

versely, maintaining you prefer free but fair trade, while doing everything in your power to heighten uncertainty over the future of trade in your market, may reveal a stronger protectionist bent than would otherwise be apparent.

The intensity of firms' preferences must be assessed not only to gauge the actual nature of their preferences but also to compare preferences among firms. Whether a firm prefers open markets is a first question, but whether it prefers them as much as another firm is important for the argument as well. This cross-firm (and cross-industry) ranking of preferences requires evaluating the effort that firms put into realizing their trade policy preferences. For example, in the American cases the number and type of petitions for trade relief filed under U.S. trade laws, the frequency and duration of court cases regarding foreign competition, the nature and amount of congressional lobbying, and the extent of internal political discussion and organization related to trade issues can all be employed to measure the relative intensities of different firms' preferences. Not only what a firm says it prefers but how often it states this preference and what it does to realize it are important elements in understanding its preferences.

One further aspect of this argument should be noted before examining the cases. The firms chosen were likely to act on their preferences. These firms were all in serious economic distress. It is reasonable to expect that their precarious position would prompt them to act even if that action were costly, because inactivity might mean their demise. Both rational actor and satisficing models of firms would expect these endangered firms to try to improve their situations.

Moreover, the argument is not that firms in an industry will always be able to act in a unified way to promote some industry-wide position. By focusing on the firm, the argument anticipates that firms may have very different preferences and may not be able to agree on a unified position. However, the firms in an industry may all have a similar international orientation and may develop a common position. In this case collective action problems should be minor. All will face strong economic pressure to act, and in very few instances will the number of relevant firms be large enough to pose collective action dilemmas. Because of the cases chosen, therefore, individual and collective action problems should be minimal: these distressed firms will be impelled to act, and industry-wide political activity should be impeded mostly by differences in preferences among firms.

The 1920s U.S. Case Studies

THIS CHAPTER presents detailed analyses of six American industries in the 1920s. In each case, the industry's presumptive interest in protection is established by reviewing its high levels of economic distress, and then the nature and extent of the industry's export dependence and multinationality are elaborated. Next, the industry's trade policy preferences over the 1920s are the center of attention. The main instrument for protecting industries during this period was the tariff, and thus the industry's position on its tariff rate was the most important indicator of its trade preferences. The discussion focuses primarily on the industry's testimony to Congress during the two tariff revisions of the decade. The industry's complaints to the U.S. Tariff Commission (USTC) and the political controversies surrounding trade issues among the industry's firms are also examined. The central concern, in the analysis of each case, is to determine whether the extent of the industries' international ties affects the nature of their trade policy preferences in the predicted fashion.

CASE 1: WOOLEN GOODS

American wool manufacturers and growers in the early twentieth century were important political actors, especially in the area of trade, where they had waged fierce battles for protection throughout much of the nineteenth century.¹ Around the turn of the century, developments occurred that changed the industry: wool growers moved west, wool manufacturers were largely unable to move out of New England to lower-cost areas, and new substitute fabrics like cotton, rayon, and silk displaced wool.² Because of these conditions, this domestically oriented industry experienced serious economic difficulties and in the 1920s resorted once again to vigorous demands for more protection from foreign competition.

U.S. wool manufacturers' problems were continuous during the

¹ Chester Wright, *Wool-Growing and the Tariff* (Cambridge: Harvard University Press, 1910), pp. 213-27; Victor Clark, *History of the Manufactures of the United States, 1893-1928*, vol. 3 (New York: McGraw-Hill, 1929), pp. 191-210.

² Wright, *Wool-Growing*, chs. 7-9; Clark, *History of the Manufactures*, pp. 204-210.

decade. Their secular decline had two primary sources: one was foreign competition and the other was related to shifts in consumer preferences from wools to cotton and rayon fabrics. Foreign competition had been a constant problem. Great Britain, and to a lesser extent Germany, had dominated the wool manufactures industry worldwide for most of its industrial history.³ The U.S. industry had always been pressed by imports, but these surged in the 1920s. The value of woolen goods imports increased steadily throughout the decade; in 1921, their value was \$35 million, and by 1929 it was \$65 million.⁴ Moreover, the level of import penetration rose substantially over the period; in 1919 the ratio stood at 1 percent, in 1921 it had moved to 16.4 percent, and by 1929 it was at 22.3 percent.⁵ The rate of increase in import penetration was extremely high, approximating 300 percent in the beginning of the decade.

In addition, there was widespread evidence of the wool manufacturers' economic difficulties in other areas. The prices of their goods, their profits, the number of firms and workers engaged in the industry, and their capacity utilization levels all declined in the 1920s.⁶ Such serious problems suggest why they had an a priori strong interest in increased tariffs.

American manufacturers of woolen goods not only possessed good reasons for their protectionist preferences but also were not constrained in pursuing them by any significant ties to the international economy. These manufacturers displayed little export dependence or multinationality at either the industry or firm level in the 1920s, and thus were typical of a Type I industry.

The export dependence of U.S. wool manufacturers was limited in the 1920s. After 1919, this industry registered an increasingly negative trade balance over the next decade.⁷ In addition, the industry's value of exports relative to the value of its domestic production remained low. In 1923, the wool manufacturers' ratio of exports to domestic production was about 2.1 percent, and it declined further over

³ National Industrial Conference Board (hereafter NICB), *Trends in the Foreign Trade of the United States* (New York: NICB, 1930), pp. 279-83.

⁴ U.S. Bureau of Foreign and Domestic Commerce (hereafter U.S. BFDC), *Foreign Commerce and Navigation of the United States* (Washington, D.C.: GPO, 1922, 1927, 1929).

⁵ Imports from U.S. BFDC, *Foreign Commerce*; domestic production from U.S. Dept. of Commerce, Bureau of the Census, *Census of Manufactures, 1929* (Washington, D.C.: GPO 1930). Import penetration is measured as the value of imports as a percentage of domestic production.

⁶ For extensive data on these, see Milner, "Resisting the Protectionist Temptation."

⁷ U.S. BFDC, *Foreign Commerce*, 1922, 1929.

the decade.⁸ At the industry level, these manufacturers exported little and thus had few of the ties to the international economy that would have been forged by significant export dependence. Moreover, all firms within the industry, not just a majority, lacked export sales.⁹

American wool manufacturers' lack of ties to the international economy was manifested further by their limited multinational operations. Of the numerous studies made concerning U.S. direct foreign investment in the 1920s, not one mentions woolen manufacturers, or textiles in general, as being among the leading industries in this movement abroad.¹⁰ This lack of multinationality was not surprising, given the attributes cited as conducive to direct investment abroad. As one author notes, five characteristics of firms were strongly associated with extensive multinationality in the 1920s: the newness of an industry, distinctive (trademarked or highly advertised) products, technological leadership, large firm size, and significant export sales.¹¹ None of these (pre-)conditions for direct foreign investment existed in the woolen manufactures industry, which perhaps explains why it had so few foreign operations.

Foreign investment by the woolen goods industry was limited as well. At its upper limit, the industry's manufacturing investments abroad totaled \$66 million in 1932, or about 4.0 percent of total U.S. manufacturing direct foreign investment. At its lower limit, the value of its foreign operation in 1932 was \$0.7 million, or merely .05 percent of total U.S. manufacturing direct foreign investment.¹²

⁸ U.S. BFDC, *Foreign Commerce*, for exports in 1922, 1927, 1929, and U.S. Dept. of Commerce, *Census, 1929*, for domestic production. Average U.S. export dependence for manufactures was 3.3 percent at the time.

⁹ The available sources rarely mention exports for this industry, and when they do it is often as an afterthought. See Moody's *Moody's Manual of Industrial Securities, 1927* (New York: Moody's, 1927); National Archives, U.S. Tariff Commission (hereafter N.A. USTC) files, "Tariff Information Surveys," surveys on wool and yarns, wool cloths, and wool wearing apparel, RG 81, 1920.

¹⁰ See, e.g., Cleona Lewis, *America's Stake in International Investments* (Washington, D.C.: Brookings Institution, 1938); Mira Wilkins, *The Emergence of Multinational Enterprise* (Cambridge: Harvard University Press, 1970); Mira Wilkins, *The Maturing of Multinational Enterprise* (Cambridge: Harvard University Press, 1974); Dunn, *American Foreign Investments*; Frank Southard, *American Industry in Europe* (Boston: Houghton Mifflin, 1931); U.S. BFDC, *Foreign Commerce*, 1930; Senate, *American Branch Factories Abroad*, 1931, Doc. 258; Senate, *American Branch Factories Abroad*, 73rd Cong., 2nd sess., 1933, S. Doc. 120.

¹¹ Wilkins, *Maturing of Multinational Enterprise*, p. 89.

¹² Senate, *American Branch Factories*, Doc. 120, 1933, p. 31. Total U.S. DFI in manufacturing was \$1.5 billion in 1932; the value for the "other textile" group was \$66 million. This "other textile" group figure greatly overstates the amount for just the woolen goods

Multinationality at the firm level was also scarce for the industry. In studies listing the key U.S. firms operating abroad in the 1920s, no woolen manufacturers are ever mentioned.¹⁴ In addition, examinations of U.S. foreign investments by the country or region in which they are located rarely mention textile manufacturing of any sort.¹⁵ Finally, the U.S. wool manufacturers themselves testified in 1921 that they had no production facilities in Europe and that they did not manufacture abroad for re-export to the United States.¹⁶ This testimony supports the aggregate statistics, which imply that these manufacturers had few if any multinational production operations in the 1920s.

The woolen manufactures industry's limited export dependence and multinationality make it a Type I industry. Three other features, however, also warrant discussion. First, the industry had a weak international competitive position. During the nineteenth century, the U.S. wool manufacturers were nurtured by exceedingly high tariff levels. The industry grew up behind these tariff walls and never learned to compete without them.¹⁶ The American firms were not and probably would never be able to compete with the British and the Germans, who dominated the industry globally.¹⁷

Second, the U.S. wool manufacturing industry had limited industrial concentration. In 1928 the leading six firms in the industry controlled only 35 percent of total U.S. production.¹⁸ In addition to this

sector. The lower limit cited in the text is for the smaller category of textile yarns and knits, which underestimates the woolen goods sector. In any case, these are estimates for 1932; values for the 1920s are not available and would probably be much less, since the expansion of U.S. DFI occurred mostly in the late 1920s. See U.S. BFDIC, *American Direct Investments in Foreign Countries*, Trade Info. Bulletin 731 (Washington, D.C.: GPO, 1930), pp. 37-41, esp. p. 40.

¹⁴ See citations in note 16 in general; and Wilkins, *Maturing of Multinational Enterprise*, pp. 208-216, in particular.

¹⁵ For Europe, see Southard, *American Industry*; C. Lewis, *America's Stake*; Wilkins, *Emergence of Multinational Enterprise*; and Wilkins, *Maturing of Multinational Enterprise*. For Latin America, see both works by Wilkins; Max Winkler, *Investments of U.S. Capital in Latin America* (Boston: World Peace Foundation, 1928); and Dudley Phelps, *The Migration of U.S. Industry to South America* (New York: McGraw-Hill, 1936). For Canada, see Herbert Marshall, Frank Southard, and Kenneth Taylor, *Canadian-American Industry* (New Haven: Yale University Press, 1936). Overall, see U.S. BFDIC, *American Direct Investments*.

¹⁶ Senate, Finance Committee, *Tariff Act of 1921*, hearings, 67th Cong., 2nd. sess., 1921, sch. K, pp. 3545-47.

¹⁷ Clark, *History of Manufactures*, p. 204; Wright, *Wool-Growing*, pp. 227-29.

¹⁸ NICB, *Trends in Foreign Trade*, pp. 279-83; Dunn, *American Foreign Investments*, pp. 59, 62-85. Multinational data from Moody's, *Manual: 1927*, and N.A. USTC files, "Tariff Information Surveys," woolens, RC 81, 1920.

¹⁹ Senate, Finance Committee, *Tariff Act of 1929*, hearings, 71st Cong., 1st sess., 1929, sch. 11, p. 2.

lack of market dominance by a few firms, a large number of small firms entered and exited the industry with frequency.¹⁹ This plethora of woolens firms, large and small, contributed to the economic turbulence experienced by the manufacturers and prompted them to organize politically in a single group, the National Association of Wool Manufacturers.²⁰ This was the industry's primary vehicle for political action. Given the firms' similar situations—their lack of international ties and weak international competitive positions—and their relatively small size, the need for and development of such an organization was hardly surprising.

Third, the U.S. wool manufacturing industry had a peculiar relationship with wool growers. The wool growing industry (sheep raising) provided the primary input for the wool manufacturers. But during the 1920s the American raw wool supply was not sufficient to meet the manufacturers' demand for it; therefore, about 50 percent of the manufacturers' raw wool needs came from imports.²¹ This placed the manufacturers in an awkward position: though they wanted lower-priced wool imports, they feared opposing tariffs on raw wool since this was likely to prompt wool growers to oppose tariffs on wool manufactures.²² This situation induced the two groups to cooperate. Throughout the 1920s the growers and manufacturers not only refrained from opposing each other in public but also developed a coalition consisting of western wool growers and eastern wool manufacturers in order to press for higher tariffs.²³ This coalition was powerful because it combined industrial and agricultural interests and united western Republicans and New England Democrats in Congress.²⁴

In summary, U.S. wool manufacturers faced serious economic difficulties in the 1920s. The industry was beset by rising imports and declining domestic demand. These manufacturers were Type I producers with few economic ties to the international economy.

The Dependent Variable

The trade policy preferences of American wool manufacturers were consistently protectionist in the 1920s. These manufacturers lobbied

¹⁹ N.A. USTC files, "Tariff Information Surveys," woolens, RC 81, 1920.

²⁰ House, Ways and Means Committee, *General Tariff Revision of 1921*, hearings, 67th Cong., 1st sess., 1920, sch. K, pp. 2551-64.

²¹ *New York Times* (hereafter NYT), August 6, 1922, pt. 3, p. 15-8.

²² Wright, *Wool-Growing*, pp. 213-27.

²³ NYT, November 22, 1922, p. 20.1; NYT, January 8, 1921, p. 19.1.

²⁴ NYT, March 22, 1921, p. 17.6; NYT, April 14, 1921, p. 17.3; NYT, November 23, 1920, p. 17.8.

as a group for higher rates of duties on imports. The main reason for this preference was simply survival; as one observer noted, "it was generally felt among wool manufacturers in this country that the industry could not exist without a protective tariff that was reasonably high."²⁵ Their trade preferences were enunciated primarily in Congress during the major tariff revisions of the 1920s. Their complaints to the U.S. Tariff Commission (USTC) and their intra-industry debates, however, are also of interest.

During the 1920s the U.S. wool manufacturers lobbied Congress for enhanced protection at every opportunity. There were three: the 1921 Emergency Tariff hearings, the 1921-22 Fordney-McCumber Tariff hearings, and the 1929-30 Smoot-Hawley Tariff hearings. In each, the wool manufacturers pressed for higher duties and/or for changes in the methods of import valuation that would further reduce the sale of these foreign goods. Moreover, in each case the industry lobbied as a unit through the National Association of Wool Manufacturers and acted in coalition, usually a tacit one, with the U.S. wool growers.

During 1920 and 1921, Congress supervised an emergency revision of the tariff. One of the main proponents of this revision was the wool-growing industry. In the 1913 tariff revision, all raw wool had been placed on the free list and the tariff on wool goods had been reduced. These changes were not noticeable until after 1920, because the war in Europe had halted trade in wool products.²⁶ The postwar revival of world trade, however, sent the American growers and manufacturers into a panic. By 1920, with their prices and profits falling and imports rising, they both began pressing for increased protection. In the 1921 congressional hearings on the Emergency Tariff, the wool manufacturers supported new duties on raw wool and asked for a return to the highest duties ever on woolen goods, i.e., the compensatory duties of the 1867 tariff bill.²⁷ The manufacturers got involved in the 1921 bill largely because of the very stiff duties proposed on raw wool. Their search for protection was galvanized by the pending success of the wool growers. The spokesman for the National Association of Wool Manufacturers stressed,

The [emergency] measure [as passed by the House] does not include any provision for the protection of the industry of wool man-

²⁵ Herman T. Warshaw, ed., *Representative Industries in the U.S.* (New York: Holt & Co., 1928), p. 637.

²⁶ *NYT*, March 22, 1921, p. 1:6.

²⁷ Senate, Finance Committee, *Emergency Tariff*, hearings, 66th Cong., 3rd sess., 1921, pt. 2, pp. 67-70.

ufacturing, which at the present time is in as desperate a situation and menaced by as serious a foreign competition as any [industry]. . . . [W]e are unwilling to oppose or delay immediate relief for those industries which are covered by the pending bill *provided that* it is so amended that no additional disadvantage to those now existing is imposed upon the various branches of wool manufacture.²⁸

But the wool manufacturers did not receive any protection in the Emergency Bill.²⁹ Hence, in addition to their desire to reduce import pressures and raise prices, the manufacturers possessed the additional incentive to seek greater protection provided by their failure and the growers' success.

In the general tariff revision conducted by Congress in 1921-22, the wool manufacturers played a more visible role than they had earlier. Their association spent much time and energy pressing Congress to elevate the duties on woolen goods. Citing lower labor costs abroad and the unstable international exchange situation, the manufacturers called for an upward revision of their duties, in effect advocating an increase of some 130 percent.³⁰ In addition, the industry demanded new ratios between the duties on raw and manufactured wool, which would enhance the effective protection on the final goods, and the maintenance of specific duties in place of ad valorem ones, a move intended to allow continued differential discrimination against lower-priced wool goods in which the U.S. firms were least competitive.³¹ The wool manufacturers lobbied successfully for all of these preferences. Their tariffs were significantly increased and the duties were kept specific and in a graduated ratio to those on raw wool.³²

The wool manufacturers in 1921-22 showed their protectionist bent in other ways. For example, when the issue of foreign versus U.S. valuation arose, they favored U.S. valuation.³³ This method of valuation effectively elevated tariff rates by basing the duty on the equivalent U.S. price of the import rather than on its actual foreign price. In addition, the National Association of Wool Manufacturers opposed

²⁸ *Ibid.*, p. 67. Emphasis added.

