phases. During the first, approximately coinciding with the Japanese export restraint and the first (escape clause) tariff-rate quota, the industry flourished, reaching new heights of production and employment at a time when imports were being effectively held at a low level due to the import protection. Domestic consumption of SSTF doubled from 22.8 million dozen pieces in 1958 to 43 million dozen pieces in 1967. The end years of the first phase, 1966 and 1967, are the peak period of domestic production and employment.

During the second phase, 1968 to 1980, adjustment in the SSTF industry took the form of decline as measured by the level of domestic production, employment, and by the number of firms (from 15 to 7) in the industry. This happened in spite of the 1971-76 TRQ, and also in spite of increasing U.S. consumption of SSTF.

Market growth

Table 20 shows that U.S. consumption of SSTF tripled between 1958 amd 1980. This growth is partially attributed to the increase in marriages and the substitution of SSTF for silverware.

Because flatware is a traditional wedding present in the United States, its purchase is affected by the number of marriages. As the "baby boom" generation, born in the 1946-1960 period, started to wed in the early 1960s, the number of marriages increased by one-third. This probably contributed to the sharp rise in consumption of SSTF after 1960. 1/ Also contributing to this increase was the growing acceptability of SSTF, a substitute for the traditional silverware in many households. The ease with which SSTF could be maintained, combined with its lower price, and the improved styling of the product in the 1950's and early 1960's all seem to have promoted the post-1958 sales growth. 2/

1/ Financial World, "Beneficiaries of the Bridal Boom," July 23, 1969, p. 13.
2/ Etna M. Kelly, "Stainless Steel Heebie-Jeebies: Silverware Makers Have It," Sales Management, February 20, 1959, pp. 82-91.

Effectiveness of protection

According to an appendix in the Commission's 1978 escape-clause report, the reason for the domestic industry's expansion during the first phase and its decline during the second was related to the highly effective Japanese export restraints which protected the U.S. industry from inexpensive imports from 1959 to 1968. In contrast, during the second TRQ of 1971-76, imports, insufficiently taxed to compensate for the lower cost of producing SSTF in Japan, Taiwan, and Korea, and without an export restraint, captured a growing share of total U.S. consumption. 1/ Consequently, after 1968, with neither the Japanese quota nor sufficient protection from the U.S. Government, most firms left the industry since they were unable to overcome the foreign cost advantage.

A few firms, however, have managed to survive, and at least one company, the largest, has apparently been able to improve its productivity and compete against imports without protection. Because the firms in the SSTF industry were very diverse, it is useful to describe their adjustment in terms of the four classes, A, B, C, and D, mentioned previously in table 18. Class A and B manufacturers made low-quality SSTF, and making SSTF was their predominant or only activity. Class C producers, on the other hand, made SSTF in a wide variety of qualities and were large, diversified companies for which the manufacture of SSTF was an important, but not the exclusive activity. Class D companies, diversified like those in class C, concentrated their SSTF product in the medium to high-quality range and were probably unaffected by the TRQ's, which applied only to lower grade SSTF. To simplify the discussion classes A and B will be consolidated into one group, and classes C and D into a second group.

Class A-B manufacturers

Most of the suppliers at the low end have traditionally sold their SSTF to institutional customers such as restaurants, hospitals, and Government institutions, where styling and quality image are less important than in the retail household consumer market. In the low or standardized-product end of the market, price competition is most intense and the effect of foreign competition most pronounced. 2/

Ten A-B companies were referred to in the 1957 report, and it is possible today to identify nine companies now which seem to fit the description of those in the A-B category at that time. Five of these still manufacture SSTF domestically, though at production and employment levels only 25 percent to 50 percent of those in 1957. Of the four which no longer manufacture SSTF, two have ceased production, and two import SSTF and other housewares, and some of the four also domestically manufacture kitchenware items such as knives and spatulas.

In spite of some labor-saving investment in equipment such as automated polishing machines, all of the five companies still making SSTF reported continuing difficulties in competing with imports. The owner of one of the smaller of these companies noted that in the last 15 years, 90 percent of his business had been lost to imports from Korea and Taiwan, and that as a result,

1/ Certain Stainless Steel Flatware: Report to the President on Investigation TA-201-30, USITC Publication 884, May 1978, pp. A-111 to A-142.
2/ University of Kansas, Center for Research, Inc., Op. Cit., pp. 1-2.

only 8 of the 45 peak-level employees were left. It seems that only the few remaining buyers and the interest of the present owner/manager prevent the company from going out of business. Similarly, one of the larger class A-B domestic manufacturers, today also an importer of higher quality SSTF, has suffered an employment decline from 650 people in the 1960's to 235 in 1980.

Class C-D manufacturers

Of the 11 class C-D manufacturers at the time of the 1957 hearings, only 2, Oneida and Reed & Barton, still domestically manufacture SSTF. A third, Insilco, makes the product in Taiwan and imports most of this production into the United States. Of the remaining eight companies, two are now solely engaged in importing SSTF, two have gone out of business, and one has concentrated in other lines of business activity. Three companies could not be traced and so are probably no longer in the business.

Oneida, Ltd.--Among the domestic SSTF companies, Oneida, Ltd., has been the largest manufacturer of SSTF in the United States since at least the late 1950's. Furthermore, within Oneida, SSTF was the most important activity of the company, having contributed over 50 percent to its total annual sales through the 1960's and 1970's. 1/

With more than 100 years of history as a maker of elegant sterling silver flatware, Oneida has managed to maintain an image of quality craftsmanship. The importance of this image was shown in a recent market survey on SSTF brand familiarity. Most respondents, when asked if they could recall the name of SSTF manufacturers, mentioned Oneida. However, less than a quarter of those sampled could recall any other name. 2/

Perhaps because of its history, size, and the significance of SSTF to Oneida, the company was unwilling to let its competitive position be eroded by foreign competition as had so many other SSTF manufacturers. For whatever reason, Oneida apparently invested heavily to improve productivity, as the following quote from the Commission's 1976 investigation states:

> . . . the company has engineered and built automatic presses to replace the older and less efficient drop hammers; it has consolidated its knife-making facilities into one sizable factory; and it has added to its engineering staff. According to the company, the outlay has been in excess of $5 million. 3/

In spite of its success relative to other domestic manufacturers, Oneida has lately reduced the extent of its corporate dependence on flatware as shown, in table 22. With the 1976 and 1978 acquisitions of two non-SSTF companies--one manufacturing cable wire and the other a marketer of gourmet cookware--Oneida's SSTF sales, as a share of its total sales, has fallen from 50 percent in 1977 to 27 percent in 1981. At the same time, by its choice of new products, Oneida has been able to utilize its production, research and development expertise in metal work, and its marketing knowledge of the homewares business with its acquisitions. 4/

1/ Oneida Annual Report for fiscal year ended Jan. 31, 1981, pp. 28-29.

2/ The University of Kansas, Center For Research, Inc., op. cit., p. 37.

3/ "Stainless Steel Flatware" Report to the President on Investigation TA-201-8 Under Section 201 of the Trade Act of 1974, U.S.I.T.C. Publication 759, March 1976, p. A-27.

4/ Financial World, "Never Too Mature," June 15, 1980, pp. 27-28.

