The Multiplant Origins of the National Market

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Abstract

The interwar period initiated a new era of strategic industrial planning in the United States. This period also witnessed the emergence of multiplant firms, which, akin to contemporary dynamics of globalization, spanned economically diverse regions. In the run-up to the Agriculture Adjustment Assistance, newly integrated food manufacturers connected agricultural producers and regional markets in ways that reversed typical coalitions in industrial policy making. Using archives, legislation, and production data, I show how consolidation among flour mills led otherwise laissez-faire executives to favor government intervention. In particular, these firms provided political support for the development of the nation's first systematic export subsidy programs, the American Wheat Loans and the North Pacific Emergency Export Association. Rather than undermine barriers to trade, integrated national firms internalized and reinforced regional interests in protection.

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> ”But it is the processor that is a chisler that makes the trouble.”
>
> (Walter M. Pierce, D-OR[1])
>
> ”There is no processor with enough intelligence to justify him being a member of the distributing industry who does not wish to see the producer get the highest price consistent with distributing to the consumer the volume of goods actually available to the market ... [the processor and distributor] are friends of the farmers.”
>
> (Sidney Anderson, VP of General Mills[2])

In large nations, regions may have substantially different economic interests. For instance, geography can make some regions more dependent on servicing foreign markets than shipping to their compatriots. Across the world, geographically expansive nations are divided by mountains and valleys to form politically distinct regions that have long been expected to shape distributive politics and foreign policy. In the United States, differences in levels of industrialization and population density helped create the conditions for sectionalism: political conflict between export oriented cotton growing in the South and import-competing downstream industries in the North.[3] In particular, changes in the macro-economy which empower manufacturers in the North would have political consequences for redistributive policies in other parts of the country.

However, economic interests can tie nations together as much as they divide. Consider an analogy from international politics, an extreme case of regional division.[4] Protectionism thrives, in part, because foreign producers lack a voice in local decision making. The development of the multinational firm is predicted to help counteract this effect: when firm operations begin to span borders, they gain a stake in the free flow of goods and services across those borders.[5] In such cases a tariff is like raising a wall "inside the factory."[6] Just as multinationals can ease the effects of national borders, we might expect that cross-regional multi-plant firms would help counteract sectionalism.

The economic transformation that followed the growth of agriculture and its decline

[1] United States Congress (1935, 99).
[2] United States Congress (1935, 104).
[3] See Bensel (1984); Bensel et al. (2000).
[4] Mancur Olson argued that pressure for trade protection begins when various industrial interests identify more with one another than those outside national borders (Olson, 2008).
[5] See, Milner (1988).
[6] Baldwin (2016).

in the depression of the 1920s and 30s was marked by national consolidation of firms. These firms would play a principal role in the Roosevelt administration's efforts to address the crisis in agriculture. For most products, Agricultural Adjustment Act (AAA) of 1933 imposed production restrictions to raise prices. In wheat and flour from the Pacific Northwest, the Act authorized an export subsidy scheme, the first of its kind in the United States (Holland, 1986). The North Pacific Emergency Export Association would sell 28.4 million bushels of wheat at a loss of 23 cents per bushel. This policy, along with a prior subsidized loan to China for the purchase of wheat and flour, raises a number of challenges for existing accounts of trade policy making. The typical account of politics of geographically differentiated products like wheat would pit regional producers (farmers), processors (flour mills) and consumers (bakers) against one another. Yet in this case, the export subsidy found support among both producers and farmers. Why accept the calls for an export subsidy in the Pacific Northwest while the rest of the nation was asked to burn their stores, cull their herds and plow their fields into the earth?

There are three general explanations for the choice of export subsidies. The political economy literature emphasizes the role of regionally concentrated special interests and the power of the farm lobby.[7] A historical institutionalist approach would explain the character of the AAA as an interaction between past investments in state capacity and partisan interests.[8] Finally, ideological explanations would emphasizes the ways that the AAA benefited from a decade of previous debate over the implementation of agricultural programs, particularly in reference to the use of ideas from the movement for 'equality for agriculture' in a series of bills in the 1920s.[9]

However neither the political clout of farmers in the Pacific Northwest, technical capacity in the administration of export subsidies, nor ideological commitments explain why the US chose an export subsidy for wheat and flour. The farmers in the Pacific

[7]See Hansen (1991).
[8]See Skocpol and Finegold (1982).
[9]See Goldstein (1989).

Northwest had been mobilizing for export subsidies for decades. Moreover, in other agricultural products, the government opted for less-trade distorting approaches, consistent with ideological and political commitments to reciprocal trade liberalization.[10] Many in the industry and in the Roosevelt administration saw export oriented agricultural policy as dangerous: foreign governments had retaliated against such subsidies with countervailing duties.[11] Worse, subsidies would undercut new efforts to address wheat surpluses and other trade issues multilaterally. Export subsidies could undercut the credibility of offers of tariff concessions key to these reciprocal deals. How did this region and produce overcome the political division and the perceived threat of retaliation?

The evidence supports a shift in the position of cross-regional processors as being key not only to the export subsidy, but the overall Agricultural Adjustment program. The decade long agricultural depression and improvements in flour production technology had left mills struggling with surpluses and overcapacity. This allowed for consolidation and the emergence of single dominant national milling firm: General Mills.[12] General Mill's investments, particularly in the Pacific Northwest, connected otherwise politically and geographically insulated flour producing regions of the United States. In the commercial sphere, General Mills offered superior headquarter services, marketing, planning and distribution; in the political sphere General Mills executives used their political access to shape the AAA and provide political support for the development of the US's first systematic export subsidy program.

As evidence that these patterns helped lower sectionalism in the United States, I draw on contemporaneous measures of milling activity and concentration across the United States. I show that support for export subsidies in wheat and flour, long ad-

[10]See Goldstein and Gulotty (2014).

[11]The most salient case was that of sugar bounties from Germany, France, and Austria-Hungary, which were met by countervailing duties from India and the United States (Davis, 1929*b*).

[12]The New Deal itself was also credited for enabling anti-competitive behavior in less consolidated industries. Vickers and Ziebarth (2014) study of the macaroni industry found a variety of markers of anti-competitive conduct after the passage of the National Industrial Recovery Act, the industrial analogue to the Agriculture Adjustment Act.

vocated by western producers, and opposed by processors, were undercut by regional differences until processors were integrated into national firms.

The effect was a program of export subsidies, taken at crucial moment in both domestic and international politics. The policy would invite retaliation and risk the collapse of multilateral efforts to address the agriculture surplus. While chance events, particularly a flood in the primary destination market, would reduce pressure to retaliate, support for export subsidies would continue throughout the 20th century. On net, this provision of the Agricultural Adjustment Act marked the nationalization of a regional interest, facilitated by the newly found interdependence among regions.

1 Regional processor interests in wheat subsidies

As a principal commodity, traffic in wheat has long been regulated, subsidized and taxed. In the 17th century, England placed an export subsidy of 5 shillings per quarter on wheat.[13] However, this was more the exception than the rule: modern subsidy schemes date to the late 19th century following rapid improvements in harvesting technology.[14] The rapid technological improvements allowed prices to fall below what would compensate farmers for their costs and gluts of surplus grain that could last for years.

The effects of these gluts was to harm producer (farm) profits while benefiting processors (millers) and final good manufacturers (bakers). Export subsidies, as a result, are administered in a way that offers some side benefit to the downstream firms. In the 19th century governments faced two challenges in balancing these interests, first was the geographic dispersion of these three sets of domestic interests, and second was the administrative burden faced in enforcement and financing of bounties.

[13] A quarter is about 500 lb of wheat. The export subsidy dated back to an act passed in 1673 under a Mercantilist Tory government (Gras, 1910). After a trial period, it was re-initiated in 1689 and then not repealed until 1814.

