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THE POLITICAL ECONOMY OF THE SMOOT-HAWLEY TARIFF

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ABSTRACT

Economic histories of the interwar years view the Great Depression and the Smoot Hawley Tariff as inextricably bound up with one another. They assign a central role to the Depression in explaining the passage of the 1930 Tariff Act and at the same time emphasize the role of the tariff in the propogation of the Depression. This paper argues that popular accounts have conveyed what is at best an incomplete and at worst a misleading impression of the relationship between the tariff and the Depression. Rather than simply strengthening the hand of a Republican Executive predisposed toward protection or increasing the burden borne by a depressed agricultural sector, the uneven impact of the Depression occasioned the birth of a new protectionist coalition comprised of producers particularly hard hit by import competition: border agriculture and small-scale industry engaged in the production of speciality goods. Rather than leading to a dramatic across-the-board decline in the volume of U.S. imports, the tariff had very different effects across sectors. Rather than worsening the Great Depression by reducing foreign demands for U.S. exports, the direct macroeconomic effect of the tariff is likely to have been expansionary. This remains true even when feedbacks to the United States and foreign retaliation are analyzed. In any case, relative to the Depression, the direct macroeconomic effects of the tariff were small. If Smoot-Hawley had significant macroeconomic effects, these operated instead through its impact on the stability of the international monetary system and the efficiency of the international capital market.

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> As a score of writers have pointed out, the world depression and the Hawley-Smoot Tariff are inextricably bound up one with the other, the latter being not only the first manifestation but a principal cause of the deepening and aggravating of the former.
>
> Jones (1934, p.2)

The intimate connection between the Great Depression and the Smoot-Hawley Tariff of 1930 was recognized by contemporaries and continues to be emphasized by historical scholars.[1] But just as contemporaries, while agreeing on its importance, nonetheless viewed the tariff in a variety of different ways, historians of the era have achieved no concensus on the the tariff's origins and effects. The definitive study of the Smoot-Hawley's origins, by Schattschneider (1935), portrays the tariff as a classic example of pork-barrel politics, with each member of Congress after his particular piece of pork. Revisionist treatments characterize it instead as a classic instance of party politics; protectionism being the household remedy of the Republican Party, the tariff's adoption is ascribed to the outcome of the 1928 election.[2] Surprisingly, proponents of neither interpretation provide an adequate analysis of the relationship of Smoot-Hawley to the Depression -- in particular, they fail to establish whether the onset of the Depression strengthened the movement for the tariff's adoption, and if so why.

Following such contemporary critics of Smoot-Hawley as Bidwell (1932) and Slichter (1932), one school of macroeconomic thought assigns a large role to Smoot-Hawley in explaining why the 1929 recession did not follow the course of previous contractions but culminated instead in the Great Depression.[3] The tariff, if not wholly responsible for the Depression, is portrayed as a major contributor to its singular depth and long duration.

Others who emphasize monetary aspects of the contraction, although deploring the tariff's adoption, argue that world trade was collapsing anyway and treat Smoot-Hawley as a sideshow.[4] Finally, there is a school of thought which suggests that the tariff may have actually had a favorable impact on the U.S. economy, since it helped to offset the collapse of prices, thereby enhancing profitability and stimulating domestic production.[5]

Surprisingly in light of the attention devoted by contemporary observers to the the relationship of the tariff to the decline and recovery of different sectors, few recent studies have considered the impact of Smoot-Hawley at a disaggregated level. Contemporaries debated the question of which sectors were extended the most generous protection under the 1930 Tariff Act, some concluding that, in line with Herbert Hoover's 1928 electoral pledge, the benefits were largely limited to agriculture, others emphasizing upward revisions of tariff rates on imports of manufactures.[6] Still other commentators suggested that a considerable share of the increase in protection resulted not from acts of Congress but from the interaction of a falling price level with import duties denominated in nominal terms. Observers failed to agree even on the impact of the tariff on the traded goods sector, Free Traders blaming it for the dramatic fall in U.S. imports in the early 1930s, Protectionists noting that imports fell across the board and assigning responsibility to the Depression rather than the tariff.

To a remarkable extent, discussion of these matters proceeds as if the effect of the tariff on the American economy can be considered in isolation from its impact on the rest of the world. Insofar as Smoot-Hawley influenced conditions abroad and elicited retaliation, repercussions were felt in the United States, particularly by sectors producing exportable goods. Some

accounts attribute to the tariff a causal role not just in the disintegration of the international trading network but in the difficulties of primary-product exporting countries, the sovereign debt defaults of the 1930s, and the closure of the international capital market. Yet as Joseph S. Davis said of Smoot-Hawley more than a decade ago, "the extent of its influence has never been satisfactorily assessed."

Perhaps the most striking feature of the literature on Smoot-Hawley is the extent to which it proceeds in the absence of systematic evidence. This paper is an attempt to fill that void. It starts by reassessing the political economy of the 1930 Tariff Act. In Section I the existing explanations for the tariff's imposition are reassessed and found wanting. Section II offers a new interpretation of Smoot-Hawley's adoption. Section III then analyzes the contours of the tariff that emerged from the political process.

Sections IV and V turn to the macroeconomic impact of the 1930 Tariff Act. Any such analysis requires a theoretical framework, so a model is used to order discussion of the tariff's aggregate effects. That framework is a macroeconomic model of two countries or regions linked together by international flows of commodities and capital. Since the major countries were all on some form of gold standard when Smoot-Hawley was adopted, gold-standard rules occupy a prominent place in the specification. This framework helps to identify the channels through which the tariff's influence was felt and to isolate the parameters upon which the magnitude of its effects depended. The model is then calibrated to generate quantitative estimates of the macroeconomic effects.

Section VI considers the relationship of Smoot-Hawley to the disintegration of the international monetary system and to sovereign default by primary producers. These relationships, I argue, provide the principal channels through which the impact of the Smoot-Hawley Tariff on the Great Depression was felt. Section VII turns to the question of retaliation.

Section VIII describes an attempt to estimate the impact of import duty revisions under the 1930 Tariff Act on the quantity of goods imported under the 13 tariff schedules. The results pinpoint the proximate contribution of the tariff to the decline in U.S. imports after 1929, and shed light on the question of which sectors reaped benefits from Smoot-Hawley's imposition.

I. Politics, Pressures and the Tariff

The debate surrounding the passage of the Tariff Act of 1930 remains a classic study in the political economy of protection. A number of theories have been developed to explain Smoot-Hawley's adoption, starting with that advanced in Schattschneider's (1935) classic monograph whose title this section bears. However, by itself none provides a wholly adequate explanation for the tariff's adoption.

Schattschneider's influential study "set the tone for a whole generation of political writing on pressure groups...." and "cut the lens through which Americans have since visualized the making of U.S. foreign trade policy..."[9] Schattschneider focused on the influence of special interest groups over the structure of the Smoot-Hawley Tariff bill. In his account, the actions of lobbyists and special interests were largely responsible for the tariff's adoption.

Schattschneider dubbed the principal around which the tariff coalition organized "reciprocal noninterference."[10] The coalition was assembled by offering limited protection to everyone involved. Since only moderate protection was provided and no single import-competing sector reaped extraordinary benefits at the expense of others, they could combine in support of protectionist legislation. In addition, under provisions included in the original House and Senate bills, credits (or "debentures") were to be made available to exporters, extending the coalition beyond the import-competing to the export-producing sector.[11] Not just the number of commodities on which duties were raised but the very process by which the bill was passed is invoked in support of the log-rolling interpretation. Passage required 14 months from the point when Hoover called a special session of Congress to when the final bill was signed. The record of public hearings in which the bill was discussed ran to 20,000 pages, while the final bill provided tariff schedules for more than 20,000 separate items. Since insurgency was easier under Senate than House rules, log-rolling was more conspicuous there: the Senate amended the House bill over 1200 times, most of them on the Senate floor.[12] Still other changes were engineered in conference committee.

If, in contrast to previous tariff legislation as the Fordney-McCumber bill of 1922, the process and its result reflect the influence of special interest lobbies, it is important to ask why such groups had suddenly grown so powerful. Schattschneider provides no explicit answer, although he indicts Hoover for failing to guide well-defined legislation through Congress.[13] But the systematic explanation implicit in his analysis is the rise of the "new lobby." Although fraternal, religous, social, and economic groups had always

been part of the American scene, they had never been so well organized or visible in the Capitol as in the 1920s. According to one observer, "Within recent years these groups have increased and multiplied. More important still, they have become highly organized and are to-day conducted by shrewd and capable leaders."[14] In contrast to the old lobby, which was comprised of a few corporate employees, "wire-pullers" and patronage brokers working behind the scenes, members of the new lobby worked in the open, representing large if often specialized interest groups.

A number of influences combined to prompt the rise of the new lobby. First, the activities of the "muckrakers" in the first decade of the 20th century had intensified public scrutiny of political affairs. Second, whereas businessmen had traditionally dealt with government in "a spasmodic and haphazard fashion," the panic of 1907 spurred them to adopt more systematic forms of representation.[15] Third, the U.S. Chamber of Commerce took a more prominent role in representing the interests of business, "a development of great value to both parties concerned...[lending] clarity and force to the opinion of business and simplicity and directness to its relations with government."[16] And fourth, much as the Chamber of Commerce represented business's general interests, trade associations filled this role for more specialized groups. A Department of Commerce (1925) publication listed some 1500 organizations classified as trade associations, nearly double the number known to exist in 1914. Some were organized according to products produced, others according to materials used, and still others according to markets in which sales took place. Like the other three influences, the growth of trade associations was a distinctively 20th century development, but in contrast to other trends, which had been underway in the early years of the century, the

rise to prominence of trade associations was attributable to effects of World War I. The war effort required closer ties between government and industry, but upon attempting to establish them the authorities, finding it difficult to deal with individual enterprises, requested that associations be formed. If the war occasioned the formation and growth of many trade associations, the armistice by no means signalled their demise. Once formed into an association the process of marshalling a constituency was no longer so difficult. Improvements in communication, notably the telephone, reinforced these advantages, and associations quickly learned to use pamphlets and other media to publicize their case. The adoption of new Congressional rules made it more difficult for powerful individuals to dictate policy, opening the legislative process to competing interests.[17]

The same forces tending to promote effective representation of industrial interests in Washington encouraged the formation of effective organizations representing farmers and labor. The American farm movement had long been distinguished by its inability to organize effectively and represent its interests before Congress.[18] The ad hoc methods of agricultural organizations, such as sending a representative to Washington in response to alarming developments, had proven largely ineffectual. For agriculture as for industry, World War I and the impetus it provided for the formation of the War Trade Board and the Food Administration caused farmers' organizations to assume new importance. In 1918 the National Grange opened a permanent legislative office in Washington, and the militant American Farm Bureau Federation, founded in 1919, lobbied actively for farm legislation. In 1921 a bipartisan Farm Bloc of senators and congressmen from the South and West was formed, and it acquired a critical position in the balance of power in

the 66th and 67th Congresses. Although its success in passing farm legislation was mixed at best and while it quickly fell into disarray, the prominence of the Farm Bloc did much to alert agricultural interests to the advantages of effective congressional representation.

The war had a similar impact on the American Federation of Labor. While maintaining its distance from party politics, by the 1920s the AFL was commonly acknowledged as the most formidable group in the United States other than the two political parties.[19] Thus, in the 1920s the three principal American interest groups - business, agriculture and labor -- were for the first time ably represented in Washington.

The rise of the new lobby is entirely consistent with Schattschneider's characterization of Smoot-Hawley as an instance of pork-barrel politics. But his theory of reciprocal noninterference -- that the Smoot-Hawley bill by offering something for everyone garnered widespread support -- fails to confront the question of why the vote on the final bill so closely followed party lines, with only 5 Democratic Senators voting in favor and 11 Republicans against. Moreover, it provides no answer to the question of why tariff-rate increases differed so widely by schedule.

An alternative explanation, recently advanced by Pastor (1980), is that Smoot-Hawley is simply an instance of party politics. Protection was regularly advocated by the Republican Party. With the White House occupied by a Republican President and the Senate in Republican hands, there were few obstacles to revising upward existing tariff schedules. It is curious that this straightforward explanation has attracted so little attention. It may be that partisan aspects of the debate were disguised by the absence of a change in party in 1928 like that following the 1920 election and preceding the 1922

Fordney-McCumber Tariff Act. Moreover, the issue of protection had not been a prominant party issue in the 1928 campaign. Although the Democrats had traditionally campaigned on the basis of staunch opposition to protectionist measures, in 1928 they moderated their position and joined the Republicans in endorsing protection, albeit in relatively vague and reserved terms. Where the Republican Platform reaffirmed the Party's belief in "the protective tariff as a fundamental and essential principle of the economic life of this nation" and pledged to consider upward revisions of rates where needed to protect American labor against low-wage foreign competition, the Democrats acknowledged the desirability of tariff protection in principle but at the same time pledged to reduce "monopolistic and extortionate tariff rates" and to safeguard against "monopoly created by special tariff favors."[20] But in parts of the South, there was for the first time considerable emphasis by Democratic orators on the policy of protection. Given the extent of concensus, there was little debate in subsequent Congresses over principles of free trade and protection. Hence even Free Traders among the Democrats were ill positioned to mount effective opposition to tariff increases.

The problem with this interpretation is that it provides no explanation for Smoot-Hawley's timing or its form. It is suggested that Congress was simply accustomed to engaging in tariff revision every seven years (the average life of a tariff law between the Acts of 1883 and 1930), and that by 1929 Congress and the public had recovered from the exhausting Fordney-McCumber discussions of 1920-22. But this mechanical explanation neither recognizes links between protectionist pressure and economic events nor provides an explanation for the observed variation in import duty levels.