Table 22.--Oneida Limited: Total sales, and amount of sales attributable to stainless-steel table flatware, 1964-80

Year	Total sales	Sales of stainless-steel table flatware	Share of total sales to sales of stainless-steel flatware
	1,000 dollars	1,000 dollars	Percent
1964	35,093	18,599	53
1965	41,467	23,636	57
1966	50,512	28,792	57
1967	54,208	31,983	59
1968	58,866	35,320	60
1969	63,210	37,926	60
1970	69,610	40,374	58
1971	69,432	41,659	60
1972	72,629	42,851	59
1973	80,317	50,597	63
1974	88,423	53,938	61
1975	100,413	62,256	62
1976	91,985	55,191	60
1977	98,985	57,411	58
1978	154,485	64,884	42
1979	188,564	75,426	40
1980	303,171	75,792	25

Source: Oneida, Ltd., Annual Reports.

Reed & Barton.--The other domestic class C-D survivior is Reed & Barton, which, like Oneida, has been in the business of producing silverware since the 1800's. Unlike Oneida, however, Reed & Barton is a small, privately-held company with a much narrower SSTF product line focused strictly on the retail market. Sterling silver, silver-plated flatware, holloware, jewelry products, and other giftware items account for most of Reed & Barton's business.

Insilco.--Also in contrast to the path followed by Oneida is the experience of Insilco, a class C-D company with a long history as the largest flatware maker (stainless steel, sterling, and silver-plated) in the country. Insilco diversified into many nonflatware lines of activity beginning in 1955. In fact, between 1955 and 1965, Insilco acquired nine companies which made products as diverse as coaxial cables and lipstick cases. 1/

Though the proportion of its total sales revenue from flatware has dwindled over the last decade to only 12 percent in 1980, 2/ company officials maintain that this was not their intention in the late 1960's. At that time,

1/ Financial World, "Solid Gains at International Silver," Feb. 14, 1968, p. 6.

2/ Insilco Corp., Annual Report, 1980, p. 34.

Insilco embarked on an expansion program involving the acquisition of a Taiwan SSTF plant to supply the lower end of the SSTF market, and an importing company, Stanley Roberts, Inc., to supply part of the high-quality retail market. Also in the late 1960's, Insilco built a plant occupying 300,000 square feet in Connecticut to manufacture SSTF competitive in quantity and quality with Oneida. These plans went awry, however, when the Department of Justice forced a divestment of the Stanley Roberts acquisition on the grounds that it violated the Clayton Act by increasing industry concentration. 1/ Without Stanley Roberts, Insilco officials maintain, the expansion program was not feasible. Gradually the Connecticut plant was used for non-SSTF purposes, and today Insilco is primarily an importer of SSTF, although occasionally it engages in domestic production on a small scale.

The unsuccessful reorganization of Insilco's SSTF operation was probably very costly. According to the United Steelworkers of America, the union representing the Insilco workers engaged in SSTF production, employment in the Connecticut facility fell 71 percent from 1968 to 1977, entailing the layoff of over 1,000 people. 2/ Some of Insilco's equipment was shipped to its Taiwan plant, some was sold, and some scrapped. About a quarter of the Connecticut plant is now used in Insilco's silver-plating operation while much of the rest remains vacant.

Conclusion

With current production estimates showing the level of production approximately 20 percent less than that at the time of the petition, the dominant adjustment pattern of the SSTF industry can be characterized as a contraction. Contraction can also be used to characterize the industry's adjustment because most of the firms from the time of the 1958 petition are no longer active. Furthermore, the trend of employment in the industry since the escape-clause protection ended has been downward.

It is likely that the effective first period of import protection, mostly from the Japanese quota, permitted this decline to take place over many years, reducing the cost of adjustment as workers retired or found other jobs and investors recovered their investments. Also slowing the decline was the considerable growth of the domestic market, which has almost tripled since 1958 as a result of changes in population, tastes, and style.

During the period 1958-80 there is some evidence of modernization-type investments. Table 23, taken from the 1969 report of the Commission, provides a measure of the investment increase. Because the investment took place after escape-clause protection ended, it is impossible to know whether the import protection or its termination was more influential in stimulating investment for more efficient production techniques.

1/ Wall Street Journal, "Insilco to Divest Itself of Stanley Roberts Inc. Under Consent Decree," Jan. 23, 1974, p. 3.

2/ Letter from United Steelworkers of America submitted as part of the public record for the TA-201-30 hearings, dated Mar. 31, 1978.

Table 23.--Stainless-steel table flatware: Capital expenditures by U.S. producers for domestic production facilities used primarily in the manufacture of stainless-steel table flatware, 1960-1968, January-September 1968, and January-September 1969

(In thousands of dollars)

Period	Land and land improvements	Buildings and leasehold improvements	Machinery, equipment, and fixtures	Totals
1960	3	57	380	440
1961	-	282	660	942
1962	-	326	1/ 1,751	1/ 2,077
1963	2	30	1,029	1,061
1964	15	145	1,132	1,292
1965	216	586	1,141	1,943
1966	653	826	1,830	3,309
1967 2/	3/	137	1,450	3/
1968 2/	3/	3/	3,268	3/
January-September--				
1968 2/	3/	3/	2,266	3/
1969 2/	160	3/	1,018	3/
Total	3/	3/	13,659	3/

1/ Includes the purchase of existing machinery and equipment of company by another company, which did not report separately its purchases of new and used machinery and equipment.

2/ Excludes data for 4 producers that did not submit questionnaires.

3/ Withheld to avoid disclosing figures for individual companies.

Source: Compiled from data submitted to the U.S. Tariff Commission by U.S. producers of stainless-steel table flatware. Initially appeared in U.S. Tariff Commission, Stainless Steel Table Flatware: Report on Investigation No. 332-63 under Section 332 of the Tariff Act of 1930, TC Publication 305, December 1969, table 28, p. A-37.

Unlike the Wilton and velvet carpet industry, the sheet glass industry and the jeweled-lever-watch industry, product substitution was clearly unrelated to the domestic manufacturers decline. If anything, the substitution of SSTF for other types of flatware was benefical to the industry. Also, like the bicycle industry, the market for SSTF has grown considerably over the last 20 years.

Nonetheless, the industry contracted. The reasons seem to be directly related to the relatively high cost of domestic inputs into the manufacture of SSTF. According to a recent study by the University of Kansas, the high cost of U.S. labor and raw materials contribute to a fundamental uncompetitiveness of the U.S. industry. 1/ Hence, one has to conclude that in spite of import protection and some efforts to modernize, the relief was unable to overcome the disadvantages faced by the industry at the time of the first petition in 1958.

1/ University of Kansas, Center for Research, op. cit., pp. 48-56. With regard to raw materials costs, the report states that both U.S. and Asian SSTF manufacturers purchase much of their stainless steel from Japanese specialty steel mills. However, U.S. manufacturers have to pay considerably more because of the U.S. Government's "anti-surge mechanism which is currently in effect, and the threat of dumping suits by the U.S. specialty Steel Industry."

CHAPTER EIGHT: CONCLUSION

This chapter consists of a summary of the case studies and of some concluding observations on adjustment and the effectiveness of escape-clause relief in promoting adjustment to import competition.

Case Summaries

Because several of the five industries studied shared similar adjustment experiences, they are described below in three groups.

Product substitution and adjustment; carpets and glass

Both the Wilton and velvet carpet and the sheet glass industries contracted during the 19-year period following their first escape-clause protection in 1962. In the case of Wilton and velvet carpets, today's output is a third of what it was in 1961. For sheet glass, it is even less.