[14] When wheat was reaped by a cradle, 30 to 40 hand-work hours were necessary to harvest an acre. The horse drawn binder reduced the time needed to reap an acre to 4 to 5 hours, the mechanized combines introduced in the 1920s could do the work in 45 minutes (Murphy, 1934).

On the revenue side, it was often difficult to collect taxes or tariffs from the consumer to then offer as a subsidy. Instead, they created programs that offered tax discounts, rather than positive payments. In the case of a loaf of bread, a government might have a tax or tariff flour used by bakers or wheat used by a flour miller. In a debenture program, an exporter would be given credit instead of direct repayment of the upstream tariffs. Once flour or wheat was imported and the tariff paid, the baker or miller would receive a customs receipt that indicated payment. Then, when that wheat was used in flour, or the flour was used in bread, and those products were exported, the miller or baker would present the customs receipt for a tax rebate from the government. These rebates make up a system of debenture, combining export subsidies with lower taxes or tariffs. This avoided expenses of administration or, more importantly, having to expend funds to advance exports. Instead this system of drawbacks and 'debenture' shifts money directly from tariffs to exporters.

Debenture based rebates allow governments to favor export interests while obscuring the expense, but it also generated a tradeable asset. For instance, if customs receipts were made out "in blank", those that import high tariff goods could sell the receipts to exporters who would then receive the rebate. This meant even those exporters that relied on domestically sourced raw materials as inputs could benefit from the rebate.[15] This scheme became popular among businesses and several governments allowed these rebates to be traded throughout the country. In the early 19th century this system of export drawbacks was used in France on sugar, soap, leather, copper and lead. A similar scheme was also designed in reverse, starting with a receipt for exporting and a subsidy on imports. Trade in these certificates became subject to speculation and investment.

These subsidy schemes were often used to advantage regional processing interests, but the politics of pre-WWI export subsidy programs generally involves a convergence of interests regional producers and processors, sometimes with the interests of agri-

[15] Differences in the value of these raw materials can be another source of subsidy, the bounties for sugar in France began in this fashion (Grunzel, 1916, 207-208).

cultural producers in one region joining that of and exporters in another. Two cases illustrate the dynamic, one in France, the other in Germany.

In France, southern provinces were dependent on the importation of grain for processing and domestic sale, while the northern provinces would export flour processed from domestic farmers. In 1850 the government removed the requirement that an importer, once given a certificate of payment of a tariff (Titres d'acquits à caution), needed to use that certificate at the same customs office (Grunzel, 1916, 217). Processors in the southern provinces would buy certificates from the north and import grain duty free, allowing the rapid development of the Marseilles flour mills. In 1851 a similar policy was applied to iron and steel mills, using domestic product in the south and west for export and imported inputs from England in the north (Grunzel, 1916, 218).

A similar scheme was adopted in Germany, again to the advantage of regional processor interests. Germany was a net importer of grain, but the northeastern Prussian provinces were grain exporters. This was in part because they had easier access to the sea and England: shipment costs via the Baltic Sea were lower to these markets than to western, central, and southern Germany by rail or water. In addition, the low gluten content of the Prussian wheat put it in more demand abroad than in the rest of Germany (Davis, 1929*a*, pg 207). Protectionist tariffs raised prices of farm products in most of Germany, but neither producers nor processors in the northeast benefited from high local prices. Moreover, the processors in the north required imported grain to market their goods, so were particularly harmed by the import tariff.[16]

German producers began looking for an expansion of the subsidy program. In 1887 northeastern landlords asked for an abolition of the proof of identity used for drawbacks, which would allow a wider set of producers to benefit from the subsidy. Seven years later the German Import Certification system allowed exporters of agricultural products, cereals and pulses, to obtain certificates representing a value corresponding to the minimum tariff rates on imports of the same commodity (later to be expanded

[16]Local 'soft' wheat had to be mixed with hard wheat, in this case from Russia, prior to export.

to any commodity). Any holder of these Einfuhrscheine was exempted from customs duties on imports, amounting to a laundered export subsidy, paid by forgone tariff revenue.

Again processors were particularly targeted by the program: German flour mills were given permission to use these import certificates to obtain raw product to process from abroad and to receive certificates on the export of their product. The effect was that the prices of grain in exporting regions of the northeast rose to be higher than the world market price. The benefits were felt by producers and processors across the country: the subsidy would ensure was that northeastern producers were able to ship their subsidized surplus to Great Britain and Scandinavia and not back to the rest of Germany.

Why did northeastern processors receive these benefits? Northeastern flour mills were generally uncompetitive, suffering from protectionist policies on wheat and competition from regional mills.[17] The producers, Prussian Junkers, were similarly disadvantaged. Agriculture in northeast Germany were in a long period of decline following the "Great Depression" of 1873-96. However, Junkers had institutional advantages as part of the squirearchy in Germany.[18] This narrow base of support was insufficient to maintain the export subsidy after the German Revolution, and it was repealed in 1925.

It was the German system that would partially inspire the initial pushes for export subsidies in the United States. The German system was proposed to target export oriented regional producers and correct the effective discrimination whereby spring wheat, made by Midwestern producers, got the lion's share of the benefit from the wheat tariff. The problem, as I develop below, was in convincing those outside the grain belts to support such a plan.

[17]In 1924, the largest mills in Germany, the Plange group in Wilhelmsburg and Dusseldorf, could together mill 55,850 bbl of wheat a day, about half the capacity of the largest American mills (miller, 1924, 143).

[18]See Gerschenkron (1989).

2 Sectional interests in the United States

According to the neoclassical approach of Stolper and Samuelson, trade policies produce divisions between owners of productive factors. A land and capital abundant country like the United States would see coalitions of land and capital against labor (Stolper and Samuelson, 1941; Rogowski, 1989). However, for much of its history, American politics has been organized along geographic lines, especially between the South, dominated by agricultural export interests and Democrats, and the North, represented by Republicans who supported a protective tariff, and between rural and urban populations:

> The great manufacturing interest of the East and the great cities, the Chamber of Commerce, representing the big business of the country, the Big Miller's Trust, the Tobacco Trust; grain speculators; the big packers and cotton combines; and many of the Members of the House and Senate representing the big industrial and big city districts. Many of these are very anxious to secure the farmers' products at the smallest price possible.[19]

This language, as with the opening quote from Pierce, marks the general hostility of members of congress to what are called "the trades": processors and millers.[20] However, even beyond the differences across industries, there are divisions within them: as Garver and Trelogan put it in 1936, "farming in different regions of the country has probably not much more similarity than the manufacture of the different types of textiles" (Garver and Trelogan, 1936). These differences were particularly pronounced in wheat.

2.1 Wheat Regions in the United States

In the first half of the 20th century wheat production was divided into four regions by the variety of wheat and their planting schedule.[21] The oldest regional concentra-

[19] John Robsion (R-KY) (Bensel, 1984, pg 143)

[20] See Hansen (1991, 81).

[21] American wheat varieties are primarily classified based on the planting season. Winter wheat is sown in the fall, lives through the winter, and harvested in the summer. Spring wheat is sown in the spring, lives through the summer, and harvested in the fall. Some sources identify a fifth region: Canada. Canadian

tion is the Central Region: Illinois, Indiana, Wisconsin, Ohio, Michigan and Missouri. These states had been centers of winter wheat production, but by the 1920s had largely diversified to other products.

The two regions of central importance to American wheat production in the Interwar period are the two wheat belts. The more established of the two, the spring wheat belt, is centered in the Northwest Region: Minnesota, Montana, North Dakota and South Dakota. Wheat from these states feed Minneapolis flour mills, including those that would later become General Mills and Pillsbury. From 1900 onward the most dynamic region was the Southwest Region, the "winter wheat belt": Kansas, Oklahoma, Texas and Nebraska. Both region's wheats were marked by their high gluten protein content: hard red wheats are high in protein and used for harder yeast breads, hard white wheats have a moderate protein content and are used for pan loaves.

