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THE SLIDE TO PROTECTIONISM IN THE GREAT DEPRESSION:
WHO SUCCUMBED AND WHY?

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ABSTRACT

The Great Depression was marked by protectionist trade policies and the breakdown of the multilateral trading system. But contrary to the presumption that all countries scrambled to raise trade barriers, there was substantial cross-country variation in the movement to protectionism. Specifically, countries that remained on the gold standard resorted to tariffs, import quotas, and exchange controls to a greater extent than countries that went off gold. Just as the gold standard constraint on monetary policy is critical to understanding macroeconomic developments in this period, national policies toward the exchange rate help explain changes in trade policy. This suggests that trade protection in the 1930s was less an instance of special interest politics run amok than second-best macroeconomic policy management when monetary and fiscal policies were constrained.

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1. Introduction

The Great Depression of the 1930s was marked by a severe outbreak of protectionist trade policies. Governments used tariffs, import quotas, and exchange controls to restrict spending on foreign goods and established preferential trading blocs and bilateral clearing arrangements to channel trade toward favored partners. These trade barriers and discriminatory arrangements contributed to a sharp contraction in world trade, a lackluster rebound in trade despite the economic recovery, and a redirection of world trade and payments flows.¹

The rise in trade barriers and breakdown of the multilateral trading system in this period are well known. Accounts of this unprecedented burst of protectionism, whether gleaned from contemporary reports or subsequent histories, suggest that trade policy was thrown into chaos everywhere, with all countries scrambling equally to impose higher trade barriers.² This was not exactly the case, as we show below. There was in fact considerable variation in the extent of protectionist measures. While some countries raised tariffs by a significant margin and others imposed draconian controls on foreign exchange transactions, still others restricted trade hardly at all.

What accounts for the cross-country variation in the extent to which countries succumbed to protectionism? In fact the exchange rate regime and economic policies associated with it were key determinants of trade policies of the early 1930s. Countries that remained on the gold

¹ See Eichengreen and Irwin (1995) and Madsen (2001).

² See, for example, Kindleberger (1986, 1989) and James (2001).

standard, keeping their currencies fixed against gold, were more likely to restrict foreign trade. With other countries devaluing and gaining competitiveness at their expense, they adopted such policies to strengthen the balance of payments and fend off gold losses. Lacking other instruments, notably an independent monetary policy, with which to address the deepening slump, they used trade restrictions to shift demand toward domestic production and, they hoped, stem the rise in unemployment.

In contrast, countries that abandoned the gold standard and allowed their currencies to depreciate saw their balances of payments strengthen rather than weaken. They gained gold rather than losing it. And they had other instruments with which to address unemployment. Abandoning the gold standard freed up monetary policy. Without a gold parity to defend, interest rates could be cut. No longer constrained by the gold standard, central banks had more freedom to act as lenders of last resort. Because they possessed other instruments with which to ameliorate the Depression, they were not forced to resort to trade protection as an imperfect macroeconomic tool.

These findings are clearly related to the literature linking the gold standard to the Great Depression. This research associates the length and depth of a country's economic downturn and the timing and vigor of its recovery to how long it remained on the gold standard.³ Countries abandoning the gold standard, such as Britain (which did so in September 1931), experienced relatively mild recessions and early recoveries. In contrast, countries remaining on the gold standard, such as France (which did not abandon gold convertibility until 1936), experienced

³ See Choudhri and Kochin (1980), Eichengreen and Sachs (1985), Temin (1989), Campa (1990), Eichengreen (1992) and Bernanke (1995).

prolonged slumps. The underlying mechanism is that countries leaving the gold standard were able to relax monetary policy, whereas countries staying on the gold standard were forced to maintain tight monetary policies that inhibited recovery.