In both industries the most important long-term cause of the contraction was a sub titute product. For Wilton and velvet carpets the substitute was a carpet produced by the tufting method, developed commercially in the 1950's. For sheet glass, the substitute was glass made by the float method, introduced in the United States in the early 1960's. The popularity of the substitute products came from their lower price. In each case, the lower price reflected a lower cost of manufacturing with less labor per unit of output than the escape-clause-protected product. In the case of float glass, the appeal also came from a higher quality of the final product. Although it might seem a coincidence that two industries of the five studied here were injured by competition from substitute products, mature industries, making products advanced in the product life cycle, frequently have been observed to contract because of the competition from a less costly and frequently superior sub titute product. Hence, to the extent industries injured by imports are mature in the product life cycle, one would expect to find substitutes as an occasional cause of injury. 1/

Even though in both cases the main cause of contraction was a domestic substitute, some valuable time may have been gained for the protected industry by raising the tariff, and thereby reducing import competition. The evidence showing that protection reduced the level of import competition is strong, because in both industries the absolute and the relative levels of imports fell sharply following protection. Another effect of protection may have been to assist some of the firms in making the transition from producing the protected product to producing the substitute product.

To the extent this transition was aided by escape-clause protection, it may be said that the escape clause facilitated "the orderly transfer of resources to alternative uses,"--one of the objectives stated in the current escape-clause law. 2/

1/ Michael E. Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors, The Free Press, 1980, pp. 166 and 258. More generally, Kathry Rudie Harrigan, Strategies for Declining Businesses, Lexington Books, 1980. Also, Louis Wells, editor, The Product Life Cycle and International Trade, Harvard University Graduate School of Business, 1972.

2/ Trade Act of 1974, sec. 201(a)(1).

Modernization adjustment; bicycles

The U.S. bicycle industry, which had an output approximately five times greater in 1979 than in 1955, when escape-clause protection was first imposed, has experienced a modernization form of adjustment, close to that described in chapter 2.

In the years immediately after 1955, investment in new plant and equipment increased, output per worker climbed, and domestic prices fell. In short, by becoming "more competitive through reasonable research and investment efforts, (by taking) steps to improve productivity and other measures that competitive industries must continually undertake," the bicycle industry's adjustment seems to fit the Senate Finance Committee's idea of the appropriate response to escape-clause protection. 1/

In addition to protection from imports, the bicycle industry received help from other sources as well. One was the 50-percent growth in the population of children of bicycle-riding age during 1955 to 1969. Also in the 1970's, the bicycle market expanded greatly when adults discovered bicycling for recreational and transportation purposes. Furthermore, style changes initiated by the domestic industry appealed to American children and caught the importers off guard, providing valuable adjustment time in the late 1950's.

Adjustment by contraction and with single firm modernization; watches and flatware

As mentioned in the discussion of contraction adjustment in chapter 2, it is not always possible to observe an unambiguous contraction or modernization in an injured industry's adjustment. The watch and stainless steel table flatware industries are examples of this point. In both industries, the predominant form of adjustment was a contraction in spite of a tripling of the domestic market. Nonetheless, although the industry was contracting, one firm in each industry (Oneida in flatware and Timex in watches) almost singlehandedly increased production to levels equivalent or superior to those at the time of the first petition.

In stainless steel flatware, the combined effect of import protection and the Japanese export quota during the 1958-67 period reduced imports and allowed the industry's 21 firms in 1958 some additional time to contract.

Watch import protection, however, was less effective in lowering imports of jeweled-lever watches, and the relief was not at all helpful in reducing the imports of pin-lever watches. Of the three jeweled-lever and four pin-lever petitioners under the 1951 law, only one remains today. Although the import relief may have slowed the demise of the jeweled-lever firm's watch operations, import protection seems to have had no effect at all on the contraction of the pin-lever firms, all but one of which curtailed most of its wat hmaking activity during the relief period.

1/ U.S. Congress, Senate Committee on Finance, Trade Reform Act of 1974, Report 73-1298, Nov. 26, 1974, p. 122.

Observations on the Role of the Escape-Clause Relief in Promoting Adjustment to Import Competition

The following comments summarize the main findings of this study.

1. In all but one industry, the majority of firms (or at least that part of the firms making the protected product) contracted.

For example, 28 firms made Wilton and velvet carpets in 1961; today only 6 do so. In the stainless steel flatware industry the number of firms dropped from 21 in 1958 to 7 today. In fact, only in the bicycle industry, where nine firms were active in 1955 and 6 are today, are more than half of the firms at the time of the petition still active in the industry.

Because the protected industries contracted (except bicycles), the factors of production dedicated to the protected product probably suffered unemployment. The only way to avoid this conclusion would be if workers imm diately found other jobs or retired as their production declined, or if capital equipment was converted to other uses or was physically depreciated at approximately the rate of contraction. Comments from firm officials indicated that even though the work force and the capital equipment were mature, some unemployment of workers and premature scrapping of capital equipment was unavoidable.

2. In some cases imports of the protected product fell.

The first and most immediate effect of the escape clause was to reduce the level of imports in all or parts of the protected industries. As a result, at least part of the protected industries had the benefit of reduced competitive pressure. What did they do with this extra time? Firms in one industry used it to modernize in order to compete successfully after protection was removed. Others appear to have used it to slow down their contraction, giving them a few more years to retire workers, wear down their capital equipment, and recoup their investment. There were no cases of firms adding to their capital stock and workers, only later to be confronted with intense import competiton, and the need to find a use for their increased capital assets and workers when protection was removed.

3. Although many firms contracted in the protected industries, they were able to shift their resources to alternative uses.

An example of this is Hamilton (now HMW) Industries, which focused its old watchmaking talents on the manufacture of precision metals, a product which required some of the skills and equipment from the company's prior business. Another example is the way large companies in the Wilton and velvet carpet industry and in the sheet glass industry developed strengths in tufted carpets and in float glass. Though using different manufacturing equipment, employees and plants, some of the carpet and glass firms were able to draw on the management and marketing talents in the declining industry to help them with the new product. Even a firm that successfully modernized, Oneida, Ltd., followed a similar transition. With its investments in wire cables and in co kware products, Oneida took advantage of its production, research and development experience in metal work, and its knowledge of marketing in the housewares business.

The larger firms in an industry, often those which were publically held, were more likely to make this type of transition. Small firms, on the other hand, were more likely to go out of business. Perhaps some did not have another product line to turn to or lacked the skills and resources needed to invest in another business. Perhaps others, being family businesses, simply did not have an heir with an interest in continuing the company.

Another observation about this shift of business is that it frequently occurred alongside a change in the location of production: usually a move from the North to the South, where labor costs were lower.

4. Escape-clause protection probably had a positive, but relatively minor, effect.

Because weighing the precise effect of the escape clause requires comparing what would have happened to the affected industries if they had not received escape-clause relief with what in fact did happen, any statement on the effect of the escape clause contains an element of speculation. Having said this, however, it seems that the escape-clause relief had a positive effect in four contracting industries (carpets, sheet glass, stainless steel table flatware, and jeweled-lever watches) in the sense that it facilitated adjustment by lowering the level of imports and thereby extending the contraction over a longer period of time than would otherwise have been available. This made it easier for the employees to find other work or retire, and extended the time for the machinery and equipment to wear out.