Low gluten varieties, such as soft red and white wheats, are most common in the fourth major region, the Pacific Northwest. There farmers grow during the spring and winter seasons, marketing most of their of production as "western white," a mix of soft white and club wheat, a vareity unique to the region. Crucially this variety is used for Asian-style buns, cakes and pastries. The taste for these products in Asia, along with high shipping costs from west to east, meant that much of this wheat would be shipped from eastern Montana and the Columbia Basin to Portland, Tacoma, and Seattle for export abroad.

It is this last region, the Pacific Northwest, that would receive export subsidies during the New Deal. The Pacific Northwest is in some ways a surprising target for export subsidies. The region has a small population that, prior to the landslide of 1932, was largely Republican.[22] As I show below, by 1933 it had suffered from over a decade

wheat was processed, tariff free, in Buffalo and then exported. With changes in rail rates, Buffalo was the easternmost point on the Great Lakes that could be reached by the largest ships. As a result Port Arthur and Fort Williams, Canada (now Thunder Bay), was the largest wheat terminal in the world.

[22]In 1932 none of the ten members of the Republican House delegation of Washington, Oregon, Montana and Idaho were reelected. After the election, the only Pacific Northwest seat held by a Republican was Oregon's first district, the former seat of Willis C. Hawley, the chief sponsor of the Tariff Act of 1930.

of persistent surpluses and, in the scheme of wheat production, had only a minor cluster of producers relative to the massive sector in the Midwest.

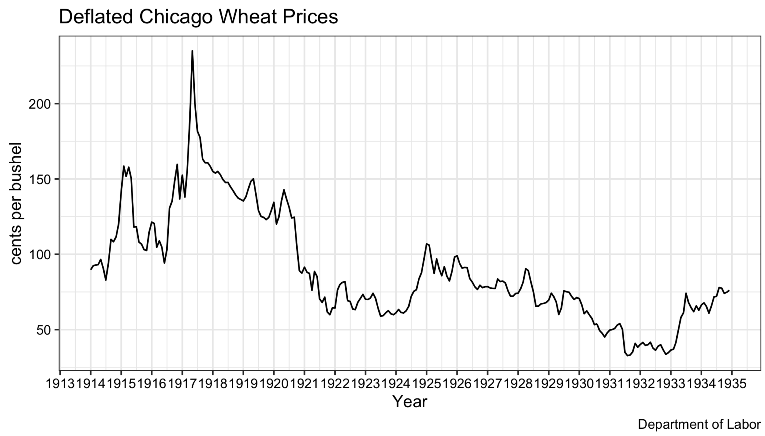
3 The national debate over wheat and flour subsidies

The problem for American wheat in the interwar era originated in its past success. The US had long been a leader in agriculture exports, but it was World War I and the revolution in Tsarist Russia that boosted the US position as the breadbasket of the world.[23] By 1919, flour milling was the fifth largest industry in the United States.[24] Events related to the war had a direct effect on the development of a cluster of wheat production on the West Coast. The Allies were looking for flour that could evade German U-boat attacks. To meet this demand, Shanghai sold 50,000 tons of flour to Mesopotamia, Egypt, Palestine and Mediterranean Ports where the U-boats were not so active. As one shipper put it, “In order to mill 50,000 tons of flour the Shanghai mills had to get 60,000 tons of wheat and that quickly.”[25] This wheat was marketed as “White Walla Walla”, and helped put the Pacific Northwest on the map as an alternative, more export oriented center of wheat production.[26]

World War I led to a rush of buying and speculation. As displayed in figure 1, Chicago wheat prices hit historic highs–50 percent higher than the maximum of the civil war-and a panic over the possibility of mass starvation ensued.[27] To encourage future production, the US fixed the price of wheat at $2.20 per bushel.[28] This spurred investment and growth in mechanization, including in the Pacific Northwest, which

[23] From 1910 to 1919 US food exports rose by a factor of 6 (Federal Reserve 1919).
[24] See miller (1924, 155).
[25] Speech by Head of General Import with Anderson Meyer and Co. (Eveleigh, 1932).
[26] According to Eveleigh, “When the wheat arrived in China and it was a pale amber colour, the Chinese millers were astounded and wished to reject the cargo as it was not white. “Our reply was that at least it did prove to be ”Walla Walla Wheat.” We added that if they bought a case of ”Sunlight” soap they would not get any sunshine in the soap in the same wheat as the buyers of flour did not get a battleship or a bicycle with each bag of flour sold under those famous Shanghai flour chops” (Eveleigh, 1932).
[27] Simpson (1932, 5), Davis (1975, 18).
[28] Theis (1934).

Figure 1: Chicago Wheat Prices 1913-1934 (Northwestern Miller), normalized by CPI.



grew to just under 10% of national production.[29]

However, the sudden Armistice led to a post-war collapse in demand for basic commodities which would suppress prices for over a decade. The government price guarantee elapsed on June 1, 1920, decreasing the price of wheat from \$2.76 a bushel in April 1920 to \$1.44 in December (McDonald and Dunbar, 1980, 63)). By 1931, the price of a bushel of wheat hit an average of 30 cents.[30] In 1910 there were 7 farms for every 100 people, by 1930 that number dropped to 5. Farmers in the Midwest were nearer armed revolt than any group since the Whiskey Rebellion of 1794 (Rasmussen, 1983).

By the time of the 1929 market crash, competitive devaluation and protectionism, farmers had already seen a decade of economic decline. The subsequent government response was dramatic: under the Agricultural Adjustment Administration the US plowed 10.5 million acres of ripening cotton into the ground, slaughtered millions of piglets in the womb, and paid farmers to forgo planting wheat, all at a time in which millions of Americans lacked clothing and food. But while the govern created a num-

[29]North (1955, 5).

[30]For comparison, in 1931, a pound loaf of bread was 8 cents, of which the farmer received $\frac{1}{2}$ cent. By contrast, in France, a pound loaf of bread was 4 cents, of which the farmer got 3 cents (John A. Simpson National Farm Journal 1932 “The Allotment Plan”).

ber of regional marketing organizations to support farm prices, it was only one product, wheat and wheat flour, and one region, the Pacific Northwest, where the government opted for an agricultural subsidy.

The ideological foundations for this export subsidy had historical roots in farmers organizations in eastern Montana and the Columbia Basin (McDonald and Dunbar, 1980). A crisis in wheat prices in 1923 led to 5,173 foreclosures in Montana and pushed farmers to advance David Lubin's 1890s proposal for an export subsidy.[31] Lubin, the cofounder of the California Fruit Grower's union, was a Republican who believed strongly that protectionism was necessary for the conservation of American institutions. He called for a variety of interventions to raise producer prices. For instance, in the Sacramento Daily Record-Union of September 14, 1893, Lubin wrote an article "Novel Proposition Revolutionizing the Distribution of Wealth", proposing a flat postage system for farm products, akin to the existing mail system, to counteract the pricing power of the railroad.[32] Lubin himself left for Italy to found the predecessor to the Food and Agriculture Organization, and the cause for farmers cooperatives and export subsidies was taken up by another Californian, Aaron Sapiro.[33]

Aaron Sapiro combined an interest in state intervention with the notion of cooperative marketing (McDonald and Dunbar, 1980). Following these ideas, western farmers created state based marketing associations for wheat.[34] These marketing cooperatives did not get sufficient adoption by local growers, and cooperatives quickly lost influence. Nonetheless, agricultural subsidies were long politically popular among western wheat growers.

The prospects for export subsidies got a boost when they were picked up in 1922 by Bernard M. Baruch, an international banker and former chairman of the War Indus-

[31] See Agresti (1922).

[32] An incredulous State Assembly man asked "Why d'you mean to say you'd send a cabbage through the mails?" (Agresti, 1922, 16).