We offer a trade-policy corollary to this thesis: countries remaining on the gold standard and thereby prevented from using monetary stimulus to reflate were more inclined to resort to trade restrictions. The implication is that the stubbornness with which countries clung to the gold standard had a lot to do with why the world trading system was felled by an outbreak of protectionism in the 1930s. Had countries been quicker to abandon gold standard orthodoxy and the restrictive monetary policies associated with it, it would have been easier to avert the counterproductive commercial policies that destroyed the network of world trade.

Our account lends structure to what otherwise seems to be a haphazard scramble to close markets in the 1930s. We first provide a narrative of the deterioration of the trade policy environment. We then document this relationship for three trade policy instruments: import tariffs, import quotas, and exchange controls. Although the available empirical measures of these policy measures are limited, all of them are consistent with our thesis. Finally we investigate in more detail the empirical relationship between a country's exchange rate and tariff policies.

2. The Gold Standard and the Great Depression

The 1930s was not the first time the international monetary regime and world trading system had interacted with one another. From 1870 to 1913 the classical gold standard linked many of the world's economies through a system of de facto pegged exchange rates. In addition

to allowing the free movement of capital, the system facilitated the finance of trade and promoted its expansion. Lopez-Cordova and Meissner (2003) conclude that perhaps 20 percent of the growth in world trade between 1880 and 1910 was due to the stability provided by the fixed exchange rate regime. Estevadeordal, Frantz, and Taylor (2003) reach similar conclusions and also show that trade barriers were relatively stable over this period.

This gold standard system was then disrupted by World War I. All of the major belligerents except the United States placed barriers in the way of gold exports and imports and loosened, in one way or another, the link between gold and the currency and credit policies of the central bank. After the war the gold standard was reconstructed as a gold-exchange standard, so called because it provided for expanded use of foreign exchange (mainly sterling and dollars) to back the monetary circulation. Due to postwar economic and monetary dislocations the principal belligerents only resumed gold convertibility in the mid-to-late 1920s. Austria and Germany restored convertibility in 1923 and 1924 with the end of their hyperinflations. As other countries stabilized, they also went back onto the gold standard: Britain, Belgium, and the Netherlands in 1925, Canada, Czechoslovakia, and Chile in 1926, Denmark and Italy in 1927, France in 1928, and so on.⁴ While not all countries returned at their pre-war parity, the basics of the prewar international monetary system had been put back in place by the end of the decade.

As monetary stability was restored, the commercial policies of the major European countries were gradually liberalized. Although tariffs were higher in the 1920s than they before World War I, the mid- and late-1920s saw a proliferation of bilateral trade agreements in which countries resurrected the most-favored nation (MFN) clause. The League of Nations convened a

⁴ For a complete list of when various countries returned to the gold standard see Palyi (1970).

World Economic Conference in 1927 to prepare the ground for the coordinated relaxation of trade restrictions.

Unfortunately, the interwar gold-exchange standard was less robust than its prewar predecessor. With some exceptions governments largely resurrected the prewar pattern of exchange rates despite the fact that relative financial strength and competitive positions had changed irrevocably as a result of the war. Old gold parities were restored without lowering price levels back down to prewar levels, resulting in a lower ratio of the value of gold to nominal transactions. The remaining gold was unevenly distributed, with some 60 per cent in the hands of the United States and France.

The resulting gold shortage was addressed by encouraging the more widespread use of foreign exchange reserves, but this heightened the fragility of the system. The willingness of countries to hold foreign exchange was only as strong as the commitment of the reserve-center countries, the United States and Britain, to honor their commitments to convert their liabilities into gold at a fixed price. If those commitments were called into question, there might be a scramble out of foreign exchange into gold, putting sharp deflationary pressure on the world economy.