In the bicycle industry, the escape clause may, at least in part, be credited with saving the domestic industry. However, it is difficult to know whether the cost and price-reducing investments of the bicycle manufacturers, so vital to their success, would have occured without protection.

Nonethless, looking back at what happened to the five industries over a long period of time, one observes how relatively little effect escape-clause relief had on firm adjustment either because so much of the firm's injury was caused by non-import-related factors, or because the decline of imports following relief was small.

Domestic substitutes, for example, affected the adjustment of three of these industries (watches, carpets, and glass); the bicycle industry seems to have been greatly helped by the fact that every 10 years, consumption of its product doubled because of population growth and taste changes.

With regard to the weakness of import relief, the decline of the imports of sheet glass, bicycles, and jeweled-lever watches was not great and pin-lever watch imports did not decline at all.

APPENDIX TABLES

Table A-1.--Wilton and velvet carpets: Summary of post-escape clause firm adjustment

I. Companies that ceased producing carpets since 1961:

A. Members of the escape-clause petitioning organization in 1961, The American Carpet Institute:

Company name	Present status	Miscellaneous information
1. Archibald Homes and Sons, Philadelphia, Pa.	Closed in 1964	With an offer by the Spiegel Co. of a long-term lease, the owner, after union problems and with no interested heir, chose to close the company.
2. The Beattie Manufacturing Co. Little Falls, N.J.	Bankruptcy declared in 1979.	Production of Wilton and velvet carpets ceased in 1966. Most of the looms, which were 25 to 40 years old, were scrapped. Workers were redeployed to tufted carpet production.
3. Harwick & Magee Co. Philadelphia, Pa.	Bankruptcy declared in 1972.	
4. Hightstown Rug Co. Hightstown, N.J.	Closed in 1975	Hightstown was acquired by the Kentile Floors Co. in the 1960's. By the time the carpet division was closed, it manufactured only tufteds.
5. Roxbury Carpet Co. Saxonville, Mass.	Ceased producing Wiltons in 1965 and velvets in 1973.	Today tufted carpets are manufactured under the trade name "Roxbury" by Trend Manufacturing Industries in Rome, Ga.

B. Companies not members of The American Carpet Institute:

1. Artloom Industries Philadelphia, Pa.	Date of closure unknown.	
2. Doyle Carpet Co., Massachusetts	Closed in 1968.	
3. Greenfield Carpet Co., Manchester, N.H.	Closed in 1972.	
4. New Jersey Carpet Mills	Closed in 1966.	
5. Oxford Mills Ware, Mass.	Closed in 1975.	

Table A-1.--Wilton and velvet carpets: Summary of post-escape clause firm adjustment--Continued

II. Members of the escape-clause petitioning organization in 1961 that today manufacture only tufted carpets.

	Company name	Present status	Miscellaneous information
1.	Downs Carpet Co., Inc. Philadelphia, Pa.	Ceased producing Wiltons in 1975.	Today located in Willow Grove, Pa.
2.	Karastan Rug Mills New York, N.Y.	Ceased producing Wiltons and velvets in 1968-1969.	Karastan was acquired by Fieldcrest Mills in 1967.
3.	The Magee Co. Bloomsburg, Pa.	Ceased producing Wiltons and velvets in mid-1970's.	
4.	C. H. Masland & Sons Carlise, Pa.	Ceased producing Wiltons and velvets.	Today along with tufted carpets, Masland manufactures building materials.
5.	Philadelphia Carpet Co., Philadelphia, Pa.	Ceased producing Wiltons in 1978.	Today a part of Shaw Industries, Inc.

III. Members of The Petitioning Organization in 1961 that today manufacture tufted and velvet carpets:

1.	Bigelow-Sanford, Inc. New York, N.Y.	Velvets are less than 10% of all carpet output.	In 1940's, this company was one of the "big three" of the U.S. carpet industry. The Company is still one of the largest carpet manufacturers with most of its production concentrated in tufteds. Nonetheless, it has remained in the manufacture of velvet carpets shifting the site of its production from the Northeast to North Carolina. In 1966, Bigelow-Sanford was acquired by Sperry and Hutchinson, the S&H Green Stamp company. In 1977, furnishings (including carpets and furniture) constituted 53 percent of the company's $809 million sales.
2.	A & M Karaghensian, Inc. New York, N.Y.	Velvets constitute about 4 percent of present carpet production.	In 1963, Karaghension closed its New Jersey plant and concentrated Wilton and velvet production in North Carolina. In 1964, the company was acquired by J. P. Stevens & Co. Velvet carpets are still produced in the Aberdeen, North Carolina plant. For J. P. Stevens, the parent company, home furnishing contributed 29 percent to its $1.8 billion of 1979 sales.

Table A-1.--Wilton and velvet carpets: Summary of post-escape clause firm adjustment--Continued

Company name	Present status	Miscellaneous Information
3. James Lees & Sons Co. Bridgeport, Pa.	Velvets constitute about 6 percent of current carpet production.	Velvets production has been transfered to Glascow, Va. James Lees was acquired by Burlington Industries in 1959. The parent company, had sales of $1.86 billion in 1979 to which home-furnishing sales contributed 29 percent.
4. Mohasco Industries, Inc. Amsterdam, N.Y.	Velvets are approximately 5 percent of carpet current production.	Mohasco was formed from the merger of Alexander Smith and Mohawk (which together along with Bigelow were described as the "big three" of the carpet industry in the 1940's) and by a merger with Firth in 1962. Mohasco ceased production of Wiltons shortly after 1961. It is still very active in the velvet industry, though most of its carpets today are tufteds. In 1979 sales were $747 million of which 21 percent were from carpets.
IV. Companies still manufacturing Wilton carpets:		
1. Bloomsburg Carpet Co., Bloomsburg, Pa.	Formed in late 1970's out of the Wilton Division of the Magae Carpet Co.	
2. Langhorne Carpet Co. Penndel, Pa.	A family-owned company since being founded in 1930.	
3. Pennsylvania Wilton Carpet Co.	Formed out of the Wilton Division of Shaw Industries in 1978.	

Table A-2.--Wilton, Brussels, velvet or tapestry, and Axminster, n.s.p.f., carpets, rugs, and mats; and carpets, rugs, and mats of like character or description: U.S. rates of duty under the Tariff Act of 1930, as amended and modified, prior to the escape-clause action, Apr. 18, 1962

(Percent ad valorem)

Tariff paragraph and description	Statutory rate 1/	Trade-agreement modification	
		Rate	Effective date and trade agreement 2/
Par. 1117(a):			
Wilton carpets, rugs, and mats; and carpets, rugs, and mats of like character or description:			
Valued at not more than 40 cents per square foot---	40%	40% 3/	4/16/38-4/22/39; Czechoslovakia.
		25%	6/6/51.
		23-1/2%	6/30/56.
		22-1/2%	6/30/57.
		21%	6/30/58.
Valued at more than 40 cents per square foot------	60%	40%	1/1/39; United Kingdom.
		30%	1/1/48.
		25%	6/6/51.
		23-1/2%	6/30/56.
		22-1/2%	6/30/57.
		21%	6/30/58.
Brussels carpets, rugs, and mats; velvet or tapestry carpets, rugs, and mats; Axminster, n.s.p.f., carpets, rugs, and mats; and carpets, rugs, and mats of like character or description:			
Valued at not more than 40 cents per square foot------	40%	30%	1/1/48.
		25%	6/6/51.
		23-1/2%	6/30/56.
		22-1/2%	6/30/57.
		21%	6/30/58.
Valued at more than 40 cents per square foot------	60%	40%	1/1/39; United Kingdom.
		30%	1/1/48.
		25%	6/6/51.
		23-1/2%	6/30/56.
		22-1/2%	6/30/57.
		21%	6/30/58.