[33] See Larsen and Erdman (1962).

[34] The first Farmers Union selected George C. Jewett, a Spokane banker as its leader. It quickly consolidated with other new cooperatives to become the Northwest Wheat Growers, Associated. Jewett would later work with Chester Davis to create "export corporation leagues" (Davis, 1953, 150).

tries Board (WIB).[35] Two veterans of the WIB, plow manufacturing executives George Peek and General Hugh Johnson issued a pamphlet, “Equality for Agriculture”, re-articulating the Lubin proposals, including advancing export subsidies. It proposed that the interests of farmers were central to the overall economy and so required something like the kind of tariff support given to the manufacturing sector. The pamphlet opens with a quote from John Quincy Adams, highlighting the great interests of an agricultural commercial and manufacturing union are “so linked in union together that no permanent cause of prosperity to one of them can operate without extending its influence to the others.” The pamphlet develops the problem as follows: there was a surplus of wheat, which meant that despite a tariff, the American farmer would only receive low world prices. Meanwhile, manufactured goods, which lacked a surplus, had an effective tariff, allowing prices to rise and squeeze the farmer. As Peek and Johnson put it in their pamphlet, “40% to 60% of domestic commerce is with the rural population” and so an unfair proportion of the total benefit of protection to industry is achieved by direct reduction from a fair exchange value for the farmers crop. The effect is that the surplus creates inequality between agriculture and industry (Fite, 1954, 39).

Peek and Johnson’s proposals were taken up in a series of legislative efforts led by Senator Charles McNary (R-OR) and Representative Gilbert Haugen (R-IA). The McNary-Haugen bill was both more direct and indirect than the export debenture program. It would create a corporation to purchase surplus wheat and other products to sell abroad, aided by a fund of $200,000,000 and a tax (equalization fee) paid by farmers (Fite, 1954, 60). The corporation was to ensure a domestic price floor: if wheat prices were below what farmers were getting before WWI, the government would make up the difference. On the international side, the lower the world price, the larger the losses from purchasing wheat, which would be made up by a higher fee the following year.

[35] According to Baruch he came onto the issue because of the situation in tobacco: “By 1922, a total and tragic collapse of the tobacco market had brought Kentucky to the “verge of anarchy,”... Judge Robert Bingham ... asked me to join him in organizing the Kentucky tobacco growers, which I did. The services of Aaron Sapiro, the foremost expert on the organization and management of cooperatives, were enlisted” (Baruch, 1960, 159).

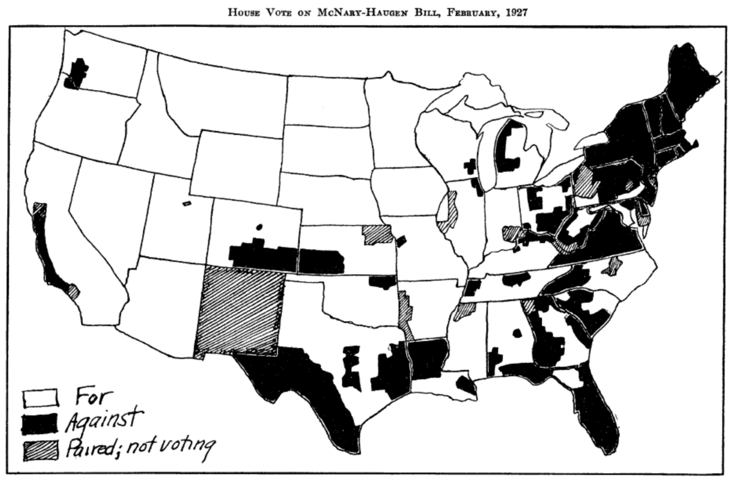


Figure 2: 1927 House Vote from Black (1928).

On net, by restricting domestic supply while maintaining global supply the effect was an export subsidy.

These iterated pushes for an export subsidy failed to gain support beyond its narrow constituency. One Peek ally, Chester C. Davis, would recount that, "[The McNary-Haugen Bill] was really a grain belt deal, with what sympathizers we could pickup outside.... We didn't represent the populous states. We didn't have enough states, that was all, at that time"[36] Tallying votes in the House and Senate, Black (1928) found that three attempts at passage followed geographic lines, with the west and corn belt favoring it, and the east and south opposing it. Black visualized this pattern using the 1927 House vote, displayed in figure 2. Unfortunately, these farmers lacked the sway of the German Junkers—it would take a broader coalition, and the intervention of processor interests, to break out of this rut.

Instead of export subsidies, the American approach to agriculture in the 1920s

[36]Davis (1953, 166). Davis worked for George Peek at the Illinois Agricultural Association in the 1200 suite of the Transportation Building at 608 South Dearborn Street in Chicago. The same address was listed for the Illinois Grain Corporation, the Farmers National Grain Corporation, and the Illinois Agricultural Mutual Insurance Company.

was to adopt one of two remaining approaches to the farm surplus problem: private cartelization and government allotments (Goldstein, 1989). When the crisis hit, the government initially turned to tariffs, subsidized credit, and monopolistic group marketing schemes. Like prior Republican presidents, Herbert Hoover attributed the onset of the depression to overproduction of raw materials (Hamilton, 1991, 110). Unlike those who adopted a *de facto* strategy of attrition, Hoover Hoover was committed to inculcating a sense of trusteeship among market leaders (Lake, 1989). He sought cooperation from businesses and farmers to voluntarily raise prices. When this was ineffective, he would attack speculators and lambaste short sellers. To address the collapse of international trade, Hoover continued to support high tariff rates, hoping that with wealth, trade would follow.

Complicating Hoover's position was the awkward fact that the US was an agricultural exporter with high tariffs, but it was also an international lender. Its trading partners were unable to pay back their debts via export, and so tended to resort to further borrowing. Hoover argued that this was not the fault of tariffs,[37] Instead he argued that high tariffs, along with high flows of international trade, were to the benefit of the whole of the United States.[38] Hoover recognized that the nation was intertwined, but as I show below, commodity markets retained a significant regional structure.

3.1 Regional Export Subsidies

The planners of the New Deal thought of the wheat issue not as a national problem but one specific to regions. Figure 3 displays portions of a planning document from the archives of Planning Division of the Agricultural Adjustment Administration projected

[37] According to Hoover's reasoning 65 percent of US imports are duty free raw materials, tropical products, another 6 or 7 percent are inelastic luxuries. These 70 percent of goods do not diminish foreign income. If you add the 2 billion spent by Americans on tourism, "the share of imports taxed diminishes to even a smaller ratio" (Hoover PPP, 1929). This reasoning, of course, assumes that the volume of trade is unaffected by a tariff.

[38] "Touch the tariff on textiles, and North Carolina feels the blighting influence as quickly as Massachusetts. Nor does it stop there. The farmer finds a diminished market in lessened demand caused by lower wages... A shortage of shipping to the gulf ports at once decreases prices to the farmer in Kansas, for he must take more expensive routes to foreign markets" (Hoover PPP 1929, pg 568).

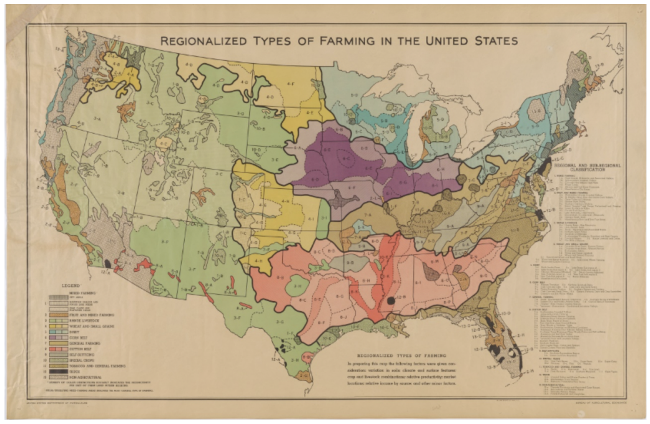


Figure 3: Agricultural Areas of the United States from the Planning Division of the Agricultural Adjustment Administration, wheat regions shaded in yellow.

onto contemporary county lines.[39] The map distinguishes regions of wheat the basis of farming practices in Great Plains and the Pacific Northwest.