Indeed, the credibility of that commitment was now less than before World War I. Whether central banks would subordinate other objectives to defending their gold parities was called into question by democratization, the rise of trade unions, and growing awareness of the problem of unemployment. If now they wished to maintain investor confidence, central banks could not show any inclination to deviate from the hard-and-fast gold standard rules. Finally, the international cooperation that had helped to support the prewar system, allowing countries in

crisis to continue to adhere to gold parities, was more difficult in the aftermath of a war that had bequeathed ill will, war debts, and reparations. For all these reasons, the interwar gold standard was rigid, unstable, and incapable of withstanding the shock of the Great Depression.⁵

The system came under strain as the economic slowdown and recession that began in many countries in 1928-29 deepened into a depression in 1930-31. The spark igniting this tinder continues to be debated, although recent accounts have highlighted the decision by the U.S. Federal Reserve Board to tighten monetary policy and the French decision to de jure stabilize the franc at a depreciated rate, both in 1928 (Hamilton 1987, Eichengreen 1992, Johnson 1997). These policies drained gold from the rest of the world and required other countries to pursue more restrictive monetary policies.

The options that might be adopted in response were limited. Changes in monetary policy were ruled out by the gold standard constraint. Expansionary fiscal policy was precluded by the prevailing orthodoxy that governments should run balanced budgets even in downturns.⁶ This left three basic options: enduring a grinding wage and price deflation to restore external and internal balance at the current gold parity; imposing trade and payments restrictions to limit spending on imports and reduce gold outflows; or abandoning the gold standard and allowing the exchange rate to depreciate.

Some countries remained on the gold standard in the hope that, with sufficient wage and

⁵ Chernyshoff, Jacks, and Taylor (2009) find that, whereas the classical gold standard allowed countries to absorb terms of trade shocks well, the reconstructed gold standard after World War I did not.

⁶ For example, the British Treasury held the view that fiscal policy would be ineffective in dealing with the slump; see Peden (1990). This view was shared by most policymakers around the world, although Japan, Sweden, and Germany were exceptions in their willingness to use deficits to finance spending on public works. On the evolution of thought regarding fiscal policy

price deflation, they could restore internal and external balance. But the difficulties of wage deflation were considerable, nominal rigidities slowing labor market adjustments that could have helped to restore equilibrium. Rising unemployment also had political costs that were incurred by the many governments that fell during this period due to their inaction during the crisis. Some countries therefore banned capital outflows and imposed direct controls on payments for imports to conserve foreign exchange and gold reserves. In effect they preserved the façade of the gold standard (their exchange rates did not move) but without the reality (freedom to import and export gold and the statutory link between foreign reserves and money supplies were abrogated or, at best, honored in the breach). Still others chose (or were forced) to abandon gold convertibility and permit their currencies to depreciate. By severing the link between the monetary base and gold reserves, they were able to pursue more expansionary monetary policies.

Insofar as the problem was too little gold, the first-best policy response would have been lowering gold reserve ratios worldwide, essentially a monetary expansion achieved through international policy coordination.⁷ In effect, this is what had happened by 1936, but without the international coordination. One country after another at different points in time abandoned the gold standard and allowed its gold reserve ratio to fall (equivalently, raised the domestic-currency price of gold). Although the prior constellation of bilateral exchange rate was largely restored at the end of the process, the constraints on monetary policy had been relaxed relative to the counterfactual in which the original gold standard rules remained in place.

see Laidler (1999).

⁷ There could have been agreement to cut interest rates in concert and to reduce gold cover ratios. But such agreement was impossible to reach given different countries' different histories (which rendered them more or less willing to contemplate modification of their gold-standard statutes) and their different diagnoses of the nature of the problem (Eichengreen and Uzan 1992).

But the way this result came about, in a decentralized, non-cooperative manner, had enormous implications. The haphazard way in which one group of countries left the gold standard created difficulties for those that remained on gold. Given their reluctance to follow, it put pressure on them to limit gold exports by raising interest rates, restricting imports, or regulating foreign exchange transactions. In essence, the difficulties facing the international monetary system created spillover problems for commercial policy.