1/ Established pursuant to the Tariff Act of 1930.
2/ General Agreement on Tariffs and Trade (GATT), unless otherwise indicated.
3/ Bound.

Source: Tariff Commission Publication 28, August 1961.

Table A-3.--Cylinder, crown, and sheet glass weighing over 4 ounces per square foot: U.S. rates of duty 1930-74

(Cents per pound; percent ad valorem)

Paragraph	TSUS item No. 2/	Article	TSUS item No.	Statutory rate 3/	Trade agreement rate 4/	Escape-clause rates			
						Originals 5/	Modified 6/	Modified 8/	Modified 9/
219		Glass (including blown or drawn glass, but excluding cast or rolled glass and excluding pressed or molded glass) (whether or not containing wire netting), in rectangles, not ground, not polished and not otherwise processed, weighing over 4 oz. per sq. ft., provided for in TSUS items 542.11-.98, inclusive:							
		Ordinary glass:							
		Weighing over 4 oz. but not over 12 oz. per sq. ft.:							
	923.11	Measuring not over 40 united inches	542.11	1.5¢	0.7¢	1.3¢	7/		
	923.13	Measuring over 40 united inches	542.13	1.9¢	0.9¢	1.6¢	7/		
		Weighing over 12 oz. but not over 16 oz. per sq. ft.:							
	923.21	Measuring not over 40 united inches	542.21	2.1¢	1.0¢	1.3¢	7/		
	923.23	Measuring over 40 but not over 60 united inches		2.4¢	1.1¢	1.6¢	7/		
	923.25	Measuring over 60 united inches	542.25	2.5¢	1.2¢	1.9¢	7/		
		Weighing over 16 oz. but not over 28 oz. per sq. ft.:							
	923.31	Measuring not over 40 united inches	542.31	1.5¢	0.7¢	1.3¢	1.1¢	1.0¢	.9¢
	923.33	Measuring over 40 but not over 60 united inches	542.33	1.9¢	0.9¢	1.6¢	1.5¢	1.3¢	1.1¢
	923.35	Measuring over 60 but not over 100 united inches	542.35	2.4¢	1.1¢	1.9¢	1.5¢	1.4¢	1.3¢
	923.37	Measuring over 100 united inches	542.37	2.8¢	1.4¢	2.4¢	7/		
219		Weighing over 28 oz. per sq. ft.:							
	923.42	Not over 2-2/3 sq. ft. in area	542.42	1.5¢	0.7¢	1.3¢	7/		
	923.44	Over 2-2/3 but not over 7 sq. ft. in area	542.44	1.9¢	0.9¢	1.6¢	7/		
	923.46	Over 7 but not over 15 sq. ft. in area	542.46	2.4¢	1.1¢	1.9¢	7/		
	923.48	Over 15 but not over 16-2/3 sq. ft. in area	542.48	2.8¢	1.4¢	2.4¢	7/		
	923.49	Over 16-2/3 sq. ft. in area	do.	do.	do.	3.5¢	7/		
		Colored or special glass:							
	923.57	Weighing over 4 oz. but not over 12 oz. per sq. ft.	542.47	4.0¢	1.7¢	2.2¢	7/		
	923.67	Weighing over 12 oz. but not over 16 oz. per sq. ft.	542.67	13.0¢	6.0¢	9.0¢	7/		
		Weighing over 16 oz. but not over 28 oz. per sq. ft.:							
	923.71	Measuring not over 40 united inches	542.71	1.5¢ + 5%	.7¢ + 2.5%	1.3¢ + 2.5%	1.1¢ + 2.5%	1.0¢ + 2.5%	.9¢ + 2.5%
	923.73	Measuring over 40 but not over 60 united inches	542.73	1.9¢ + 5%	0.9¢ + 2.5%	1.6¢ + 2.5%	1.5¢ + 2.5%	1.3¢ + 2.5%	1.1¢ + 2.5%
	923.75	Measuring over 60 but not over 90 united inches	542.75	2.4¢ + 5%	1.1¢ + 2.5%	1.9¢ + 2.5%	1.5¢ + 2.5%	1.4¢ + 2.5%	1.3¢ + 2.5%
	923.77	Measuring not over 90 united inches	542.77	2.8¢ + 5%	1.4¢ + 2.5%	2.4¢ + 2.5%	7/		

Footnotes at end of table.

Table A-3.--Cylinder, crown, and sheet glass weighing over 4 ounces per square foot: U.S. rates of duty 1930-74--Continued

(Cents per pound; percent ad valorem)

Paragraph	TSUS item No. 2/	Article	TSUS item No.	Statutory rate 3/	Trade agreement rate 4/	Escape-clause rates			
						Originals 5/	Modified 6/	Modified 8/	Modified 9/
		Weighing over 28 oz. per sq. ft.:							
	923.92	Not over 2-2/3 sq. ft. in area	542.92	1.5¢ + 5%	0.7¢ + 2.5%	1.3¢ + 2.5%	7/		
	923.94	Over 2-2/3 but not over 7 sq. ft. in area	542.94	1.9¢ + 5%	0.9¢ + 2.5%	1.6¢ + 2.5%	7/		
	923.96	Over 7 but not over 15 sq. ft. in area	542.96	2.4¢ + 5%	1.1¢ + 2.5%	1.9¢ + 2.5%	7/		
	923.98	Over 15 but not over 16-2/3 sq. ft. in area	542.98	2.8¢ + 5%	1.4¢ + 2.5%	2.4¢ + 2.5%	7/		
	923.99	Over 16-2/3 sq. ft. in area	542.98	2.8¢ + 5%	1.4¢ + 2.5%	3.5¢ + 2.5%	7/		
224	924.00	Glass, cut to other than rectangular shape, and glass, whether in rectangles or cut to other than rectangular shape, subject to processing, all the foregoing glass provided for in TSUS item 544.17 if drawn or blown and not containing wire netting and not surface ground or polished		60%	15%	22.5%	7/		

1/ The rates of duty provided in the TSUS and the TSUS appendix were placed in effect Aug. 31, 1963, by Presidential Proclamation No. 3548.

2/ TSUS rates of duty and descriptions of article that were the subject of Presidential proclamations under the escape-clause procedure are shown in the TSUS appendix.

3/ Rates of duty currently applied pursuant to secs. 231 and 257(e) of the Trade Expansion Act of 1962 to the products of countries or areas designated as Communist dominated or controlled, except the rates on TSUS appendix items 923.49 and 923.99. The applicable rates on these two items are the higher escape-action rates.

4/ The most recent rates of duty placed in effect as a result of a concession granted under the General Agreement on Tariffs and Trade, as modified by proclamation of the TSUS. The rates provided in the concession were in effect until June 17, 1962.

5/ Temporary rates of duty in effect from June 17, 1962, to Jan. 4, 1967, by Presidential Proclamation No. 3455 under the escape-clause procedure, as modified by proclamation of the TSUS.