The issue was recognized as a political problem. According to Peek, an export subsidy program could protect eastern markets from the longstanding surplus in the Pacific Northwest. As it was reported at the time:

> Mr. Peek said... that administrators regard prompt action as necessary to prevent Pacific wheat from being sold to the domestic East in competition with middle western grain... to relieve the situation, Pacific wheat must either be shipped to the Orient or through the Panama Canal to Atlantic and Gulf ports, which would result in backing up wheat on Chicago and other markets."[40]

Administrators encourage this shipping by drawing on existing Presidential authority for emergency loans. Past efforts to raise wheat prices domestically data back to the Agricultural Marketing Act of June 1929, but the Federal Farm Board that act created failed (Holland, 1986, pg 30). Actual export subsidies occurred in three occasions in the interwar era. The first was in September 1931, where the American Cotton-and-Wheat Loan agreement gave a loan to China to purchase 450,000 tons of American wheat or wheat flour from the American Grain Price Equalization Corporation valued

[39] National Archives, Mordecai Ezekiel's Files RG 15 UD 1010 Stack 170 Row 16.
[40] *Northwestern Miller*, August 2, 1933.

at US$9,212,826.56. In July 1933, the Roosevelt administration ordered the Reconstruction Finance Corporation to extend $10 million of credit to the Chinese Government to buy wheat and flour in the Pacific Northwest. Under this loan the government would purchase $7,105,416 of wheat and flour products (Theis, 1934). In October of 1933, the legislature created a systematic export platform, the North Pacific Emergency Export Association.

3.2 North Pacific Emergency Export Association

Peek, now the head of the Agricultural Adjustment Administration sought Congressional authority to move beyond temporary and emergency measures. In October 1933, the government created the North Pacific Emergency Export Association, under the leadership of Frank A. Theis, to export wheat at 23 cents per bushel below costs. Like other parts of the Agriculture Adjustment Act, it used processing tax revenues to make up the difference, akin the the McNary-Haugen proposals. Unlike past proposals, the North Pacific Emergency Export Association was limited and regional, not being allowed to have more than 1 million bushels of wheat on hand, to avoid the issues that arose with the Farm Board.

The Association made its first purchase on October 19, 1933 and its first sale on November 1. There was a rapid effect on prices: No. 1 Soft White Wheat was selling at 26 cents under the Chicago December price. By the last day of December the same wheat was being purchased at 6 cents under the Chicago price, rising 20 cents (Theis, 1934). By 1935 the program would see sales of about 28.4 million bushels, half of which was exported to China.

According to Peek, the goal of the Pacific Northwest wheat subsidy program was the same as McNary-Haugen Bills: to produce a dual price system. “An American price for American consumption and competitive foreign prices for export.” In the language of the day, an export subsidy would “make the tariff effective” (Peek, 1936, 151). Despite sweeping statements about the benefits of the new agricultural policy, Peek failed to advance export subsidies in other sectors. It was his failure to convince the Acting Secretary of Agriculture Tugwell to accept an export subsidy for butter that led Peek to finally quit the Roosevelt Administration (Peek, 1936, 152).

The result was that, for the fist time, the export of American wheat was subsidized but only in the Pacific Northwest. That Association would sell 28.4 million bushels, half of which went to China (Holland, 1986, pg 31). In some ways, this policy was the continuation of a pattern of American foreign economic policy at the end of the nineteenth century. The export subsidy can be seen as a solution to limit regional rivalries, here among agricultural producers (Rystad, 1975; Bensel, 1984). However, the Pacific Northwest and the grain belts had long agitated for export subsidies. The issue was convincing the rest of the country. In the following section I argue that Pacific Northwest wheat had a new advantage not available to other products or regions: a sudden change in ownership of the once dispersed downstream industry and the leadership of General Mills.

4 The Emergence of the Multiplant Firm

While primary goods producers were undergoing massive improvements in efficiency, the basic task remained the same: produce as much grain as possible. This occurred primarily in small independent operations. By contrast, the role of downstream industry was reoriented entirely. Income growth, improvements in literacy, increasing urbanization, improved transportation networks and the radio would transform the processing and distribution industries.[41] The effect was to enable the emergence of the multi-plant ”horizontally integrated” firm.

In deciding whether to engage in horizontal integration, firms trade off two forces, proximity and concentration. Consider millers in two regions, the grain belt and the Pa-

[41] See Bagwell (2007).

cific Northwest. The factor used by agriculture most intensively (land) is immobile, and that processing requires two productive stages: machinery (manufacturing) and marketing (headquarter services). According to the Brainard (1997) formalization of the proximity-concentration model, a key determinant is which stage of productive activity has the largest economies of scale, manufacturing or headquarter services. Horizontal integration, the creation of identical facilities in both locations, trades off economies of scale at the manufacturing level for economies of scale of headquarter services.

Around the turn of the century the flour business became increasingly headquarter intensive, consistent with increasing returns at the corporate level. Improvements in grinding technology and transportation costs allowed millers to begin to compete not only on price but on marketing quality. Firms would have substantial advertising budgets, selling bags of flour marked as being high quality throughout the country with advertisements and instructions for cooking. The Washburn-Crosby Company, a Minneapolis miller, started its ”Gold Medal Flour” campaign in 1894, spending about $200,000 a year on magazine advertisements (Gray, 1954, 59).[42] By 1921, the Washburn-Crosby Company would invent a fictional character, Betty Crocker, to offer cooking advice and sell their ”Gold Medal Flour” products. Betty Crocker would go on to be portrayed on radio, including on Washburn-Crosby's own radio station (WCCO), magazine advertisements, cookbooks and catalogues. These advertisements would help persuade Americans to begin eating their cereal products, more than making up for reductions in home baking.

4.1 Processor Politics

The largest flour companies were heavily engaged in politics, often in opposition to government intervention. To first order, however, what they sought was higher prices for their products. James Ford Bell, President of the Washburn-Crosby Company, took

[42] According to an advertising slogan from 1906, “Advertising did not make Gold Medal Flour the Leading Brand in this country. But Quality did—and constant advertising hasn't hurt it any.”

a practical approach: in 1919 he helped negotiated rates for flour with the Food Administration to set a maximum profit of 25 cents per barrel, a deal that was soon put under scrutiny from anti-trust regulators and Congressional Committees. As chairman of the committee representing the Millers' National Federation, he engaged in a variety of efforts to address the problems facing agriculture, including voicing support for General Hugh Johnson's 'equality for agriculture' program.[43]

However, when it came to actually passing the McNary-Haugen Bill, flour producers, including Bell and his congressional ally Congressman Sydney Anderson (R-MN), took a position of open opposition, arguing:

> What the plan proposed, in essence, was to raise agricultural prices by isolating the surplus and dumping it unceremoniously on other countries. This was certain to bring retaliatory action from importing country. The theory, they believed, was unrealistic because it 1) took no account of interests other than those of the United States. 2) the machinery for its operation would be costly and would grow. 3) benefits would be impermanent and the final effects would be to narrow the farmer's market.[44]

These arguments were common in the Republican business community. The issue was not, as one might imagine, the effect on input prices. All millers are quick to point out that higher prices for wheat just mean higher prices for flour, the issue was that any export subsidy would likely be financed via taxes on their business.

For his part Bell held that schemes like the McNary-Haugen Bill as un-American and dangerous[45], but he also knew that his opposition, however principled, would be understood by others as driven by the profit interest of regional milling interests.[46] As Bell recounted in a discussion with Herbert Hoover in 1927:

[43]Gray (1954, 193).