The explanation coming closest to satisfying these requirements is the

view of Smoot-Hawley as a response to the problems of American agriculture.[21] The explanation runs as follows. While the 1920s had been boom years for the country as a whole, prosperity had been unevenly distributed. In particular, agriculture, which had benefited from high prices from 1917 to 1920, failed to recover from the recession of of 1920-21. For much of the decade, farm gate prices declined relative to the prices of nonagricultural goods. (See Table 1.) In 1926, a relatively favorable year for farmers when average wholesale prices were 51 per cent above their 1913 levels, the prices of farm products were only 42 per cent above those levels. The explanation for lagging prices was that World War I had prompted a considerable expansion of agricultural production outside Europe. While European sugar production, for example, fell by 50 per cent during the war, the shortfall was offset by expanding output in Cuba, Java and South America. Once European production recovered, often under cover of import duties or production subsidies, world prices were permanently depressed.[22] Similarly, war had stimulated the expansion of wheat production in Argentina, Australia, Canada and the United States. The consequent decline in prices was magnified in the second half of the 1920s by the imposition of import duties on wheat by Germany, Italy and France.

Agrarian distress in the United States took various forms, notably farm foreclosures which, after averaging 3.2 per thousand farms between 1913 and 1920, rose to 10.7 per thousand in 1921-25 and 17.0 per thousand in 1926-29.[23] The foreclosure problem reflected not just the declining relative price of agricultural products but overall price level trends; since much agricultural land had turned over between 1917 and 1920 when prices were high, the subsequent deflation greatly augmented the burden of mortgage debt. The foreclosures of the second half of the 1920s were most heavily concentrated in

Table 1: Index Numbers of Farm Prices and Purchasing Power of Farm Products

Year	Farm Prices							General Wholesale Prices	Purchasing Power of Farm Products*
	Grains	Fruits and Vegetables	Meat Animals	Dairy Products	Poultry Products	Cotton and Cottonseed	All Groups		
1910	104	91	103	100	104	113	103	101	102
1911	96	106	87	97	91	101	95	93	98
1912	106	110	95	103	101	87	99	99	100
1913	92	92	108	100	101	97	100	100	100
1914	103	100	112	100	105	85	102	98	104
1915	120	83	104	98	103	78	100	101	99
1916	126	123	120	102	116	119	117	127	92
1917	217	202	173	125	157	187	176	177	100
1918	236	162	202	152	185	245	200	194	103
1919	231	189	206	173	206	247	209	206	101
1920	231	249	173	188	222	248	205	226	91
1921	112	148	108	148	161	101	116	147	79
1922	105	152	113	134	139	156	124	149	83
1923	114	136	106	148	145	216	135	154	88
1924	129	124	109	134	147	211	134	150	80
1925	156	160	139	137	161	177	147	159	92
1926	129	189	146	136	156	122	136	151	91
1927	128	155	139	138	141	128	131	147	89

*Index of farm prices divided by index of wholesale prices.

Source: Conner (1929).

Idaho, Montana, North and South Dakota, Colorado and Arizona, from where not surprisingly the strongest pressures for agrarian relief emanated.

In the 1928 presidential campaign Hoover laid considerable stress on tariff protection for agriculture. Previously, agriculture had been the recipient of only modest tariffs, in part because duties on farm imports would have been ineffective given U.S. status as a net exporter of most agricultural goods, sugar, wool and hides being the principal exceptions.[24] In 1922, however, the U.S. balance of trade of farm products turned negative, where it remained except in 1925 for the duration of the decade. (See Table 2.) Hence an expanding segment of American agriculture grew to appreciate the relevance of tariff protection.

By this interpretation, Smoot-Hawley was predominantly a form of agricultural relief. "[T]he farmers of the country wanted as much protection as had been given to the industrial East. It was for this reason that the agricultural schedules were boosted to higher levels than ever before."[25] Since a significant share of the American population remained rural, farm interests were able to press their case. Moreover, although the United States had grown increasingly urbanized over the preceding decades, Congress had not been reapportioned following the 1920 Census. In 1930 farm interests were overrepresented in the House, just as, on the two senator per state rule, they had long been overrepresented in the Senate.

This characterization of Smoot-Hawley as an agricultural measure won by the West over the opposition of the East is consistent not only with the partisan interpretation, given the regional concentration of Democratic and Republican voters, but it explains a number of defections from party ranks. To the extent that agricultural distress intensified with the onset of the

Table 2: Balance of Trade and Exports of Various Agricultural Items 1925-1932

($ millions)

Year	Foods, Feeds, and Beverages			Cotton Unmanufactured	Leaf tobacco unman.	Wheat	Fruits and Nuts	Meat Products
	Exports	Imports	Balance	Exports	Exports	Exports	Exports	Exports
1925	890	918	-28	1060	153	149	102	127
1926	835	953	-118	814	137	202	112	107
1927	883	950	-67	826	139	240	122	71
1928	762	951	-189	920	154	120	129	68
1929	753	955	-202	771	146	112	137	79
1930	542	684	-142	497	145	88	111	66
1931	374	523	-149	326	110	50	109	36
1932	243	404	-161	345	65	33	77	19

Source: U.S. Department of Commerce (1976).

Depression, it links the tariff to macroeconomic conditions. Where it fails is in explaining why tariffs on manufactured imports were raised as part of an agrarian relief measure, or why the tariff was supported not only by the representatives of agricultural districts but by those of industrial regions as well. Many accounts emphasize the extent of discord between agriculture and industry. "The manufacturing East is represented as being anything but pleased with the agricultural schedule, whereas the farming West is having a lot to say about the industrial schedules."[26] "Eastern industry thought the agricultural schedules written into the bill by the Senate were beyond all reason, but, by the same token, the Western agriculturalist thought the House had gone stark mad when it wrote the industrial schedules into the bill."[27] Yet the final bill passed by a coalition of agricultural and industrial interests raised agricultural tariffs by an average of 11.57 points and industrial rates by 5.48 points.[28] How could this be?

II. A Model of the Tariff-Making Process

The framework I use to analyze the adoption of Smoot-Hawley is a variant of Gerschenkron's (1943) model of the political economy of protection in 19th century Germany. This is a member of the class of "interest-group models" of tariff formation analyzed recently in Conybeare (1985) and McKeown (1986). I first review Gerschenkron's application of his model to Bismarckian Germany before adapting it to the analysis of the Smoot-Hawley Tariff.

In Gerschenkron's model, a tariff is adopted when specialized but well-placed interest groups combine in its support. Gerschenkron divides German society not merely along sectoral lines such as industry and

agriculture but into heavy industry (producers of basic products such coal, iron and steel), light industry (manufacturers of consumer goods, along with whom might be included artisans and shopkeepers), large agriculture (the Junkers, or large estate owners of Eastern Germany), and small agriculture (commercial producers located primarily west of the Elbe). He explains the Bismarckian tariff as a coalition of iron and rye, allying large agriculture and heavy industry.

In the 1870s as in the 1920s, the impetus for agrarian protection was the rapid fall in world grain prices. The position of traditional German agriculture, which specialized in grain, was seriously undermined. The alternative to continued grain production behind tariff walls was to shift into the production of high quality foodstuffs such as dairy products and meat for rapidly expanding urban markets. Cheap imported grain could serve as an input into such production. But, crucially, large and small agriculture manifested different capacities to adjust. Differences in soil quality provided greater scope for the production of dairy products and meat west of the Elbe. In addition, dairy products, meats and vegetables were most efficiently produced by relatively skilled labor working on small owner-managed farms. Hence costs of adjustment were lowest where long-term leaseholders and small owner-managed farms predominated -- west of the Elbe -- and highest where landless laborers worked large estates -- to the east in Prussia. The model predicts that small agriculture should have opposed agricultural protection due to its impact on costs, while large agriculture should have favored it.

Neither light nor heavy industry, with the possible exception of yarn spinning, desperately required protection from import competition. Under

competitive conditions, Germany probably would have imported grain and exported both light manufactures and the products of the basic industries. It is not clear that, given competition at home but the net export position of German manufacturers, import duties on industrial goods would have succeeded in raising the prices of domestically-produced goods.[29] Nonetheless, heavy industry supported the imposition of a tariff on manufactured goods. One interpretation of this position is that, with high levels of fixed capital, it was exceptionally susceptible to cyclical fluctuations.[30] Tariffs ostensibly reduced the risk of falling prices, thereby encouraging the fixed investments which permitted scale economies to be exploited. A more compelling interpretation is that barriers to cheap imports were a necessary condition for firms producing basic goods to combine and successfully extract monopoly profits from domestic users.[31] Consistent with this interpretation, producers of final goods like stoves, pots and pans, shovels, and rakes opposed tariffs on the products of basic industries because of their impact on production costs.

What is relevant for our purposes is that no group favored the final outcome: high tariffs on both agricultural and industrial goods. But because of the dispersion of interests, action required compromise. The two likely victors were a coalition of large industrialists and landowners obtaining general protection, and a coalition of small manufacturers and farmers successfully defending free trade. Gerschenkron ascribes the victory of the protectionist coalition to institutional factors. The Junkers, as members of the squirearchy, occupied a privileged position in the German political system. Not only did they staff the bureaucracy and judiciary but in addition they, like the wealthy industrialists, benefitted from the structure of the

German voting system. Heavy industry, helped by smaller numbers, organized more effectively than small manufacturing. Managers of large industrial enterprises formed new associations and worked to convert old ones to protectionism.[32] Their cause was not hurt by the fact that the Chancellor found protection a useful tool for achieving his political goals, and played an active role in forging the alliance of iron and rye.

Gerschenkron's model can be applied to the case of the Smoot-Hawley Tariff by again distinguishing industry by size and agriculture by region. Naturally, the interests of the different groups and the resulting coalitions are entirely different from those observed in Bismarckian Germany. So is the role of the national leadership. Nonetheless, distinctions of region and scale shed considerable light on the American case.

In the case of Smoot-Hawley, it is useful to distinguish inland (or sheltered) from border (or unsheltered) agriculture and, as in Germany, light from heavy industry, where it is light industry and border agriculture that combined in support of protection. As previously noted, critics of the Smoot-Hawley Tariff argued that duties on agricultural products would not be "effective" in raising prices because the U.S. was a net exporter of these goods.[33] In the words of Senator David Walsh of Massachusetts, "The reason why most duties on agricultural products -- either new duties or old duties increased in amount -- can not help the farmer is because they will not be effective."[34] Or as Al Smith remarked during the 1928 Presidential campaign, the existing 42-cent wheat tariff was no more than a gesture and for all the benefit the farmer received "it might as well be put at $1.42."[35] The problem with this contention is that net trade may not be the appropriate indicator of the effectiveness of a tariff. In the case of Smoot-Hawley, it may mislead

either if there existed segmented regional markets or if products were differentiated. For goods such as wheat with a high ratio of value to weight, there existed not merely a national but an international market. But wheat was not a homogenous product, and the United States both imported and exported different grades of what was too often regarded in policy debate as a single commodity. Since little if any exportable surplus of high grade milling wheat was produced in the United States, for example, the tariff was effective in raising the Minneapolis price relative to that prevailing in Winnipeg.[36] Even if the product was homogenous, for perishable products the United States was sufficiently large geographically that transport costs might impede the equalization of prices across regions. In Walsh's words, "for many products of agriculture there is in this country no general market, but only a series of local markets."[37] Northern states like Minnesota and densely populated Eastern Seaboard states like Massachusetts not far removed from Canada's maritime provinces might find their markets flooded by cheap Canadian potatoes, milk, cream, butter and eggs. Since these goods could not penetrate further into the interior because of their high ratio of volume to value, inland producers might be insulated from competing imports. In contrast, Southern farmers who engaged in the production of cotton (other than the long staple variety, which was imported and received a generous increase in tariff protection under the 1930 Act) were oriented toward the export market.[38] Therefore, Northern farmers close to the Canadian border should have favored protection to a much greater extent than their counterparts in the Interior or the South.

There existed equally sharp divisions within manufacturing. The pressure for protection was greatest in light industry concentrating in the manufacture of specialty products. Heavy industry and manufacturers of standardized

products had mechanized their operations and largely held their own against foreign competition. But the New England textile industry, which, in contrast to its Southern counterpart, specialized in the production of relatively high-quality products, experienced growing competition from English mills. In the bottle-making industry, producers of "fancy ware" such as perfume and toilet water bottles suffered from an increasing volume of French imports. Manufacturers of watches faced Swiss competition and and producers of jewelry complained of German imports. Eastern glove manufactuers experienced difficulty in matching the prices of foreign goods. The New England shoe industry experienced competition from Czechoslovak producers. Some producers were sheltered by relatively generous Fordney-McCumber duties. But, for most, foreign trends such as the desperate attempts of English mills to hold onto market share exacerbated their woes.[39] Still, only a minority of American industries were seriously injured by foreign goods.[40]

In opposition stood heavy industry, particularly segments which relied on the assembly line and mass production. By the turn of the century, the U.S. had gained a competitive advantage in many of the industries of the Second Industrial Revolution, automobiles being a prime example.[41] In 1929 motor cars and parts comprised ten per cent of the value of total U.S. merchandise exports, while imports were negligible due only partially to a modicum of tariff protection.[42] Given the importance of export sales and the anticipated impact of a tariff on production costs, the automobile producers, led by Henry Ford, made clear their opposition to the tariff bill.[43] The same was true of producers of farm machinery and of iron and steel bars, sheet, rails and metal manufactures.[44]

The banking community had traditionally lent support to the protectionist

system. Bankers doing business in industrial regions where firms depended on the tariff favored the maintenance of protection. But in the 1920s their support was tempered by events. World War I had transformed the United States from a debtor to a creditor nation and reoriented America's banking business abroad. As early as 1923 spokesmen for the financial community acknowledged that Europe's continued ability to service its dollar debt hinged upon foreign industries' access to American markets.[45]

A parallel shift was evident in the attitudes of organized labor. Traditionally, labor had opposed high protection for its impact on the cost of living. Those narrow groups of workers injured by import competition were incapable of changing this policy. For half a century the AFL's position on the tariff had been one of carefully cultivated neutrality. Although individual unions might lobby for protection against imported goods or for lower duties on raw materials, the Federation's policy was to take no position on the issue.[46] In 1930 it went only so far as to accede to individual unions' requests for legislative assistance. However, at the November 1928 AFL convention the first official caucus of pro-tariff unions was formed. This "Wage Earners Protective Conference" represented 8 or 9 per cent of the Federation's membership, the leading participants including the photo-engravers, wall paper crafts, glass-bottle blowers and potters.[47] Clearly, labor's traditional opposition to protection was tempered by the success of pro-tariff unions in organizing to lobby for a change in policy.