6/ Rates of duty in effect Jan. 11, 1967, to Apr. 30, 1972, by Presidential Proclamation No. 3762 of that date. The rates of duty applicable to TSUS appendix items 923.31, 923.33, 923.35, 923.71, 923.73, and 923.75 are higher than the trade-agreement rates and are therefore temporary. Presidential Proclamation No. 3967, dated Feb. 27, 1970, extended the period for the increased rates of duty to the close of Jan. 31, 1972. Presidential Proclamation No. 4102, dated Jan. 29, 1972, extended the period for the increased rates of duty to the close of Apr. 30, 1972.

7/ Reverted to trade agreement rate on Jan. 11, 1967.

8/ Rates of duty in effect from close of Apr. 30, 1972, to Jan. 31, 1973, by Presidential Proclamation No. 4102, dated Jan. 29, 1972.

9/ Rates of duty in effect from close of Jan. 31, 1973, to Jan. 31, 1974.

Table A-4.--Major U.S. bicycle manufacturers, 1955-80

I. Members of the escape-clause petitioning organization in 1955, the Bicycle Manufacturers Association (BMA)

Firm	Present status
Arnold, Schwinn & Company Chicago, Ill.	The oldest U.S. manufacturer of bicycles was the fourth largest U.S. producer of bicycles in 1980.
Cleveland Welding Co. Cleveland, Ohio	Purchased in 1951 by American Machine and Foundry (AMF), but was nonetheless a separate member of the Bicycle Manufacturers Association.
Evans Products Company Plymouth, Mich.	Ceased producing bicycles in 1963 when the company's bicycle plant was sold to Howell Industries, Inc. Howell operated the plant for 9 months and then decided to leave the bicycle business.
Excelsior Manufacturing Co. Michigan City, Ind.	Ceased operation in 1970.
Huffman Manufacturing Co. Dayton, Ohio	Today the Huffy Corp. is the largest U.S. bicycle manufacturer with 1980 sales of $238 million. The company also makes other sporting goods and automotive service equipment.
Monarck Silver King, Inc. Chicago, Ill.	Acquired by Huffy in 1959.
Murray-Ohio Manufacturing, Co. Cleveland, Ohio	Today Murray is the second largest U.S. bicycle maker. with 1980 sales of $295 million. Murray also makes lawnmowers and mopeds.
Shelby Cycle Company Cleveland, Ohio	Acquired by AMF in 1953, but was a separate member of the BMA in 1955.
H. P. Snyder Manufacturing Co. Little Falls, N.Y.	Terminated bicycle production in 1976.

Table A-4.--Major U.S. bicycle manufacturers, 1955-80--Continued

Firm	Present status
Westfield Manufacturing Company Westfield, Mass.	The Columbia Manufacturing Co., Inc., purchased the assets and liabilities of the Westfield Manufacturing Co., a wholly owned subsidiary of the Torrington Co. of Torrington, Conn. in 1960. In 1967, Columbia was purchased by MTD Products, Inc., a privately held sporting goods company in Cleveland.
Other Companies	
AMF	Today AMF, having acquired Cleveland Welding and Shelby in the early 1950's, is the third largest manufacturer of bicycles in the United States.
Chain Bike Corp	Today most of Chain's bicycles are marketed under the Ross label.
Stebler Cycle Corp	Filed for bankruptcy in 1976. Manufactured bicycles under the name of Iverson Cycle.
LRV	Produces only special models such as tandems.

Table A-5.--Bicycles: Changes in certain United States ad valorem rates of duty, 1930-72

Description	Rate in effect in the Tariff Act of 1930	Trade agreement with the United Kingdom, effective Jan. 1, 1939	Bound, GATT, effective Jan. 1, 1948	Presidential escape-clause proclamation Aug. 19, 1955	Presidential proclamation, Feb. 27, 1961	Final stage of concession negotiated in the Kennedy Round, effective Jan. 1, 1972
Having both wheels not over 19 inches in diameter	30%	15%	22-1/2%	22-1/2%	22-1/2%	11%
Having both wheels over 19 inches but not over 25 inches in diameter	30%	15%	15%	22-1/2%	22-1/2%	11%
Having both wheels over 25 inches in diameter:						
If weighing less than 36 pounds complete without accessories and not designed for use with tires having a cross-sectional diameter exceeding 1.625 inches	30%	15%	7.5%	11-1/4%	11-1/4%	5-1/2%
Other	30%	15%	15%	22-1/2%	22-1/2%	11%

Table A-6.--Watch movements: U.S. rates of duty 1970-1981

(In dollars and cents each)

Article	Statutory rate 1/	Trade-agreement rate 2/	Escape-action rate 3/	MFN rate 1967-79 4/	Final stage of MTN concession rate, effective January 1, 1984
Watch movements, assembled, without dials or hands, or with dials or hands whether or not assembled thereon:					
Having over 17 jewels	$10.75	$10.75 5/	$10.75 6/	$5.37	$2.15
Having no jewels or not over 17 jewels:					
Not adjusted, not self-winding (or if a self-winding device cannot be incorporated therein), and not constructed or designed to operate for a period in excess of 47 hours without rewinding:					
Having no jewels or only 1 jewel:					
Not over 0.6 inch in width	$1.50	90¢	$1.35	.90	.36
Over 0.6 but not over 0.8 inch in width	$1.35	75¢	$1.125	.75	.36
Over 0.8 but not over 0.9 inch in width	$1.20	75¢	$1.125	.75	.36
Over 0.9 but not over 1 inch in width	$1.05	75¢	$1.05	.75	.36
Over 1 but not over 1.2 inches in width	93¢	75¢	93¢	.75	.36
Over 1.2 but not over 1.5 inches in width	84¢	75¢	84¢	.75	.36
Over 1.5 but less than 1.77 inches in width	75¢	75$ 5/	6/	.75	.36
Having over 1 jewel but not over 7 jewels:					
Not over 0.6 inch in width	$2.50	$1.80	$2.50	1.80	.72
Over 0.6 but not over 0.8 inch in width	$2.25	$1.35	$2.025	1.35	.72
Over 0.8 but not over 0.9 inch in width	$2.00	$1.35	$2.00	1.35	.72
Over 0.9 but not over 1 inch in width	$1.75	$1.20	$1.75	1.20	.72
Over 1 but not over 1.2 inches in width	$1.55	90¢	$1.35	.90	.72
Over 1.2 but not over 1.5 inches in width	$1.40	90¢	$1.35	.90	.72
Over 1.5 but less than 1.77 inches in width	$1.25	90¢	$1.25	.90	.72
Having over 7 but not over 17 jewels:					
Not over 0.6 inch in width	$2.50)	$1.80)	$2.50)	1.80)	.72) Plus 4¢
Over 0.6 but not over 0.8 inch in width	$2.25) Plus	$1.35) Plus	$2.025) Plus	1.35) Plus	.72) for each
Over 0.8 but not over 0.9 inch in width	$2.00) 15¢ for	$1.35) 9¢ for	$2.00) 13.5¢	1.35) 9¢ for	.72) extra jewel
Over 0.9 but not over 1 inch in width	$1.75) each	$1.20) each	$1.75) for	1.20) each	.72) over 7
Over 1 but not over 1.2 inches in width	$1.55) jewel	90¢) jewel	$1.35) each	.90) jewel	.72)
Over 1.2 but not over 1.5 inches in width	$1.40) over 7	90¢) over 7	$1.35) jewel	.90) over 7	.72
Over 1.5 but less than 1.77 inches in width	$1.25)	90¢)	$1.25) over 7	.90)	.72

1/ The statutory rates of duty set forth in col. 2, pt. 2E, schedule 7 of the TSUS; they are the same as those imposed under par. 367(a) of the tariff Act of 1930.