²⁹ *NYT*, January 8, 1921, p. 19:1; Senate, Finance, *Tariff Act of 1921*, sch. 11, p. 3537.

³⁰ House, Ways and Means, *General Tariff Revision of 1921*, sch. K, pp. 2552-70; *NYT*, August 20, 1922, p. 1:8.

³¹ House, Ways and Means, *General Tariff Revision of 1921*, sch. K, pp. 2551-83, and Senate, Finance, *Tariff Act of 1921*, sch. 11, pp. 3525-70.

³² N.A. USTC files, "Applications and Investigations," investigation of wool goods, 80 81, 1923; *NYT*, October 15, 1922, pt. 9, p. 3:1-4. Tariffs were increased from an ad valorem of 35 percent in 1913 to 71 percent in 1922.

³³ Senate, Finance, *Tariff Act of 1921*, sch. 11, p. 3536.

any attempts to introduce a flexible tariff provision into the bill.³⁴ Such a provision was intended to allow the President to alter tariff duties upward or downward by 50 percent without Congress's approval if economic circumstances warranted such action. The wool manufacturers opposed such flexibility, ostensibly because it would be "unsettling to business, due to the liability to sudden and frequent [rate] changes," but actually because the industry feared the executive would be less susceptible to its pressure for high tariff duties.³⁵ On both of these issues, the wool manufacturers lost their case; a system of foreign valuation and the flexible tariff provision were written into the final bill.³⁶

The wool manufacturers' later approaches to Congress for help were as protectionist as these earlier ones. During the 1929-30 general tariff revision, the industry again requested higher tariff rates. This time, however, the desired increase was rather small, only 10 percent in certain grades of wools.³⁷ The manufacturers also retained their support for the U.S. valuation scheme and their opposition to the flexible tariff provision.³⁸ Two events reduced their willingness to seek protection. First, the industry had a hard time developing an argument for enhanced protection. In its testimony to Congress, its arguments appeared half-hearted and unconvincing, in part because the level of tariffs was already so high it was difficult to ask for further increases and in part because the primary source of its economic problems was clearly not imports but competition from other fabrics, especially cotton and rayon.

A second pressure mitigating the wool manufacturers' preferences for protection was the active opposition by importers and U.S. clothing manufacturers and retailers. The high tariffs on wools enacted in 1921 had stimulated their opposition, and they began organizing and publicly denouncing the rates and any attempt to increase them.³⁹ The wool manufacturers thus remained protectionist in 1929, but their desire for higher tariff rates was dampened by their fear of the opposition this would prompt.

³⁴ *NYT*, December 15, 1921, p. 26:2.

³⁵ *NYT*, December 15, 1921, p. 26:2; Senate, Finance, *Tariff Act of 1921*, sch. 11, p. 3242.

³⁶ *NYT*, September 13, 1922, p. 1:3.

³⁷ House, Ways and Means Committee, *Tariff Readjustment 1929*, hearings, 70th Cong., 2nd sess., 1929, sch. K, pp. 6069-71.

³⁸ *Ibid.*, pp. 6101-6405; Senate, Finance, *Tariff Act of 1929*, sch. K, pp. 193-224.

³⁹ House, Ways and Means, *Tariff Readjustment—1929*, sch. K, pp. 6405-6422, the testimony of the importers; Senate, Finance, *Tariff Act of 1929*, sch. K, pp. 242-58; *NYT*, February 8, 1929, p. 24:2; *NYT*, February 9, 1929, p. 8:2.

Another political arena in which the wool manufacturers could have pressed their case was the U.S. Tariff Commission. Under the trade laws of the Fordney-McCumber Act, firms could petition for tariff rate changes under different pretexts. These petitions were directed to the USTC, which would decide whether to investigate the case and subsequently recommend duty changes to the President. The wool manufacturers rarely employed this approach in the 1920s. The focus for their demands was Congress; moreover, since their petitions there tended to be successful, they had little need to bother with the USTC.

Intra-industry debates about trade policy for the industry were limited in the 1920s. Most wool manufacturers shared a similar sentiment about wools imports: they viewed them as a threat and preferred their strict limitation.⁴⁰ The fact that the U.S. manufacturers were represented by a single association throughout the congressional hearings of the decade also suggests this unanimity of interest. No individual firm testified to Congress, and public statements regarding the tariff were made only by the association.⁴¹ The high degree of unity on this issue is not surprising, given the U.S. firms' very similar lack of international ties and strong domestic orientation.

Cases in which one would expect deviance from the domestic industry's position are those involving importers, retailers, and foreign multinationals in the U.S. market. In the early 1920s, neither the importers nor the retailers played a role in the congressional tariff revision. Two reasons for this quiescence are plausible. First, neither group was very large or well organized in 1921-22. By 1929, however, they had become a significant and vocal force against further tariff increases. Second, because the tariff level on wools was relatively low (in historical perspective), importers and retailers felt that its elevation was not that objectionable. By 1929, however, the duties on wools were very high, and the two groups increased their opposition to further increases in them. But the large majority of American wool manufacturers were neither importers nor retailers, so this opposition came from outside the group of main producers and never threatened the manufacturers' unity of interest.

The foreign firms operating in the United States were the one force

⁴⁰ This sentiment is made evident in the industry's testimony to Congress throughout the 1920s and in various issues of the industry's main trade journal, *Bulletin of the National Association of Wool Manufacturers*.

⁴¹ House, Ways and Means, *General Tariff Revision of 1921*, sch. K; House, Ways and Means, *Tariff Readjustment—1929*, sch. 11; Senate, Finance, *Tariff Act of 1921*, sch. K; Senate, Finance, *Tariff Act of 1929*; various issues of the *Bulletin of the National Association of Wool Manufacturers* for the 1920s.

that might have engendered serious divisions among the producers. In the woolen goods industry, only one sizable multinational existed. The Botany Consolidated Mills, the third largest firm in the United States, was affiliated with a large German woolens combination.⁴² This firm, however, was in German hands only between 1924 and 1929 and did not generate much debate over the issues during this brief period.

Overall, the wool manufacturing industry supports the argument about Type I industries. U.S. wool manufacturers, when faced with serious economic distress combined with rising imports, sought relief in the form of increased protection of the home market. Their uniform lack of exports or multinational production ensured that their pursuit of protection would be vigorous and industry-wide. Firms in the industry had few qualms about advocating protectionism, because they had no foreign markets to lose and only the domestic market to gain. The thoroughly protectionist sentiment among wool manufacturers in the 1920s can thus be understood as a consequence of its limited international ties.

CASE 2: WATCHES AND CLOCKS

Though small, the watch and clock industry occupied a critical position in the U.S. economy as the twentieth century began. It was "a leader in the introduction of the system of interchangeable parts production and in the mass marketing of 'luxury' consumer goods."⁴³ The industry's technological and marketing leadership persisted in the early years of the century, as its firms developed precision timing devices for military-related activities. By the end of World War I, however, the industry was losing its dynamism; it had reached "an advanced stage of development [in which] the end of the rapid expansion of the market and a further increase in the intensity of competition" were most likely.⁴⁴

Between 1919 and 1923 and again between 1929 and 1934, U.S. watch and clock manufacturers faced serious economic recessions, induced by domestic problems and exacerbated by foreign competition.⁴⁵ Over the decade, imports rose substantially, and their penetration of the domestic market surged intermittently. The value of watch

⁴² Moody's *Manual*, 1927, p. 2351; it was the third largest in terms of capitalization.

⁴³ John Murphy, "Entrepreneurship in the Establishment of the American Clock Industry," *Journal of Economic History* 26 (June 1966): 169.

⁴⁴ Charles Moore, *Timing a Century: History of the Waltham Watch Company* (Cambridge: Harvard University Press, 1945), pp. 134-35.

⁴⁵ *Ibid.*, pp. 134-35, 209-212.

and clock imports grew from \$10 million in 1921 to \$17 million in 1929, while imports as a percentage of domestic production increased from 16.7 percent in 1919 to 18.6 percent in 1929.⁴⁶ Although the average rate of increase in import penetration over the decade was not that large (12 percent or so), strong surges in this rate occurred in 1919-21 (80 percent) and in 1925-27 (70 percent). These imports derived mainly from a single source, Switzerland, which claimed about 90 percent of total U.S. imports. Furthermore, the surges in imports occurred directly before the decade's major tariff revisions and thus contributed to the perceived threat posed by this foreign competition.⁴⁷

The industry's economic distress was widespread. Profitability, the number of firms and employees, and capacity utilization rates all suffered, especially in 1919-23 and after 1929. Profitability declined over the decade, and in its early and late years individual firms were unable to generate sufficient income.⁴⁸ In 1921 and 1923, for instance, one of the two largest firms in the business, the Waltham Watch Company, was unable to pay its debts and had to be reorganized by its creditors.⁴⁹ By and large the early 1920s were an economic disaster for the U.S. watch and clock industry.

After 1923 the industry's economic problems were confined more to the watch segment. Clock manufacturers, though suffering in the 1919-22 period, operated at a stable level for the rest of the decade; their small increases in production did not keep up with the rest of the economy, but at least they were not declining.⁵⁰ The watch manufacturers, on the other hand, experienced difficulty throughout the decade.⁵¹ This was most disturbing, because watches, in particular the new products known as wristwatches, and not clocks, were the dynamic segment of the sector.⁵² These troubles and high import penetration in the watch segment meant that the United States was losing

⁴⁶ Import figures from U.S. BFGC, *Foreign Commerce*, 1922, 1927, 1929; figures on domestic production from U.S. Dept. of Commerce, *Census*, 1929.

⁴⁷ Senate, Finance, *Tariff Act of 1921*, sch. C, p. 2003.

⁴⁸ House, Ways and Means, *General Tariff Revision of 1921*, sch. C, p. 1031; Moore, *Timing a Century*, pp. 134-37; Moody's, *Manual*, 1927, entries for Waltham Watch Co.; Moore, *Timing a Century*, pp. 112, 137.

⁴⁹ Moore, *Timing a Century*, pp. 112, 118, 127, for the story.

⁵⁰ Dept. of Commerce, *Census*, 1929, pp. 1031-33.

⁵¹ *Ibid.*, pp. 1031-33; House, Ways and Means, *Tariff Readjustment—1929*, sch. C, pp. 2348-49; Moore, *Timing a Century*, pp. 209-212.

⁵² Moore, *Timing a Century*, pp. 134-35, 217-18; U.S. BFGC, *Foreign Commerce*, 1928, pp. 2-4.

the battle in the most technologically advanced and fastest growing portion of the market.

The serious economic distress felt by American watch and clock manufacturers was likely to induce them to seek greater protection of the home market, especially since their worst problems immediately preceded the general tariff revisions of the 1920s. That these manufacturers also had weak ties to the international economy further increased the likelihood of their preference for protection. In the 1920s the U.S. watch- and clockmakers possessed fairly low levels of export dependence and only incipient multinational operations. They were Type I producers.

In terms of export dependence, the industry was gradually, but not very successfully, developing foreign markets. Exports grew over the decade, but they were directed away from America's primary competitors, the Europeans.⁵³ In these non-European markets, the U.S. firms met stiff competition from their European counterparts, but it was nothing like what they faced in the Europeans' own markets.

The industry's international trade ties were limited in the 1920s. Its net trade balance became increasingly negative.⁵⁴ Export dependence, as measured by the ratio of exports to domestic production, was also low. Over the decade, it averaged 4 percent.⁵⁵ The watch and clock manufacturers were thus small exporters. They did have some export ties, but these were minor and directed away from their main competitors.

At the firm level, export dependence was unequally distributed. Only the eight largest firms exported, and only three of these exported beyond Canada.⁵⁶ The ratio of exports to domestic sales even for these three firms ranged between 6 and 8 percent in the 1920s, a low figure historically.⁵⁷ Thus, export dependence was concentrated among the few largest manufacturers and, even for them, was low.

One aspect of their trading relations was growing during the decade, however. This involved the increasing use of imported parts by U.S. firms in their manufacturing of watches and, to a lesser extent, clocks. Imports of clock parts doubled between 1922 and 1926, while the value of watch parts' imports tripled in the same period.⁵⁸ Ameri-

⁵³ U.S. BFDC, *Foreign Commerce*, 1922, 1927, 1928 (pp. 3-4), 1929.

⁵⁴ *Ibid.*

⁵⁵ U.S. BFDC, *Foreign Commerce*, 1928, p. 2; House, Ways and Means, *General Tariff Revision of 1921*, sch. N, pp. 3340-41.

⁵⁶ House, Ways and Means, *General Tariff Revision of 1921*, sch. N, pp. 3340-41.

⁵⁷ *Ibid.*; Moore, *Timing a Century*, pp. 252-55.

⁵⁸ U.S. BFDC, *Foreign Commerce*, 1928, pp. 3-4.

can watch and clock manufacturers realized that one way to reduce their costs was to use parts produced abroad. Import-assembly operations attained a prominent place over the decade in the production of many U.S. firms. These operations were most widely adopted by the smallest firms in the industry, and not by the leaders.⁵⁹ This diluted their political impact and limited the constraining effect they might have had on the industry's protectionist preferences.

Low export dependence was combined with a small-scale, nascent multinationality. At the industry level, direct foreign investment by American watch and clock manufacturers was very small in the 1920s. The total capital invested abroad as of 1932 was \$1.4 million,⁶⁰ and it was geographically concentrated. Nearly half (\$0.7 million) was located in Canada, and the rest was in Great Britain and Europe.⁶¹

This limited direct foreign investment was new and undeveloped. Several of the foreign subsidiaries had been bought or established only in the 1920s. Moreover, they were usually begun as adjuncts to the firms' export operations. The foreign company was mainly a selling operation at first, but in time it tended to develop its own assembly and production operations. In fact, of the three European watch and clock subsidiaries of the American industry, only one was a factory with complete production.⁶² The foreign operations of U.S. watch and clock manufacturers were primarily sales or distribution agencies throughout the 1920s; they were not developed into a worldwide chain of production.

Among the firms, foreign investment, like export activity, was concentrated. Foreign investment was carried out by only five of the largest firms in the industry and was not very important even for these firms.⁶³ Thus, the foreign operations of individual American watch and clock manufacturers supports the industry-level data: their multinational operations in the 1920s were small and undeveloped. They could hardly be expected to play a critical role in the firms' calculations of their trade policy preferences.

Foreign firms operating in the United States were one group in

⁵⁹ Moore, *Timing a Century*, p. 214. This distribution is not unexpected, since larger firms were likely to have had a much easier time fabricating all the different parts used in the completed good.

⁶⁰ Senate, *American Branch Factories*, Doc. 120, 1933, p. 11.

⁶¹ *Ibid.*, pp. 11-19.

⁶² Dunn, *American Foreign Investments*, pp. 150, 159; Moody's, *Manual: 1927*; Moore, *Timing a Century*, pp. 252-55; Southard, *American Industry*, p. 111; U.S. BFDC, *Foreign Commerce*, 1928, p. 31.

⁶³ Senate, *American Branch Factories*, Doc. 120, 1933, pp. 11-19; Moody's, *Manual: 1927*; Moore, *Timing a Century*, pp. 252-55.

which such a key role might be exerted by their foreign operations (i.e., by their U.S. subsidiaries). Although the European watch and clock manufacturers tended to be large and export-oriented, they did not have many direct foreign investments in the United States.⁶⁴ Only two foreign firms had U.S. manufacturing subsidiaries. One was the Bulova Watch Company, which had its main operations in Switzerland but also had two U.S. plants. Bulova was the largest seller of wrist-watches in the United States in the 1920s and thus represented an enormous threat to U.S. manufacturers.⁶⁵ In addition to Bulova, a foreign "threat" was seen in the operations of the Gruen Watch Company.⁶⁶ The behavior of these two foreign firms on trade issues should have been different than that of the domestic manufacturers. The significant international ties of Bulova and Gruen should have affected their trade policy preferences and steered them away from protectionism.

Overall, the serious economic distress and import competition felt by the U.S. watch and clock manufacturers in the 1920s, combined with their relatively weak export dependence and multinationality, should have resulted in demands for protection. As Type I producers without significant international ties, the domestic firms had little to restrain them from demanding protection. The only firms likely to experience sizable costs from such policies were, first, the foreign multinationals and, second, the few U.S. firms that had large exports. This latter group, however, was only likely to resist protection if it felt that retaliation would endanger its exports. Since these exports were concentrated in markets away from their main foreign competitors, the threat of retaliation was weakened. Though greater protection of the U.S. market might intensify competition in these exporters' foreign markets, it would not inevitably mean losing them. For these U.S. exporters, the costs of advocating protection were still low in the 1920s.

The Dependent Variable

The trade policy preferences of the U.S. watch and clock industry in the 1920s were expressed in three main arenas. Most important was the U.S. Congress, where manufacturers spent much of their effort lobbying for changes in the tariff. The industry focused less pressure

⁶⁴ The list of European firms exporting to the United States is given in Senate, Finance, *Tariff Act of 1921*, sch. C, pp. 2003-2007. All of these firms operated through distributors in the United States, not through their own branches.

⁶⁵ Senate, Finance, *Tariff Act of 1929*, sch. N, pp. 706-709.

⁶⁶ *Ibid.*; Senate, Finance, *Tariff Act of 1921*, sch. C, pp. 2000-2004. Moore's, *Manual*: 1927, p. 1033.

on the U.S. Tariff Commission; however, it did try several times to use U.S. trade laws and the USTC to institute changes in trade policy. Intra-industry debate was the final arena in which the industry's preferences were aired. These debates revolved around the particular concerns of the domestic firms and around the battle between the importers, allied with the foreign multinationals, and the domestic firms. In all three arenas, the domestic firms' interest in greater protection was evident. This interest became more nuanced over the course of the decade. Increasing use of imported watch and clock parts and the mounting resistance of importers and foreign firms led the domestic manufacturers away from their most strident protectionist positions by the late 1920s.