In sum, the situation in 1930 appeared as follows. Farmers along the Canadian border and the Eastern seaboard desired higher protection but, comprising only a minority of American agriculture, found it difficult to obtain alone. Light industries producing high-quality products also desired

protection but similarly comprised only a portion of American manufacturing. In principle, neither group favored protection for the other, but each was willing to support the claims of its counterpart in return for participation in the coalition. While agriculture received generous protection under the final Smoot-Hawley bill, so did light industry producing high-quality products. "If one will cast aside his personal interests, he will admit that the East and New England have fared relatively well. Some of the important industries in the six northeast states have received about everything they could have expected..."[48]

This framework has advantages over the view of Smoot-Hawley that divides the American economy into monolithic agricultural and industrial blocs. It explains why sections of the industrial Midwest and East, notably Detroit, should have complained about the height of agricultural tariffs, and why certain agrarian interests, notably in the South, should have complained of industrial protection. It is consistent also with the observed alliance of industrial and agricultural protectionists, and it explains why the Smoot-Hawley Tariff, originally conceived as agricultural relief, evolved into a bill extending protection to portions of both industry and agriculture. It is consistent with Schattschneider's emphasis on log-rolling aspects of the legislative process, but rather than characterizing the log-rolling as entirely general suggests that "reciprocal noninterference" should have been heavily dominated by border agriculture and light industry. It is consistent with the notion that Hoover lost control of the legislative process by permitting the debate to extend beyond the question of agricultural relief, but not necessarily with the opinion of Senator Borah that a narrowly agricultural tariff could have passed in 1929 had Hoover taken the bit in his

teeth.[49] National leadership, while important in both Gerschenkron's and this paper's application of the model, plays the opposite role in the two instances, since Bismarck favored widespread protection and played a prominent role in obtaining it, while Hoover personally opposed blanket protection but failed to effectively guide the legislative process. By invoking the rise of the trade association, the model can be used to explain how diffuse agricultural and industrial interests succeeded in influencing the legislative process. Finally, its predictions of which sectors lobbied hardest for the tariff is consistent with the findings of Section VII below of which sectors reaped the greatest benefits.

This simple model can be elaborated in various directions. One extension would introduce the long history of protectionism in the United States and the country's acquired habit of neglecting the impact of its economic policies on the rest of the world.[50] Another would build on the tendency of the Depression to undermine confidence in the self-equilibrating nature of the market mechanism. In many countries, the depth of the Depression provided a rationale for the extension of economic planning. In Britain, for example, Keynes went so far for a time as to argue for central planning along Soviet lines.[51] In the United States this desire for intervention and control was most clearly manifest in the New Deal, but the same tendencies contributed to the pressure for tariff protection in 1930. As one American author asked in the course of advocating the tariff, "How can the price-structure be fortified? How can national income be distributively moralized and rationalized? The mind of man can conceive of no answer except in terms of enlarged social governmental control."[52] The opponents of protection acknowledged these tendencies but viewed them as dangerous trends; wrote one,

> But now new defenders of the tariff have arisen. The tariff is to be made an instrument of national economic planning. We are told to look at Russia, the only country of importance with a greater trade in 1931 than in 1929. What we are suffering from, it is said, is not too much tariff but not enough tariff. The world-wide depression is used as a vivid illustration of the dangers of international economic interdependence, and we have held up before us the merits of a self-contained and isolated state.[53]

At the same time the Depression worked to promote Smoot-Hawley by undermining confidence in the stability of the market, it altered the costs and benefits of protection as perceived by the principal interest groups. By further lowering already depressed agricultural prices, it increased the pressure agricultural interests brought to bear on elected officials. By further undermining the already tenuous position of light industries engaged in the production of specialty products, it reinforced their efforts to acquire insulation from foreign competition.

III. Features of the 1930 Tariff Act

There is dispute in the literature over the proper way to characterize the height of the 1930 Tariff Act. A popular description of Smoot-Hawley is, in the words of Haberler (1976), as a "skyscraper" tariff. But Dornbusch and Fischer (1984) argue that the Fordney-McCumber Tariff of 1922 increased the ratio of duties to either total imports or dutiable imports to the same extent as Smoot-Hawley. If the 1930 tariff increase only matched the 1922 revision, the absence of a recession in the wake of Fordney-McCumber casts doubt on the notion that protectionist measures adopted in 1930 contributed significantly to the contraction then underway. Dornbusch and Fischer also note that part of the increase in the average rate of taxation under Smoot-Hawley reflects the decline in the price level after 1929. Though any such effect is

attributable to Smoot-Hawley insofar as the tariff was a central factor in causing the Great Depression, not only is the tariff's causal role in deflation debatable but, even granting it, the effects of price-level trends should be factored out in order to isolate the magnitude of the initial commercial initiative.

Table 3 displays the percentage of imports entering duty free and the average ad valorem equivalent rates of duty. Since the share of imports entering duty free remains fairly steady over the post World War I period, most of the variation in duties as a share of import values results from movements in ad valorem equivalent rates. Between 1921 and 1922 the average rate of import taxation rose by 9 percentage points, or by 29 per cent of 1921 levels. Between 1929 and 1931 (where 1931 is considered because the Smoot-Hawley Act was only passed into law in June 1930), the average rate rose by 13 percentage points, or nearly 33 per cent of 1929 levels. Given the stability of the share of imports entering duty free, the same conclusion emerges when import duties as a share of total imports are considered. Both in percentage points and as a share of pre-existing levels, Smoot-Hawley increases were in fact larger than those of Fordney-McCumber, but not overwhelmingly so.

A problem with unadjusted comparisons is that movements in the average ad valorem rate reflect not only changes in statute but changes in import composition and price. Price-level effects matter because many duties were set as specific rates, and such effects could have been substantial given the extent of price declines after 1929. To take an extreme example, as the price of peanut oil fell from 12 to 4 cents a pound between 1928 and 1930, the specific duty of 4 cents a pound rose from 33 to 100 per cent in ad valorem

Table 3: Imports to the United States, 1896-1932

Year	Total Imports for Consumption ($ millions)	Per Cent Free	Average Ad Valorem Rate of Duties on Dutiable Imports	Average Ad Valorem Rate of Duties on All Imports
1896	760	48.56	40.18	20.67
1897	789	48.39	42.41	21.89
1898	587	49.65	49.20	24.77
1899	685	43.72	52.38	29.48
1900	831	44.16	49.46	27.62
1901	808	41.98	49.83	28.91
1902	900	44.01	49.97	27.95
1903	1,008	43.38	49.20	27.85
1904	982	46.26	48.92	26.29
1905	1,087	47.56	45.33	23.77
1906	1,213	45.22	44.22	24.22
1907	1,415	45.35	42.60	23.28
1908	1,183	44.43	42.98	23.88
1909	1,282	46.77	43.19	22.99
1910	1,547	49.21	41.56	21.11
1911	1,528	50.85	41.27	20.29
1912	1,641	53.73	40.16	18.58
1913	1,767	55.87	40.08	17.69
1914	1,906	60.45	37.63	14.88
1915	1,648	62.66	33.46	12.49
1916	2,354	68.47	28.80	9.08
1917	2,919	73.34	26.28	7.01
1918	2,952	75.51	23.65	5.79
1919	3,828	70.84	21.27	6.20
1920	5,102	61.08	16.40	6.58
1921	2,557	61.18	29.46	11.44
1922	3,074	61.43	38.07	14.68
1923	3,732	58.02	36.17	15.18
1924	3,575	59.25	36.53	14.89
1925	4,176	64.87	37.61	13.21
1926	4,408	65.97	39.34	13.39
1927	4,163	64.38	38.76	13.81
1929	4,076	65.69	38.76	13.30
1920	4,339	66.37	40.10	13.48
1930	3,114	66.83	44.71	14.83
1931	2,088	52.29	53.21	17.75
1932	1,325	66.86	59.06	19.59

Source: Statistical Abstract of the United States (1926), pp. 446-447; Historical Statistics of the United States (1970), p. 888.

equivalent terms. At the same time, changes in import composition could have exerted a sizeable influence on the average rate, given the extent of relative price movements over the period.

Tariff Commission estimates of the average rate of taxation on dutiable imports that would have prevailed in 1928 under the provisions of the 1930 Act (shown in Table 4) provide an indication of average ad valorem rates in the absence of both effects. The figures in the last four columns of Table 4, holding constant import prices and import composition, show that Smoot-Hawley would have raised import duties by 6 percentage points or 18 per cent of pre-existing levels, roughly half the amount calculated when commodity-mix and price-level effects are included.

One can use time series data to estimate the impact of changes in the price level on the average ad valorem rate of import taxation, regressing the effective ad valorem rate on the import price level and a variable designed to capture changes in statute.[54] The sample period is those years when Fordney-McCumber and Smoot-Hawley were in effect. Since the Tariff Act of 1930 was adopted midway through the year, the dummy variable for Smoot-Hawley takes on a value of zero for years up to 1930, 0.5 for 1930, and 1.0 thereafter. Results appear in Table 5. The contrast between equations indicates that Smoot-Hawley and price level trends are highly correlated. It is difficult, therefore, given the length of the time series to obtain precise estimates of the price-level effect. The point estimate on import prices in the third equation suggests that for each point by which the price index declined, the ad valorem equivalent rate of duty rose by 0.17 of a point. Since that price index declined by 19 points between 1929 and 1931, this indicates that deflation added three percentage points to the ad valorem

Table 4: Duties by Schedule

Schedules	Average Ad Valorem Rates						
				Prevailing in 1928 Under Provisions of			
	1901	1912	1921	Act of 1922	House Bill	Senate Bill	Act of 1930
A. Chemicals	28%	26%	22%	28.92%	31.82%	30.95%	36.09%
B. Earthenware, etc. . .	51	51	34	45.52	54.87	53.09	53.73
C. Metals	38	34	22	33.71	36.34	32.35	35.08
D. Wood	19	12	16	15.84	25.34	15.65	11.73
E. Sugar	72	48	31	67.85	92.36	77.15	77.21
F. Tobacco	110	82	54	63.09	66.96	63.09	64.78
G. Agricultural products	34	29	17	22.37	33.35	35.95	35.07
H. Spirits	68	84	47	36.48	47.44	47.44	47.44
I. Cotton manufacturers.	50	45	26	40.27	43.19	40.59	46.42
J. Flax, hemp, jute . .	45	45	27	18.16	19.03	18.95	19.14
K. Wool	70	56	35	49.54	58.09	57.38	59.83
L. Silks	53	52	41	56.56	60.17	58.03	59.13
M. Pulp and paper . . .	24	21	19	24.51	26.14	25.91	26.06
N. Sundries	24	24	33	20.99	28.57	19.98	28.45
All dutiable imports	49%	40%	30%	34.80%	43.15%	38.98%	41.14%

Source: Statistical Abstract of the United States, 1926, p. 551; Tariff Review (April 1930), p. 99; Tariff Review (July 1930), p. 196.

equivalent rate. While the precision of the estimates does not inspire confidence, they suggest that the effects of deflation, although nonnegligible, were considerably smaller than those of the Smoot-Hawley Tariff itself.[55]

Table 4 displays average tariff rates under the House and Senate bills as well as the compromise measure hammered out in conference committee. While the House consistently adopted larger increases than the Senate, different groups were extended different treatment by the two Houses of Congress. The figures confirm that the increases bestowed on agriculture were exceptionally large, but the Senate, where agricultural interests were disproporately represented, offered the more generous increases, and in many cases the Senate rates were those ultimately adopted. Of the 887 tariff increases, fully 250 were on agricultural goods. At the same time, the figures support the special attention paid to border agriculture in Section II above. Tobacco, an example of a Southern agricultural good, received increases less generous than the average for dutiable imports. Similarly, there is support for the distinction between the levels of protection offered modern mass-production industries and those offered industries producing high-quality products on a smaller scale. The producers of chemicals, an industry associated with the Second Industrial Revolution, received relatively modest increases in duty under the House and Senate bills, while pottery and related products, an example of a sector characterized by small scale of enterprise and older technology, received relatively generous increases.

The figures on tariff rates by schedule are more difficult to reconcile with previous interpretations. Pastor (1980, p.77), for example, argues that "[t]hough there was a general increase on tariffs on agricultural products, the tariffs on industrial goods were raised so much higher that farmers of the

Table 5: Determinants of the Average Effective Ad Valorem Rate of Taxation of Dutiable Imports, 1922-1933

Equation	Constant	Smoot-Hawley	Price Level	R^2	DW
1.	38.05 (0.68)	16.93 (1.30)	--	.94	2.35
2.	70.02 (2.74)	--	-0.54 (0.05)	.91	1.33
3.	47.98 (8.48)	11.93 (4.44)	-0.17 (0.14)	.95	2.10

Notes: Number of observations = 12. Standard errors in parentheses.

Source: See text.

South, the Midwest and the Northwest, concerned over their rising costs of production, not to say living, ended up opposing the bill." Table 4 indicates to the contrary that increases on industrial imports did not approach those on agricultural goods, implying that the bill was opposed mainly by farmers on whose products import duties were ineffective. Moreover, the figures in Table 4 refer to dutiable imports alone. Most of the 75 items added to the free list were transferred at the request of agriculture.[56]

IV. Analyzing Smoot-Hawley's Macroeconomic Effects

The macroeconomic effects of the Smoot-Hawley Tariff have received particular emphasis in the accounts of Meltzer (1976), Gordon and Wilcox (1981) and Saint-Etienne (1984). Yet their analyses are neither equivalent nor compatible. For example, Meltzer (1976, pp.459-60) writes:

> After a year of debate, the Hawley-Smoot tariff was approved in June 1930. The tariff raised U.S. import duties substantially, particularly for agricultural products, and was quickly followed by higher duties in many countries....
>
> The tariffs restricted the operation of the price-specie-flow mechanism and the adjustment of the U.S. and the world economy. In the absence of the tariff, prices in the U.S. would have fallen relative to prices abroad the change in relative prices would have increased foreign demand and net exports. With the tariff in effect in 1930, the U.S. balance of payments shifted from deficit to surplus; the trade balance declined very little; the monetary gold stock increased and prices in the U.S. fell by less than prices in other industries countries....
>
> This argument assigns a largely role to the Hawley-Smoot tariff in explaining why the 1929 recession did not follow the path of previous monetary contractions but became the Great Depression.