2/ Rates of duty set forth in col. 1 or col. 1-a, pt. 2E, schedule 7 of the TSUS, which reflect concessions originally granted in the trade agreement with Switzerland (T.D. 48093), effective Feb. 15, 1936.

3/ Temporary rates of duty set forth in pt. 2A of the appendix to the TSUS, which were placed in effect on July 27, 1954, by Presidential Proclamation No. 3062 pursuant to the escape-clause procedure.

4/ Rates of duty set forth in col. 1, pt. 2E, schedule 7 of the TSUS, 1967-1979.

5/ The 1930 rate of duty, although not reduced, was bound against increase pursuant to the trade agreement with Switzerland.

6/ No change in the rate of duty was made by the escape action.

7/ No concession was granted and the statutory rates of duty remained the most-favored-nation rates of duty with respect to watch movements containing less than 7 jewels and containing a bushing or its equivalent (other than a substitute of a jewel) in any position customarily occupied by a jewel.

Table A-7.--Stainless steel table flatware: U.S. rates of duty from 1930 to August 31, 1963

(Cents each; percent ad valorem)

Tariff paragraph and description	Tariff Act of 1930		
	Statutory rate 1/	Trade-agreement modification	
		Rate	Effective date and trade agreement 2/
Par. 339:			
Table, household, kitchen, and hospital utensils, and hollow or flatware, not specially provided for: * * * compound wholly or in chief value of copper, brass, steel, or other base metal, not plated with platinum, gold or silver, and not specially provided for:			
Table spoons wholly of metal and in chief value of stainless steel, not over 10.2 inches in overall length and valued at less than $3 per dozen pieces.	40%	20%	Jan. 1, 1948.
		19%	June 30, 1956.
		18%	June 30, 1957.
		17% 3/	June 30, 1958.
		60% 3/	Nov. 1, 1959. 3/
Par. 355:			
Table, butchers', carving, cooks', hunting, kitchen, bread, cake, pie, slicing, cigar, butter, vegetable, fruit, cheese, canning, fish, carpenters' bench, curriers', drawing, farriers', fleshing, hay, sugar-beet, beet-topping, tanners', plumbers', painters', palette, artists', shoe, and similar knives, forks, and steels, and cleavers, all the foregoing, finished or unfinished, not specially provided for * * * :			
Not especially designed for other than household, kitchen, or butchers' use:			
Table knives and forks, wholly of metal and in chief value of stainless steel, not over 10.2 inches in overall length and valued at less than $3 per dozen pieces, with handles of--			
Austenitic steel:			
Less than 4 inches in length, exclusive of handle.	2¢ + 45%	2¢ + 35%	Jan. 1, 1939; United Kingdom.
		2¢ + 17-1/2%	Jan. 1, 1948.
		1¢ + 17-1/2% 3/	July 7, 1951.
		3¢ + 67-1/2% 3/	Nov. 1, 1959. 3/
4 inches in length or over, exclusive of handle.	8¢ + 45%	8¢ + 35%	Jan. 1, 1939; United Kingdom.
		8¢ + 35% 4/	Jan. 1, 1948.
		4¢ + 17-1/2% 3/	Oct. 1, 1951.
		12¢ + 67-1/2% 3/	Nov. 1, 1959. 3/

Table A-7.--Stainless steel table flatware: U.S. rates of duty from 1930 to August 31, 1963--Continued

(Cents each; percent ad valorem)

Tariff paragraph and description	Tariff Act of 1930		
	Statutory rate 1/	Trade-agreement modification	
		Rate	Effective date and trade agreement 2/
Steel, other than austenitic:			
Less than 4 inches in length, exclusive of handle.	2¢ + 45%	2¢ + 25%	Jan. 1, 1939; United Kingdom.
		2¢ + 25% 4/	Jan. 1, 1948.
		2¢ + 12-1/2%	May 30, 1950.
		1¢ + 12-1/2% 3/	Oct. 1, 1951.
		3¢ + 67-1/2% 3/	Nov. 1, 1959. 3/
	8¢ + 45%	4¢ + 25%	Jan. 1, 1939; United Kingdom.
		4¢ + 25% 4/	Jan. 1, 1948.
		4¢ + 17-1/2% 3/	Oct. 1, 1951.
		12¢ + 67-1/2% 3/	Nov. 1, 1959. 3/

1/ Applicable to the products of Communist-dominated or Communist-controlled countries or areas which are designated as such by the President.

2/ General Agreement on Tariffs and Trade, unless otherwise indicated.

3/ Pursuant to Presidential Proclamation No. 3323, dated Oct. 20, 1959, the higher of the 2 rates to which this footnote is attached was made applicable during any 12-month period beginning Nov. 1, 1959, and in each subsequent year, after a total aggregate quantity of 69 million single units of table spoons described under par. 339, and of table knives and table forks described under par. 355, had been entered, or withdrawn from warehouse, for consumption; until the total agregate quantity of the designated units had been entered, or withdrawn from warehouse, for consumption, during any 12-month period designated above, the lower rate of duty was applicable.

4/ Round.

Note.--Stainless-steel table flatware, wholly of metal and in chief value of stainless steel, over 10.2 inches in overall length or valued at $3 or more per dozen pieces (nonquota-type flatware), was dutiable at the same rates of duty as the quota-type flatware entered within the quota limits.

Table A-8.—Stainless-steel table flatware: U.S. rates of duty from August 31, 1963 to September 30, 1971 1/

TSUS item No.	TSUS appendix item No. 2/	Article	Rate applicable before quota is filled (in effect Aug. 31, 1963 to Oct. 11, 1967)		Rate applicable after quota is filled			Rate applicable Oct. 12, 1967 to Sept. 30, 1971
						In effect Nov. 1, 1965 to Oct. 11, 1967		
			Statutory rate 3/	Trade-agreement rate 4/	In effect from Aug. 31, 1963 to Oct. 31, 1965	Applicable to products of non-Communist countries	Applicable to products of Communist countries	
		Knives, forks, and spoons with stainless-steel handles:						
		Knives and forks:						
650.09	(927.50	With handles not containing						
650.39	(927.53	nickel and not containing						
651.75 5/	(927.60	over 10 percent by weight of manganese:						
		Not over 10.2 inches in over-all length and valued at less than 25 cents each.	2¢ each + 45% ad val.	1¢ each + 12.5% ad val.	3¢ each + 67.5% ad val 6/	3¢ each + 15% ad val. 7/	3¢ each + 15% ad val. but not less than 2¢ each + 45% ad val. 8/	1¢ + 12.5% ad val.
		Other 9/	2 ¢ each + 45% ad val.	1¢ each + 12.5% ad val.	10/	10/	10/	
650.11	(927.51	With handles containing nickel						
650.41	(927.53	or containing over 10 percent						
651.75 5/	(927.62	by weight of manganese:						
		Not over 10.2 inches in over-all length and valued at less than 25 cents each.	2¢ each + 45% ad val.	1¢ each + 17.5% ad val.	3¢ each + 67.5% ad val. 6/	3¢ each + 20% ad val. 7/	3¢ each + 20% ad val: but not less than 2¢ each + 45% ad val. 8/	1¢ + 17.5% ad val.
		Other 9/	2 ¢ each + 45% ad val.	1¢ each + 17.5% ad val.	10/	10/	10/	
		Spoons:						
650.55	(927.52	Not over 10.2 inches in over-all	40% ad	17% ad	60% ad	40% ad	40% ad	17% ad val.
651.75 5/	(927.54	length and valued at less than	val.	val.	val. 6/	val. 7/	val. 8/	
	(927.62	25 cents each.						
		Other 9/	40% ad val.	17% ad val.	10/	10/	10/	

1/ The TSUS became effective on Aug. 31, 1963.