3. The Trade Policy Reaction

The movement toward more restrictive trade policies became evident almost immediately following the 1929 business cycle peak. The United States enacted the Smoot-Hawley tariff in June 1930, raising the average tariff on dutiable imports from 40 to 47 percent.⁸ Smoot-Hawley provoked retaliatory responses, notably from the country's largest trading partner, Canada, as well as from a handful of European countries.⁹ In comparison to what was to come, however, relatively few countries increased their tariffs in late 1930 and early 1931.¹⁰ This is not to deny

⁸ Despite this timing, the Smoot-Hawley tariff was not a direct response to the Depression because the basic structure of the tariff rates was set by the House Ways and Means Committee in early 1929, well before the business cycle peak. Although Senate consideration of the bill continued through early 1930, few rates were significantly changed, making it difficult to view the tariff act as an anti-depression measure. As the text notes, the legislated increase in tariff rates on dutiable imports was about 20 percent, increasing the price of affected imports by about 6 percent. Subsequent deflation increased the ad valorem equivalent of the many specific duties in the tariff code to much higher levels, but this would have occurred even in the absence of the legislation; see Crucini (1994) and Irwin (1998).

⁹ Jones (1934) provides a detailed analysis of the foreign reaction against the Smoot-Hawley tariff. MacDonald, O'Brien, and Callahan (1997) focus on Canada's response.

¹⁰ Indeed, the impact of Smoot-Hawley was more limited than is sometimes suggested. Without doubt, the higher duties discouraged the importation of manufactured goods from Europe, but only six percent of Europe's exports were destined to the United States in 1928. Furthermore, the tariff did not significantly affect developing countries in Latin America since most of the raw

that the increase in American tariffs was deeply resented abroad, in part because the United States was a creditor nation and the move came on top of declining exports to the U.S. market due to the recession. But Smoot-Hawley was not the main trigger for the wave of protectionist measures adopted starting in 1931.

The spark that caused the world trading system to collapse was in fact the financial crisis that struck Europe in the summer of 1931.¹¹ The government of Germany depended on foreign loans to finance its expenditures, and when those loans dried up it triggered a run on the Deutsche mark and a loss of gold. This currency crisis in June forced the government to impose strict controls on foreign exchange transactions (Ferguson and Temin 2003, Temin 2008). In theory Germany could have devalued, but the reparations agreement fixed its obligation in dollars of constant gold content. This meant that devaluing would have had devastating balance-sheet effects on the public finances. In any case memories of hyperinflation when the gold standard was in abeyance meant that abandoning the system would have unleashed a collective hysteria.¹² Hence to limit losses of gold and foreign exchange reserves, Germany imposed controls that affected capital movements as well as trade finance. Hungary implemented capital

materials that they exported entered the U.S. market duty free. Still, the tariff was ill-advised; it could do little to relieve the problems faced by the U.S. agricultural sector, which was the ostensible purpose of the legislation. And it was poorly timed; it helped undermine the negotiation of a tariff truce in Europe.

¹¹ While acknowledging the role of the Smoot-Hawley tariff in poisoning international trade relations, the League of Nations (1942, 52) wrote that “a new and far more critical phase in the development of restrictions on trade opened with the financial crises in Austria and Germany in the early summer of 1931.”

¹² As James (1986, 390) writes, “There were widespread fears that a devaluation would lead to an uncontrollable slide of the Mark. These may have been the consequence of the recent and painful memories of the inflation and hyperinflation It was quite realistic to believe that German abandonment of the gold standard would destroy the only precariously restored financial stability of Germany.”

controls in July 1931 because its financial system, closely tied to that of Austria, suffered from the fallout from the failure of Austria's largest bank, the Credit Anstalt. Other countries such as Chile, which was battered by declining copper prices, followed with controls of their own.

Financial pressure then spread to Britain as trade credits extended to Germany by British merchant banks were frozen.¹³ A sharp increase in interest rates did little to stem the Bank of England's gold losses. Against the backdrop of rising unemployment which rendered the Bank reluctant to raise interest rates further, the need for lender-of-last-resort intervention now tipped the balance. On September 19, Britain abandoned the gold standard and allowed sterling to depreciate. Within days, other countries with close trade and financial ties to Britain -- Denmark, Finland, Norway, and Sweden among them -- allowed their currencies to depreciate relative to gold. Japan, concluding that its recent resumption of gold convertibility had been a mistake, followed in December.