Meltzer thus appears to emphasize Smoot-Hawley's deflationary impact on the rest of the world and the damage to the U.S. economy of the international

repercussions. While some pasages appear to suggest that Smoot-Hawley would have contributed to the contraction of the U.S. economy even in the absence of retaliation abroad, tariff retaliation nonetheless figures as a central aspect of the indictment.

Gordon and Wilcox (1981, p.82), while critical of other aspects of Meltzer's argument, write approvingly of his discussion of the tariff:

> Meltzer is on firmer ground when he blames another international factor, the Hawley-Smoot Tariff Act of June 1930, as responsible for converting a 'sizeable recession into a severe depression.'....The tariff was responsible for an increase of almost 50 per cent in the effective rate of duties paid on imports between 1929 and 1932. This aggravated the contraction through three main channels:
>
> 1. Directly, without any retaliation, the resulting increase in the price of U.S. imports and close substitutes altered the division of the nominal income decline between output and prices in 1930-32, so that output fell more than otherwise and prices fell less.
>
> 2. Foreign retaliation reduced the demand for U.S. exports, which aggravated the contraction through the standard Keynesian multiplier mechanism.
>
> 3. Foreign retaliation against U.S. exports of food products, which dropped 66 per cent between 1929 and 1932...aggravated the decline in farm prices, which was an important cause of rural bank failures and in turn the decline in the supply of money due to currency hoarding.

While Gordon and Wilcox elaborate certain of Meltzer's arguments, they transcend his analysis by citing the export multiplier as the mechanism by which the effects of tariffs are transmitted internationally and by arguing explicitly that Smoot-Hawley would have been contractionary even in the absence of retaliation. In contrast to Meltzer's emphasis on the price-specie-flow mechanism, they invoke the quantity equation as a channel through which Smoot-Hawley had contractionary effects.

In this section and the next, I argue to the contrary (i) that the direct

effects of Smoot-Hawley were favorable for the U.S. economy and unfavorable abroad, (ii) that the impact of the tariff on foreign demands for U.S. exports did not offset these favorable effects, and (iii) that it is even unclear that foreign retaliation swamped these effects. The central point is the same as Schumpeter's (1939, p. 707), that "[i]t is not easy to see how, had a reduction of import duties been passed instead of the Hawley-Smoot Act, this could have improved short-run conditions in Europe without aggravating them in the U.S."

These conclusions derive from a simple two-country model of the open economy, drawing on the work of Mundell (1961) and Fleming (1962) but extended to encompass aggregate supply and gold-standard rules governing money. The central elements of each country model are three: (i) an upward sloping aggregate supply function along which output decreases with the real product wage, coupled with an aggregate demand function whose arguments are relative prices and interest rates; (ii) a gold-standard money supply rule according to which money in circulation is endogenously determined by central bank gold reserves, coupled with a money demand function whose arguments are income and interest rates; and (iii) the assumption that labor markets adjust less quickly than commodity markets, so that money wages lag behind product prices. Along with trade, the two countries are tied together by the assumption that capital is internationally mobile, linking their domestic interest rates, and that their central bank gold reserves exhaust the world total, linking their money supplies.

Many of the conclusions follow intuitively without formal analysis of the model. In this section I present an informal discussion of the central conclusions before presenting in the next section the derivation of

results.

The simplest case ignores the impact of U.S. policy on world prices, output and real balances, and neglects foreign retaliation. This amounts to assuming that the U.S. was small relative to the world economy and that its actions were of no consequence to foreign countries. These assumptions are employed not for their realism but as a pedagogic device. After analyzing the effects of a tariff in this simplified setting, I incorporate repercussions and retaliation.

The problem with Gordon and Wilcox's argument that the Smoot-Hawley tariff aggravated the contraction "[d]irectly, without any retaliation" is that, under fixed exchange rates, a tariff is expansionary for reasons related to both aggregate demand and aggregate supply. On the demand side, the imposition of a tariff switches expenditure from imports to domestic goods. Only if any upward pressure on domestic producer prices due to import taxation is exactly matched by an increase in domestic unit costs should relative prices and the pattern of spending remain unchanged after the tariff's imposition. The average rate of import taxation in 1931 was 52 per cent, up from 39 per cent in 1929; one can imagine that an increase of this magnitude would, through its expenditure-switching effects, have provided considerable stimulus to the demand for domestic goods, holding constant the level of expenditure.

This presumption that output and employment are increasing functions of the ratio of product prices to variable costs derives from the neoclassical theory of the firm. Gordon and Wilcox take a different approach to the determination of aggregate supply, invoking instead the quantity equation. Since the tariff raised prices relative to what they would have otherwise

been, holding the money stock and velocity constant, it must have reduced the volume of production. But as Meltzer would note, this ignores the endogenous adjustment of money supply under any fixed exchange rate regime including a gold-exchange standard. Since the stock of money was demand-determined, the rise in prices due to Smoot-Hawley, by reducing real balances, would have forced the balance of payments into surplus, permitting gold and foreign exchange to be imported from abroad and converted by the Federal Reserve until real balances had been restored to desired levels. This may be what Meltzer has in mind when he suggests that the Smoot-Hawley tariff influenced the operation of the price-specie-flow mechanism and observes that in 1930 the U.S. balance of payments moved strongly into surplus while the monetary gold stock increased.[57]

Ironically, Gordon and Wilcox's conclusions are correct for a floating exchange rate regime: under floating the domestic money supply can be taken as exogenous, and the imposition of a tariff, by raising import prices, will lower the volume of production (Eichengreen, 1981a, 1983). Gordon and Wilcox imply that the flexible exchange rate analysis is appropriate since the Federal Reserve sterilized gold inflows over much of the period. But the presence of sterilization does not change the fact that the money supply was demand-determined under the fixed exchange rate regime. The Fed could influence only the composition of the money supply (domestic credit versus gold and foreign exchange reserves) but not the quantity in circulation if the exchange rate was fixed, interest parity held, and the volume of transactions was determined exogenously.

It might be objected that domestic output was depressed by the real balance effect on spending. Real balances fell temporarily, the argument

would run, because time was required to generate the trade balance surplus needed for gold imports. By raising prices and reducing real balances, one could hypothesize that Smoot-Hawley compressed U.S. spending sufficiently to depress output and employment. To so argue would overlook that, insofar as the tariff created an excess demand for real balances which were then accumulated by running a balance-of-payments surplus, it placed a wedge between domestic output and absorption, rendering the latter an inappropriate indicator of the level of production.

It is unrealistic, if convenient, to analyze Smoot-Hawley under the assumption of constant international prices. When a country has market power, as surely was true of the United States, the imposition of a tariff or an increase in modest duties improves its terms of trade. This presumption appears to be consistent with Meltzer's position when he argues that U.S. prices declined less than foreign prices in 1930 due to Smoot-Hawley. But it is instructive to recall the source of the improvement in the terms of trade of the tariff-imposing country: its terms of trade improve precisely because the tariff creates an incipient excess demand for domestic goods. In other words, introducing the standard terms-of-trade effects of a tariff and finding support for them in the data provide another indication that the Smoot-Hawley exercised an expansionary impact on the U.S. economy.

It could be argued that rates of import taxation were already so high that Smoot-Hawley exceeded optimal tariff levels, causing the terms of trade to deteriorate. Since the impact of Smoot-Hawley on the U.S. terms of trade has not been estimated, there exists no empirical support for this position. But since Meltzer argues that Smoot-Hawley pushed up U.S. prices relative to foreign prices, this is unlikely to be the basis of his argument.

One might attempt to salvage the argument that Smoot-Hawley was contractionary on grounds of expectations. Saint-Etienne (1984) suggests that uncertainty surrounding the tariff's imposition prior to May 1930, and perhaps also uncertainty about prospects for retaliation, increased the demand for real balances in the U.S., with deflationary consequences.[58] However, were the demand for real balances to rise owing to uncertainty about commercial policy, this need not cause a decline in output and employment; under fixed exchange rates, the additional real balances are accumulated by reducing domestic absorption relative to production and exporting the difference.

One might attempt to salvage the expectational argument on the grounds that people mistakenly thought the tariff would be contractionary. Even if Smoot-Hawley would have been expansionary in a world of static expectations, a belief that it would be contractionary could have depressed firms' production and investment decisions and households' expenditure plans. The impact of anticipations could in principle have swamped the tariff's direct effects. But such an argument hinges on the notion that agents fundamentally misunderstood the operation of the tariff. They would have had to base their actions on an incorrect model of the economy, not a particularly appealing assumption.

It might be argued that Smoot-Hawley was contractionary due to its international repercussions. By "restrict[ing] the operation of the price-specie-flow mechanism" (Meltzer, 1976, p. 460), the Smoot-Hawley tariff attracted gold to the U.S., or at least prevented it from flowing out, reinforcing contraction abroad and reducing foreign demands for U.S. exports. This decline in foreign demand might have dwarfed any increased domestic demand for American goods. This may be what Meltzer alludes to when he states

that, by raising U.S. prices, the imposition of Smoot-Hawley made U.S. exports less competitive and reduced foreign demand for U.S. products and net exports. Yet only under extreme assumptions about economic structure will these repercussions offset the direct effects of a tariff. Even were foreign incomes to fall by the same proportion that domestic incomes rise, since the marginal propensity to consume domestic goods is higher out of domestic than foreign incomes, the demand for domestic goods generally will rise. Again, the change in the terms of trade provides evidence on the direction of the net effect: since the American terms of trade improve between 1929 and 1930, the demand for U.S. goods appears to have been stimulated.

The argument that Smoot-Hawley was contractionary must hinge, therefore, on the effects of retaliation. For the reasons described, notably expenditure switching, a foreign tariff has a contractionary impact on the domestic economy in the same way that a domestic tariff is expansionary. If retaliation against Smoot-Hawley was sufficiently severe, the expenditure-switching effects of foreign tariffs could have swamped those of the U.S. initiative. Clearly, in the presence of retaliation the output and employment effects of a tariff are ambiguous. But the movement of relative prices provides a guide to the combined impact of domestic and foreign policies. If retaliation more than offsets the effects of domestic commercial initiatives, expenditure will be switched on balance toward foreign goods, whose relative prices rise to clear world markets. As Meltzer notes, U.S. prices, not foreign prices, rose in relative terms between 1929 and 1930. Unless other terms-of-trade effects swamped those of Smoot-Hawley and retaliation, commercial policy appears to have been expansionary from the U.S. point of view.

There is a special case in which a tariff that elicits retaliation can have a contractionary impact on the initiating country even when it suffers no deterioration in its terms of trade. This will occur if the tariffs' combined price-level effects outweigh their combined relative price effects. By pushing up consumer prices worldwide, tariffs-cum-retaliation may alter the division between prices and production, given no change in the world money stock. This is Gordon and Wilcox's quantity-equation argument on a global scale. Holding the quantity of money fixed and ignoring changes in the velocity of circulation, the worldwide rise in consumer prices due to import taxation must be offset by a combination of lower net-of-tariff prices and lower outputs. But the imposition of equal tariffs at home and abroad necessarily reduces output only when velocity is fixed; the more interest elastic the demand for money, the less likely this result is to obtain. Insofar as it is appropriate to characterize the early 1930s as a period when money demand was relatively elastic -- as a period when the economy was in a liquidity trap -- output and employment are likely to rise both at home and abroad.

A final argument invoked by Meltzer and by Gordon and Wilcox concerns the sectoral effects of the policies. Metzler suggests that by raising American prices relative to those prevailing abroad, Smoot-Hawley depressed American agricultural exports. This was a source of distress in farming regions, where nonperforming mortgage loans contributed to the wave of bank failures which was so heavily concentrated in agricultural areas -- bank failures in turn responsible for the monetary contraction that was the proximate cause of the Great Depression. In this view, the tariff so reduced foreign prices that it left American producers worse off.

This argument can only be correct under extremely restrictive

assumptions. Since the most generous tariff increases under Smoot-Hawley were those on agricultural goods, for present purposes we can analyze it as a tariff on agricultural imports. Such a tariff, by raising American prices relative to those prevailing abroad and by reducing foreign incomes, would have tended to depress foreign demands for American exports. But domestic prices rather than domestic exports are the appropriate indicator of sectoral welfare effects. The tariff wedge tends to put upward pressure on American prices at the same time it tends to reduce prices abroad. This increase in domestic prices leaves domestic producers better off despite the decline in exports: it reflects the tariff's tendency to switch domestic demand toward domestic produce. In other words, a tariff is protective precisely because it increases domestic demand for importable goods by more than it reduces demand abroad. The exception to this rule is the Metzler Paradox (Metzler, 1949), the special case in which the domestic price of the protected good falls because foreign export demands are sufficiently inelastic. But if the channel through which the tariff exercised its contractionary effect was the Metzler Paradox, the indictment of Smoot-Hawley loses its generality and its force.

Gordon and Wilcox are on firmer ground theoretically when they suggest that foreign retaliation against American agricultural exports was the source of farm distress. They cite the dramatic decline in American agricultural exports as evidence of retaliation's effects. Yet they provide no evidence that retaliation was in fact skewed toward American exports of agricultural goods. As described in Section VI, many European restrictions on agricultural imports were imposed in the second half of the 1920s, not in the wake of Smoot-Hawley, while those tariffs which were most clearly retaliatory were imposed against U.S. exports of relatively sophisticated manufactures such as

automobiles, vehicle components and sewing machines.