The watch and clock manufacturers testified extensively to Congress during its two major tariff revisions of the 1920s. In the 1921 debates over the Fordney-McCumber Bill, the domestic manufacturers asked Congress for substantial increases in the tariff on watches and clocks. In general, these producers wanted the tariff to be raised from its "low" level of 30 percent ad valorem to a higher rate, similar to that adopted in the Payne-Aldrich Tariff of 1909 (40 percent).⁶⁷

Even prior to the 1921 tariff revision, the watch and clock manufacturers had begun to lobby for increased tariffs. In preparation for the general tariff revision in 1921 by Congress, the USTC had been directed to report on the condition of all U.S. industries. For its survey on watches and clocks, the USTC received information and "advice" from the domestic firms. The watch manufacturers communicated the same general demands that they would later make to Congress. They wanted a change in their tariff classification, higher tariff duties on completed watch movements, and a shift to specific rates from ad valorem ones.⁶⁸ The information and demands contained in the firms' letters were clearly designed to influence the USTC's report to Congress and thus pave the way for the domestic firms' lobbying.

During the 1921 revision, the firms turned to Congress for help. The U.S. clock manufacturers sought to have the duties increased to a minimum of 50 percent ad valorem, with a specific duty added according to the number of jewels in the watch. They cited the vigorous German competition in clocks as the cause of all their problems at home and thus the reason for the duty increase.⁶⁹ The clock firms lobbying

⁶⁷ House, Ways and Means, *General Tariff Revision of 1921*, sch. C, pp. 1023-40, and sch. N, pp. 3335-51; Senate, Finance, *Tariff Act of 1921*, sch. N, pp. 2001, 2021.

⁶⁸ U.S. USTC files, "Tariff Information Survey," survey of watches and clocks, RC 81, 1920.

⁶⁹ House, Ways and Means, *General Tariff Revision of 1921*, sch. C, pp. 1023-35.

Congress did so without the use of a central political association, and were unified in their desire to elevate the tariff, although often at odds over the exact level desired.

The U.S. watch manufacturers also lobbied for higher tariffs. Although they too had no industry association, they were united in their desire for a return to the old tariff level of 1909. Their main argument was that the heavy foreign imports from Switzerland and Germany should be curtailed because they were wreaking havoc in the U.S. industry and because they were unfairly promoted by the foreign governments.⁷⁰ The watch manufacturers also wanted specific duties to be added to the ad valorem ones, the effect of which would be to discriminate against the goods in which foreigners were most competitive.⁷¹

In addition, the U.S. watch manufacturers lobbied to change the tariff classification on watches. They wanted watches to be moved from the "metals and manufactures" schedule (Schedule C) to the "sundries" schedule (Schedule N).⁷² This was to ensure that their duties would not be reduced. In the 1920s, many of the industries involved in metals and their manufacturing—e.g., the auto industry and makers of farm equipment and machine tools—were highly competitive, international firms that were increasingly disenchanted with the high U.S. tariff policy.⁷³ The watchmakers feared their whole tariff schedule would be influenced by the antiprotectionist sentiment of these powerful industries and thus wished to retain their protection by being considered in the context of another schedule.

During the Fordney-McCumber hearings, the only opposition to the elevation of duties requested by the U.S. manufacturers came from a group of importers and retailers. This opposition was meager, however. The group testified only once and its objections were limited.

By the 1929 Smoot-Hawley Tariff deliberations, the intensity of both the domestic watch and clock manufacturers' preferences for and the importers-retailers' opposition to protection had changed. The domestic producers were less protectionist in 1929 than they had been in 1921. Though still desiring protection, they no longer wanted it

⁷⁰ *Ibid.*, sch. N, pp. 3343-47.

⁷¹ *Ibid.*, pp. 3335-48.

⁷² *Ibid.*

⁷³ See their testimony in House, Ways and Means, *General Tariff Revision of 1921*, sch. C; Senate, Finance, *Tariff Act of 1921*, sch. C. See also NYT, January 15, 1921, p. 7; NYT, January 17, 1921, p. 23. For their foreign ties, see Wilkins, *Maturing of Multinational Enterprise*, chs. 3-5 on the 1920s. See also U.S. Tariff Commission (OSTEC), *5th Annual Report of the U.S. Tariff Commission* (Washington, D.C.: GPO, 1921), p. 22.

increased on all watch and clock items, largely because of their own international trade in these items. The domestic producers who testified argued that their main problem was not imports per se but imports that "evaded" the tariff, namely smuggled goods and subassemblies.⁷⁴ To reduce these imports, the domestic firms claimed it was necessary to make the tariff specific, to increase duties on small, cheap models (wristwatches), and to elevate the duties on nearly completed subassemblies. The increases they desired were circumscribed, but were still directed against their main foreign competition.

The firms also proposed reductions in certain rates. In particular, the domestic manufacturers pressed for decreases in duties on larger, more expensive watches and clocks and on certain parts, the two categories in which the firms traded heavily. The U.S. firms wanted duty reductions on large, expensive watches because they were the firms' main export product.⁷⁵ Similarly, they desired a reduction on certain parts' duties because they had to import these goods to produce the finished items.⁷⁶ The industry's growing trading links to the international economy thus helped reduce their protectionist bent by the late 1920s.

The domestic firms' preferences may also have been affected by the rising vocal opposition to protection among importers, retailers, foreign firms in the United States, and foreign governments. In the 1929 tariff deliberations, each of these groups spoke out against increasing protection. Unlike in 1921, these groups testified extensively to Congress in 1929 and vehemently opposed protection. The importer-retailer group lobbied against any further increases in protection for the domestic firms. Its detailed testimony stressed the good performance of the domestic industry, the huge costs of protection, and the costly effects of retaliation against the growing U.S. exports of watches and clocks.⁷⁷

The foreign multinationals also testified on their own against the domestic firms. The Bulova Watch Company claimed that the U.S. manufacturers were in good economic shape and thus deserved no further protection.⁷⁸ The Gruen Watch Company also voiced its concerns over further protection, but Gruen apparently had negotiated a

⁷⁴ House, Ways and Means, *Tariff Readjustment—1929*, sch. C, pp. 2348-49, 2357-59, 2403-2409; Senate, Finance, *Tariff Act of 1929*, sch. C, pp. 687-701.

⁷⁵ Senate, Finance, *Tariff Act of 1929*, sch. C, pp. 687-701; U.S. BPOC, *Foreign Commerce*, 1928, pp. 1-6.

⁷⁶ *Ibid.*; Moore, *Timing a Century*, pp. 213-14.

⁷⁷ House, Ways and Means, *Tariff Readjustment—1929*, sch. C, pp. 2367-75.

⁷⁸ Senate, Finance, *Tariff Act of 1929*, sch. C, pp. 720-43.

deal with the domestic manufacturers in which it agreed not to oppose the specific tariff increases they proposed in return for their promise not to request as stiff an increase.⁷⁹ The Swiss government was also involved in the tariff revision. The Swiss protested the high duties written into the House version of the bill and threatened retaliation if these were not altered. This protest apparently was effective, because the rates to which the Swiss objected were reduced in the course of the conference committee's deliberations.⁸⁰

Mounting opposition to further increases in the tariff on watches and clocks in 1929 arose not only from these foreign sources but also from various domestic groups. As the U.S. firms began to import more parts, their interest in excluding these imports was undercut, and they refused to testify in favor of the tariff.⁸¹ This behavior became more widespread in the industry as time progressed; by the early 1930s, increasing dependence on imports of parts had shifted the preferences of numerous domestic firms.⁸²

The impact of this new production procedure was felt in the political arena. In addition to reducing the number and unity of the domestic firms favoring protection, the growth of import-assembly operations among the firms split the long-standing New England congressional alliance developed by the domestic manufacturers. By 1929, the New England representatives of the watch industry were divided. Senators Jesse Metcalf and Felix Hebert of Rhode Island began voting against further protection for watches, because their state now contained "a large company which imports foreign watch movements for use in its American-made cases."⁸³ On the other hand, the Senators from Massachusetts voted for all of the watch and clock tariff increases because their state contained a significant concentration of the largest domestic watchmaking interests.⁸⁴ These new production and trading relations transformed the politics of trade policy by the end of the 1920s.

Parts of the industry lobbied the USTC for tariff changes in 1930 after the Smoot-Hawley Bill was enacted. In this case, several major

⁷⁹ *Ibid.*, pp. 716-26.

⁸⁰ *NYT*, April 18, 1930, p. 3 2; *NYT*, April 19, 1930, p. 8 3.

⁸¹ Senate, Finance, *Tariff Act of 1929*, sch. C, pp. 687-701. An example of this was the defection of the South Bend Watch Company from the side of the domestic manufacturers. As the firm shifted more and more to assembly of imported parts in its production, it refused to keep advocating higher tariffs.

⁸² Moore, *Timing a Century*, pp. 213-14.

⁸³ *NYT*, November 14, 1929, p. 12:3-5.

⁸⁴ *Ibid.*

watch producers wanted higher duties on certain watch parts and stricter administration of tariff laws. These producers pushed Congress into requiring the USTC to undertake a section 336 investigation of the watch industry. This investigation led to tariff increases on certain watch parts in 1932.⁸⁵ Overall, the industry's pressure on the USTC in the 1920s was secondary in importance to its pressure on Congress, though the concerns voiced at the USTC—i.e., the initial demands for thorough-going protectionism and the later concern over imports of parts—mirrored those that preoccupied the domestic firms during the tariff revisions.

In the 1920s intra-industry divisions over the tariff were limited for this industry. The domestic manufacturers were unified in their preferences, especially in the early part of the decade. Without an industry association, the firms developed a consensus against imports. Their long-standing oligopolistic practices helped achieve this; in fact, the firms' unified stance against imports was the most successful part of their efforts.⁸⁶ Even at the end of the decade, consensus—now against imports of subassemblies and wristwatches—among the major firms remained intact. The major opposition to the domestic manufacturers arose from the importers, retailers, foreign multinationals, and foreign governments.

Overall, economic distress in the industry combined with its limited ties to the international economy produced strong and persistent demands for greater protection, as in the case of woolen goods. Nevertheless, the development of greater international trading links through exports and import assembly operations undermined some support for further protectionism by the late 1920s. Furthermore, the foreign multinationals in the United States, which were involved in intricate global trading relationships, proved a major source of opposition to the domestic firms' demands.

CASE 3: THE TEXTILE MACHINERY INDUSTRY

The U.S. textile machinery industry developed slowly and with difficulty in the nineteenth century.⁸⁷ Only by closing the domestic market

⁸⁵ USTC, *14th Annual Report of the U.S. Tariff Commission* (Washington, D.C.: GPO, 1930); Moore, *Timing a Century*, p. 212.

⁸⁶ For evidence of their long-standing and often unsuccessful monopolistic practices, see Moore, *Timing a Century*, ch. 5, and *NYT*, September 24, 1927, p. 2:6.

⁸⁷ The industry includes all firms producing machines used to transform fibers (cotton, wool, and others) into fabrics (e.g., picking, combing, carding, and spinning machines) and to transform these fabrics into completed goods (e.g., weaving looms, knitting and

and imitating foreign designs could firms in this industry initially survive and develop.⁸⁵ The successful manufacture of textile machinery in the United States, though critical for the development of various complementary industries, was not easy to engineer, largely because of the very significant advantages possessed by the British and Germans.

U.S. textile machinery builders, nevertheless, as a result of innovations and strong domestic demand, established a prosperous industry between 1899 and 1921, especially in cotton manufacturing, where the U.S. machines became worldwide leaders.⁸⁶ This had two salubrious effects. Firms were propelled into their first long period of prosperity, which lasted from 1899 to 1912 and fostered great growth in the size of the firms.⁸⁷ These product innovations also induced the industry's first sizable exports around 1913.⁸⁸ The favorable conditions were not long lasting, however; by 1923, the industry was again in a depressed condition and faced serious foreign competition at home and in its new export markets.

The industry entered a long period of economic depression in 1921. In particular, it was hit by rising import competition after World War I. The value of U.S. imports of textile machinery rose continuously over the 1920s. Their value in 1921 was \$5.3 million; by 1929, it reached \$8.5 million.⁸⁹ In addition, levels of import penetration climbed over the decade. The ratio of imports to total domestic production was a mere 0.9 percent in 1919; this rose to 4.1 percent by 1921 and ended the decade at 7 percent.⁹⁰ Not only did the import penetration level grow, but its rate of increase surged dramatically at times. Between 1919 and 1921 it rose over 300 percent, for instance, and between 1926 and 1929 it increased some 75 percent.⁹¹ The post-war reconstruction of the European industry thus clearly hurt the U.S.

braiding machines, embroidery and lace-making machines). It excludes, most notably, sewing machines.

⁸⁵ David Jeremy, "Innovation in American Textile Technology during the Early Nineteenth Century," *Technology and Culture* 14 (January 1973):40-41; Thomas Navin, *The Whitin Machine Works since 1937* (New York: Russell & Russell, 1950), pp. 402, 488-91; House, Ways and Means Committee, *Tariff Readjustment—1929*, sch. 3, pp. 2483-84.

⁸⁶ Navin, *Whitin Machine Works*, pp. 307-309; Jeremy, "American Textile Technology," pp. 63, 76.

⁸⁷ Navin, *Whitin Machine Works*, pp. 307-309; George Gibb, *The Saco-Lowell Shops* (New York: Russell & Russell, 1950), pp. 412-13, 431-32 (profit data).

⁸⁸ Gibb, *Saco-Lowell Shops*, pp. 478-81.

⁸⁹ U.S. BFD, *Foreign Commerce*, 1922, 1927, 1929.

⁹⁰ *Ibid.*; U.S. Dept. of Commerce, *Census*, 1929, pp. 1177-79.

⁹¹ *Ibid.*

industry, as European exports of textile machinery to the United States soared and increased the problems of already weak domestic firms.

This distress was apparent in the decline of the U.S. firms' profitability, numbers, and employees.⁹² Every firm but one was in deficit throughout much of the 1920s.⁹³ The largest firm in the industry, the Saco-Lowell Shops, lost \$0.5 million a year on average between 1923 and 1927. In fact, in 1926 it had to be rescued from its creditors by several banks, who then reorganized the entire firm and closed half of its plants.⁹⁴ Saco-Lowell's situation was typical for the industry in the period. In addition, it was plagued by serious overcapacity problems as shifts in the preferences and location of the key textile manufacturers who bought these machines reshaped the machine-building industry.⁹⁵

The textile machinery industry's ties to the international economy in the 1920s were mixed and unstable. The industry demonstrated high levels of export dependence that rose and fell over the decade, but it possessed little multinationality. Overall, the industry was a weak Type II.

In terms of export dependence, the U.S. textile machinery manufacturers had high but unstable links to the international trading system. The value of exports in the 1920s vacillated substantially: in 1921, it reached a peak of \$20 million; it then declined to a trough of \$9 million in 1924, but rose again to \$14 million in 1929.⁹⁶ The industry's net trade position was positive throughout the decade, though like its exports, it varied. The surplus of exports over imports peaked in 1921 at \$14.7 million, fell to its nadir in 1923 at \$2.4 million, and then rose again.⁹⁷ The ratio of exports to total production in the industry was substantial, about 9 to 10 percent over the decade. This also rose and fell. It reached a peak in 1921 at 15.5 percent, dropped to 6.4 percent in 1923, and only rose gradually after 1925 to 11.2 percent in 1929.⁹⁸

⁹² U.S. Dept. of Commerce, *Census*, 1929, p. 1177; Navin, *Whitin Machine Works*, pp. 348-51. These sources provide extensive data on the industry. See also Milner, "Resisting the Protectionist Temptation," pp. 191-93.

⁹³ Navin, *Whitin Machine Works*, pp. 336-37; Gibb, *Saco-Lowell Shops*, pp. 461, 492-93; Moody's, *Manual*, 1927.

⁹⁴ Navin, *Whitin Machine Works*, pp. 337, 340-41, 353-57; Gibb, *Saco-Lowell Shops*, pp. 461, 492-93, 501.

⁹⁵ Navin, *Whitin Machine Works*, pp. 335, 343-48.

⁹⁶ U.S. BFD, *Foreign Commerce*, 1922, 1927, 1929.

⁹⁷ *Ibid.*

⁹⁸ *Ibid.*; U.S. Dept. of Commerce, *Census*, 1929, p. 1177.

Several features of this export dependence are notable. First, export sales were unequally distributed among firms. This distribution was determined less by firm size than by product line. In general, manufacturers of cotton preparatory and finishing machinery were the largest exporters, while those fabricating machinery for the woollens industry did not export much.¹⁰² Among the cotton machinery manufacturers, exports were significant and widespread; they averaged close to 25 percent of total sales for many firms.¹⁰³

Second, the American exports were geographically concentrated. They were sent mainly to the Far East (China and Japan), and then to South America, Canada, and Europe from 1913 to the late 1920s.¹⁰⁴ The industry's key foreign markets were not those of its major foreign competitors, and this reduced the constraining effects of its export dependence. Retaliation by its major competitors abroad in response to rising U.S. protectionism would not directly hurt the U.S. exporters in any significant way, since their foreign markets were not their competitors' home markets.

Third, the export dependence of the 1920s was a new phenomenon. The U.S. industry had not begun exporting in any magnitude until 1913.¹⁰⁵ In fact, the largest firm in the industry (also the largest exporter), the Saco-Lowell Shops, received its first sizable export order only in 1915.¹⁰⁶ Export sales grew rapidly for the industry after this, but the novelty of these sales was slow to wear off. Even at the peak of U.S. exports in 1921, the chairman of the second largest firm in the industry, the Whitin Machine Works, refused to be optimistic about the industry's long-run prospects in the export business, claiming that the British still "monopolize[d] the world's textile machinery business outside of the U.S."¹⁰⁷ This view weakened the industry's perception of the value of its exports. The U.S. firms were not willing to accord their foreign markets the same prospective worth as their domestic markets, thus minimizing the constraining effect these ties exerted on their trade policy preferences.

Combined with their important but limited export dependence, the U.S. textile machinery manufacturers had low levels of multinational-

¹⁰² U.S. BFDC, *Foreign Commerce*, 1922, 1927, 1929; N.A. USTR files, "Applications and Investigations," investigation of woolen cards, no. 388, RC 81, 1924; Gibb, *Saco-Lowell Shops*, pp. 461, 481.

¹⁰³ *Ibid.*

¹⁰⁴ *Ibid.*

¹⁰⁵ Gibb, *Saco-Lowell Shops*, p. 481.

¹⁰⁶ *Ibid.*, pp. 478-81.