[44]Gray (1954, 87). General Johnson was particularly upset at the apparent reversal by Bell, (Gleason, 1958).

[45]Bell confided to the manager of his Buffalo operation that "Foreign nations would undoubtedly retaliate with reprisals in the form of subsidies, tariff barriers, etc." Letters and Correspondence March 12 1924.

[46]Bell lamented to his cousin, "Why can't you people down East start some opposition to the McNary-Haugen Bill? Of course it must not be traced back to us. This is a matter in which your consumers are vitally interested. Nothing can be done with the Congressional representatives here in the West because they are pledge to this economic fallacy and their constituents will secure a temporary benefit at the expense of the Eastern consumer. There must be some in you organization down in your section that can start a back fire and spread it out to other states." Letters and Correspondence February 28, 1924.

> Saw Mr. Hoover, talked over possibilities of anti McNary-Haugen propaganda. He wants us to undertake the campaign. I explained to him this was impossible unless either himself or the President of a group of bankers would take the initiative in getting things started. It is only through this means we could command sufficient capital from a wide variety of industrial interests.[47]

Bell's plan was to reach out to Edsal Ford, President of Ford Motor Company, to find an ally who was based outside the wheat regions and would not be accused of profiteering.

While building opposition to the McNary-Haugen plan throughout the 1920s, Bell also developed alternatives. One was an educational campaign to affect consumption habits. Bell's "Eat More Wheat Campaign" would try to counteract the troubling tendency in the national diet to consume "more milk, more vegetables, more sugar, and less bread."[48] Bell persuaded five governors to issue proclamations endorsing the Eat More Wheat campaign. In addition, Bell formed the Wheat Conference in Chicago, collecting railroad, banks, manufacturers of farm implements, universities, the labor movement, farmer's organizations mills and bakers. He placed Sydney Anderson, now out of office, at the head of the Wheat Council of the United States, headquartered in Chicago. However, these efforts, and the Council offices, were abandoned in March 1924.[49]

By 1928, technological improvements in flour manufacturing and reductions in demand were taking a toll on milling industry. Data from the Census of Manufacturers, displayed in figure 4, indicates that the number of independent milling establishments had fallen by more than 20 percent. Bell even contemplated selling the Washburn-Crosby Company. Instead, by issuing stock on the New York stock exchange, he was able to merge with several mills to form General Mills incorporated. A year later the conglomerate purchased the largest west coast miller, the Sperry Flour Company, along with its nine mills across the Pacific Northwest and California.[50] By 1934, an inquiry

[47] James F. Bell *Diary 1927*, Minnesota State Historical Society.

[48] The issue was partially driven by a newfound interest in weight: "the wheat line had shrunk along with the dimensions of woman's waist line" (Gray, 1954).

[49] Gray (1954, 87).

[50] Sperry Flour was based in San Francisco, but had mills in Spokane, Tacoma, and Pasco, Washington; Portland, Oregon; Ogden, Utah, as well as Vallajo and Los Angeles, California.

Figure 4: Number of Mills (Northwestern Miller).

by the Federal Trade Commission found that General Mills alone was responsible for the purchase of 23 percent of the national wheat supply.

4.2 Consolidation and Export Subsidies

Consolidation gave the Minneapolis based Washburn-Crosby a stake in the West Coast wheat situation. Prior to being purchased, Sperry Flour Company had deep connections to the export trade. In the 1870s Sperry Flour had exported flour as far as the United Kingdom and by the late 1880s it possessed a virtual monopoly on the Philippines flour market. Part of the success in Pacific trade was driven by geopolitics. In 1903, mills owned by Sperry Flour shipped year's worth of flour to Japan in advance of a war with Russia.[51]. Figure 5 displays a sack design filed in the trademark office of the state of California in 1905, indicating its efforts to build in that market.

The first record of Washburn-Crosby's interest in the Pacific Northwest was initiated by rumors of Pillsbury making a move to consolidate the West Coast in 1927. Bell took a trip to the region to meet with the former vice-president of the Portland Flour Mills, the dominant firm in the oriental flour trade. The death of the former president of

[51] See Merlo (2020).

Figure 5: Image of Sperry Flour sack filed for a trademark in 1905 (Washington State Digital Archives).

Portland Flour gave Sperry Flour an opportunity to purchase the company, but ”Portland was unwilling to have San Francisco direct them... They closed and remained closed and have been allowed to run down so their condition today is little more than scrap.” According to Bell's contact, “so far as mills on the Pacific Coast were concerned, you could buy any quantity of them for 15 cents on the dollar; that the Oriental Export trade had practically ceased to exist and seaboard mills found themselves at very considerable disadvantage” (Bell, *Diary 1927* pg 51. April 27, Portland).

After the 1928 election, Bell took a second trip to the West Coast to initiate consolidation under the General Mills umbrella. The move toward consolidation had several advantages. First, consolidation would give the millers an advantage in negotiating with their customers who were increasingly commercial bakers rather than home bakers and national grocery chains rather than disorganized country stores. Second, there was an issue with inter-regional competition. Both issues were addressed during Bell's trip to Palo Alto, where he met with two presidents: Roy Bishop of Sperry Flours and the newly elected Hebert Hoover. With Bishop, Bell raised the issue of gaining an advantage relative to consumers and bakers.[52] With Hoover he raised the issue of competition among regionally concentrated varieties of wheat.[53] These issues would persist post-consolidation as soft wheat piled up on the West Coast.[54]

The result of these interests was that General Mills would endorse export subsidies for flour, particularly Pacific Coast Wheat to China. With wheat piling up in warehouses and ports all over the country, the Hoover administration created a modest program to stabilize prices. Bell ensured that this would include the low quality wheats on the West Coast. In a letter to the president of the Grain Stabilization Corporation, George S. Milnor, Bell wrote: "in view of your well evidenced desire to assist the milling industry in export trade... I feel it is only fair to emphasize ...that the application of any or all grades in liquidating the export clause could and probably will result advantageously in the domestic market to those millers who utilize the opportunity you are offering them."[55] The Hoover Administration was in the midst of negotiating a low interest emergency loan to China for the purpose of purchasing wheat from the Pacific Northwest, and Milnor reassured Bell that "We have been in touch with the Pacific Coast millers regarding [the sale of wheat to China] and if the transaction is closed I shall do my utmost to cause a large movement of flour from the West Coast mills."[56]

Any export subsidy for flour would benefit all the mills on the West Coast, but Bell took efforts to ensure that the effect was not just to hand money to his competitors. Bell maintained a close connection to the other milling firms that operated in the Pacific Northwest, and issued a warning to a large competitor in the Pacific Northwest that any

[52]"[Bell] had come out there specifically to see [Bishop] and discuss the general milling situation in all its angles; possible legislation for the farmer, the tendency toward consolidation among the buyers ..." November 16 1928.

[53]In his diary, Bell reported having told Hoover that when "prices rose beyond their interpretation of their value, they turned to the use of other commodities and this was particularly true of wheat, where at certain levels, they would reflect an increased percentage of lower types" (*Diary 1928* pg 39, Friday Nov. 16 1928). These lower types included a growing surplus of lower quality soft wheat.

[54]The following July, Bell reported that "... the accumulation of wheat at the Sperry Co. seemed rather large. There is an absence of high protein wheats on the Pacific Coast which will make them more than ever dependent on the Orient for the absorption of soft wheats and as conditions in the Orient are not all favorable, declines are more consistent than advances." *Diary 1930* July 17.

[55]January 30, 1931.

[56]*Letter*, August 25, 1931.

increase in the rate charged on subsidized flour exports would invite

> a storm of public criticism that will destroy support and participation. We must be contented with a reasonable conversion that covers fixed expenses. If to this can be added a modest profit, well and good, but if we are greedy we shall completely destroy all confidence. I have written Mr. Burke [head of Sperry Flour Division] accordingly.[57]

Apparently the issue of coordinating milling interests persisted even after consolidation, but with over a third of the market, General Mills could set terms.