V. A Model of the Macroeconomic Effects

A simple model can spell out the arguments advanced above. The framework analyzed here is an adaptation of the two-country Mundell-Fleming model, extended to incorporate both a supply side and links between monetary aggregates and gold. I first consider the small-country case before introducing the full two-country model.

Money demand is specified in standard transactions-balance form:

$$(1) \qquad m - \bar{p} = \phi y - \beta i$$

where m is log nominal money balances, $\bar{p}$ is the log price deflator relevant for measuring real balances, y is log GDP, and i is the nominal interest rate. Interest rates are linked internationally by open interest parity.

$$(2) \qquad I = I^* + \dot{e}/e$$

The domestic interest rate equals the foreign interest rate plus the expected rate of depreciation of the exchange rate, denoted $\dot{e}/e$. Asterisks signify foreign variables throughout. Assuming that the exchange rate is credibly fixed, the expected rate of change of the exchange rate is zero, and $I = I^*$. Convertibility crises are not considered.

Under a gold standard, the central bank is assumed to peg the domestic currency price of gold at 1/G.[59] G denotes ounces of gold per unit of domestic

currency. With the foreign central bank pegging the foreign-currency price of gold at $1/G^*$, the exchange rate E, defined as units of foreign currency per unit of domestic currency, equals G/G^*. Letting lower case letters signify logs of the corresponding upper case variables, $e = g - g^*$. Since the exchange rate is fixed, it can be normalized to unity and suppressed.

The domestic currency value of a given volume of gold reserves R is simply R/G. Denoting the gold backing of the currency (the ratio of money supply to gold reserves) λ, the money supply can be decomposed into:

$$m = \lambda + r - g \tag{3}$$

where r is the log of R. When the gold backing ratio is fixed, the money supplies of the two countries are rigidly linked. To highlight the two countries' interdependence, λ is held constant throughout the analysis.

The consumer price index is used to deflate real money balances:

$$\bar{p} = \epsilon p + (1-\epsilon)p^* + (1-\epsilon)t \qquad 0 < \epsilon < 1 \tag{4}$$

where p is the log domestic-currency price of domestic output, p^* is the log foreign-currency price of foreign output, and t is the log tariff wedge (one plus the ad valorem rate of import taxation).

Aggregate supply is a decreasing function of the real product wage:

$$y = -\alpha(w-p) \tag{5}$$

where w is the log wage and α is the supply elasticity. In line with the short-run focus of the analysis, the nominal wage is taken as fixed.

Aggregate demand in each country is written as a decreasing function of

competitiveness (p-p*) adjusted for import taxation and of the nominal interest rate i, and as an increasing function of a shift parameter Z designed to capture autonomous shifts in demand.

(6) $$y = -\delta(p-p^*-t) - \sigma i + Z$$

In the small-country case, p* and i* are parametric. Differentiating totally and solving with Cramer's rule yields:

(7) $$\frac{dp}{dt} = \frac{\delta}{\delta+\alpha} > 0$$

(8) $$\frac{dm}{dt} = \frac{\alpha(1-\epsilon) + \delta(1+\alpha\phi)}{\delta+\alpha} > 0$$

(7) shows that an increase in t drives up the domestic product price, except in the limiting case of $a \to \infty$ expanding output and employment. The rise in p increases with the responsiveness of demand to relative prices and decreases with the responsiveness of supply to the real product wage. (8) shows that the endogenously-determined money supply depends similarly on the same parameters (δ and α); in addition, the rise in nominal balances is an increasing function of the income elasticity of money demand (since income rises) and of the share of domestic spending on imported goods $1-\epsilon$ (since the larger this share the greater the extent to which the tariff drives up consumer prices).[60]

Thus, a tariff unambiguously raises output and employment. If ambiguities arise, they must result therefore from repercussion effects or retaliation. To analyze these effects, equations for the foreign country must be introduced. It is convenient to specify the foreign country as identical to the domestic, both in scale and structural coefficients. These assumptions

simplify (without dictating) the results. In addition, the two countries' reserves now must sum to the world gold stock R^W ($R^W = R + R^*$). Note that $dr = d \log R = dR/R$. Then changes in the reserves of the two central banks are related by:

$$\gamma dr + (1-\gamma)dr^* = 0 \tag{9}$$

where $\gamma = R/R^W$ in the initial equilibrium. In the symmetric case, $\gamma = 1/2$.

A general equation for foreign retaliation takes the form:

$$dt^* = \theta dt \tag{10}$$

where $\theta \gtrless 0$.

To analyze repercussion effects without retaliation, consider the imposition of a domestic tariff when $\theta = 0$. In this case:

$$\frac{dp}{dt} = \frac{(\alpha+\delta)[2\delta - (\sigma/\beta)(1-\epsilon)] + (\sigma/\beta)(\epsilon+\alpha\phi)[\delta - (\sigma/\beta)(1-\epsilon)]}{\Delta} \gtrless 0 \tag{11}$$

$$\frac{dr}{dt} = \frac{\delta(1+\alpha\phi)[\alpha+(\sigma/\beta)(1+\alpha\phi)]+(1-\epsilon)\{(1-\epsilon)[\alpha+(\sigma/\beta)(1+\alpha\phi)]+\alpha[\alpha+(\sigma/\beta)(\epsilon+\alpha\phi)]\}}{\Delta} > 0 \tag{12}$$

where $\Delta = 2(2\delta+\alpha)[\alpha+(\sigma/\beta)(\alpha\phi+1)] > 0$.

If $\epsilon = 1$ (so that the rise in import prices does not reduce real balances), a tariff increase raises p and is unambiguously expansionary for the same reasons as in the small country case. But as ϵ declines toward zero, real balances tend to be reduced by the tariff-induced price-level increase, attracting more reserves to the domestic country. The consequent decline in money supply in the foreign country reduces the level of output there,

depressing the demand for home-country exports.

$(\sigma/\beta)(1-\delta) > \delta$ is a necessary condition for repercussion effects to reverse the tariff's own-country expansionary impact. If money demand is interest inelastic, $\beta \to 0$ and $\sigma > (\sigma/\beta)(1-\epsilon)$ becomes unlikely, in which case activity falls. By increasing consumer prices, holding other variables constant, the tariff's imposition reduces the supply of real balances, creating an incipient excess demand for money and forcing producer prices to decline to clear asset markets. Since output and employment depend on the real product wage, activity also falls. The force of this real balance effect rises with the share of imports in domestic consumption $(1-\epsilon)$. As $\beta \to \infty$, a marginal rise in the interest rate suffices to equilibrate the money market. The smaller σ/β (the smaller the interest-elasticity of commodity demand relative to money demand), the more likely are the positive supply-side effects (which operate through a lower real producer wage) to outweigh the negative demand-side effects (which operate through higher interest rates).

In the presence of retaliation ($\theta > 0$), a commercial initiative may be either expansionary or contractionary, depending in part on the height of the tariffs the domestic and foreign countries impose. Through its expenditure switching effects, a foreign tariff reduces domestic output and employment for the same reasons that a domestic tariff increases them. Guidance on the net direction of these expenditure-switching effects can be found in the movement of the terms of trade. If expenditure is switched on balance toward domestic goods, the home country's international terms of trade will have to improve (raising the relative price of domestic output to clear commodity markets).

By placing a wedge between consumer and producer prices, even tariffs cum retaliation with no terms of trade effects alter output and employment. Consider the symmetric case of $\theta = 1$. Then:

$$(13) \qquad \frac{dp}{dt} = \frac{(\sigma/\beta)(1-\epsilon)[\alpha+(\sigma/\beta)(1+\alpha\phi)]+[\delta-(\sigma/\beta)(1-\epsilon)]2[\alpha+(\sigma/\beta)(1-\epsilon)]}{\Delta}$$

$$\gtrless 0$$

Note that dp = dp* under the assumption of symmetry, and dm = dm* = 0 since both countries are affected identically. Again, the change in the level of activity depends largely on the sign of $\delta - (\sigma/\beta)(1-\epsilon)$. For activity to decline, the interest elasticity of commodity demand σ must be large relative to the price elasticity of commodity demand δ, the interest elasticity of money demand β, and the share of domestic goods in the price index ϵ.

Even when these demand-side effects dominate, if the domestic tariff is sufficiently high relative to the foreign tariff, a domestic commercial initiative can still be expansionary. This result is at least possible when the domestic country's terms of trade improve, as was the case for the U.S. in 1929-30.

These analytic results provide little intuition for the magnitude of the effects. How large an impact on GDP could be attributed to a tariff on the order of Smoot-Hawley in the limiting, small-country case? To what extent does the introduction of repercussions attenuate the effect? By how much does its magnitude diminish further in the presence of retaliation?

To provide a sense of magnitudes, the model can be calibrated and used in counterfactual exercises. Equations (7), (8), (11), (12), and (13) depend on six parameters: the elasticity of aggregate supply (α), the price and interest elasticities of aggregate demand (δ and σ, respectively), the share of domestic consumption devoted to goods produced at home (ϵ), and the income and interest elasticities of money demand (ϕ and β). I impose standard values for these parameters to see what they imply. Since the value of the

parameters is known only approximately, the results are merely suggestive. Still, they shed light on the questions at hand.

Assuming a Cobb-Douglas production function with a labor share of 0.75, the elasticity of supply of profit-maximizing firms is 3.0. Adopting standard values from a variety of money demand studies, ϕ is set to unity and β to 0.5. δ is assumed to equal unity and, as in Sachs and Wyplosz (1984), σ is set at 0.8. Finally, in line with interwar patterns, the share of spending on domestic goods is set to 0.85.

From equations (5) and (7), these parameters imply in the small country case an elasticity of GDP with respect to the average ad valorem rate of import taxation of 0.75. Treating Smoot-Hawley as a tariff increase of seven percentage points (the Tariff Commission's estimate for commodities subject to duty), this implies as an upper-bound estimate that Smoot Hawley increased GDP by 5.25 per cent, ceteris paribus. The fall in output between 1929 and 1931 was on the order of 15 per cent. According to this upper-bound estimate, Smoot Hawley exerted a useful expansionary impulse which reduced the fall in output which would have otherwise occurred by roughly a quarter.

Continuing to assume no retaliation but introducing repercussions as in equation (11) reduces the tariff's impact dramatically. When the same parameters are imposed for the home and foreign countries, δ, β and ϵ are sufficiently large relative to σ for the tariff's impact to remain positive. The top panel of Table 6, where the same calculations are reported for a range of different parameter values, shows that this result is quite general. But the elasticity of output with respect to the import tax rate falls to 0.37. Thus, admitting Smoot-Hawley's tendency to reduce foreign income and foreign demand for U.S. exports, the tariff is found to raise GDP by 2.6 percent, ceteris paribus. In a period when output was falling by 15 per

Table 6: Elasticity of Output with Respect to the Tariff: The Central Case and Sensitivity Analysis

Case I: No Retaliation

		σ		
		0.7	0.8	0.9
	0.9	.360	.337	.317
δ	1.0	.398	.374	.352
	1.1	.435	.409	.386

Case II: Symmetric Retaliation

		σ		
		0.7	0.8	0.9
	0.9	.227	.217	.211
δ	1.0	.240	.229	.221
	1.1	.252	.240	.231

Source: See text.

cent, any initiative which would have expanded production was helpful, but the macroeconomic impact of Smoot-Hawley appears to have been dwarfed by the Great Depression. The small size of the output effect compared to the small-country case supports the emphasis contemporaries placed on Smoot-Hawley's external effects and on feedbacks to the United States.

In contrast, adding retaliation, assuming domestic and foreign tariffs to be of equal height, yields relatively little change in the output effect. The elasticity of output with respect to the tariff falls from 0.37 to 0.23, and the percentage increase in output from 2.6 to 1.6 percent. The bottom panel of Table 6 shows that basically the same result holds for a range of parameter values. Although the direction of the change is expected, its magnitude is surprising compared to the introduction of repercussion effects. Retaliation damages the home country by switching foreign demand away from domestic exports, but that damage is ameliorated by the induced increase in foreign income and spending. In the case considered here, the interest semi-elasticity of money demand β is sufficiently high that the tendency of tariffs at home and abroad to put upward pressure on output prices is not offset by the deflationary influence of the consequent increase in money demand. Instead, money demand is curtailed by its relatively high interest elasticity, while spending is only slightly reduced by its relatively low interest elasticity.

Thus, the parameters used here suggest that the case where Smoot-Hawley plus retaliation increase output is not beyond the realm of possibility. In any case, the tariff's direct macroeconomic effects were surely small. It is far from clear that Smoot-Hawley cum retaliation operating through standard macroeconomic channels was a major, or for that matter, even a contributing factor to the Great Depression.