¹⁰⁷ Navin, *Whitin Machine Works*, p. 326.

ity. Few, if any, firms had production facilities abroad. In part, this resulted from the domestic firms' relatively small size and their difficulties in competing internationally. The highest estimate on direct foreign investment for the industry shows it to be small. In 1932, this "other machinery" category was estimated to have \$6.9 million invested abroad.¹⁰⁸

Firm-level data and foreign country studies of direct foreign investment in the 1920s also demonstrate the limited significance of multinationality for this industry. The distribution of this aggregate U.S. foreign investment for "other machinery" was skewed; half of it was located in Europe and the United Kingdom, while another third was in Canada and the remainder was in Latin America.¹⁰⁹ But even country-level studies of American investment abroad in these areas never mention the textile machinery sector or various firms within it.¹¹⁰ At the firm level as well, neither the country studies, *Moody's Manual*, nor the U.S. Tariff Commission's surveys of the textile machinery builders in the 1920s reveal any account of these manufacturers' foreign operations.¹¹¹ The firms' small size, combined with the newness of their export activities, limited their ability to become multinational. In any case, the industry's multinational production activities were not significant in the 1920s and were not a critical consideration for any firm in it.

Although U.S. foreign investment in textile machinery business was insignificant, foreign investment in the U.S. industry was not. In the 1920s both British and German firms had strong ties to, or actual operations in, the United States. As world leaders, the British firms had developed early ties to the U.S. market. By the 1920s they controlled

¹⁰⁸ Senate, *American Branch Factories*, Doc. 120, 1933, p. 10. This figure is for the very aggregated level termed "other machinery of metal"; it significantly overestimates the value for just textile machinery but does suggest a maximum level for the industry. This figure accounted for merely 0.46 percent of all U.S. manufacturing direct foreign investment. Even as a maximum, this figure indicates that multinationality was not significant for the industry.

¹⁰⁹ *Ibid.*, pp. 10-19.

¹¹⁰ See C. Lewis, *America's Stake*; Wilkins, *Emergence of Multinational Enterprise*; Wilkins, *Maturing of Multinational Enterprise*; Dunn, *American Foreign Investments*; John Dunning, *American Investments in British Manufacturing Industry* (London: Allen, Unwin, 1958); Southard, *American Industry*; Winkler, *Investments of U.S. Capital*; Phelps, *Migration of U.S. Industry*; Marshall, Southard, and Taylor, *Canadian-American Industry*; U.S. BFDC, *American Direct Investments*; Senate, *American Branch Factories*, Doc. 258, 1931.

¹¹¹ See *Moody's Manual*, 1927, various entries for the industry; N.A. USTR files, "Tariff Information Surveys," survey of knitting machinery, RC 81, 1920; N.A. USTR files, "Applications and Investigations," woolen cards, no. 388, RC 81, 1924.

two major firms there.¹¹² The Germans also developed U.S. subsidiaries, but only during the 1920s.¹¹³ Overall, British and German firms' ties to the U.S. market through both imports and foreign investment were significant.

Although the most salient features of the U.S. textile machinery industry are its high but unsteady export dependence and its insignificant multinationality, two other features merit attention. First, despite its successful innovations and growing exports, the U.S. industry in the 1920s was not, and did not think itself, a first-rate world competitor. The industry globally had long been dominated by the British and more recently by the Germans. The U.S. manufacturers, as noted, possessed little confidence in the durability of their new hold on foreign markets.¹¹⁴

Second, the textile machinery industry had a close relationship with the textile manufacturing sector, because the textile mills were the machinery builders' primary buyers. These mills sometimes acquired an interest in the textile machinery firms, but more often, through their buying power, they dictated the type, quantity, and price of the machines to be built, as well as the builders' location of production.¹¹⁵ This relationship extended into the political arena as well. In the late 1800s, the textile machinery builders and textile manufacturers had united in a protectionist alliance that proved successful for both.¹¹⁶ This was renewed to a lesser extent in the 1920s. The textile machinery builders' close economic relationship brought them into a political alliance with the textile manufacturers. Because the latter group tended to have greater leverage in the relationship, their political preferences, which were solidly protectionist during the 1920s, influenced the machinery builders. However, the machinery manufacturers also used the greater political leverage of the textile manufacturers to realize their preferences. This interindustry relationship was asymmetric but also symbiotic.

The textile machinery industry thus had a substantial but volatile level of export dependence and an insignificant degree of multinationality. It was a weak type II industry. The argument here suggests that despite the high level of economic distress in the industry in the 1920s, its export dependence should have reduced its propensity to demand further protection of its home market. Several features of

¹¹² Navin, *Whitin Machine Works*, pp. 241, 245, 353-55; Gibb, *Saco-Lowell Shops*, p. 432.

¹¹³ *Ibid.*

¹¹⁴ Navin, *Whitin Machine Works*, p. 326.

¹¹⁵ Gibb, *Saco-Lowell Shops*, pp. 418-19; Navin, *Whitin Machine Works*, p. 402.

¹¹⁶ Navin, *Whitin Machine Works*, pp. 236-38.

this export dependence and of the industry in general, however, mitigated the constraining effects of these exports. That these foreign sales were a new phenomenon, that they were concentrated geographically in areas distant from the main U.S. competitors, and that they were highly unstable all lowered their importance to the industry. The value the firms were willing to attribute to their foreign sales was also undercut by their enduring belief in the superiority of various foreign manufacturers and by the industry's close relationship to the protectionist textile manufacturers. Under these conditions, export dependence was likely to exert only a weak influence on these firms' trade policy preferences.

The Dependent Variable

Evidence on the trade policy preferences of the U.S. textile machinery builders is limited. These manufacturers were not very active on the tariff issue in the 1920s. The available information concerns the industry's lobbying in Congress, certain firms' appeals to the U.S. Tariff Commission for duty changes, and evidence about the intra-industry squabbles over the tariff. Though not detailed, all sources suggest that the machinery builders were divided and ambivalent in their early preferences and later tended to prefer more closure of the domestic market.

In the course of the two general tariff revisions of the 1920s, the domestic textile machinery builders testified little to Congress. During consideration of the 1921-22 Fordney-McCumber Bill, these manufacturers apparently never testified. Two reasons for this lack of interest are likely. First and most important, the industry was unable to take a stand on the issue due to internal divisions, which had two sources. Some firms in the industry in 1921-22 had just experienced new heights in export sales; 1919-21 had been a booming period. At this point, firms may have felt ambivalent about the tariff. Economic difficulties at home encouraged protectionist desires, but hefty foreign sales, which were one of the few positive factors in the firms' balance sheets, engendered concerns about the impact of further closure of the domestic market.¹¹⁷ Within each firm, then, preferences on the tariff were hard to establish.

Among the leading firms, moreover, the development of a consensus on such preferences was exceedingly difficult to forge. The indus-

¹¹⁷ Gibb, *Saco-Lowell Shops*, ch. 13, suggests some of this ambivalence in Saco-Lowell's decision making. See also N.A. USTC files, "Tariff Information Survey," knitting machinery, RG 81, 1920; N.A. USTC files, "Applications and Investigations," investigation of hosiery machinery, no. 326, RG 81, 1925.

try association, controlled by the top five firms, did not testify most probably because it was unable to establish a unified front. This was due to the fact that among the leading firms were not only the foremost exporters, whose trade policy interests were unclear, but also a major foreign multinational, the H&B Machine Company, which in all likelihood opposed increased protectionism. The lack of activity among the domestic builders on the tariff issue in the early 1920s may thus have stemmed from the complications posed by their ties to the international economy. The difficulties faced by each firm in deciding upon its trade preferences, given its exports, and the divisions among the leading firms over protection undermined consensus on the issue and made silence the best policy.

A second reason for the industry's absence from the congressional hearings is that the domestic firms voiced their preferences elsewhere. In 1920, the machinery builders tried first to have their views on the tariff inserted into the USITC's report to Congress on the industry. The wool-knitting machinery manufacturers, who in particular lacked export ties, pushed the USITC to recommend to Congress that their duties be changed. Their plea for the use of both specific and ad valorem rates did not mention explicit increases in the duties, but these would probably result from such a change.¹¹⁸ In the tariff information survey concerning this sector, the views of other domestic manufacturers were also evident. Their primary interest was in having textile machinery classified in a new, separate category. Having their duties raised back to the "traditional" (pre-1913) level of 45 percent was only a minor concern.¹¹⁹ In the early 1920s, the domestic textile machinery builders voiced their preferences on the tariff issue indirectly by influencing Congress's knowledge about the industry and the way it would consider the industry.

While sentiment among the domestic firms for greater protection in 1921-22 was neither widespread nor intensive, sentiment against such protection was more evident. In 1921 the only textile machinery firm to testify to Congress on the tariff issue was the British-controlled importer, Leigh and Butler. This firm opposed any duty increases on textile machinery and preferred the reduction or complete elimination of all duties. In addition, the firm objected to the adoption of the American valuation method and opposed the domestic manufacturers' preferences for a combined specific and ad valorem duty.¹²⁰ This

¹¹⁸ N.A. USITC files, "Tariff Information Survey," knitting machinery, RC 81, 1920.

¹¹⁹ *Ibid.*, pp. 823-26.

¹²⁰ Senate, Finance, *Tariff Act of 1921*, sch. 3, pp. 1839-45.

firm's strong opposition to protectionism was expected, given its extensive foreign ties. What was surprising was the domestic manufacturers' lack of activity, given their serious economic distress.

By the tariff revision of 1929, the domestic textile machinery manufacturers were more united and determined to obtain further protection. Mounting economic distress, export losses and instability, and declining foreign investment in the U.S. industry over the 1920s all strengthened protectionist sentiment. But even in 1929, the domestic builders were not demanding the sizable increases in duties that many other industries wanted. In the hearings, the domestic manufacturers lobbied for "a restoration of the traditional rate of 45 percent" on their goods.¹²¹ The firms' central reason for seeking this increase involved the nature of their foreign competitors. The long-standing predominance of the foreign firms and the fear that this engendered in the U.S. builders were the primary motivations in their calculations of interest. The industry's spokesman maintained again and again: "The textile-machinery industry of the U.S. is relatively small and *insecure* as compared with its great English and European competitors. . . . It is true that in size and number of plants, productive capacity, and financial resources the foreign builders are greatly superior to the . . . companies of this [U.S.] country."¹²²

The domestic firms' turn to mild protectionism in 1929, therefore, resulted from their insecure international position in terms of both domestic and foreign markets. This insecurity had both historical roots and immediate causes; the legacy of British and German dominance and, most important, the changes in foreign market shares in the 1920s inflamed it. In particular, the great fluctuations in the domestic builders' exports and the decline in their export dependence in the middle of the decade undercut the relative value of their foreign markets in comparison to domestic ones and made protection of the home market more plausible.

In addition to the new impetus to protection in 1929, opposition to it was weakened. By 1929, the primary foreign multinational in the U.S. market, the H&B Machine Company, had been sold to an American company.¹²³ H&B, its international ties now greatly reduced, became a less vigorous opponent of protection. Unlike the early 1920s,

¹²¹ House, Ways and Means, *Tariff Readjustment—1929*, sch. 3, pp. 2483-87; Senate, Finance, *Tariff Act of 1929*, sch. 3, pp. 936-38.

¹²² House, Ways and Means, *Tariff Readjustment—1929*, sch. 3, p. 2485.

¹²³ Navin, *Whitman Machine Works*, pp. 353-55.

by 1929 the internal and external barriers restraining the domestic textile machinery firms' pursuit of protection were lowered.¹²⁴

The intra-industry politics of the textile machinery builders showed the internal divisions prompted by firms' different international ties. The industry revealed little capacity for political cooperation on the tariff. It did develop an industry association and had a lobbyist in Washington, D.C., but neither proved active in the 1920s.¹²⁵ Internal disagreement prevented unified action on trade policy. The key divisions were first between the major domestic firms and the importers, allied with foreign multinationals, and second among the domestic firms. The importers and foreign firms took an active stance against attempts to increase protection; the major domestic producers made only feeble, if any, efforts to promote protection. Given the first group's strong international ties, their response was predictable. The domestic firms' lack of pressure for protection despite their severe economic difficulties was a consequence of the new and growing export dependence of some firms and their increasing separation from the other firms who lacked such export ties. The domestic firms' more unified interest in protection by 1929, however, revealed the tenuousness of these ties.

Overall, the textile machinery case lends some support to the argument about Type II industries. In the period when export dependence was most significant—i.e., just before 1921-22—the industry's preferences were most constrained by it. In the early 1920s, severe economic distress at home did not drive the machinery manufacturers into the embrace of protectionism. Rather, the firms' export interests constrained this impulse. The result was a marked lack of preference, apparent in the firms' dearth of testimony to Congress. But these export interests proved fragile, and in the late 1920s these firms' preferences shifted to modest protectionism. This case thus suggests that

¹²⁴ Given the actual tariff outcomes, the intensity of the firms' interests in protection may have been less than is suggested here. In 1929, in contrast to 1921, the tariffs on textile machinery were little changed; only the duty on "other textile machines" was increased at all—by 5 percent. And the manufacturers never complained about this. See House, Ways and Means Committee, *Comparison of Tariff Acts of 1913, 1922, 1929* (Washington, D.C.: GPO, 1930), p. 60. In addition, in the 1920s there was only one other case of industry pressure over the tariff. This was an odd case, involving an appeal made to the USRC by a single firm in 1924. The firm requested a tariff increase on its product, after having acquired the design for it rather nefariously from a foreign manufacturer. It hoped to exclude that firm from its market. See Milner, "Resisting the Protectionist Temptation," pp. 207-208, and N.A. USRC "Applications and Investigations," woolen cards, no. 388, RG 81, 1924.

¹²⁵ Navin, *Whitin Machine Works*, pp. 236-38.

export ties must be well established, stable, and extensive in order to constrain distressed industries' preferences for closure of the home market.¹²⁶

CASE 4: FERTILIZER

The U.S. fertilizer industry, part of the larger chemical industry, was new in the 1920s, having begun after 1850 in the United States and having experienced its most significant expansion there between 1899 and 1914.¹²⁷ The industry involved the chemical combination of three products: nitrogen, phosphates, and potash (potassium).¹²⁸ These required inputs from different sources and were manufactured by three separate groups of firms.

Nitrogen came either from Chile in the form of sodium nitrate or from the artificial production of nitrogen in the form of ammonia sulphate.¹²⁹ Prior to the 1920s, the U.S. fertilizer industry imported all of its nitrates' supply; in the 1920s, however, one U.S. firm, the American Coal Products Company, acquired the rights to produce ammonia sulphate from its German patent-holders.¹³⁰ The second key input, phosphates, was mined in Florida, Tennessee, and parts of the West.¹³¹ Until the 1920s the U.S. mines accounted for much of the world's total output of phosphate. During that decade, however, foreign competition arose, as the French began mining and exporting phosphate from their North African colonies.¹³²

The third essential input for the manufacture of fertilizer, potash,

¹²⁶ The parallel to the machine tool industry in the 1970s is striking. The novelty and instability of exports seem to reduce greatly their constraining effect on protectionist preferences.

¹²⁷ U.S. BFDC, *The American Chemical Industry*, Trade Promotion Series no. 78 (Washington, D.C.: GPO, 1929), pp. 20-21. The development of chemically based fertilizers, rather than the use of natural products as fertilizers, was a new phenomenon at the time.

¹²⁸ Senate, *FTC Report on the Fertilizer Industry*, 67th Cong., 4th sess., S. Doc. 347, 1923, pp. 17-33; Warshaw, ed., *Representative Industries*, pp. 141-43; William Haynes, *The American Chemical Industry: A History*, vols. 4, 5, 6 (New York: Van Nostrand, 1948, 1949, 1954), 4:311-13.

¹²⁹ Senate, *FTC Report*, Doc. 347, pp. 18-24; Joseph Borkin, *The Crime and Punishment of I. G. Farben* (New York: Free Press, 1978), pp. 8-9.

¹³⁰ Senate, *FTC Report*, Doc. 347, pp. 18-24; Warshaw, ed., *Representative Industries*, pp. 141-43; Haynes, *American Chemical Industry*, 4:312-14; Federal Trade Commission (hereafter FTC), *A Report of the FTC on the Fertilizer Industry* (Washington, D.C.: GPO, 1950), pp. 21-33.

¹³¹ Senate, *FTC Report*, Doc. 347, pp. 24-25; FTC, *Report on Fertilizer Industry*, 1950, pp. 54-60.

¹³² FTC, *Report on Fertilizer Industry*, 1950, pp. 65-68.

had to be acquired from a foreign source, Germany.¹³³ Prior to World War I, Germany supplied virtually all of the world's potash. The war severely reduced Germany's exports of potash and forced other countries to develop their own sources. In the United States a supply of potash was found in the West, mainly in California and Montana. Although not as cheap as German potash, these western sources were developed after 1914 by a group of small firms not primarily in the fertilizer business.¹³⁴ When German potash production revived in the 1920s, these small U.S. producers suffered greatly, thereafter never able to gain more than a 10 percent share of the U.S. potash market.¹³⁵

The fertilizer industry was thus divided into three sectors, each of which had significant international components. Nitrogen supplies were derived from Chile and Germany. Both of these foreign sources were nevertheless linked to American firms: the Chileans through U.S. direct investment in the nitrate mines and the Germans through patent agreements with U.S. producers.¹³⁶ Phosphates were controlled by the U.S. fertilizer manufacturers, but they faced mounting foreign competition. The third input, potash, was derived primarily from Germany; however, U.S. firms owned some of the German mines and other domestic producers were developing their own sources.

In the 1920s the U.S. fertilizer industry faced a number of severe challenges. Foreign competition increased, and imports became a significant force. In 1919, the value of fertilizer imports was a mere \$12 million; in 1921, the value had increased to \$30.7 million; and by 1929 it had skyrocketed to \$72.3 million.¹³⁷ The share of the U.S. market that these foreign goods held grew substantially during the decade as well. Imports as a percentage of total domestic production rose from 4.8 percent in 1919 to 17 percent in 1921 and finally to 31.1 percent in 1929.¹³⁸

The 1920s were also one of the industry's first severe periods of economic distress. Dependent upon the agricultural business, the fer-

¹³³ Senate, *FTC Report*, Doc. 347, pp. 26-33; *FTC, Report on Fertilizer Industry*, 1950, pp. 85-87.