4.3 General Mills in the Agriculture Adjustment Act

Post consolidation, General Mills executives played a key role in the legislative authorization for export subsidies. The centerpiece of the New Deal for Agriculture was the Agricultural Adjustment Act. In crafting the Act, the administration over what to do about wheat surpluses. On the one side were Bernard Baruch, Hugh Johnson, and George Peek, conservative businessmen who favored disposing of the surpluses abroad. The other side were the more doctrinaire liberals and economists, Rexford Guy Tugwell, Mordecai Ezekiel, and Jerome Frank, who advanced free trade abroad and redistribution at home. FDR delegated the choice to his Agriculture Secretary, Henry Wallace, who placed himself between the two sides. The administration invited James Bell, now CEO of General Mills, to Washington on March 15, 1933 to assist. Bell advised Wallace to go with Baruch and the other pro-export subsidy advocates.[58] The Agricultural Adjustment Act would pass the House seven days later and be signed into law in May of that year.

After the legislation passed, General Mills executives helped write the specific regulations that would govern the industry. As Vice President of Production at General

[57]Letter from Bell to D. W. L. MacGregor, of Balfour, Guthrie & Co., August 28, 1931. S.E. Burke was appointed lead Sperry Flour in 1929.

[58]According to Bell's diary "The administrator should be able to command the confidence of the public and that Baruch was the ideal man" (Gray, 1954, 194). Bell would later recall how Bernard Baruch, who he called "Boss", had set him up with Johnson to draft what would become the final AAA bill: "Jonson and I spent a day together and came to a meeting of views, which he reported to [Baruch], and subsequently with [Baruch's] advice and guidance we formulated these under Hugh's draftsmanship." Draft of Letter to Bernard Baruch *Individual Reminiscences*.

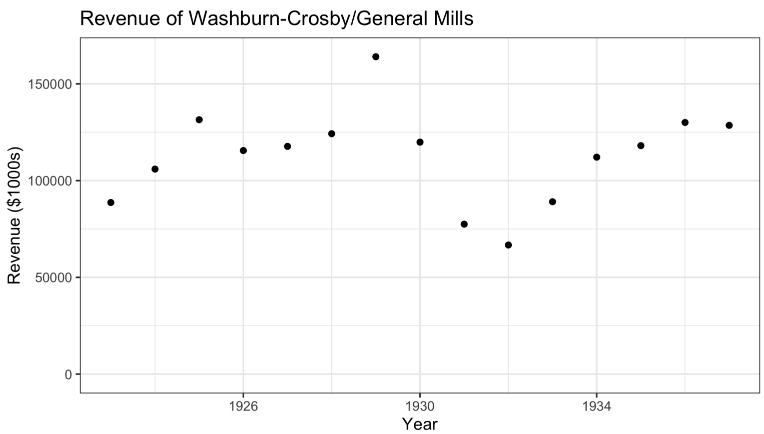


Figure 6: Revenue of General Mills, scaled by chained CPI (1983=100).

Mills, Gerald S. Kennedy, recounted:

> "In the processing tax hearings, a young lawyer [Alger Hiss] representing the Agricultural Adjustment Administration and I literally wrote the regulations while the bigwigs of industry, the farm representatives, the economists, the political fat-cats and the government echelons which had to administer the regulation went through the motions required by the Act." (Kennedy, 1971, 123).[59]

The result was a processing tax on wheat, cotton, corn, tobacco, rice, hogs and milk. This tax was used to finance, among other measures the purchase and export of wheat and flour from the Pacific Northwest. The tax on wheat was 30 cents a bushel, which, the Secretary Agriculture declared "equals the difference between the current average farm price for wheat and the fair exchange value of wheat which price and value as defined in said act have been ascertained by me from available statistics of the department of Agriculture."[60] This would mean that General Mills would pay $110,000 a day, but also, as shown in figure 6 a return to pre-crash revenues.[61]

It is striking, given the hostility of the pro-farmer Congress to "the trades," the prior hostility of General Mills executives to McNary-Haugen legislation, and the political and economic isolation of the Pacific Northwest, that General Mills executives would

[59] Alger Hiss would later be accused of spying for the Soviet Union.
[60] June 26, 1933.
[61] Pg. 195 of Congressional Testimony Amendments to the Agricultural Adjustment Act.

help write the legislation for an export subsidy program for wheat and flour. In the following I offer suggestive evidence that the effect was not just one of trading on expertise, but rather that the politics of the subsidy had changed with the consolidation of the affected industry.

5 Evidence from Votes

How did the creation of multiplant firms affect the politics of the export subsidy? The market crash certainly persuaded business leaders that something had to be done, but did consolidation of ownership have an independent effect? In this section I draw on suggestive evidence from the manufacturing census, contemporary estimates of ideology, and the spread of General Mills across states, to explain the origins of legislative authority for the export subsidy program.

While General Mills and other national millers opposed export subsidies, the same was not true of regional milling interest. Big mills in the west and south prioritized the disposal of the surplus and encouraged government support for higher prices on both wheat and flour. These regional millers, however, suffered great losses in the interwar period. The Northwest Miller, a flour trade magazine reported the state by state milling activity, dividing flour mills into five categories of production. Figure 7 displays the number of the largest two categories, those exceeding 20,000 bbl, among the top ten states of 1919. Notably, most of the decline in the number of big mills occurs prior to the financial crash.

My expectation is that General Mill's purchase of mills across the country helped overcome the divisions across regions in ways that otherwise undermined passage of the McNary-Haugen proposals. Here I isolate three Senate votes that sought to pass a version of the McNary-Haugen legislation and show how these votes relate to the population-weighted distribution of milling interests.[62] Recall, in the pre-consolidation

[62]Roll call votes on an amendment to H. R. 7893 on June 24, 1926, S. 4808. on Feb 11, 1927, and S. 3555

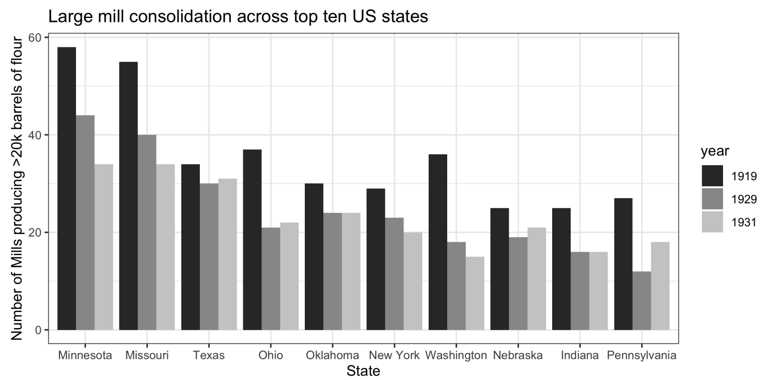


Figure 7: Number of mills with production exceeding 20,000 bbl flour (Northwestern Miller).

period, McNary-Haugen was advanced primarily by the major wheat producing areas, and but failed to gain widespread support. The largest mills were located in those regions that specialized in the production of wheat—outright opposition came from the remainder of the country.

Ideally we could then examine whether regionalism over the export subsidy broke down as the milling industry integrated.[63] Unfortunately, most of the roll calls on the Agriculture Adjustment Assistance program addressed omnibus bills that are not ideal for identifying regional preferences over the export subsidy. For instance, the "Three-way Farm Relief Plan," analyzed by Finegold and Skocpol (1995), allowed for a debenture style export subsidy as only one of three options to be determined by the executive. The most direct roll call vote available comes from 1932, prior to the AAA, when then Senator Hugo Lafayette Black (D-AL) brought a vote to block an export subsidy to the Pacific Northwest.[64]

The votes are coded as a 1 for when the vote opposes the export subsidy, and a 0 if the Senator abstains or votes in favor. Given minor changes in the content of

on April 12, 1928 from voteview.com. The second and third of these were vetoed by the President.