Sterling's depreciation sent shockwaves through the world economy. Gold began flowing back to Britain and away from other countries, placing them under balance-of-payments pressure. Many countries responded by imposing exchange controls to prevent the gold outflows. In September-October 1931 exchange controls were imposed by Uruguay, Colombia, Greece, Czechoslovakia, Iceland, Bolivia, Yugoslavia, Austria, Argentina, Belgium, Norway, and Denmark (Gordon 1941, 54-55).

In addition, the improvement in the price competitiveness of sterling area exports prompted defensive countermeasures in other countries. Within months, a large number of

¹³ Many trade credits extended to Germany in the 1920s had been provided by British merchant banks, which is why the German standstill spilled over disproportionately to Britain. In some cases the expected losses on the frozen German credits exceeded the capital of the merchant

countries ratcheted up their tariffs to block cheap imports. France imposed a 15 percent surcharge on British goods to offset the depreciation of sterling and began applying more restrictive import quotas. Canada and South Africa, two countries that did not delink from gold when Britain did, adopted antidumping duties aimed at British imports. In January 1932 the German government was empowered to raise “equalizing” tariffs on goods coming from countries with depreciated currencies. Also that year the Netherlands broke from its traditional policy of free trade, raising its duties by 25 percent to offset currency depreciation abroad.

The chaotic scramble to protect domestic markets and safeguard the balance of payments was now fully underway. As the League of Nations (1932, 289) put it:

“It is impossible in any brief summary to make anything like a complete statement of all the various devices brought into use to restrict trade. Especially after the abandonment of the gold standard by Great Britain in September 1931, there has been a veritable panic, which has piled new tariffs on old, turned licensing systems into prohibitions, monopolies and contingents; denounced existing commercial agreements; created more and more rigid exchange controls issuing in debt moratoria and paralysing trade; and substituted a slight and temporary framework of clearing agreements for previous existing treaties There has never before been such a wholesale and widespread retreat from international economic co-operation.”

This proliferation of new restrictions on international trade and payments in the aftermath of Britain’s devaluation dealt a severe blow to world commerce. The volume of world trade fell 25 percent between 1929 and 1933, somewhat less than half of this reduction due to higher tariff and non-tariff barriers, according to Madsen (2001).¹⁴ (See Figure 1.)

banks in question (Accominotti 2009).

¹⁴ Estevadeordal, Frantz, and Taylor (2003) emphasize that the collapse of the gold standard, higher transportation costs, and tariffs all contributed to the higher trade costs and hence the contraction of trade-to-GDP ratios in the 1930s. It is also possible that this global round of tariffs could have had modest macroeconomic effects. One analysis of them using a mainstream neoclassical model is Eichengreen (1989), which considers the impact of tariffs in an economy with sticky wages on which is superimposed a deflationary shock. To the extent that the shock

There are several reasons why Britain's abandonment of gold, coming on the heels of the financial crisis in Central Europe, triggered this protectionist avalanche. First, this quickly became not just a British devaluation but a wholesale devaluation. If Britain, a leading gold standard country, acknowledged that there were more important objectives of policy than pegging the domestic price of gold, others could now show less hesitation about recognizing this fact. As many as twenty other countries abandoned gold following the Bank of England's announcement.¹⁵ Currency depreciation by countries accounting for upwards of a quarter of global GDP ratcheted up the pressure on the others to do something.

Second, Britain's action led to the widespread liquidation of not just sterling but also dollar reserves by central banks. As a result the Federal Reserve was forced to raise interest rates to stem gold losses despite the still deepening depression. Higher U.S. interest rates put upward pressure on rates in other gold standard countries. Once again there was pressure for them to relieve the strain on their economies. Some imposed exchange controls to limit both trade and capital flows. Others simply imposed higher tariffs to discourage imports.