¹³⁴ Senate, *FTC Report*, Doc. 347, pp. 26-33; *FTC, Report on Fertilizer Industry*, 1950, pp. 86-101; U.S. BFDC, *Fertilizers: Some New Factors in Fertilizer Production and Trade*, Trade Info. Bulletin no. 372 (Washington, D.C.: GPO, 1925), pp. 1-3.

¹³⁵ Senate, *FTC Report*, Doc. 347, pp. 26-27; *FTC, Report on Fertilizer Industry*, 1950, pp. 86-101.

¹³⁶ Senate, *FTC Report*, Doc. 347, pp. 18-24.

¹³⁷ U.S. BFDC, *Foreign Commerce*, 1922, 1927, 1929.

¹³⁸ *Ibid.*; U.S. Dept. of Commerce, *Census*, 1929.

tilizer manufacturers followed the U.S. farmers into depression.¹³⁹ As agricultural prices declined, farmers were increasingly unable to buy fertilizers; hence, fertilizer demand fell and so did its price. The early and later years of the decade were especially bad for the fertilizer producers, when domestic problems were combined with rising foreign imports.

The industry's economic distress was evident in its declining profitability as well as in reduced numbers of firms and employees. For instance, between 1920 and 1922 the direct losses of the U.S. fertilizer manufacturers were \$75 million.¹⁴⁰ Declines in the number of firms reflected not only mergers in the industry but also the closure of some operations. Two of the largest firms had to halt production and be reorganized by their creditors.¹⁴¹ The industry's problems were further revealed in its declining numbers of workers.¹⁴²

Fertilizer manufacture was a Type III industry. The extent of its ties to the international economy in the 1920s was substantial in terms of both export dependence and multinationality. Export dependence for the industry was significant but somewhat mixed and unstable. Fertilizer exports rose and fell cyclically over the decade, hitting lows in 1920-21, 1924, and 1928.¹⁴³ The industry's net international trade balance was consistently and increasingly negative.¹⁴⁴ However, the industry's ratio of exports to domestic production, which averaged about 9 percent during the 1920s, revealed the strength of its exports.¹⁴⁵ The industry's dependence on exports was important but limited.

The different trade positions of the industry's three sectors need examination. Export dependence was very high for the phosphate and superphosphate producers, low but rising for the nitrogenous sector, and low and falling for the potash producers. The United States was a major source worldwide for phosphates. In the 1920s, in fact, these producers were more concerned with foreign markets than with the domestic one; they spent much time and energy developing extensive export associations (Webb-Pomerane) in order to strengthen their for-

¹³⁹ House, *Effects of Agricultural Depressions on the Fertilizer Industry*, 67th Cong., 1st sess., 1922, H. Doc. 195, pp. 51-53.

¹⁴⁰ *Ibid.*

¹⁴¹ *NYT*, September 4, 1924, p. 27; *NYT*, February 17, 1925, p. 36; *NYT*, January 8, 1925, p. 26; Wilkins, *Making of Multinational Enterprises*, pp. 143-45.

¹⁴² U.S. Dept. of Commerce, *Census*, 1929.

¹⁴³ U.S. BFDC, *American Chemical Industry*, no. 78, pp. 28-29; U.S. BFDC, *Foreign Commerce*, 1922, 1927, 1929.

¹⁴⁴ U.S. BFDC, *Foreign Commerce*, 1922, 1927, 1929.

¹⁴⁵ *Ibid.*; U.S. Dept. of Commerce, *Census*, 1929.

eign sales.¹⁴⁶ Export dependence in nitrogen inputs was low because the United States had to import all of its sodium nitrate from Chile, but rising because of a developing U.S. domestic and export capacity in artificial nitrates. Finally, the potash sector was not dependent on exports; in fact, it was fighting primarily to gain a share of the U.S. market. Import penetration was the highest in this sector; the Germans controlled about 90 percent of the U.S. market.¹⁴⁷

The U.S. fertilizer manufacturers' multinationality was also sectorally differentiated. Each of the sectors had substantial multinational ties except the potash sector, which consisted of small, domestic firms and imports. These ties were created not only through U.S. direct foreign investments but also through various contractual agreements, research and development linkages, and patent licenses. The combination of all of these foreign ties left the industry, save for the potash sector, looking very multinational in the 1920s. The value of U.S. foreign investments in this industry was \$17.3 million in 1932.¹⁴⁸ It, however, may have been even higher, perhaps over \$70 million, in 1929.¹⁴⁹

Individual firms also showed substantial multinational ties. Among the ten largest firms in the industry, all but two or three had extensive foreign operations. The Virginia-Carolina Chemical Company, the American Agricultural Chemical Company, the International Agricultural Corporation, and the two meat-packing firms involved heavily in fertilizers, Swift and Armour, all had extensive foreign manufacturing and extractive operations in Europe and Latin America.¹⁵⁰ In addition to these top five producers, two other large U.S. manufacturers had some foreign operations.¹⁵¹ And, though not a fertilizer producer, one

¹⁴⁶ FTC, *Report on Fertilizer Industry*, 1950, pp. 66-69; Jesse Markham, *The Fertilizer Industry: Study of an Imperfect Market* (1958; reprint New York: Greenwood, 1969), pp. 39-43.

¹⁴⁷ U.S. BEDC, *Fertilizers*, no. 372, pp. 1-3; Senate, *FTC Report*, Doc. 347, pp. 26-33; FTC, *Report on Fertilizer Industry*, 1950, pp. 85-98.

¹⁴⁸ Senate, *American Branch Factories*, Doc. 120, 1933, p. 10. Because it is for the much larger "other chemicals" group, this figure overestimates the true level; however, it underestimates the value, since it excludes data for two of the largest fertilizer firms, Armour and Swift, who were primarily meat packers and classified as such.

¹⁴⁹ Winkler, *Investments of U.S. Capital*, pp. 95-107; Dunn, *American Foreign Investments*, pp. 71-74; C. Lewis, *America's Stake*, pp. 257-62.

¹⁵⁰ Haynes, *American Chemical Industry*, 4:xxvii, 6:13-14; Wilkins, *Emergence of Multinational Enterprise*, pp. 98-99, 212-16; Senate, *FTC Report*, Doc. 347, pp. 14-15; Wilkins, *Maturing of Multinational Enterprise*, pp. 107, 143-45; Dunn, *American Foreign Investments*, pp. 62-63, 69, 145-47; Southard, *American Industry*, p. 220, appendix 11.

¹⁵¹ The Davidson Chemical Company operated in the United Kingdom and in Latin America through its subsidiary, the Rio Tinto Company. In addition, the American Cyanamid Company had substantial fertilizer operations in Canada and possibly elsewhere.

American firm, the Anglo-Chilean Consolidated Nitrate Company, owned by the Guggenheims, controlled about 35 percent of all Chilean nitrate production in 1925 and nearly 50 percent by 1929.¹⁵² This foreign investment gave a U.S. firm nearly complete control over the world's supply of sodium nitrates.

The industry's ties to the international economy were augmented further by extensive patent and R & D agreements and by various collusive measures between U.S. and foreign firms. Patent and R&D licensing, as well as joint production, were common.¹⁵³ In addition, the industry attempted to collaborate illegally with the foreign producers. Such arrangements, including price fixing, quotas, and other cartel activities, were not very stable in the 1920s, but they did signal the industry's attempts to organize globally.¹⁵⁴

Other features of the U.S. fertilizer industry important for understanding its trade policy preferences are its monopoly power at home and abroad and its relations with U.S. agriculture. The U.S. fertilizer industry was economically concentrated. In 1921, the top seven firms accounted for over 65 percent of production, and the top two alone held 33 percent of the market.¹⁵⁵ In the 1920s the fertilizer manufacturers took advantage of their economic power to organize various collusive practices and build a strong political coalition. They solidified their industry organization, the National Fertilizer Association, by bringing all the major firms into it. Rising economic concentration as well as the existence of a critical issue—their long and successful struggle to keep the government out of fertilizer production—unified the producers and focused their attention on the political arena.¹⁵⁶

Southard, *American Industry*, p. 220, appendix 11; Wilkins, *Emergence of Multinational Enterprise*, pp. 212-16; Wilkins, *Maturing of Multinational Enterprise*, pp. 143-45; *NYT*, July 30, 1925, p. 27:3.

¹⁵² Dunn, *American Foreign Investments*, pp. 71-74; Winkler, *Investments of U.S. Capital*, pp. 95-107; C. Lewis, *America's Stake*, pp. 257-62; Wilkins, *Maturing of Multinational Enterprise*, pp. 104-105. See Harvey O'Connor, *The Guggenheims* (New York: Covici Friede, 1937), chs. 25-29, for the full story.

¹⁵³ U.S. firms producing synthetic nitrates were tied to Italian and German firms through these. Moreover, U.S. producers of cyanamid operated through licenses and joint production ventures with the Swiss. U.S. BEDC, *Fertilizers*, no. 372, pp. 10-15; Wilkins, *Maturing of Multinational Enterprise*, pp. 78-84.

¹⁵⁴ *NYT*, May 13, 1930, p. 1:4; FTC, *Report on Fertilizer Industry*, 1950, pp. 28-36, 43-51; Haynes, *American Chemical Industry*, 4:58; *NYT*, December 17, 1927, p. 13:3.

¹⁵⁵ Senate, *FTC Report*, Doc. 347, pp. 5-6.

¹⁵⁶ John Henahan, *200 Years of American Chemicals* (New York: McGraw-Hill, 1976), pp. 46-48; FTC, *A Report on the Fertilizer Industry* (Washington, D.C.: GPO, 1916), pp. 173-76; *NYT*, March 4, 1923, p. 6:3; Markham, *Fertilizer Industry*, p. 21; Senate, *FTC Report*, Doc. 347, pp. 54-55.

The U.S. fertilizer industry, while oligopolistic, was no match for its foreign rivals in this respect. The German, French, Italian, and British manufacturers were highly cartelized. The German firm I. G. Farbenindustrie controlled not only the country's fertilizers but also its entire chemical industry.¹⁵⁷ In France, Kuhlmann operated the fertilizer cartel; in Britain, the Imperial Chemical Industry controlled chemicals.¹⁵⁸ By the end of the 1920s, these national groups were supplemented by international cartels in synthetic and natural nitrates.¹⁵⁹ This growing web of linkages had in effect created by 1929 a single global fertilizer cartel that confronted the U.S. industry in international markets. The U.S. firms, though economically and politically powerful at home, were dwarfed by these international giants and were only partially involved in the cartel; by and large, they had been excluded from it due to U.S. antitrust laws and the Europeans' opposition.¹⁶⁰

A second important feature of the U.S. fertilizer industry was its relationship with the agricultural sector. The fortunes of the fertilizer manufacturers depended heavily on those of their major buyers, American farmers.¹⁶¹ This economic relationship translated into a political one. The farmers, through their organizations, the American Farm Bureau and the National Grange, were involved in the political issues central to the fertilizer industry, especially the tariff. Although their influence did not include defining the manufacturers' position on these issues, the farmers' political clout, in addition to their influence with the fertilizer manufacturers, did give them substantial voice in determining these issues' outcomes.

Overall, the U.S. fertilizer industry in the 1920s had fairly strong ties to the international economy in every sector but potash; it was a Type III industry. Its export dependence was substantial, but varied by sector and was less significant overall than its dependence on imports. Multinationality in every sector but potash was extensive among the largest firms. These international ties were further strengthened by various patent, R&D, and collusive arrangements with foreign firms. The U.S. firms were thus tightly tied to the international fertilizer market. By the end of the 1920s, however, they found themselves

¹⁵⁷ FTC, *Report on Fertilizer Industry*, 1950, pp. 28-29; Boykin, *Crime and Punishment*, pp. 8-9; Haynes, *American Chemical Industry*, 4:48-55.

¹⁵⁸ Haynes, *American Chemical Industry*, 4:55-58.

¹⁵⁹ FTC, *Report on Fertilizer Industry*, 1950, pp. 28-36, 43-51, 97-98; NYT, December 17, 1927, p. 13-3; NYT, August 3, 1930, p. 16-7; NYT, August 10, 1930, p. 1-2.

¹⁶⁰ Markham, *Fertilizer Industry*, pp. 21, 65; FTC, *Report on Fertilizer Industry*, 1950, pp. 43-51; NYT, March 18, 1923, pt. 8, p. 3-1; NYT, August 3, 1930, p. 16-7.

¹⁶¹ House, *Effects of Agricultural Depressions*, Doc. 195, pp. 51-53.

in a highly cartelized international market and at a disadvantage because they were not members of the cartel.

The Dependent Variable

The U.S. fertilizer industry in the 1920s preferred open markets for its products. The large multinational manufacturers bucked the decade's trend toward greater protection and remained content with the duty-free status of their goods. Smaller domestic manufacturers in the less international sectors did press for increased tariff rates, but these were vigorously opposed by the larger producers and by the farmers' organizations. In the late 1920s, however, as world trade in fertilizers became highly cartelized and as U.S. producers found themselves less tied to this organized world market, agitation against unfair foreign competition mounted. This agitation was faint, short-lived, and ineffective; fertilizer and its materials were kept on the free list in 1929.

In the 1921 congressional revision of the tariff, the major U.S. fertilizer producers did not press for increases in the duties on their products. They wanted the duty-free status of fertilizer and its materials to be retained.¹⁶² As one manufacturer later claimed, it had long been their "traditional policy" to desire the free entry of their products.¹⁶³ It is striking, however, that these producers did not agitate for any protection at all in 1921. Despite rising levels of imports and other economic problems at the time, they did not view protection as a viable solution. Most probably, they felt the costly repercussions that protection would provoke in their international operations outweighed any potential benefits new barriers could provide.

Further evidence of the major U.S. producers' aversion to protectionism in the 1921-22 tariff revision is provided by their opposition to the duty increases desired by the domestic U.S. potash producers. Beginning in 1919 these small producers, who had only gone into business during the war because of the virtual embargo on German imports, pressed for removal of potash from the free list.¹⁶⁴ For them, protection was not only a means of survival but also a measure with relatively low cost, because they had few ties to the international economy.

¹⁶² The absence of testimony by the industry is striking. See paragraphs 1683, 1740, 1745, 1746, and 1766 in the free-list schedule of House, Ways and Means, *General Tariff Revision of 1921*, and Senate, Finance, *Tariff Act of 1921*, for the lack of testimony.

¹⁶³ For the quote, see House, Ways and Means, *Tariff Readjustment—1929*, free list, pp. 8570-71.

¹⁶⁴ Senate, *FTC Report*, Doc. 347, pp. 26-27; House, Ways and Means, *Tariff Revision of 1921*, sch. N, pp. 3992-4012.

These domestically oriented potash producers lobbied hard for protection in 1921-22. Claiming that the highly cartelized German producers were trying to drive them out of business and that as an "infant industry" they deserved temporary import relief, they urged Congress to provide them with a large duty of 50 cents per 20 pounds of potash.¹⁶⁵ They were initially successful. The House of Representatives removed potash from the free list and put a duty of 2.5 cents per pound on it.¹⁶⁶

This action provoked immediate opposition from the major fertilizer producers and the farmers. The "big six" fertilizer manufacturers publicly denounced the attempts of the potash producers to secure protection. The largest manufacturer, the Virginia-Carolina Chemical Company, opposed these attempts with great vigor, largely because of its international ties.¹⁶⁷ The others, though lacking such direct investment links to the German supplies, also found protection distasteful because they were linked contractually to the German importers.¹⁶⁸ Protection would disrupt their secure source of potash and raise their costs; in addition, it might prompt retaliation against their foreign operations. The opposition of these major manufacturers,¹⁶⁹ combined with that of the farmers, prompted the Senate to reconsider the proposed duty on potash and return it to the free list.¹⁷⁰ In the end the free trade agitation of the fertilizer producers led the conference committee on the tariff bill to eliminate the proposed duty on potash.¹⁷¹

By the end of the decade U.S. fertilizer manufacturers appeared somewhat less enthusiastic about free trade in their products. During the 1929 tariff revision, the National Fertilizer Association, representing the major firms, asked for some protection of complete fertilizers.¹⁷² This request, however, was accompanied by a demand for the elimination of tariff duties on two key fertilizer materials.¹⁷³ The call for a duty increase was seen by many as the industry's way of bargaining for these other tariff reductions—i.e., it would be willing to trade the increases away in exchange for reductions elsewhere¹⁷⁴—and thus

¹⁶⁵ House, Ways and Means, *Tariff Revision of 1921*, sch. N, pp. 4000-4012.

¹⁶⁶ *NYT*, August 9, 1922, p. 19:1-2.

¹⁶⁷ *NYT*, December 30, 1921, p. 12:1; *NYT*, December 31, 1921, p. 12:8.

¹⁶⁸ *Ibid.*

¹⁶⁹ *Ibid.*; *NYT*, September 14, 1922, p. 1:5; *NYT*, September 15, 1922, p. 1:4.

¹⁷⁰ *NYT*, August 9, 1922, p. 19:1-2.

¹⁷¹ *NYT*, September 14, 1922, p. 1:5; *NYT*, September 15, 1922, p. 1:4.

¹⁷² House, Ways and Means, *Tariff Readjustment—1929*, free list, pp. 8570-89, 9068-76.

¹⁷³ Senate, Finance, *Tariff Act of 1929*, sch. 16, pp. 729-37.

¹⁷⁴ House, Ways and Means, *Tariff Readjustment—1929*, free list, pp. 8053, 8080, and

cannot be viewed as a preference for protection. It proved in many ways a strategy for opening trade further in fertilizer products. The industry was able to prompt Congress to eliminate duties on two key products, and no duty was ever placed on the completed fertilizers.¹⁷⁵

The need to resort to a strategic request of this sort had increased due to changes in economic circumstances. First, as already mentioned, the world fertilizer market had become highly cartelized and very unfriendly toward American competition by the late 1920s. The Europeans, led by the Germans, had organized the global market by fixing prices and assigning production and export quotas.¹⁷⁶ These agreements did not include the U.S. firms, who thus remained as potential cartel-breakers and unwelcome participants in international fertilizer markets. This environment was extremely threatening for the U.S. firms, since it shut them out of many markets and determined their product prices in others,¹⁷⁷ and they were prompted to turn their attention back to the home market.