[63]By 1932, subsidiaries of General Mills were operating in almost every state, but it had large mills in MN, NY, IL, MO, KY, MT, CA, OR, and WA.

[64]The vote was on an amendment to H.R. 12445, on June 22, 1932.

the McNary-Haugen bill, each vote is treated separately. Below I estimate a linear probability model, regressing these votes on an indicator for the party of the Senator (1 is Republican), a count of mills with capacity greater than 20,000 bbl per state (divided by the state population in thousands from the prior decennial census), and a total count of mills per state, again per thousand people.[65]

The association between milling activity and a Senator's opposition to the McNary-Haugen bills and the 1932 effort to block the subsidy are displayed in columns 1-3 of table 1. In each case the dependent variable is an indicator for voting against the subsidy. The results suggest remarkable stability in the regional character of support for the McNary-Haugen policy. The top wheat producing regions, which had the mills with the largest capacity, were substantially less likely to oppose the subsidy program. One additional mill per thousand people is associated with a 13 percentage point increase in the support for the legislation. By contrast, a State's total number of mills per capita, which account for smaller, less productive mills, is not strongly associated with support.

Column 4 displays coefficients from regressing the 1932 vote on milling activity, partisanship, and the presence of the recently formed General Mills. It appears that in 1932, after the consolidation of the milling industry, states with a General Mills facility supported the subsidy, and the strength of regional interests declined. While columns 1-3 indicate that the pre-consolidation votes were generally non-partisan, in the 1932 vote the coefficient on party is a substantive predictor of the vote. It appears that by 1932 the export subsidy was more a national partisan problem than regional issue, with Republicans in support of the export subsidy, a more business friendly approach to addressing the surplus. This is not to say business interests were uniformly persuaded. The leaders of the Chicago Board of Trade (CBOT) came out strongly opposed: "That with millions of idle men and women in the country, many of them underfed, the farm

[65]The state mill counts were reported in the April 1938 issue of the *Northwestern Miller*, party information and votes are from the Congressional Record.

board cannot with good grace take more of the taxpayers' money for the purpose of giving cheap wheat, or free wheat, to foreigners." Sieble Harris, VP of the CBOT, said "The attempt to justify such an action on the ground that it benefited farmers in the Pacific northwest is simply pulling the wool over the eyes of the taxpayers of this country."[66]

Table 1: Predicting Opposition to Export Subsidy

	Dependent variable:			
	Vote Against Subsidy			
	(1)	(2)	(3)	(4)
	1926	1927	1928	1932
Republican	-0.04	0.1	0.1	-0.4^{***}
	(0.1)	(0.1)	(0.1)	(0.1)
Big Mills per cap. (1919)	-13.0^{**}	-12.2^{**}	-12.0^{**}	
	(6.1)	(6.1)	(5.3)	
Total Mills per cap. (1919)	-0.6	-0.4	0.5	
	(1.0)	(1.0)	(0.9)	
Big Mills per cap. (1931)				15.5
				(11.8)
Total Mills per cap. (1931)				-3.7
				(3.2)
Presence of General Mills				-0.3^{**}
				(0.1)
Constant	0.6^{***}	0.5^{***}	0.2^{***}	0.6^{***}
	(0.1)	(0.1)	(0.1)	(0.1)
Observations	96	95	93	96
R^2	0.1	0.1	0.1	0.2
Note:		*p<0.1; **p<0.05; ***p<0.01		

[66]Chicago Daily Tribune (1923-1963); Chicago, Ill. "Board of Trade Chief Attacks U.S. Farm Board: Says Its Foreign Sales Policy Is Wrong." 14 May 1932: 25.

6 Discussion

The issue of export subsidies for the Pacific Northwest did engender international political controversy, exactly as its more trade oriented opponents had feared. In the negotiation of an international wheat curtailment agreement in 1933, the Agriculture Secretary not only refused to concede the Pacific Northwest wheat export policy, but threatened to expand it as necessary to remain competitive on international markets.[67] In part because of the US insistence on the subsidy, the 1933 agreement failed and the wheat conditions continued to escalate. It took a series of bad weather events, along with a grasshopper outbreak, to ease the global surplus.

Despite the initial worries of the business sector, the wheat export subsidy did not, however, produce a cycle of retaliation. While the 1930 Smoot-Hawley Act was followed import duties or restrictions on wheat or flour in 59 countries, no country directly retaliated against the US for its subsidies to the Pacific Northwest.[68] There were two reasons for this. First, while subsidized exportation was expected to produce anti-dumping regulations from Europe, the Secretary of Agriculture claimed that "Oriental countries do not have anti-dumping regulations."[69] Second, just as US ships were arriving to Shanghai in 1935, laden with subsidized flour, the Yangtze river overflowed its banks—1.5 million hectares of farmland were destroyed, creating a historic wheat shortage in China. Rather than retaliating, China decided to welcome the subsidized products. The effect was to only temporarily delay Australian dominance of the Chinese market. Chinese imports, displayed in figure 8, show that when the export subsidy ended in 1936, America's share of the Chinese market continued to fall.

[67]"If Australia will not agree to acreage reduction, we feel that we should not reduce our acreage of competing wheats, but should continue to hold our share of the Oriental markets." In particular "There is already ample surplus wheat in the Pacific northwest: In the event that Australia does not enter the reduction agreement, we could provide special financing to assist in the export of that soft wheat to the Orient, and so reduce the surpluses of that type in spite of continued Australian competition." "Morgenthau from Wallace" July 7, 1933 Cable 112, Mordecai Ezekiel's Files RG 15 UD 1010 Stack 170 Row 16.

[68]Theis (1933, 9).

[69]"Wheat Subsidy Planned Unless Acreage Is Cut: Wallace Promises Federal Export Aid When Told of European Resistance Would Sell to Orientals Has Huge Sums Available to Finance U. S. Projects" *New York Herald Tribune*; New York, N.Y., 16 Aug 1933: 2.

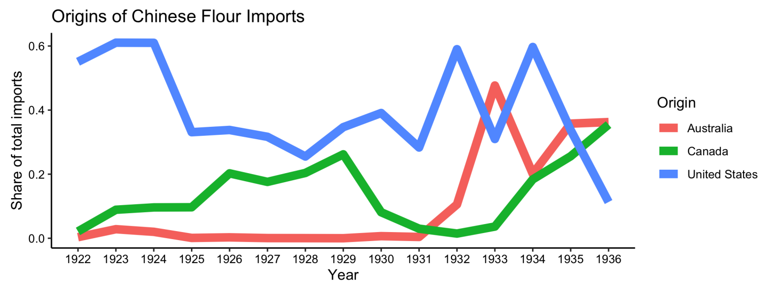


Figure 8: Composition of China's wheat imports (Annual Report China Trade).

Although export subsidies originated in ideas long advocated by western farmers, they were adopted not because of those demands alone, but in an effort to protect the market for the wheat belts and to benefit processors whose operations spanned both regions. It did so by deflecting the longstanding surplus in the west toward China and away from eastern markets.

The decision on the part of the Roosevelt Administration to dump wheat on foreign markets challenges several narratives in the debate over the effects of globalization. The economic effects of war, or rather its quick end, was a force for disunion and economic consolidation in the United States. The latter helped overcome regional differences, but not in a way that promoted the growth of free trade. Instead, intra-regional integration led firms to internalize the demands for protection from far flung regions. The effect was that business interests would voice these interests in national policymaking. In the United States that meant adopting a program of wheat and flour subsidies long sought after by regional producers and undercutting multilateral efforts to open agricultural markets.

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