VI. External Effects and International Repercussions

If its direct macroeconomic effects were not to blame, Smoot-Hawley still could have contributed to the severity of the Depression by undermining the stability of the international system. The most damning indictment of the tariff is that it unleashed a tidal wave of retaliation which had undesirable repercussions on the operation of international monetary and financial institutions. In particular, the collapse of the interwar gold standard and distintegration of the international financial system have been blamed on the disruptive influence of the U.S. tariff. The argument advanced by Meltzer (1976) is that tariff barriers impeded the operation of the price-specie-flow mechanism. In this view, the ability of the monetary system to adjust to disturbances was undermined by commercial restrictions. Yet it is not adequately explained why the presence of tariffs should inhibit smooth adjustment. The model analyzed above suggests that a tariff's imposition will tend to raise the price level, which will increase the demand for money balances, drawing gold toward the country where protection is imposed. But this is a one-time effect which would follow the tariff's imposition without impeding subsequent reserve flows in response to other determinants of the balance of payments.[61]

It makes more sense to analyze Smoot-Hawley not as a measure which undermined the capacity of the financial system to adjust to normal balance of payments pressures but as one which redistributed gold from countries with weak reserve positions to a country whose position was strong, thereby undermining the system's resistance to exceptional destabilizing events. Smoot-Hawley was imposed at a time when the U.S. balance of payments was in surplus, when there was no threat to the dollar, and when the Federal Reserve

held ample reserves of monetary gold. By further strengthening the payments position, Smoot-Hawley conveyed additional gold to the U.S., which further strengthened the dollar but undermined the stability of currencies abroad. The value of U.S. gold reserves rose from $3746 billion in 1928 to $3900 billion in 1929 and $4225 billion in 1930, before slipping to $4051 billion in 1931. By 1931 the United States possessed 40 per cent of the world's monetary gold stock.[62] Hence other countries were forced to defend the convertibility of their currencies on the basis of slender reserves. Some such as Britain hesitated to obey the rules of the gold standard game, which dictated that they reduce their money supplies in an amount proportional to gold losses. When the market was disturbed -- in the British case by the Austrian and German financial crises of the summer of 1931 which froze short-term assets of the British banking system and dealt a general blow to confidence -- the low level of reserves left the Bank of England little room for manoeuvre. Once Britain was forced off gold, some two dozen countries followed, and the devaluation cycle of the 1930s was underway.[63] Since devaluation as practiced in the 1930s was an uncoordinated, beggar-thy-neighbor policy which created uncertainty and undermined the public good or "international moneyness" of the fixed exchange rate regime, here we have another possible channel through which Smoot-Hawley's negative effects were felt.[64]

Precisely how much greater British reserves would have been and how much difference additional reserves would have made to the Bank of England's defence of sterling is difficult to say. Palyi (1972, p. 182), for one, doubts that the difference would have been great. International loans to the British from the French and Americans delayed devaluation only temporarily. But these funds may have been ineffective in restoring confidence precisely

because they were loans rather than reserves -- because the public viewed them not as British resources but as liabilities to be repaid. In this view, Smoot-Hawley is likely to have made some contribution to the international monetary system's collapse.

The gold standard's disintegration coincided with the collapse of foreign lending. Between 1923 and 1928, capital had flowed on a large scale from the United States and United Kingdom to Europe (primarily to Germany, although to Eastern Europe as well), to Canada, to Latin America, and to portions of the British Empire. Starting in 1928, with the boom on Wall Street, capital exports from the leading supplier of long-term capital, the United States, declined precipitously. Lending recovered somewhat in 1930 before widespread default in 1931 all but eliminated American capital exports. While debt default was only one factor disrupting long-term capital flows, without doubt it was a major one.

There is considerable debate over the underlying soundness of loans made in the second half of the 1920s. Tales of loan pushing, corruption and wasteful use of borrowed funds imply that at least some defaults would have ensued even in the best of circumstances. But a number of observers argued that protectionist measures in the industrialized center exacerbated the difficulties the borrowing countries faced in attempting to service their external debts.[65] Eichengreen and Portes (1986) identify the magnitude of the terms-of-trade deterioration suffered by borrowing countries as an important determinant of the incidence and extent of default. The U.S. accounted for more than 40 per cent of the primary product consumption of the 15 leading industrial economies.[66] Insofar as the United States had leverage in markets for primary commodities and through the Smoot-Hawley Tariff's imposition

succeeded in improving its terms of trade, it contributed to these terms of trade deteriorations and thereby to the incidence of default. Between 1929 and 1932 the relative prices of wheat and sugar declined by over 20 and 30 per cent respectively. Although it is suggestive that these were two of the products that received exceptionally generous protection under Smoot-Hawley, further evidence is required to confirm that the tariff was responsible for such trends. But as a provisional conclusion it seems fair to say that Smoot-Hawley's undesirable effects operated in the main not through its direct macroeconomic effects but indirectly, via its impact on the stability of the international monetary regime and the resiliency of international financial markets.

VII. The Extent of Retaliation

The argument that Smoot-Hawley disrupted both the smooth operation of the international monetary system and the smooth functioning of international financial markets depends for its force on the presumption that Smoot-Hawley elicited widespread retaliation. It is important to ask, therefore, whether those foreign tariff increases which took place were in fact a result of the 1930 Tariff Act. The classic study of foreign responses to Smoot-Hawley by Jones (1934) continues to dominate the literature.[67] The problem with Jones's account, however detailed his case studies, is that, while acknowledging the difficulty of disentangling the impact of Smoot-Hawley from the influence of the Depression, he proceeds on the assumption that foreign tariffs were retaliatory, interpreting and selecting evidence accordingly rather than testing the hypothesis.[68]

Contemporary judgments ranged from those of the tariff's critics, who attributed every protectionist initiative to Smoot-Hawley, citing demonstrations by 20,000 French lace workers in the streets of Calais and protests by 15,000 Swiss clock and watchmakers in Bienne, to the partisan statements of the tariff's proponents, including Senator Smoot himself, who wrote,

> It is difficult to understand why any one should try to fasten responsibility for the general movement toward higher protective duties upon the United States. Many nations revised their tariffs before Congress passed the Smoot-Hawley bill in June 1930, and many have increased their duties since. Each country has been prompted by economic considerations of its own. Only the purblind egotist can suggest that the world turned to protection in retaliation against the American tariff.[69]

The facts are more complex and variegated than either faction admit. Protectionist pressure was mounting abroad well before Smoot-Hawley, and a number of countries either had adopted tariff increases or were inclined to do so before the 1930 Tariff Act was passed, much less signed. Between 1925 and 1929 there were 33 general revisions and substantial tariff changes in 26 European countries, and 17 revisions and changes in 20 Latin American republics.[70] The movement slowed toward the end of the decade in Europe at least: the number of general tariff revisions decreased from 10 in 1927 to 5 in 1928 and to 2 in 1929. But stability was less apparent elsewhere; in 1927 and 1928 Australia, Canada and New Zealand instituted broad upward revisions in tariff rates. Tariffs were used to relieve structural difficulties experienced by staple industries expanded during wartime, to promote industrialization through import-substitution to raise revenues in newly established nations of Central and Eastern Europe possessing few other sources of tax receipts and, particularly after 1927, to relieve agricultural

producers suffering from the slumping commodity prices.

A countercurrent eminated from international efforts at tariff reduction conducted under League of Nations auspices. The League organized a World Economic Conference in 1927 whose purpose was to work toward the stabilization and reduction of tariffs and the elimination of nontariff barriers to trade. Although the Conference was only a deliberative body, the vigorous language of its pronouncements "strengthened the position of statesmen and others the world over who were working for more liberal commercial policies."[71] Immediately following the 1927 Conference an international group of government officials assembled to discuss the abolition of import prohibitions and restrictions. They drew up a treaty to refrain from use of embargoes, licensing systems and quotas, to become effective upon ratification by all participants. Much effort was expended over the next three years to ratify this treaty, until its rejection by the single remaining signatory, Poland, deprived it of force. A similar fate befell the Tariff Truce Conference convened in 1930 largely on British impetus. The treaty which emerged from its deliberations was "weak and ambiguous and failed to arose interest or support."[72]

Against this less than auspicious backround were superimposed the effects of the Great Depression. As Bidwell (1932, p. 396) noted, the business-cycle downturn reversed any movement toward lower tariffs in Europe and added momentum to the movement for tariff increases. The point is that this would have been true even in the absence of the American initiative. The question is to what extent.

One way in which this question might be answered is to ask whether there existed circumstances heightening the danger of retaliation. Bidwell (1930a,

p. 13) argues that Europe's violent reaction to Smoot-Hawley is explicable partly by the fact that it followed immediately upon the onset of the Depression, hitting Europe when its economies and export industries were most vulnerable, and partly by resentment of other American policies. The impact of Prohibition on exports of whiskeys from the U.K. and of wines from the Continent was a major annoyance. More important still was what Europe perceived as American intransigence over war debts. How could Europe fairly be expected to service these debts, statesmen asked, if the U.S. made it impossible to accumulate foreign exchange by blockading the major export market?

Ultimately, the extent of retaliation can only be determined by studying individual cases. In some instances, evidence of retaliation is clear. It is no coincidence that Spain, the most striking example, provides Jones with his first case study. In 1930 Spain withdrew most favored nation status from the United States and imposed the Wais Tariff (named after the Minister of Commerce). Adopted a month after Smoot-Hawley, the Wais Tariff substantially raised duties on automobiles, tires, tubes and motion pictures, most of which were imported from the United States. Since there was little if any Spanish production of these items, taxation of imports was simple discrimination against the U.S. exports. Spanish officials openly acknowledged the retaliatory nature of the increases, taken after requests by producers and export associations ranging from the Cork Manufacturers Association to the National Union of Agricultural Exportation. Spain reacted so violently because Smoot-Hawley was the latest in a series of American impediments to Spanish exports. Not the least of these was Prohibition: before 1923 wine had comprised Spain's leading export to the United States,

and government officials blamed Prohibition for the trade deficits run thereafter.[73] Moreover, Spain's remaining exports to the U.S. were agricultural products, to which the structure of Smoot-Hawley increases was particularly damaging.

In other instances, such as Italy, the evidence is more ambiguous. Although the prohibitive increase in Italian tariffs on automobiles immediately following the adoption of Smoot-Hawley, which provides Jones his second case study, is ascribed to reprisal motives, the authorities in Rome had determined previously to revise these duties upward.[74] Fiat had suffered a 30 per cent fall in sales over the preceding three years, much of which was blamed on American competition in the Italian market, and for several years Italian producers had been lobbying for increased protection. The only question is whether the Italian tariff might have been smaller had U.S. duties not been raised.

The timing of events provides little guidance on the extent of retaliation. In the Canadian case, for example, it is clear that officials were closely monitoring the progress of Congressional debate and contemplating retaliatory measures as early as 1929.[75] Given the importance to Canada of agricultural exports destined for American markets, the argument is plausible. But Canadian tariff policy depended most of all on domestic political developments. Between 1921 and 1929, with one short interruption, Canadian politics were controlled by the traditionally low-tariff Liberal Party. When the Conservatives, the traditional party of protection, took power following the General Election of July 1930, almost immediately the new Premier offered a tariff measure to Parliament. Until it is shown that the 1930 election turned on the progress of American tariff legislation (a contention asserted

but not proven by Jones), the only question is whether the increase might have been smaller had Smoot-Hawley not been passed.

Similar controvery surrounds the question of whether changes in Czechoslovak restrictions on vehicle imports had a retaliatory component. A Franco-Czech agreement under negotiation in the summer of 1930 proposed to establish a Czech automobile import quota of 750 cars from each most-favored nation. This, it was alleged, was a reprisal against the United States, since the quota equaled or exceeded annual imports from France and other European countries but was less than one-third of American sales. But skeptics questioned whether the Czechs had any reason to single out American trade policy as the source of their troubles, noting that U.S. imports of dutiable Czech goods fell by only seven per cent between the first quarters of 1930 and 1931, at the same time purchases of non-dutiable items declined much more rapidly.[76]

One European initiative, the British General Tariff of 1932, has been the subject of considerable recent attention.[77] This case is notable for several reasons, not the least of which was Britain's symbolic value as the last bulwark of free trade. While there is some disagreement over the precise reasons for Britain's adoption of the General Tariff, there is no dispute that retaliatory motives rank low on the scale of motivations. There is little evidence in Parliamentary debate, ministerial correspondence or discussions among economic advisors that retaliation played much role in British discussion. The only argument that can be construed as retaliatory is Stanley Baldwin's suggestion that Britain impose duties to act as a lever to bargain down the tariffs imposed abroad. The central economic considerations were domestic -- whether a tariff would ameliorate Britain's unemployment problem

and help to defend the exchange rate -- as were the central political factors, namely the dominance of the Conservative Party in the National Government formed in 1931.

Given the clarity of this evidence, it is interesting to note Jones's (1934) treatment of the British case. The General Tariff is spoken of in the same breath with others in which evidence of retaliation is more compelling, despite the fact that the principal motives for the British tariff's imposition were at best tangentially related to U.S. commercial policy.[78]

What can be said by way of conclusion? Clearly, certain tariff increases adopted by other countries had important retaliatory components. But others, including some popularly blamed on Smoot-Hawley, appear to have been adopted mainly for other reasons. In the absence of a definitive reassessment of the motives of the major trading nations, it would seem appropriate to view Smoot-Hawley as but one of a number of forces contributing to the collapse of the international trading system.

VIII. Import Prices, Import Volumes and Import Taxation

Strikingly, there are just two empirical analyses of the impact of Smoot-Hawley on U.S. foreign trade, both completed within three years of the tariff's imposition. The first, an informal study by Hirschfeld (1932), examines the behavior of United States imports in 1930 and 1931. Hirschfeld was aware of the problem of abnormal imports -- that importers monitored the debate over tariff revision and attempted to beat the imposition of higher duties by accelerating shipments to the U.S. While aware that this would cause simple before and after comparisons to exagerate the effects of the

tariff, Hirschfield made no adjustment for it. Instead he assumed that, since Smoot-Hawley was imposed about halfway through 1930 (on June 17), the tendency of anticipations to raise imports in the first six months was offset by the tariff's tendency to lower them in the remaining six, rendering 1930 representative of the pre-tariff situation. On the basis of trade in 1930 and 1931, he concluded that the volume of America's high-duty imports declined by more than imports as a whole.

A more rigorous analysis was provided by Hall (1933). Hall acknowledged that "the problem of isolating the effect of this particular tariff act was hopelessly complicated by the world depression...." and the procedure he developed catalogs considerations that must be taken into account in any attempt to estimate the impact of Smoot Hawley on U.S. trade.[79] Hall's starting point was the observation that, if imports can be partitioned into two "really large and well-diversified groups" according to whether or not their rates of duty were affected by the 1930 Tariff Act, the decline in imports of goods on which duties were unaffected ("Category A") could be attributed solely to the Depression, and any additional fall in imports of goods in the other group ("Category B") could be attributed to the tariff. Between calendar year 1929 and the twelve months ending on September 30, 1931, imports in Category A fell by 43.5 per cent and those in Category B by 60.0 per cent. On this basis Hall concluded that Smoot-Hawley reduced U.S. imports by $191 million, or just under 17 per cent. When 1928 imports were used as the base, his estimate was slightly higher, just under 20 percent.