The second change involved reductions in the international ties of the U.S. firms themselves. Over the decade, a number of significant foreign investments by the U.S. firms had been abandoned. In particular, two of the largest U.S. firms had sold off their European operations. The Virginia-Carolina Chemical Company relinquished all of its foreign operations in its 1924 reorganization.¹⁷⁸ And the International Agricultural Corporation sold its large German potash operations, valued at over \$4 million in 1926, because of the German government's new regulations on potash, which were intended to aid the cartelization of the industry.¹⁷⁹ These two disinvestments alone significantly reduced the whole industry's multinationality and left the two largest U.S. producers with no foreign investment ties. This consequently lowered the cost of protection for these producers and made a strategy dependent on such protection more feasible.

Though these changes made a request for protection U.S. fertilizer manufacturers more possible, they did not make protection itself

sch. 1, p. 15; Senate, Finance, *Tariff Act of 1929*, sch. 1, pp. 44-47, and free list, pp. 243-45.

¹⁷⁵ House, Ways and Means, *Comparison of Tariff Acts of 1913, 1922, 1929*, pp. 163-79.

¹⁷⁶ *ETC*, *Report on Fertilizer Industry*, 1950, pp. 28-36; Haynes, *American Chemical Industry*, 4:48-58; *NYT*, December 17, 1927, p. 13:3; *NYT*, August 3, 1930, p. 16:7; *NYT*, August 10, 1930, p. 1:2.

¹⁷⁷ *ETC*, *Report on Fertilizer Industry*, 1950, pp. 43-51; House, Ways and Means, *Tariff Readjustment—1929*, free list, pp. 8570-89.

¹⁷⁸ Wilkins, *Maturing of Multinational Enterprise*, pp. 143-45; *NYT*, September 4, 1924, p. 27:4; *NYT*, February 17, 1926, p. 36:3.

¹⁷⁹ *NYT*, January 28, 1925, p. 26:3.

more preferred. The industry association testified in favor of raising duties on completed fertilizer in the House hearings. But by the time of the Senate hearings, the emphasis of the organization's testimony had switched to reducing duties on other products.¹⁸⁰ Moreover, when the duties were not increased, fertilizer producers did not protest. Though strong opposition by the farmers and importers to any tariff on fertilizer helped prevent any such action, the limited appeal of protection for the producers themselves also meant that pressure in favor of it was not significant. That the fertilizer industry did not pursue protection after failing to obtain it in the Smoot-Hawley Bill indicated further their true lack of interest in it.

The intra-industry division over the tariff on fertilizer followed one clear cleavage in the 1920s, which separated the large, multinational fertilizer manufacturers from the small, domestically oriented potash producers. The large firms, having significant export and foreign operations, were satisfied with the duty-free status of their product. Even their request in 1929 for duties on certain goods appeared less a protectionist demand than a tactic to have duties reduced on other goods. On the other hand, the small, western potash producers, who had no international ties, pursued protection avidly in the 1920s. They lobbied Congress for it in 1921-22 and later petitioned the USTR for import relief.¹⁸¹ The quarreling between the large and small firms over the potash tariff underlined these two groups' different preferences. Thus, while imports and economic problems affected all firms in the industry in the 1920s, protection was preferred by only the domestically oriented producers in the potash sector.

Overall, the U.S. fertilizer industry fits the argument about Type III producers. Extensive trade and investment ties to the international economy constrained the firms' preferences for protection, even when they were experiencing severe economic distress, in two ways. First, among the large, multinational fertilizer producers sentiment for closure of the domestic market was not apparent. In the early 1920s, these firms wanted the duty-free status of all their products to continue. Later, this easy acceptance disappeared, and a more aggressive

¹⁸⁰ House, Ways and Means, *Tariff Readjustment—1929*, free list, pp. 8570-86; Senate, Finance, *Tariff Act of 1929*, sch. 16, pp. 729-37.

¹⁸¹ The one appeal for import relief to the USTR by the fertilizer industry was made by a small American potash producer. The larger firms appeared to oppose this effort. For the full story, see Milner, "Resisting the Protectionist Temptation"; also see NYT, January 5, 1924, p. 3; USTR, *12th Annual Report of the U.S. Tariff Commission, 1928* (Washington, D.C.: GPO, 1928), p. 234; NYT, December 30, 1921, p. 12; NYT, December 31, 1921, p. 12:8.

strategy of demanding protection on some products to obtain freer trade in others materialized, in part as a consequence of the firms' diminished international ties.

Second, intra-industry divisions over the tariff revealed the importance of their foreign connections. The tariff issue split the fertilizer industry in two according to the extent of international ties possessed by the firms. The large, multinational fertilizer manufacturers never favored protectionism; in contrast, the small, domestically oriented potash producers sought import relief continuously. These two groups were the primary opponents in the fertilizer tariff debate in the 1920s. Within a single industry, thus, firms facing similar economic problems do not necessarily react in an identical fashion: their responses, especially in terms of trade policy preferences, are influenced by how integrated into the international economy they are.

CASE 5: PHOTOGRAPHIC EQUIPMENT

The story of the photographic equipment industry revolves around one company, Eastman Kodak, and its strategies to gain and maintain a dominant position. The Eastman Kodak Company came to be a force in the photographic equipment industry in the 1880s, when George Eastman revolutionized it by inventing the kodak, a hand-held, consumer-oriented camera, and developing celluloid-based films.¹⁸² Kodak became a market leader after 1900 both at home and abroad. In its home market, its sales of photographic equipment accounted for 43 percent of all U.S. sales in 1909 and over 90 percent in 1919.¹⁸³ By the 1920s, only four tiny domestic firms competed with Kodak in the manufacture of cameras and film.¹⁸⁴

Kodak's dominance extended beyond the U.S. market. Its control of the market for amateur cameras and photographic films was worldwide by the 1920s. In 1920, for instance, it accounted for 94 percent of all cinematic film produced in the world.¹⁸⁵ Its control of the large

¹⁸² Reese Jenkins, *Images and Enterprise* (Baltimore: Johns Hopkins University Press, 1975), pp. 164-69, 188-95, 246-51; Reese Jenkins, "Technology and the Market: Eastman and the Origins of Mass Amateur Photography," *Technology and Culture* 16 (January 1975): 14-18. The sectors of the industry considered here are those involved in the manufacture of cameras and unexposed films; other sectors, including motion-picture projectors, dry plates, lenses, and photographic goods, are not discussed.

¹⁸³ Jenkins, *Images and Enterprise*, p. 178; NYT, April 30, 1923, pp. 1:3, 3:3.

¹⁸⁴ Jenkins, *Images and Enterprise*, pp. 246-51; House, Ways and Means, *General Tariff Revision of 1921*, sch. N, pp. 3466-73; Senate, Finance, *Tariff Act of 1921*, sch. N, pp. 4354-56.

¹⁸⁵ NYT, April 30, 1923, pp. 1:3, 3:3.

U.S. market, plus its acquisition of every important patent on photographic products, helped to establish its "business leadership on an international scale."¹⁸⁶ In the international marketplace, however, unlike the domestic market, Kodak did face significant competition after 1920. Its foreign rivals were large firms—Agfa of Germany, Gevaert of Belgium, and Pathé of France—who after 1920 caught up to Kodak and became significant market forces.¹⁸⁷

Kodak's dominance of the photographic equipment industry did not exempt it, or the industry, from economic distress and instability in the 1920s. This sector encountered serious economic problems from 1920 to 1925 and again in 1929. Difficulties included heightened foreign competition and domestic recession. The U.S. photographic goods industry had faced little foreign competition before the 1920s.¹⁸⁸ In 1919, imports were valued at \$1.7 million; in 1921, they surged to \$7.5 million; and then they fell back to an average of about \$5.3 million between 1923 and 1927, shooting up again to \$7.2 million in 1919.¹⁸⁹ The ratio of imports to total domestic production also grew. In 1919, as earlier, it averaged about 2 percent, but in 1921 it hit 11 percent, and it finished the decade at 7 percent.¹⁹⁰

Economic distress in the industry was evident in its reduced profitability, its declining numbers of firms and workers, and its overcapacity. The whole industry experienced reduced profits in the 1920s.¹⁹¹ Due to the failure of some firms and the merger of others,¹⁹² numbers of firms and workers also declined. In 1921, for example, two of the five main U.S. film manufacturers closed down, and later in the decade several merged with other larger firms because of their inability to garner decent profits.¹⁹³

The photographic goods industry in the 1920s had extensive and growing ties to the international economy. In terms of both export dependence and multinationality, it ranked high; it was a Type III

¹⁸⁶ Jenkins, "Technology and the Market," p. 18.

¹⁸⁷ House, Ways and Means, *General Tariff Revision of 1921*, sch. N, pp. 3946-50; NYT, August 30, 1926, p. 1926; N.A. BFDC files, "Trade Representatives," memos of BFDC on trade representatives—E. Kodak, RG 151, 1929.

¹⁸⁸ Jenkins, *Images and Enterprise*, p. 296; U.S. BFDC, *Foreign Commerce*, 1922, 1927, 1929.

¹⁸⁹ U.S. BFDC, *Foreign Commerce*, 1922, 1927, 1929.

¹⁹⁰ Ibid.; U.S. Dept. of Commerce, *Census*, 1929.

¹⁹¹ Moody's, *Manual*, 1927, pp. 1730, 2377-78; Jenkins, *Images and Enterprise*, pp. 330-37; House, Ways and Means, *General Tariff Revision of 1921*, sch. N, pp. 3943-45; Senate, Finance, *Tariff Act of 1921*, sch. N, pp. 4325-27; NYT, May 2, 1922, p. 216.

¹⁹² U.S. Dept. of Commerce, *Census*, 1929, esp. p. 1345.

¹⁹³ Senate, Finance, *Tariff Act of 1921*, sch. N, pp. 4325-26; Jenkins, *Images and Enterprise*, pp. 330-37.

industry. But these international ties were largely possessed by one firm, the Kodak Company.

In the 1920s, the industry's export dependence was high and rising. Its course, however, was not stable, as it registered a sizable decline between 1920 and 1923. Exports of photographic goods were valued at \$21 million in 1919 and at \$31.6 million in 1929, although they fell between 1921 and 1923 to \$15.3 million.¹⁹⁴ The industry's international trade balance was also positive and rose over the decade.¹⁹⁵ Its ratio of exports to total domestic production followed a similar course. In 1919, it reached 23.4 percent, falling to 21.3 percent in 1923 but rebounding to 30.7 percent in 1929.¹⁹⁶

At the firm level, export dependence was unevenly distributed. Only one firm, Kodak, was responsible for the bulk of the exports.¹⁹⁷ In 1912, for example, Kodak's exports to its English sales organization accounted for over 80 percent of all U.S. exports of photographic goods to England.¹⁹⁸ U.S. exports in this industry were concentrated in the products in which Kodak held its most significant advantages, hand-held cameras and unexposed motion-picture and photographic film.¹⁹⁹

In the 1920s, the U.S. photographic goods industry also revealed itself to be multinational. By 1932 the industry, including optical goods, had some \$31.3 million invested abroad.²⁰⁰ This ranked it among the top ten U.S. industries in its level of direct foreign investment. Much of this internationalization of the industry, however, occurred after 1926.²⁰¹ In general, direct foreign investment in the photographic goods industry was sizable but not widespread in the early 1920s and became increasingly important only in the latter half of the decade.

Like export dependence, this multinationality was concentrated in the hands of Kodak. By 1908, Kodak was operating numerous sales branches throughout the world as well as an independent subsidiary

¹⁹⁴ U.S. BFDC, *Foreign Commerce*, 1922, 1927, 1929.

¹⁹⁵ Ibid.

¹⁹⁶ Ibid.; U.S. Dept. of Commerce, *Census*, 1929.

¹⁹⁷ House, Ways and Means, *General Tariff Revision of 1921*, sch. N, pp. 3947-49; Jenkins, *Images and Enterprise*, pp. 177-79.

¹⁹⁸ Jenkins, *Images and Enterprise*, p. 179, note to table 8-2.

¹⁹⁹ U.S. BFDC, *Foreign Commerce*, 1922, 1927, 1929.

²⁰⁰ Senate, *American Branch Factories*, Doc. 120, 1933, pp. 10-19. This overestimates the true value for just the photographic industry, since it includes the small optical goods sector as well. It is interesting to note that this DFI was concentrated geographically, with over half of it in Canada and the United Kingdom.

²⁰¹ Jenkins, *Images and Enterprise*, pp. 240-42.

in England, but it still did not actually manufacture abroad.²⁰² After 1908 this changed as the company began producing film at its English and Canadian subsidiaries.²⁰³ This foreign expansion abated during World War I, so that by 1920 Kodak was still only manufacturing one product, film, abroad—in the United Kingdom and Canada.²⁰⁴

The mid-1920s saw the beginning of Kodak's phenomenal worldwide expansion. In 1927, Kodak acquired production facilities in France and Germany by purchasing two large European firms, the Pathé Cinema Company and the Glanz Film Aktien Gesellschaft.²⁰⁵ These acquisitions were followed by a rapid expansion of its European operations, which meant that by 1931 Kodak had seven factories in Europe, more than it operated in the United States.²⁰⁶ All totaled, Kodak operated some 251 factories and sales branches in 53 different countries by 1931.²⁰⁷ One historian of direct foreign investment noted, "by 1929 [Kodak] had sales outlets on every populated continent and manufactured in Europe, Canada, and Australia. Its foreign manufacturing had come in the 1920s to include cameras as well as film. . . . Kodak ranked supreme in its production lines worldwide."²⁰⁸

Three features of Kodak's foreign investment story need to be underscored. First, Kodak's foreign manufacturing operations were not well developed until after 1927. Neither Kodak nor the industry had very extensive multinationality in the early 1920s. Second, foreign investment was limited in a product sense. Kodak's foreign production included only motion-picture and photographic film until the mid-1920s; it did not produce cameras abroad until the late 1920s.²⁰⁹ Third, the nature of these international operations was also limited in the first half of the decade. The manufacturing subsidiaries tended to exist as self-contained units, producing primarily for the market in which they were located. Exports back to the United States were not significant before 1925; after this, however, film exports to the United States, at least from Canada, grew significantly.²¹⁰ Kodak's foreign op-

²⁰² *Ibid.*

²⁰³ *Ibid.*

²⁰⁴ House, Ways and Means, *General Tariff Revision of 1921*, sch. N, pp. 3462-73.

²⁰⁵ *NYT*, March 17, 1927, p. 323; *NYT*, June 18, 1927, p. 2575.

²⁰⁶ Eastman Kodak, *29th Annual Report* (New York: Kodak, 1929), pp. 17-19.

²⁰⁷ *Ibid.*

²⁰⁸ Wilkins, *Emergence of Multinational Enterprise*, p. 84. Emphasis added.

²⁰⁹ *Ibid.*; Carl Ackerman, *George Eastman* (Boston: Houghton Mifflin, 1930, reissued 1973), pp. 132-33; Jenkins, *Images and Enterprise*, pp. 246-42.

²¹⁰ The decentralized, local market-oriented nature of Kodak's DFI is discussed in *NYT*, March 17, 1927, p. 323; Ackerman, *George Eastman*, pp. 132-33; and Wilkins, *Maturing of Multinational Enterprise*, pp. 138-46.

erations in the early 1920s were thus not highly integrated; no dense web of intrafirm trading relations bound them together. After this, they expanded greatly in size, products, and trade.

While U.S. foreign investment in the photographic goods industry grew during the 1920s, so did direct U.S. investment by foreign firms. Two key foreign competitors of Kodak began operating in the United States. The French firm Pathé expanded its U.S. sales operations and developed two factories for producing unexposed film in New Jersey.²¹¹ Pathé was a constant threat to Kodak, until Kodak bought it in 1927. In addition, Agfa, controlled by the German chemical trust I. G. Farben, enlarged its U.S. operations with the purchase of the Ansco Company in 1928.²¹² This new firm, Agfa-Ansco, was Kodak's most vigorous competitor in the 1930s. These two foreign multinationals represented a significant force in the U.S. market; in fact, they were Kodak's only real competition, in addition to mounting foreign imports.

The fairly extensive international ties and their highly skewed distribution among the U.S. firms in the photographic goods industry were not the only features important for understanding their preferences on trade issues. Kodak's monopoly position was crucial. It controlled 96 percent of the U.S. market for film and about 90 percent of the market for all photographic goods in 1920.²¹³ This control was challenged both by the U.S. courts and by foreign competition in the course of the decade, and by its end Kodak's market share did recede to less than 80 percent.²¹⁴

What was most important about this market dominance was Kodak's continuing effort to maintain and enhance it. In the 1890s and 1900s, Kodak established its monopoly by gaining control of all important patents related to the industry and by acquiring most of its competitors.²¹⁵ Despite having gained a dominant position by 1910, Kodak still tried to enlarge its control by attempting either to drive its rivals out of business or to force them to ally with Kodak. This strategy finally got it into trouble. In 1920 Kodak was convicted of antitrust violations under the Sherman Act and was forced to divest itself of certain acquisitions.²¹⁶ In 1923, the Federal Trade Commission filed further

²¹¹ Moody's, *Manual: 1927*, pp. 2070-71; *NYT*, March 17, 1927, p. 323; House, Ways and Means, *General Tariff Revision of 1921*, sch. N, pp. 3946-50.

²¹² Jenkins, *Images and Enterprise*, pp. 330-37; Moody's, *Manual: 1927*, p. 769.

²¹³ Jenkins, *Images and Enterprise*, pp. 278, 285-86; *NYT*, April 30, 1923, pp. 13, 33.

²¹⁴ *NYT*, April 30, 1923, pp. 13, 33.

²¹⁵ Jenkins, "Technology and the Market," p. 10.

²¹⁶ Jenkins, *Images and Enterprise*, pp. 318-23; *NYT*, October 1, 1922, p. 20:1.

charges against Kodak for attempting to enhance its monopoly position; further divestitures were mandated.²¹⁷ Kodak's traditional monopoly strategy was thus having problems in the decade.