2/ TSUS appendix items provide or provided for the imposition of tariff quotas on certain stainless-steel flatware. Items 927.53 and 927.54 were in effect from Aug. 31, 1963, to Oct. 31, 1965, and items 927.60, 927.61, and 927.62 became effective Nov. 1, 1965. Items 927.50, 927.51, and 927.52 have been in effect since Aug. 31, 1963. The initial tariff quotas specified in the appendix to the TSUS had been in effect since Nov. 1, 1959 (see table 2).

3/ Applicable to imports from countries or areas designated as Communist dominated or controlled.

4/ Applicable to imports from all countries except those designated as Communist dominated or controlled and except imports from the Republic of the Philippines.

5/ Each set of 2 or more articles containing 1 or more articles of flatware, is dutiable at the rate of duty applicable to the article in the set subject to the highest rate of duty.

6/ Applicable to imports from non-Communist (except the Philippines) and Communist countries after an aggregate quantity of 69 million single units of knives, forks, and spoons with stainless-steel handles, valued under 25 cents each, and not over 10.2 inches in over-all length had been entered in any 12-month period beginning Nov. 1 in any year from countries subject to the trade-agreement rates.

7/ Applicable to imports from other than designated Communist countries and the Republic of the Philippines after an aggregate quantity of 84 million single units of knives, forks, and spoons with stainless-steel handles, valued under 25 cents each, and not over 10.2 inches in over-all length has been entered in the periods Nov. 1, 1965-Oct. 31, 1966, and Nov. 1, 1966.

8/ Applicable to imports from designated Communist countries after the quota has been filled by imports from countries subject to the trade-agreement rates.

9/ These articles are not subject to quota.

10/ Not applicable.

Table A-9.--Stainless-steel table flatware: U.S. rates of duty from October 1, 1971 to September 30, 1976

Item	Stat. suffix	Articles	Units of quantity	Rates of duty		Effective period
				1	2	
		Subpart D statistical headnote:				
		For purpose of statistical reporting— (a) the stainless steel knives, forks, and spoons provided for in items 949.00-.08 should be reported hereunder without reference to the item number in schedule 6 under which they would be classified but for the provisions of this appendix. Those articles, the product of Communist-dominated nations or areas for which "Rates of Duty" column 2 apply, should be reported under the appropriate provisions of schedule 6; and (b) articles described in items 949.00-.08 but which are imported as parts of sets classifiable under item 651.75 are to be reported under one or more of the special 7-digit items in this appendix as to quantity only. The value of such articles is to be included in the value of the sets under item 651.75.				
		Knives, forks, and spoons; all the foregoing valued under 25 cents each, not over 10.2 inches in overall length, and with stainless steel handles (provided for in items 650.08, 650.10, 650.38, 650.40, 650.54, and, if included in sets, 651.75 of part 3E of schedule 6):				On or before Sept. 30, 1976, unless extended by the President
		For the following agregate quantities of single units, which are the product of the specified sources of supply and are subject to the rates set forth in rates of duty column numbered 1, entered in any calendar quarter in any calendar year (see headnote 2 of this subpart with respect to possible increases in these quantities)--				
		Japan	33,000,000 1/			
		Republic of China	6,300,000 1/			
		Republic of Korea	4,800,000 1/			
		Hong Kong	1,500,000 1/			
		European Economic Community (an instrumentality of the Governments of the Kingdom of Belgium, the French Republic, the Federal Republic of Germany, the Republic of Italy, the Grand Duchy of Luxembourg, and the Kingdom of the Netherlands)	1,500,000 1/			
		United Kingdom	600,000 1/			
		Other	900,000 1/			

Table A-9.--Stainless steel table flatware: U.S. rates of duty from October 1, 1971 to September 30, 1976--Continued

Item	Stat. suffix	Articles	Units of quantity	Rates of duty 1	Rates of duty 2	Effective period
		Knives, forks, and spoons; all the foregoing valued under 25 cents each, not over 10.2 inches in overall length and with stainless steel handles (provided for in items 650.08, 650.10, 650.38, 650.40, 650.54, and, if included in sets, 651.75 of part 3E of schedule 6):				On or before sept. 30, 1976, unless extended by the President
		Knives and forks:				
949.00	2/	With handles not containing nickel and not containing over 10 percent by weight of manganese (item 650.08 and 650.38).....	.....	1¢ each + 12.5% ad val.	No change	
	20	Knives and forks included in sets provided for in item 651.75 (quantity only).....	No.			
	40	Knives (item 650.08) not in the above sets.....	No.			
	60	Forks (item 650.38) not in the above sets.....	No.			
949.02	2/	With handles containing nickel or containing over 10 percent by weight of manganese (items 650.10 and 650.40).....	.....	1¢ each + 17.5% ad val.	No change	
	20	Knives and forks included in sets provided for in item 651.75 (quantity only).....	No.			
	40	Knives (item 650.10) not in the above sets.....	No.			
	60	Forks (item 650.40) not in the above sets.....	No.			
949.04	2/	Spoons (item 650.54).....	.....	17¢ ad val.	No change	
	20	Spoons included in sets provided for in item 651.75 (quantity only).....	No.			
		Spoons (item 650.54) not in the above sets.....	No.			
		Other:				
949.06	2/	Knives and forks (items 650.08, 650.10, 650.38, and 650.40).....	.....	2¢ each + 45% ad val.	No change	
	10	Knives and forks included in sets provided for in item 651.75 (quantity only).....	No.			
		With handles not containing nickel and not containing over 10 percent by weight of manganese:				
	20	Knives (item 650.08) not in the above sets...	No.			
	30	Forks (item 650.38) not in the above sets....	No.			
		With handles containing nickel or containing over 10 percent by weight of manganese:				
	40	Knives (item 650.10) not in the above sets..	No.			
	50	Forks (item 650.40) not in the above sets...	No.			
949.08	2/	Spoons (item 650.54).....	.....	40% ad val.	No change	
	20	Spoons included in sets provided for in item 651.75 (quantity only).....	No.			
	40	Spoons (item 650.54) not in the above sets.....	No.			

1/ By letter dated Sept. 3, 1974, the President notified the Secretary of the Treasury of his determination that the tariff-rate quota for each calendar quarter be increased by 5 percent for each source, effective with respect to articles entered, or withdrawn from warehouse, for consumption on and after Oct. 1. 1974.

2/ See subpt. D statistical headnote 1.

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

OFFICIAL BUSINESS

ADDRESS CORRECTION REQUESTED

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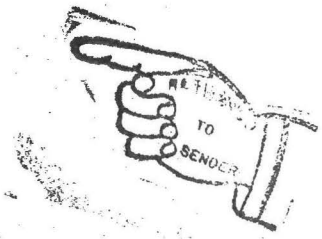

Box closed - No order

ADDRESS CHANGE
- ☐ Remove from List
- ☐ Change as Shown

Please detach address label and mail to address shown above.