Hall was aware of the shortcomings of this simple procedure and made various adjustments for them. He first attempted, unlike Hirschfeld, to adjust for imports made in anticipation of higher rates of duty. On the basis

of Department of Commerce estimates of articles in bonded warehouses at month-ends, he estimated the value of anticipatory shipments at $125 million, $25 million of which remained in stocks on September 1, 1930, the starting date for the second half of his comparison. Accordingly, he reduced his provisional $191 million figure to $166 million.

Hall next considered the extent of overvaluation of imports on consignment due to the fact that prices were falling over the period 1930-31 but U.S. customs statistics were based on value at foreign point of origin. Since the two groups of imports were large and diversified, however, the impact on each was assumed to be similar and the required adjustment was negligible. Hall's third adjustment was for the tendency of deflation to raise the ad valorem value of specific duties. Since there were more duty-free imports, to which this consideration would not apply, in Category A, the interaction of deflation and specific duties would lead the simple comparison to overestimate the effects of Smoot-Hawley. Hall deducted another $25 million from the effects of the tariff, reducing his interrim estimate to $141 million.

Hall's final concern, namely differences in the commodity composition of Categories A and B, was probably the most important. Despite his intent to construct two large and well-diversified groups of products, Hall's Category A was disproportionately comprised of raw materials that entered duty free and whose relative prices declined significantly after 1929. Assuming demands to be price inelastic, some of the fall in the value of imports of these commodities should be attributed to the price decline. In contrast to the other sources of bias, failure to make this adjustment leads the effects of the tariff to be underestimated. Unfortunately, Hall's adjustments for

composition effects were crude and ad hoc. He assumed an adjustment factor of $25 million, raising the interim figure of $141 million to a final estimate of $165 million. The implication is that Smoot Hawley's direct effect was to lower U.S. imports by 3.8 per cent of their 1929 value. Hall concluded, therefore, that only 8 percent of the decline in imports between 1929 and 1931 was attributable to Smoot-Hawley.

A better approach to this problem would be to use data on trade volumes and ad valorem tariff equivalents for individual commodities, and to adjust for the fact that price elasticities of demand, percentage tariff increases, and import price changes all differed by commodity type. Fortunately, there exist, courtesy of the U.S. Tariff Commision and the Work Projects Administration, detailed statistics on the value and volume of imports by tariff schedule and class number, along with information on whether the duty is specific or ad valorem and, for the specific duties, ad valorem tariff equivalents. For calendar year 1931 this information is provided for some 4,500 commodities in all.

The intent of the W.P.A. project in the course of which these statistics were assembled was to provide information on every article specified in the 1930 Tariff Act. The format of the Commerce Department's import statistics was revised in 1934. The basis for coverage was changed from imports entered whether for immediate consumption or for storage in bonded warehouses to imports for consumption, i.e., entries for immediate consumption and withdrawals from bonded warehouses for consumption. The W.P.A. project used unpublished records for previous years kept in code by the Department of Commerce to generate import statistics for 1929, 1931, 1932, 1933 and 1935 comparable with the published data for 1934. Ad valorem equivalents of

Table 9: Percentage of Decline in Imports Due to Tariff Increases, 1929-1931

Group	Commodities	Lower Bound	Upper Bound	Compromise Estimate
00.	Animal and animal products (edible)	0.3	2.8	1.6
0.	Animal and animal products (inedible)	2.7	60.5	31.6
1.	Vegetables and vegetable products (edible) and beverages	15.1	129.6	72.4
2.	Vegetable products (inedible)	0.5	890.3	445.4
3.	Textiles	0.8	89.1	45.0
4.	Wood and paper	3.8	30.5	17.2
5.	Nonmetallic minerals	2.5	77.5	40.0
6.	Metals and manufactures	0.1	0.6	0.4
7.	Machinery and vehicles	0.1	9.7	4.9
8.	Chemicals	0.1	0.8	0.5
9.	Miscellaneous	0.3	10.1	5.2

Notes: Lower Bound is derived from Table 7, Upper Bound from Table 8. Compromise Estimate is the arithmetic average of Lower and Upper Bounds.

Source: See text.

sensitivity implied by the differences between some of the lower- and upper-bound estimates. Nonetheless, the compromise estimates suggest rather different conclusions concerning the impact of the Smoot-Hawley Tariff on imports of different groups of commodities and on different domestic producers of import substitutes. Those differences are consistent with the interpretation offered in Sections II and III above, insofar as those portions of agriculture and traditional manufacturing which pressed hardest for the tariff are the same ones which appear to benefitted the most, and the new 20th century industries like metals and manufactures, machinery and vehicles, and chemicals which opposed the tariff are also those which benefitted least from the bill finally passed. Table 9 suggests that Smoot-Hawley was most important in explaining the fall in imports of vegetable products. Whether or not it was intended first and foremost as a protective measure for agricultural producers, this was the group for whom changes in import penetration were most heavily influenced by changes in tariff rates as opposed to other factors. It is interesting to note that the fate of domestic producers of animal products was not so heavily conditioned by Smoot-Hawley. For certain nonagriculturalists, including textile manufacturers and mineral producers, Smoot-Hawley was important but it still only accounts for perhaps a half of the observed decline in imports. Note that these are traditional industries who, according to the interpretation advanced above, should have reaped benefits from the tariff. For others, including such modern manufacturing sectors as chemicals and vehicles, the effects of Smoot-Hawley were negligible. Thus, the incidence of effects across sectors appears to mirror the pressures those sectors brought to bear on the tariff-making process.

IX. Conclusion

As the quotation which opened this paper aptly put the point, economic histories view the Great Depression and the Smoot-Hawley Tariff as inextricably bound up with one another. They assign a central role to the depression in explaining the passage of the 1930 Tariff Act and at the same time emphasize the role of the tariff in the singular depth and long duration of the slump. This paper has reexamined the historical evidence on both points. It is not hard to identify relationships linking the tariff to the depression and vice versa. But the evidence examined here suggests that previous accounts have conveyed what is at best an incomplete and at worst a misleading impression of the mechanisms at work. It is clear that the severity of the initial business cycle downturn lent additional impetus to the campaign for protection. But it is equally clear that the impact of the downturn on the movement for protection worked through different channels than typically posited. Rather than simply strengthening the hand of a Republican Executive predisposed toward protection, or increasing the burden borne by a depressed agricultural sector which had long been agitating for tariff protection, the uneven impact of the Depression occasioned the birth of a new protectionist coalition comprised of producers particularly hard hit by import competition: border agricultural and small-scale industry engaged in the production of specialty goods. That coalition was able to obtain for its members substantial increases in levels of tariff protection because of an unusual conjuncture of distinct if related developments including reforms of Congressional procedure, the rise of trade associations and the growth of interventionist sentiment. The experience of Smoot-Hawley documents how

macroeconomic distress accompanied by import penetration gives rise to protectionist pressure, but succeeds in doing so only once the analysis transcends the textbook model of monolithic agricultural and industrial blocs.

The importance of moving beyond a highly aggregated analysis is equally evident when it comes to the economic effects of the 1930 Tariff Act. A disaggregated analysis of the change in U.S. imports between 1929 and 1931 confirms that the direct effect of the tariff was only one factor contributing to declining import volumes after 1929. No simple view -- neither that which blames Smoot-Hawley exclusively for the decline in trade nor that which dismisses it altogether -- adequately captures the relationship of the tariff to American foreign trade. This analysis reveals also that the tariff's contribution to the decline in imports differed dramatically across commodity groups.

If studying the political economy of the tariff leads one to conclude that the Depression affected the movement for protection through different channels than typically posited, so it is when one considers the impact of the tariff on the Depression. Contrary to the presumption informing most analyses of the subject, holding constant both the impact of Smoot-Hawley on the rest of the world and feedbacks to the United States, the direct effect of the tariff on the U.S. economy is likely to have been expansionary. It remains likely that the tariff was expansionary even when one admits the existence of feedbacks. In fact, this remains possible and even plausible when the effects of foreign retaliation are introduced. But whether or not one agrees with the

particulars of the analysis, it is hard to dispute the point that the direct macroeconomic effects of the Smoot-Hawley tariff, operating primarily through the volume of trade, were small relative to the Great Depression. If Smoot-Hawley had significant macroeconomic effects, these operated instead through its impact on the stability of the international monetary system and the efficiency of the world capital market.

Notes

1. It is strictly correct to refer to the tariff as "Hawley-Smoot," since revenue bills originate in the House of Representaties. "Smoot-Hawley" is the popular usage, which reflects Senator Smoot's prominance.

2. See Pastor (1980) and the references cited therein.

3. For example, Slichter (1932) refers to Smoot Hawley as "an act of almost incredible economic folly" and as "a major influence in making the world vulnerable to depression and intensifying the slump when it came." Bidwell (1932) singles out tariffs as "among the active causes of our present disaster." The views of modern macroeconomists are analyzed below.

4. See Friedman and Schwartz (1963) or Schwartz (1981).

5. See Dornbusch and Fischer (1984).

6. See Smoot (1931) or Berglund (1930).

7. See Vaubel (1984).

8. Davis (1975), p. 240.

9. The first quote is from Bauer et al. (1972), p.25, the second from Pastor (198), p. 70.

10. Schattschneider (1935), p. 145-146.

11. See Tariff Review (1929a). These debentures, strongly advocated by the National Grange, would have provided the growers of certain farm crops an export bounty in the form of a negotiable Treasury certificate worth its face value in payment for goods imported into the U.S. Under the initial version of the scheme, the farmer would receive a debenture worth half the duty on the commodity exported.

12. Swisher (1931), p. 35.

13. See also Lippman (1936), p. 67.

14. On the old lobby, see Schaffner (1906). A good source on the new lobby is Herring (1929). The quotation here is from Herring, pp. 2-3.

15. Herring (1929), p. 80.

16. Herring (1929), pp. 80-81.

17. Herring (1929), p. 41. Open committee hearings, to cite one example, were a 20th century innovation.

18. For details, see Kile (1921).

19. See Sait (1927).

20. The critical planks can be found in Tariff Review (July 1928, p. 229).

21. A concise statement of this position can be found in Berlund (1930).

22. Slichter (1932), p. 520.

23. Alston (1983), pp. 888-889.

24. See Conner (1928) and Black (1928).

25. See Protectionist (1930b).

26. See Protectionist (1930a).

27. See Protectionist (1930b).

28. Ho (1930), p. 43.

29. Again, the major exception is the yarn-spinning industry, which faced persistent import competition and was avidly protectionist. See Webb (1977).

30. See Gourevitch (1977).

31. See Webb (1980).

32. See, for example, Ho (1930).

33. See Gourevitch (1977) or Bohme (1967).

34. Cited in Capper (1929), p. 120.

35. Walsh (1929), p. 219.

36. Capper (1928), p. 121.

37. Walsh (1929), p. 219.

38. Wright (1929).

39. See Hatfield (1931) and Bidwell (1930), p. 17.

40. This was the opinion, for example, of Swisher (1931), p. 93.

41. See for example Faulkner (1928).

42. League of Nations (1931), pp. 115-116.

43. See Beamish (1929) or Tariff Review (1929c).

44. See Iron Age (1929).

45. Anderson (1923), p. 3.

46. Cooper (1930), p. 210.

47. Protectionist (1929).

48. Protectionist (1929).

49. McKenna (1961), pp. 263-268.

50. Slichter (1932), p. 523; see also Faulkner (1928).

51. See Keynes (1933) and, for discussion and analysis, Eichengreen (1984).

52. Hard (1931), p. 497.

53. Bidwell (1932), p. 399.

54. The price index is contructed from import unit values, from U.S. Department of Commerce (1976), p. 893.

55. This conclusion is consistent with the relative unimportance of the price-level effect in the cross-section analysis of Section VII.

56. See Watson (1930).

57. Metzler's statement that the U.S. balance of payments "shifted from deficit" into surplus in 1930 is incorrect. The current account was in larger surplus in 1929 than 1930, while the U.S. acquired rather than lost gold over the course of 1929. What is true is that the accumulation of gold was considerably larger in 1930.

58. There were statements at the time that uncertainty about tariff revision was disruptive to business activity. See for example Business Week (1930a).

59. The gold standard money supply rules analyzed here are the same as in Eichengreen and Sachs (1985).

60. By differentiating with respect to Z rather than t, the reader can demonstrate to his or her satisfaction that dt/dZ is negative. Thus, the model is compatible with explanations for the Great Depression which find its origins in shocks to spending. If lags in the adjustment of money demand and a money supply shift parameter are introduced, it would be equally compatible with the monetary explanation. This, however, is beyond the scope of the present analysis.

61. For further discussion of this point, see Eichengreen (1985b).

62. See Slichter (1932) or Eichengreen (1986).

63. For details, see Cairncross and Eichengreen (1983).

64. The extent of beggar-thy-neighbor effects is analyzed by Eichengreen and Sachs (1985).

65. See for example Condliffe (1932).

66. Lewis (1949), p. 57.

67. See, for example, Conybeare (1985).

68. See in particular the discussion in Jones (1934), Chapter 1.

69. Smoot (1931), p. 174.

70. Slichter (1932), p. 519.

71. Bidwell (1932), p. 394.

72. Bidwell (1932), p. 395. See also Bidwell (1930b).

73. Jones (1934), pp. 34-35.

74. Business Week (1930b), p. 30.

75. Cited in Tariff Review (1929b), p. 187.

76. Klein (1931), p. 498.

77. See especially Eichengreen (1981a) and Capie (1983).

78. The same debate over whether British measures were retaliatory raged in the American press. See for example the discussion in Protectionist (1932).

79. Hall (1933), p. 405.

80. Because of the inclusion of relatively few items in Groups 00 and 7, and even fewer which did not suffer from missing variables, the sampling factor was adjusted to yield samples of 50 and 30 commodities, respectively.