Kodak had long been an active monopolist; in the 1920s, with its traditional strategy of acquisitions and patent monopoly challenged and declared illegal, Kodak was left without a strategy but apparently not without the desire to enhance its position. By this time, in any case, its competition no longer really came from it already decimated domestic opponents. Kodak was now threatened by imports and the foreign multinationals, and its key strategy for maintaining its position in the 1920s had to be directed against them. One way to block such rivalry was, of course, to try to close the U.S. market; indeed, in the early 1920s Kodak adopted a strategy for enhancing its market position through promotion of the tariff.

The Dependent Variable

The trade policy preferences of the photographic equipment industry in the 1920s were primarily revealed during the two congressional tariff revisions. In the 1921-22 hearings, the domestic manufacturers proved extremely vocal. But in 1929, reflecting changes in the industry and its preferences, these manufacturers were less active.

During the 1921-22 general tariff revision, the domestic film and camera manufacturers endorsed substantial tariff rate increases on their products. These would raise what were very low initial duty rates; the 1913 Underwood tariff duties on cameras and unexposed film were 15 percent and free, respectively. Although economic distress and rising imports helped ignite these demands, the arguments and motivations for protection varied among the domestic manufacturers. Three distinct positions were apparent.

The three small manufacturers of unexposed film lobbied to end the free status of film and impose a duty of 35 to 50 percent ad valorem.²¹⁸ Citing the serious economic problems and rising foreign competition they faced, all three claimed to be operating at a loss and to be unable to match the prices of imported film. These firms also used the argument that they should be protected so that they could survive and thus provide competition to Kodak. They were requesting greater protection of the home market on the grounds that this would enhance domestic competition. The president of one firm declared, "the real question involved in [the Representatives'] decision regarding . . .

²¹⁷ *NYT*, April 30, 1923, pp. 1:3, 3:3.

²¹⁸ House, Ways and Means, *General Tariff Revision of 1921*, sch. N, pp. 39:3-46.

the tariff is whether . . . [they] will permit American labor and American capital to maintain active competition in the domestic market; if [they] leave film on the free list, [they] will inevitably put every American film manufacturer, with one exception [i.e., Kodak], out of business."²¹⁹ Having no international economic ties and little chance of competing against imports, these three firms viewed protection as their only means of survival.

The small domestic camera manufacturers held a different position. Speaking on their behalf, the Seneca Camera Manufacturing Company argued for increased duties on cameras but opposed any imposition of duty on unexposed film.²²⁰ This firm wanted the rate on foreign cameras doubled—from 15 percent to 30 percent—and claimed that this was necessary to stay in business against German imports. But the company strongly opposed any duty on film not only because it imported film but also because it viewed the requested duty increase as a ploy by Kodak to drive it out of the camera business. The president of Seneca said:

This effort on the part of the Eastman Kodak Company to control the industry by asking for 30 percent on films is not a new thing; if a tariff . . . is put on film . . . , Kodak will be the only manufacturer in the country to supply the public with hand cameras . . . , because the independent companies cannot sell cameras unless they are able to supply films, and [they] cannot manufacture the film [themselves].²²¹

This manufacturer, then, maintained that free film imports were vital to continued competition in the industry. The firm saw Kodak's motivation in asking for protection as a clear case of its long-running strategy to monopolize the market.

A third view on the tariff was delivered by the Eastman Kodak Company itself. In the 1921 hearings, Kodak appeared in favor of a tariff increase on both unexposed film and cameras. The increases it desired, 30 percent on cameras and 20 percent in films, were lower than those requested by the smaller domestic manufacturers. Kodak, while not ready to oppose even greater increases, was unenthusiastic about such high rates.²²²

The firm's explicit arguments for greater protection had two com-

²¹⁹ Senate, Finance, *Tariff Act of 1921*, sch. N, p. 4327.

²²⁰ *Ibid.*, pp. 4354-57.

²²¹ *Ibid.*, esp. p. 4356.

²²² House, Ways and Means, *General Tariff Revision of 1921*, sch. N, pp. 3465-67, 3472-73; Senate, Finance, *Tariff Act of 1921*, sch. 14, pp. 4323-25.

ponents. Kodak, pointing to cartelization and subsidization of the industry abroad, complained that the mounting foreign competition was due to these unfair trade practices used by the foreign countries. Kodak also felt protection was necessary because every other country imposed high duties on photographic products. The firm believed these duties hurt its exports and would force it to move operations abroad. Kodak's brief stated that "since the war the German manufacturer has captured the market in Italy, when before the war this company had an extensive business . . . [and that] if no duty is imposed [in the U.S.], the tendency will necessarily be to compel American companies to manufacture in Europe instead of in the U.S. in order to successfully compete with foreign manufacturers."²²³

The extent to which these two factors actually prompted the firm's demands for protection is questionable. The "powerful German Chemical Trust," against which Kodak railed, was certainly no more monopolistic than Kodak itself. Furthermore, the company's argument about the effects of other countries' tariffs seemed largely a scare tactic; without a duty increase, the company implied, it would move its operations abroad. The fact that the tariff increase was granted and Kodak still chose to expand abroad suggests that the argument was not completely genuine.

Kodak's preference for the tariff was motivated largely by its desire for greater control of the U.S. market. This was the reason that all of Kodak's competitors cited, whether or not they themselves supported or opposed protection. Pathé, the one foreign multinational in the United States, objected to any increases in the tariff on unexposed film and asserted that such a tariff would merely enhance Kodak's monopoly and that this was the only reason Kodak wanted the duty.²²⁴ U.S. motion picture companies, who were large exporters and multinationals, similarly opposed Kodak's efforts for film duty increases. One U.S. motion picture distributor claimed, Kodak "was seeking through means of a protective tariff to further control and dominate the industry by making it difficult, if not impossible, to procure the product of any concern which attempts to compete."²²⁵ Even domestic manufacturers who favored some protection, like the Seneca Camera Company, saw Kodak's monopoly strategy at work in its tariff proposals. Though Kodak naturally never claimed this as its motive, its pursuit

²²³ Senate, Finance, *Tariff Act of 1921*, sch. 14, p. 4324.

²²⁴ *Ibid.*, pp. 4331-37.

²²⁵ House, Ways and Means, *General Tariff Revision of 1921*, sch. N, p. 3946.

of monopolistic control was a more plausible argument for protection than were the two it proffered.

By the 1929 tariff revision, sentiment for protection among the domestic manufacturers of photographic equipment had abated. During the Smoot-Hawley hearings, only Kodak, among domestic manufacturers of cameras or films, testified. And Kodak's preferences were more nuanced. It still asked for some duty increases on cameras, but it also desired reductions of the rate on film.²²⁶ This new preference sprang from its increasing foreign production and export of these films to the United States.²²⁷ Kodak's continued insistence on raising the tariff on cameras probably derived from its continued strategy of maintaining market dominance. Many observers, including a number of Senators, perceived this to be Kodak's primary motivation.²²⁸ In any case, Kodak's preferences in regard to the tariff on unexposed film had changed as its internationalization of production in this product grew. By 1929, the benefits of lower barriers to trade in film outweighed the benefits of enhanced monopoly control in the domestic market for Kodak.

The domestic manufacturers' relative quiescence on the tariff issue in 1929 was paralleled by the foreign multinationals' and importers' vocal opposition. In the 1929 hearings, opposition by these two groups was stronger than any advocacy of the tariff. The large German importer, Zeiss, testified lengthily against further tariff increases on cameras or film. Maintaining that the existing tariff simply enhanced Kodak's monopoly, it pressed for a reduction to 10 percent ad valorem.²²⁹ In addition, the Belgian importer Gevaert appeared numerous times to oppose the tariff.²³⁰ Agfa, the German firm, having recently acquired the American film maker Ansco, lobbied for reducing the duties on photographic dry plates and paper.²³¹ In sum, opposition to further protection was rising in 1929, while preferences for it were decreasing. These shifts were reflected in the policy outcomes as well.²³²

²²⁶ House, Ways and Means, *Tariff Readjustment—1929*, sch. 14, pp. 7938-40.

²²⁷ Wilkins, *Maturing of Multinational Enterprise*, pp. 138-46; Senate, Finance, *Tariff Act of 1929*, sch. 14, p. 881.

²²⁸ *NYT*, January 21, 1930, p. 16:3-5; *NYT*, March 30, 1930, p. 30:2.

²²⁹ House, Ways and Means, *Tariff Readjustment—1929*, sch. 14, pp. 7940-42.

²³⁰ *Ibid.*, pp. 7943-46; Senate, Finance, *Tariff Act of 1929*, sch. 14, pp. 884-86.

²³¹ House, Ways and Means, *Tariff Readjustment—1929*, sch. 14, p. 7949; Senate, Finance, *Tariff Act of 1929*, sch. 14, pp. 74-76.

²³² The duty on cameras and on motion-picture film was kept the same; the duty on photo film was reduced. See House, Ways and Means, *Comparison of the Tariff Acts of 1913, 1922, 1929*, pp. 139-60.

The intra-industry debate over the tariff issue in the 1920s revealed serious divisions. Apparently no consensus among the domestic manufacturers of photographic equipment could be fashioned; no single industry association or spokesman ever appeared in the congressional hearings. Given the different concerns of the domestic producers, this lack of unity is not surprising. The small domestic film manufacturers, experiencing serious economic difficulties and having no international ties, were most eager for further closure of the home market; they had little to gain from an open market and much to lose. The small camera manufacturers wanted protection for their product, but because of their need for film imports objected to new duties on film. The industry giant, Eastman Kodak, wanted protection to thwart its main competitors, the foreign importers, and thus enhance its domestic monopoly. Its extensive international ties did not deter it from seeking this strategic use of the tariff, but they did temper the strength of its advocacy, as seen in its preference for a lower tariff in 1921 and for tariff reductions on film in 1929. The importers and foreign multinationals operating in the United States strongly opposed any tariff increases and in 1929 pushed for import duty reductions. These divisions within the U.S. photographic goods industry on the tariff issue reflected the different levels of ties to the international economy possessed by the various firms.

Overall, the photographic goods industry case provides some support for the argument about Type III industries. Given Kodak's fairly extensive export and multinational operations, its preferences might have been expected to be less protectionist than they actually were. In part because Kodak's international ties, especially its direct foreign investments, were relatively new and not extensive in the early 1920s, it could afford to seek protection in the 1921-22 tariff revision. But the growth of these international operations eventually constrained this desire for protection, as was evident in its 1929 testimony.

Kodak's support of the tariff in 1921-22, though, had little to do with international economic considerations. The tariff represented a strategy to fend off any competition with its domestic monopoly. The company was willing to let its small domestic rivals survive under a tariff umbrella in exchange for locking its primary competitors, the foreign importers, out of the market.

Other evidence from this case supports the argument. First, the small domestic manufacturers' ardent advocacy of greatly increased protection in the face of economic distress was understandable, given their complete lack of linkages to the international economy. When one of these firms, Ansco, was acquired by a German firm, it ended its

calls for protection and became an advocate of liberalization. The active opposition of the importers and the foreign multinationals based in the United States to tariff increases underscores the argument that international trade and investment ties condition trade preferences. Finally, Kodak's advocacy of a reduction in duties on unexposed film in 1929 in the wake of its growing internationalization and trading in this product strongly supports the argument.

CASE 6: NEWSPRINT

The U.S. newsprint industry began growing rapidly in the late 1800s, as the demand for newspapers escalated. By the 1910s this industry, which was already the largest segment of the U.S. paper sector, had developed into one of the nation's ten largest.⁵³³ At this time, however, pressures for change in the industry became intense. As the United States depleted its supply of wood and the Canadians developed their own industry, the U.S. newsprint manufacturers gradually moved their operations north of the border. By the 1920s, the American newsprint industry was losing its national basis and becoming instead a highly multinational and trade-dependent sector.

The 1920s were difficult years for this U.S. industry. Imports began capturing a large part of the U.S. market in the early part of the decade. In 1913, imports were valued at \$5.7 million; in 1921 they rose to \$79 million; and by 1929 they eclipsed domestic production as they reached \$144.5 million.⁵³⁴ Import penetration (imports as a percent of domestic production) also skyrocketed, growing from 10.7 percent in 1913 to nearly 70 percent in 1921, to 179 percent in 1929.⁵³⁵ The U.S. industry peaked in 1926; after that, imports overtook domestic production, which began declining. Foreign competition thus became a major concern.

Economic difficulties among newsprint manufacturers were apparent in the 1920s, as they experienced a reversal of the growth trend that had marked the industry since the 1880s. They were hit by profitability problems, overcapacity, and declining numbers of firms and employees. The beginning and end of the decade were the most difficult. In 1921 the industry's losses approached \$70 million, and in the late 1920s firm closures and mergers indicated further profit difficul-

⁵³³ U.S. Dept. of Commerce, *Census of Manufactures* (Washington, D.C.: GPO, 1919).

⁵³⁴ U.S. BFD, *Commerce Yearbook* (Washington, D.C.: GPO, 1922), pp. 260-66; 1926, p. 554; 1930, vol. 1, p. 540.

⁵³⁵ *Ibid.*

ties.²³⁶ The number of firms dropped from 710 in 1927 to 685 in 1929, although the number of employees remained nearly constant.²³⁷ Most important, U.S. production levels for the industry were declining, and capacity utilization levels were extremely low.²³⁸

Newsprint manufacture was a Type IV industry, with limited exports but extensive multinationality and inrafirm trade relations. In its trade, the U.S. industry was dependent on imports; exports were minor. Its export dependence was low and decreasing, and its value of exports fell over the decade.²³⁹ Key world markets were supplied by exports from Canada, not from the United States.²⁴⁰ The industry's trade balance was also increasingly negative in this period, reaching a whopping \$143 million by 1929.²⁴¹ The ratio of exports to domestic production was also low and declining. In 1913, the ratio was 4.5 percent; in 1921 it fell to 1.9 percent and by 1929 to 1.7 percent.²⁴² The U.S. newsprint industry was not dependent on its exports; they played only a minor role in its performance.

Although their export dependence was insignificant, the U.S. newsprint manufacturers' multinationality was well developed in the 1920s. The major U.S. firms had extensive foreign production operations and inrafirm international trade. The newsprint sector, in fact, had the highest amount of capital invested abroad of any U.S. industry in 1932. Its direct foreign investments were estimated at \$224.6 million at the time.²⁴³ Notable also was the fact that this investment was located completely in Canada.²⁴⁴ The U.S. firms dominated the growing Canadian industry and controlled over 30 percent of the capital invested in it and about 30 percent of total Canadian newsprint-making capacity by the late 1920s.²⁴⁵

²³⁶ *NYT*, April 16, 1922, pt. 2, p. 15-1; Senate, Finance, *Tariff Act of 1921*, sch. 13, p. 3872; House, Judiciary Committee, *Study of Monopoly Power: Newsprint Paper Industry*, 82nd Cong., 1st sess., 1951, H. Rept. 505, pt. 1, pp. 34-38. The largest firm, the International Paper Co., alone lost \$5 million in 1928, according to the *NYT*, May 1, 1928, pp. 1:8, 2:1-6.

²³⁷ U.S. Dept. of Commerce, *Census, 1929*.

²³⁸ *NYT*, April 8, 1927, p. 3:2.

²³⁹ U.S. BEFC, *Commerce Yearbook*, 1922, pp. 260-66; 1926, vol. 1, p. 554; 1930, vol. 1, p.

540.

²⁴⁰ House, Judiciary, *Study of Monopoly Power*, 1951, Rept. 505, pt. 1, pp. 94-98.

²⁴¹ U.S. BEFC, *Commerce Yearbook*, 1922, pp. 260-66; 1926, vol. 1, p. 554; 1930, vol. 1, p.

540.

²⁴² *Ibid.*

²⁴³ Senate, *American Branch Factories*, Doc. 120, 1933, p. 11.

²⁴⁴ *Ibid.*, pp. 11-19.

²⁴⁵ House, Judiciary, *Study of Monopoly Power*, 1951, Rept. 505, pt. 1, p. 56. Because it

This multinationality was concentrated among four of the largest U.S. newsprint manufacturers.²⁴⁶ Of these, the largest—the International Paper Company—began significant manufacturing operations outside the United States in the early 1920s. By the end of the decade, International Paper was one of the three largest newsprint producers in Canada, accounting for 14 percent of total Canadian production and 12 percent of total U.S. production of newsprint by 1928.²⁴⁷ The third largest U.S. producer, the Crown-Zellerbach Corporation, also possessed substantial manufacturing investments in Canada. By 1928, Crown-Zellerbach produced 15 percent of total newsprint consumed in the United States and 3 percent of the Canadian supply.²⁴⁸ The St. Regis Paper Company, the fourth largest U.S. firm, began manufacturing operations in Quebec during the decade.²⁴⁹ In addition, the Kimberly-Clark Company owned the Canadian manufacturer, the Spruce Falls Power and Paper Company, which it expanded greatly in 1926 in order to become the *New York Times*' sole source of newsprint.²⁵⁰

A second feature of the U.S. firms' foreign operations was their sizable exports. These firms had highly integrated international operations; each plant was bound to the others through a web of inrafirm trading operations. The U.S. firms not only exported from Canada to the United States but also from Canada to major markets in the Far East and Europe. Overall, U.S. plants in Canada exported over 30 percent of their production.²⁵¹ The U.S. newsprint industry's multinationality was thus extensive and integrated, although concentrated in Canada among four large U.S. firms.

The U.S. and Canadian newsprint markets were also connected through the foreign sales operations and contracts of Canadian producers in the United States. Though Canadian manufacturers tended not to produce in the United States, they operated sales outlets there and entered into relationships with U.S. firms to sell their newsprint.

includes the rayon and wallboard sectors, this figure overestimates the value for just the newsprint industry; this overestimation is not, however, very significant.

²⁴⁶ Senate, *FTC Report on the Newsprint Paper Industry*, 71st Cong., spec. sess., 1930, S. Doc. 214, pp. 79, 112-13.

²⁴⁷ Louis Stevenson, *The Background and Economics of American Paper Making* (New York: Harper & Bros., 1940), pp. 174-75; Senate, *FTC Report on Newsprint*, Doc. 214, pp. 79, 112-13.

²⁴⁸ *Ibid.*

²⁴⁹ Moody's, *Manual: 1927*, pp. 2586-87.

²⁵⁰ *Ibid.*, p. 380; *NYT*, April 29, 1926, p. 25:8; *NYT*, September 27, 1927, p. 4:2.