81. Data for 1929 and 1931 are used because the W.P.A. statistics are available by calendar year and because these are the two years immediately before and after passage of the Smoot-Hawley Tariff Bill. Hirschfeld and Hall use 1930 and the 12 months ending September 1931, respectively, instead of calendar year 1931 presumably in order to minimize the impact of other factors, such as the deepening Depression, on the volume of imports. Since, however, multiple regression is used here, the impact of such other factors is picked up by additional regressors, including the constant term.

82. In 1932, they then rose by a factor of 6 before falling back to 1931 levels in 1933.

83. All regressions were also run excluding commodities on which import duties were defined as specific rates. The results changed insignificantly, indicating that the price-level effect (the interaction of falling prices with duties fixed in nominal terms) had a statistically insignificant impact on the import volumes in the samples examined here. This is entirely consistent with the interpretation in Section III of the results of Table 5.

References

Alston, Lee J. (1983), "Farm Foreclosures in the United States during the Interwar Period," Journal of Economic History XLIII, pp. 885-903.

American Tariff League, "American Industry on Guard - Organizes to Combat Tariff Reduction" (Official report of the proceeding at the meeting held under the auspices of the American Tariff League in New York City, April 30), Tariff Review 79, pp. 139-147.

Anderson, Benjamin M. (1923), "The Tariff in an Unbalanced World," Chase Economic Bulletin III, pp. 3-16.

Bauer, Raymond, Ithiel de Sola Pool and L.A. Dexter (1972), American Business and Public Policy, Chicago: Aldine-Atherton.

Beamish, Richard (1929), "Mass Production versus the Protective Tariff," The Tariff Review 80, pp. 142-143.

Berglund, Abraham (1930), "The Tariff Act of 1930," American Economic Review 20, pp. 467-479.

Bidwell, Percy Wells (1930a), "The New American Tariff: Europe's Answer," Foreign Affairs 9, pp. 13-26.

Bidwell, Percy W. (1930b), "The Smoot Hawley Tariff and Its Influence on America's Export Trade," The Annalist, June 27, pp. 1355-1357.

Bidwell, Percy Wells (1932), "Trade, Tariffs, The Depression," Foreign Affairs 10, pp. 391-401.

Black, John D. (1928), "The Home Market for American Agriculture," Annals of the American Academy of Political and Social Science CXLI, pp. 124-136.

Bohme, Helmut (1967), "Big Buiness Pressure Goups and Bismarck's Turn to Protectionism, 1873-79," The Historical Journal X, pp. 218-236.

Business Week (1930a), "Leading Business Men Disgusted With Tariff,' April 2, p. 5.

Business Week (1930b), "Clamor Dies But Europe Still Dislikes Our Tariff," August 13, p. 30.

Cairncross, Alec and Barry Eichengreen (1983), Sterling in Decline, Oxford: Blackwell.

Capie, Forrest (1983), Depression and Protectionism, London: Allen and Unwin.

Capper, Arthur (1928), "Farm Relief and the Tariff," Annals of the American Academy of Political and Social Science CXLI, pp. 120-123.

Collings, Harry T. (1928), "The Basis of International Trade," Annals of the American Academy of Political and Social Science CXLI, pp. 1-10.

Condliffe, J.B. (1933), "Vanishing World Trade," Foreign Affairs 11, pp. 634-644.

Conner, Louis G. (1929), "The Farmer's Stake in the Tariff," The Tariff Review 80, pp.67-70.

Conybeare, John (1985), "Trade Wars: A Comparative Study of Anglo-Hanse, Franco-Italian and Hawley-Smoot Conflicts," World Politics XXXVIII, pp. 147-172.

Cooper, John G. (1932), "Anti-Tariff Propaganda Answered," The Protectionist XLIII, pp. 5-10.

Cooper, Lyle W. (1930), "The Tariff and Organized Labor," American Economic Review XX, pp.210-225.

Davis, Joseph S. (1975), The World Between the Wars, 1919-1939, Baltimore: Johns Hopkins.

Dornbusch, Rudiger and Stanley Fischer (1984), "The Open Economy: Implications for Monetary and Fiscal Policy," NBER Working Paper No. 1422 (August).

Edminster, Lynn Ramsay et al. (1929), "Tariff-Making in the United States," American Economic Review 19, pp. 140-154.

Eichengreen, Barry (1981a), "A Dynamic Model of Tariffs, Output and Employment Under Flexible Exchange Rates," Journal of International Economics 11, pp. 341-359.

Eichengreen, Barry (1981b), "Sterling and the Tariff, 1929-32," Princeton Studies in International Finance No. 48 (September).

Eichengreen, Barry (1983),"Protection, Real Wage Resistance and Employment," Weltwirtschaftliches Archiv 119, pp. 429-451.

Eichengreen, Barry (1984), "Keynes and Protection," Journal of Economic History LXIV, pp. 363-373.

Eichengreen, Barry (1985a), "International Policy Coordination in Historical Perspective: A View from the Interwar Years," in Willem Buiter and Richard Marston (eds.), The International Coordination of Economic Policies, Cambridge: Cambridge University Press.

Eichengreen, Barry (1985b), ed., The Gold Standard in Theory and History, London: Methuen.

Eichengreen, Barry (1986), "The Bank of France and the Sterilization of Gold, 1926-1932," Explorations in Economic History 23, pp. 56-84.

Eichengreen, Barry and Richard Portes (1986), "Debt and Default in the 1930s: Causes and Consequences," European Economic Review (forthcoming).

Eichengreen, Barry and Jeffrey Sachs (1985), "Exchange Rates and Economic History Recovery in the 1930s," Journal of Economic History XLV, pp. 925-946.

Faulkner, Harold U. (1928), "The Development of the American System," Annals of the American Academy of Political and Social Science CXLI, pp. 11-17.

Fleming, Marcus (1962), "Domestic Financial Policies Under Fixed and Flexible Exchange Rates," IMF STaff Papers 9, pp. 369-380.

Friedman, Milton and Anna Schwartz (1963), A Monetary History of the United States, 1867-1960, Princeton: Princeton University Press.

Gerschenkron, Alexander (1943), Bread and Democracy in Germany, Berkeley: University of California Press.

Gordon, Robert J. and James A. Wilcox (1981), "Monetarist Interpretations of the Great Depression: An Evaluation and Critique," in Karl Brunner (ed.), The Great Depression Revisited, Boston: Kluwer-Nijhoff.

Gourevitch, Peter A. (1977) "International Trade, Domestic Coalitions and Liberty: The Crisis of 1873-1896," Journal of Interdisciplinary History 8, pp. 281-313.

Haberler, Gottfried (1976), The World Economy, Money, and the Great Depression, 1919-1939, Washington, D.C.: American Enterprise Institute.

Hall, Ray Ovid (1933), "Smoot-Hawley Tariff Caused Only About $165,000,000 of 1931 Import Shrinkage," The Annalist, September 29, pp. 403-404.

Hard, William (1931), "The Tariff as a Party Issue," Current History, pp. 494-497.

Hatfield, Henry D. (1931), "Does New England Need Tariffs?" Protectionist XLII, pp. 552-555.

Herring, E. Pendleton (1929), Group Representation Before Congress, Baltimore: Johns Hopkins Press.

Hirschfeld, Gerhard (1932), "Effects of the Hawley-Smoot Tariff," Barron's, April 11, pp. 3,9.

Ho, Hsu Chao (1930), A Study of the Probable Effects of the Hawley-Smoot Tariff of 1930, New York: Free Trade League.

Iron Age (1929), "Exporters Warn Against Tariff Excesses," April 25, pp. 1161-1162.

Jones, Joseph M. (1934), Tariff Retaliation: Repercussions of the Hawley-Smoot Bill, Philadelphia: University of Pennsylvania.

Keynes, J.M. (1933), "National Self-Sufficiency," New Statesman and Nation (reprinted in The Collected Writings of John Maynard Keynes, ed. Donald Moggridge, Cambridge: Cambridge University Press, vol. 21, pp. 233-46).

Kindleberger, Charles P. (1951), "Group Behavior and International Trade," Journal of Political Economy XLV, pp. 30-46.

Kile, Orville Merton (1921), The Farm Bureau Movement, New York: Macmillan.

Klein, Julius (1931), "The Tariff and the Depression," Current History, pp. 497-499.

Krock, Arthur (1931), "President Hoover's Two Years," Current History, pp. 488-494.

League of Nations (1931), International Trade and Balances of Payments, 1927-1929, Volume III: Trade Statistics of 64 Countries, Geneva: League of Nations.

Lewis, W. Arthur (1949), Economic Survey, 1919-1939, London: Allen and Unwin.

Lippitt, Henry F. (1930), "Efficiency in the Cotton Mills," Protectionist XLII, pp. 74-77.

Lippman, Walter (1936), Interpretations, 1933-1935, ed. Allan Nevins, New York: Macmillan.

McKenna, Marian C. (1961), Borah, Ann Arbor: University of Michigan Press.

McKeown, Timothy J. (1986), "The Limitations of 'Structural' Theories of Commercial Policy," International Organization 40, pp. 43-64.

Meltzer, Allan H. (1976),"Monetary and Other Explanations for the Start of the Great Depression," Journal of Monetary Economics 2, pp. 455-472.

Metzler, Lloyd A. (1949), "Tariffs, the Terms of Trade, and the Distribution of National Income," Journal of Political Economy 57, pp. 1-49.

Mohat, Haldor R. (1935), The Tariff on Wool, Madison: Tariff Research Committee.

Mundell, Robert A. (1961), "Flexible Exchange Rates and Employment Policy," Canadian Journal of Economics 27, pp. 509-517.

Palyi, Melchior (1972), The Twilight of Gold, 1914-1936, Chicago: Henry Regnery.

Pastor, Robert A. (1980), Congress and the Politics of U.S. Foreign Economic Policy, 1929-1976, Berkeley: University of California Press.

Protectionist (1929), "Senate Finance Committee Reports Its Tariff Bill," September, pp. 209-216.

Protectionist (1930a), "The New Tariff Bill Nearly Completed," May, pp. 1-5.

Protectionist (1930b), "Tariff Bill Finally Rounding into Shape," June, pp. 55-61.

Protectionist (1932), "More 'Retaliation' Talk," April, pp. 80-81.

Roorbach, George B. (1928), "The Effect of Tariff on the Import Trade," Annals of the American Academy of Political and Social Science CXLI, pp. 18-29.

Sachs, Jeffrey and Charles Wuplosz (1984), "Real Exchange Rate Effects of Fiscal Policy," Working Paper No. 84/03, INSEAD.

Saint-Etienne, Christian (1984), The Great Depression, 1929-1938: Lessons for the 1980s, Stanford: Hoover Institution Press.

Sait, Edward M. (1927), American Parties and Elections, New York: The Century Company.

Schaffner, Margaret A. (1906), Lobbying, Madison: Wisconsin Free Library Commission.

Schattschneider, E.E. (1935), Politics, Pressures and the Tariff, New York: Prentice-Hall.

Schumpeter, Joseph (1939), Business Cycles, New York: McGraw Hill.

Schwartz, Anna (1981), "Understanding 1929-33," in Karl Brunner (ed.), The Great Depression Revisited, Boston: Kluwer-Nijhoff.

Slichter, Sumner H. (1932), "Is the Tariff a Cause of Depression?" Current History, pp. 519-524.

Smoot, Reed (1931), "Our Tariff and the Depression," Current History, pp. 173-181.

Sollohub, W.A. (1932), "The Plight of Foreign Trade," American Economic Review XXII, pp. 403-413.

Swisher, I.G. (1931), An Introduction to the Study of the Tariff, Washington, D.C.: National League of Women Voters.

Tariff Review (1929a), "Export Debentures and the Tariff," June, pp. 185-186.

Tariff Review (1929b), "Canadian Threats," June, p. 187.

Tariff Review (1929c), "Henry Ford and Free Trade," August, pp. 250-251.

Taussig, Frank (1931), The Tariff History of the United States (8th edn.), New York: Putnams.

Temin, Peter (1976), Did Monetary Forces Cause the Great Depression? New York: Norton.

Tinbergen, J. (1934), International Abstract of Economic Statistics, 1919-1929, London: International Conference of Economic Services.

United States Department of Commerce (1925), Commercial and Industrial Organizations of the United States, Domestic Commerce Series, No. 5, Washington, D.C.: USGPO.

United States Department of Commerce (1926), Statistical Abstract of the United States, Washington, D.C.: USGPO.

United States Department of Commerce (1976), Historical Statistics of the United States, Washington, D.C.: USGPO.

United States Tariff Copmmission (1930), Comparison of Rates of Duty in the Tariff Act of 1930 and in the Tariff Act of 1922, Washington, D.C.: USGPO.

United States Tariff Commission (1934), The Tariff and its History, Washington, D.C.: USGPO.

United States Tariff Commission (1937), Imports into the United States for Consumption by Countries for the Calendar Year 1929, Richmond, Virginia: W.P.A. Statistical Project 265-31-7000.

United States Tariff Commission (1938), Comparative Statistics of Imports into the United States for Consumption By Countries for the Calendar Years 1931-1935 Inclusive, Richmond, Virginia: W.P.A. Statistic Project 65-31-2075.

Vaubel, Roland (1984), "International Debt, Bank Failures and the Money Supply: The Thirties and the Eighties," Cato Journal 4, pp. 249-266.

Walsh, David I. (1929), "The Farmer and the Tariff," Protectionist XLI (September), pp. 217-224.

Watson, James E. (1930), "An Analysis of the New Tariff Bill," Protectionist XLII, pp. 121-126.

Webb, Steven B. (1977), "Tariff Protection for the Iron Industry, Cotton Textiles and Agriculture in Germany, 1879-1914," Jahrbuchern fur Nationalokonomie und Statistik 192, pp. 336-357.

Webb, Steven B. (1980), "Tariffs, Cartels, Technology and Growth in the German Steel Industry, 1879-1914," Journal of Economic History XL, pp. 309-330.

Wright, Chester M. (1929), "Labor Comes Out for the Tariff," Protectionist XLI, pp. 10-13.

Wright, Philip G. (1929), "The Farmer's Interest in Protection," Tariff Review 80, pp. 331-334.