²⁵¹ A. E. Safarian, *Foreign Ownership of Canadian Industry* (Toronto: McGraw-Hill, 1966), p. 125.

The Canadian firms did not have much capital invested in the United States, but by means of their oligopoly agreements at home and their U.S. contracts they controlled a substantial part of the U.S. newsprint market.²⁵² U.S. firms' control of the Canadian market was, nevertheless, greater than the Canadians' in the United States, because of the Americans' more extensive direct investments. The key point, however, is that the two markets were tightly linked through both sets of international ties. One observer claimed, "the American and Canadian newsprint paper industries [are] essentially one and the same entity, having the same primary markets and the same interest."²⁵³

Several other features of the industry are important. The American manufacturers were highly oligopolistic. In 1928, over 50 percent of total U.S. newsprint production was controlled by three U.S. firms.²⁵⁴ This market control was accompanied by much monopolistic behavior; price fixing, market-sharing agreements, cooperative buying, and production quotas were constantly evident.²⁵⁵ These practices were organized by the industry giants, especially by the International Paper Company, which operated as the "price leader" in the U.S. market.²⁵⁶

This oligopoly was reflected in the industry's tight political organization. The U.S. firms' interests were represented through the American Pulp and Paper Association, which had long operated as an effective political voice for the industry.²⁵⁷ This association, however, appeared to be dominated by the largest firms in the industry, and so its political activities tended to favor the interests of the largest, multinational U.S. newsprint manufacturers.²⁵⁸ The newsprint industry in the 1920s was thus economically powerful and politically well organized, largely as a consequence of its oligopolistic structure.

Another aspect of the industry in this period was its growing links to the newspaper publishing industry. These mounting ties resulted from both backward and forward integration of the publishers and

²⁵² Senate, *FTC Report on Newsprint*, Doc. 214, pp. 17-21, 85-89; *NYT*, November 24, 1928, p. 18-2; *NYT*, November 26, 1928, p. 45-1.

²⁵³ Constant Southworth, "The Newsprint Paper Industry and the Tariff," *Journal of Political Economy* 30 (1922):694.

²⁵⁴ Senate, *FTC Report on Newsprint*, Doc. 214, pp. 15-17.

²⁵⁵ John Guthrie, *The Newspaper Paper Industry* (Cambridge: Harvard University Press, 1941), pp. 94-98.

²⁵⁶ Senate, *FTC Report on Newsprint*, Doc. 214, p. 81; House, Judiciary Committee, *Study of Monopoly Power: Newsprint Paper Industry*, 81st Cong., 2nd sess., 1950, serial 14, pt. 6a, pp. 294-303, 922-25.

²⁵⁷ Senate, *FTC Report on Newsprint*, Doc. 214, pp. 99-100.

²⁵⁸ House, Judiciary, *Study of Monopoly Power*, 1950, serial 14, pt. 6a, pp. 291-310, 922-25; Senate, *FTC Report on Newsprint*, Doc. 214, pp. 99-100; *NYT*, February 6, 1921, p. 8:1.

manufacturers. In the 1920s newspaper publishers began acquiring substantial interests in U.S. and Canadian newsprint manufacturing operations.²⁵⁹ Newsprint manufacturers also integrated forward. For example, by 1929 the International Paper Company had sizable holdings—about \$10 million, or 10 percent of its total assets—in thirteen newspaper publishing companies.²⁶⁰ In fact, all but two U.S. newsprint manufacturers had substantial ties to the publishing sector.²⁶¹ The development of these ties brought the two groups' interests into greater harmony by the end of the decade.

The Dependent Variable

The trade policy preferences of the U.S. newsprint manufacturers may be seen through the congressional tariff revisions, the U.S. Tariff Commission investigations, and intra-industry debates in the 1920s. Of these three, the congressional hearings of 1921 and 1929 provided the most information about the firms' preferences, but evidence from all three suggests that the firms preferred open home markets, especially in the latter part of the decade, when a very solid consensus emerged on this position.

The roots of this consensus began developing in the 1910s. In 1911 the United States and Canada negotiated a reciprocity treaty that was to place newsprint, wood pulp, and several other goods on the free list in both countries. The impetus for this agreement came from two sources. First, the U.S. newspaper publishers wanted the duties on newsprint eliminated so they could obtain it at lower prices. They also feared the enormous monopoly power of the U.S. newsprint producers, especially the International Paper Company; hence, publishers lobbied to reduce the tariff in order to increase competition among the manufacturers.²⁶²

The second source of pressure for tariff reductions was the U.S. manufacturers themselves. Although not as enthusiastic as the publishers, the newsprint manufacturers perceived an advantage in liber-

²⁵⁹ Senate, *FTC Report on Newsprint*, Doc. 214, pp. 90-98; House, Judiciary, *Study of Monopoly Power*, 1951, Rept. 505, pt. 1, pp. 47-50. For example, the *New York Times* bought into the Spruce Falls Power and Paper Company of Canada, which was owned by the Kimberly-Clark Company. The *Chicago Tribune* integrated backward into newsprint manufacturing by purchasing the Ontario Paper Company of Canada in addition to several U.S. firms. Other publishers, such as the Hearst Papers, chose to integrate through contractual agreements rather than actual investments.

²⁶⁰ *NYT*, May 1, 1929, pp. 1:8, 2:1-6.

²⁶¹ House, Judiciary, *Study of Monopoly Power*, 1951, Rept. 505, pt. 1, pp. 47-50.

²⁶² Lyman Weeks, *A History of Paper Making in the U.S.* (New York: Lockwood Trade Journal Co., 1916), pp. 316-17; Stevenson, *Background and Economics*, pp. 168-69.

alizing trade in wood pulp and newsprint between Canada and the United States. Many of these firms had acquired sizable forest holdings in Canada, and they wanted to make sure that the wood products derived from these holdings could be exported to the United States without interference.²⁶³ The reciprocity treaty was designed to ensure this trade flow in return for opening the U.S. market to Canadian newsprint. Despite these pressures, the Canadians eventually vetoed the reciprocity treaty, believing it would only increase their economic dependence on the United States.²⁶⁴

U.S. pressure for liberalizing the market in newsprint did not die with this treaty. Rather, the momentum for a tariff reduction continued, and in the "liberal" atmosphere of the 1913 tariff revision, newsprint and wood pulp were placed on the free list.²⁶⁵ Newspaper publishers were most actively involved in pushing for this change. U.S. manufacturers supported it but wanted an assurance, or a reciprocal action, from the Canadians promising they would not tax or forbid exports of the wood products used in newsprint manufacturing.²⁶⁶ The U.S. producers became upset with the tariff reduction only when the Canadians refused to give such an assurance and later began implementing just such an export embargo.

In 1921, at the time of the Fordney-McCumber Tariff revision, U.S. newsprint manufacturers and newspaper publishers were the key participants in the debate over the newsprint tariff. Both wanted the duty-free status of newsprint to be retained; however, the manufacturers had other demands as well. In the congressional hearings, the American Pulp and Paper Association testified that newsprint should remain on the free list, but that a provision for raising the duty should be inserted to allow retaliation against foreign countries' unfair trade practices.²⁶⁷ This provision, of course, addressed the manufacturers' complaints against the Canadian export taxes and their threatened export embargo on wood pulp. The U.S. firms wanted trade between the two countries liberalized even further; they wanted to use government policy to open the Canadian market to a greater extent. This free trade position was anomalous for the association, since on every

²⁶³ Senate, Finance, *Tariff Act of 1929*, sch. 16, pp. 623-24.

²⁶⁴ Wilkins, *Emergence of Multinational Enterprise*, pp. 144-45.

²⁶⁵ Southworth, "Newsprint Paper Industry," pp. 681-90; John Glover and William Cornell, eds., *The Development of American Industries* (New York: Prentice-Hall, 1932), p. 100; Wilkins, *Emergence of Multinational Enterprise*, pp. 138-40; *NYT*, July 27, 1922, p. 7.

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²⁶⁶ Senate, Finance, *Tariff Act of 1929*, sch. 16, pp. 623-24; *NYT*, July 16, 1923, p. 20.

²⁶⁷ House, Ways and Means, *General Tariff Revision of 1921*, sch. M, pp. 2902-2905.

other paper product it was demanding a tariff increase. The association's position on newsprint reflected the preferences of the major U.S. manufacturers.

In the 1921 hearings only two of the American newsprint firms testified independently. Their individual testimonies supported the basic position enunciated by the association but added one or two more specific demands. The St. Regis Paper Company lobbied to ensure that no duty was placed on newsprint and to divert attention from the retaliation provision suggested by the American Pulp and Paper Association.²⁶⁸ St. Regis maintained that any such duty, or the threat to impose one, would simply provoke Canadian retaliation and thus hurt the industry. The company's large Canadian holdings and its sizable intrafirm trade between the two countries made it sensitive to the effects of any retaliation by Canada.

The International Paper Company, in contrast, was as deeply involved in Canada as was St. Regis but was willing to adopt a more aggressive strategy in its pursuit of freer trade between the two countries. International Paper had substantial landholdings in Canada in 1921 but few production facilities abroad. This firm favored inclusion of a retaliation provision; moreover, it wanted the United States to threaten actively to invoke this if the Canadians made any move to tax or halt wood pulp exports.²⁶⁹

The U.S. newspaper publishers also testified at the 1921 hearings. As in the past, these publishers remained ardent advocates of duty-free newsprint. They argued in favor of retaining newsprint's free status and against the retaliatory provision that International Paper wanted.²⁷⁰ Like St. Regis, they maintained that the retaliation provision was likely to worsen U.S.-Canadian relations. Publishers feared that retaliation was a ploy developed by some major U.S. manufacturers to enable them to increase the tariff if their monopolistic position were ever threatened.²⁷¹

The newspaper publishers' fears about the depth of the newsprint manufacturers' sentiment for freer trade proved unfounded. The U.S. manufacturers' extensive and growing investment relations with Canada made protectionism prohibitively costly. These manufacturers complained about the Canadians' attempts to tax and embargo wood

²⁶⁸ *Ibid.*, pp. 2967-68; Moody's, *Manual: 1927*, pp. 2586-87.

²⁶⁹ Senate, Finance, *Tariff Act of 1921*, sch. 15, pp. 4866-68; *NYT*, July 8, 1923, pt. 2, p. 12.

²⁷⁰ Senate, Finance, *Tariff Act of 1921*, sch. 15, pp. 4878-4910.

²⁷¹ House, Ways and Means, *General Tariff Revision of 1921*, sch. M, pp. 2944-66; Senate, Finance, *Tariff Act of 1921*, sch. 15, pp. 4878-4910.

pulp exports. In the mid-1920s, they pressured Congress and the executive branch to halt and/or retaliate against such Canadian efforts.²⁷² The U.S. manufacturers claimed that this export policy, because it would induce the movement of manufacturing operations to Canada and the export of finished newsprint from there to the United States, would mean the demise of the U.S. industry. In 1925 these manufacturers lost their fight: the Canadians imposed an export embargo on wood pulp at the provincial level; the United States did not retaliate; and U.S. firms rapidly moved their newsprint manufacturing to Canada.²⁷³

Before the 1929 tariff revision, the newsprint manufacturers pursued two other issues related to foreign competition. First, in 1921, manufacturers lodged antidumping complaints at the USTC against German and Scandinavian newsprint imports.²⁷⁴ These manufacturers were joined by much of the U.S. paper industry in claiming that these countries were subsidizing and dumping all sorts of paper products in the U.S. market.²⁷⁵ An investigation was begun. However, the newsprint manufacturers soon lost interest, and in the end no action was taken.²⁷⁶

The second issue involved attempts to alter the definition of "standard newsprint." The U.S. paper industry in general sought a precise and narrow definition of which paper goods would be admitted duty free. In the early 1920s, U.S. manufacturers of paper goods other than newsprint wanted this definition to be narrow to keep out competitive imports; some of the newsprint manufacturers also favored this at the time, because they viewed it as a possible way of keeping out German and Scandinavian imports.²⁷⁷ Once again, the newsprint manufacturers lost interest in this issue. The rest of the U.S. paper industry, however, remained concerned, pressing the U.S. government for a narrowing, or "clarification," of the definition to no avail throughout the decade.²⁷⁸

²⁷² NYT, July 8, 1923, pt. 2, p. 112; NYT, February 2, 1925, p. 112.

²⁷³ Wilkins, *Emergence of Multinational Enterprise*, pp. 138-39; Stevenson, *Background and Economics*, pp. 190-97; House, Judiciary, *Study of Monopoly Power*, 1951, Rept. 595, PL. 1, pp. 30-33.

²⁷⁴ NYT, August 27, 1921, p. 375; NYT, August 28, 1921, p. 2014.

²⁷⁵ NYT, August 27, 1921, p. 375; NYT, October 21, 1922, p. 215; USTC, *5th Annual Report*, 1921, p. 41.

²⁷⁶ House, Ways and Means, *Tariff Readjustment—1929*, sch. 15, pp. 9340-43. Imports from these countries fell somewhat, which may account in part for their decline in interest.

²⁷⁷ *Ibid.*, sch. 14, pp. 6821-24.

²⁷⁸ *Ibid.*

On the dumping and newsprint definition issues, the U.S. newsprint manufacturers initially joined the rest of the paper industry in seeking to restrict trade. But the manufacturers' positions on these issues were half-hearted; they did not pursue them and were not upset over their demise. Their overall interest was in opening up international trade in newsprint, and this interest persisted, as the tariff revisions document. In fact, their preference for open markets was strengthened in the course of the 1920s, as their foreign operations intensified.

During the 1929 Smoot-Hawley Tariff revision, this consensus on free trade was evident. In the course of the most protectionist tariff revision in American history, not one U.S. newsprint manufacturer testified for increased duties, for a retaliatory provision, or for any other restrictive device. The manufacturers all favored keeping newsprint on the free list.²⁷⁹ Once again, newsprint was the only item concerning paper in the tariff schedule on which the manufacturers did not want to elevate the tariff. The major reason for this free trade sentiment was the newsprint manufacturers' extensive ties to the international economy. Their substantial direct foreign investments in newsprint production by 1929 had solidified their position on the tariff. A representative of the paper manufacturers testified: "The whole economic situation [referring to the lower cost of foreign production operations of the U.S. manufacturers] is such that it would be foolish to attempt to put a duty on newsprint."²⁸⁰

During the Smoot-Hawley hearings the U.S. newspaper publishers also testified on the newsprint tariff issue. As before, they advocated the retention of its duty-free status and opposed any restriction of its trade.²⁸¹ The publishers also wanted to expand the open market in newsprint by enlarging the category of "standard newsprint." They wanted the Commerce Department's definition of newsprint to be broadened so that more types of paper could be imported duty-free.²⁸² This demand was linked to the publishers' own expanding international ties. As they had integrated backwards into newsprint and paper production in the United States and Canada during the 1920s, they had developed an interest in the duty-free import of all the newsprint and paper they now produced and used. At a minimum, these new international links induced them to oppose the American *paper* (not newsprint) manufacturers' attempts to restrict the definition of newsprint.

²⁷⁹ House, Ways and Means, *Tariff Readjustment—1929*, sch. 13, pp. 6819-24; Senate, Finance, *Tariff Act of 1929*, sch. 14, pp. 1-9, and sch. 16, pp. 616-24.

²⁸⁰ House, Ways and Means, *Tariff Readjustment—1929*, sch. 13, p. 6827.

²⁸¹ *Ibid.*, sch. 15, pp. 9340-61; Senate, Finance, *Tariff Act of 1929*, sch. 16, pp. 616-24.

²⁸² *Ibid.*

Thus, by 1929 the U.S. publishers as well as the American manufacturers found their growing foreign operations shaping their trade preferences in the direction of freer trade.

Intra-industry debates regarding trade issues for the newsprint industry were limited in the 1920s. The central debate appeared to be not over the extent of protection but over the best strategy for opening markets. In 1921 this debate was reflected in the different positions adopted by St. Regis and International Paper. St. Regis felt the best way to ensure open markets was through unilateral policy moves; International Paper viewed aggressive, retaliatory policies as most effective. But even this muted debate over strategy was not evident in 1929. By that time, the extension of all the major U.S. firms' operations into Canada aligned their interests and strategies on the tariff issue. No internal debates over the industry's preference for free trade in newsprint were visible at this point.

Overall, the newsprint industry provides strong support for the argument advanced about Type IV industries. Having extensive and integrated foreign operations, the U.S. manufacturers found themselves tied tightly to the international economy, which in turn conditioned their trade preferences. They consistently supported the duty-free status of newsprint imports in the 1920s, despite the economic distress they were experiencing. In addition, their support for open markets increased as their foreign investment ties deepened in the late 1920s. As this case suggests, extensive, integrated multinational operations can pull firms away from preferences for protection generated by severe import competition and economic difficulty.

CHAPTER 4

The 1970s U.S. Case Studies

SIX AMERICAN INDUSTRIES in the 1970s are examined below to see whether they fit the hypothesis that industries with substantial links to the international economy are less protectionist than more domestically oriented industries, even if both are facing serious economic distress. As in chapter 3, each case study has two parts. First, the industry's economic difficulties and import problems are discussed in order to document its a priori interest in protecting its domestic market. The industry's ties to the international economy are detailed at both the industry and the firm levels, to allow classification of each case in terms of the argument and to generate expectations about its preferences on trade.

Second, the industry's preferences on trade issues, as expressed in three arenas, are examined. In the 1970s, trade law, rather than the tariff, was the major means of obtaining protection from imports in the United States. Thus a central focus here is the industry's activities in petitioning and lobbying the relevant executive agencies—i.e., the U.S. International Trade Commission (ITC), the Department of Commerce, the Department of the Treasury, and the office of the U.S. Special Trade Representative. Another consideration is each industry's involvement in Congress, especially its testimony concerning the GATT negotiations of the Tokyo Round and other attempts to introduce trade legislation. Finally, the industry's internal political divisions over trade issues are discussed. The focus is on divisions among the firms and the effects of these divisions on the industry's political activities. A survey of these three arenas provides a comprehensive picture of our dependent variable—the trade preferences of the selected 1970s industries and of the firms within them.

CASE 1: FOOTWEAR

The U.S. nonrubber footwear industry experienced tremendous economic distress and decline during the 1970s. Factory closings were numerous, with over 400 U.S. factories shut down between 1968 and