Third, Britain itself followed the depreciation of the pound sterling with a move toward higher tariffs. In November 1931 it enacted the Abnormal Importation Duties Act which gave authorities the discretion to impose higher duties on selected goods. In February 1932, Parliament passed the Import Duties Act imposing a 10 percent across-the-board tariff on

causes debt deflation resulting in unemployment, a tariff which raises prices back up neutralizes some of the effects. This is true even when both countries in this two-country model respond to the common shock with tariff hikes. But tariffs also have other effects that work in the direction of further depressing output, rendering the net effect unclear. What is clear is other policies targeted directly at the disturbance are significantly more effective in raising output. See also Eichengreen (1981) and Foreman-Peck, Hughes-Hallett, and Ma (2007).

¹⁵ The countries included not just those mentioned, but Japan, Portugal, Greece, Finland, Estonia,

imports, with additional restrictions on certain imports and exemptions for imports from the Empire. This made life still more difficult for other countries that depended on the British market. Those not benefiting from Imperial preferences responded with higher tariffs of their own.

This part of the story is a bit uncomfortable, since our hypothesis suggests that Britain should have been less inclined to resort to protectionism once it gained the ability to loosen monetary policy.¹⁶ Having abandoned the gold standard the authorities could cut interest rates. Unlike other countries, Britain now had better ways of supporting demand than using a tariff to re-route spending toward domestic goods.

Why then did it go ahead with the tariff? The natural answer is politics (Capie 1983, Garside 1998). The Conservative Party had long advocated protectionism and had already moved the country modestly in that direction in the early 1920s; it now gained power in the National Government formed at the height of the crisis.¹⁷ Parliament was dissolved on October 7th, and the subsequent election resulted in a substantial increase in Conservative influence in the Cabinet and House of Commons. Neville Chamberlain, son of the Conservative arch-protectionist Joseph Chamberlain, became Chancellor of the Exchequer in the new government.

Latvia, Bolivia, Egypt, India, Thailand (Siam), Iran, and Iraq.

¹⁶ Prior to September 1931, Keynes had argued for a tariff on the grounds that it was the only available means of supporting domestic demand, monetary policy being immobilized by the gold standard and fiscal policy by the Treasury view that a fiscal expansion would be ineffective. Once the gold standard was abandoned, he rejected protection as redundant. Moggridge (1992, 514) notes: "By refusing openly to advocate devaluation and by lending his public support for protection . . . Keynes helped create a climate of opinion in which, after Britain left gold and did not need protection on Keynes's grounds, she got a highly protective tariff system anyway."

¹⁷ Thus, the Conservatives had been behind the Tariff Reform movement in the decades leading up to World War I and had succeeded in pushing through a limited tariff, the Safeguarding of Industries Act, in 1921, which imposed a 33 per cent ad valorem tariff on the products of nine

The Labour Party, which had supported free trade and had been in power during the crisis, was discredited, leaving a protectionist Conservative Party to drive policy by default.

Another factor in the decision was the weakness of the balance of payments. The tariff was not adopted to support employment, a problem that was assumed to be addressed by the depreciation. Rather the goal was to strengthen the balance of payments, given fears of large scale withdrawals of foreign balances. Britain had been home to large deposits and investments by foreign central banks and private investors. These might not be withdrawn en masse, but their steady liquidation might put excessive downward pressure on the currency, precipitating its collapse. The tariff was designed to strengthen other components of the balance of payments in order to head off this eventuality (Eichengreen 1990).

Sterling's depreciation set off a chain reaction, with countries either following Britain off the gold standard or imposing restrictions on trade and payments as a defensive measure to safeguard industry and improve the balance of payments. The collateral damage that the British decision had for the world trading system as a whole was summarized by the League of Nations (1933, 16-17):

“The multiplicity and variety of these emergency restrictions [on international trade] after September 1931 is difficult to summarise in a few words . . . In the sixteen months after September 1st, 1931, general tariff increases had been imposed in twenty-three countries, in three of them twice during the period - with only one case of a general tariff reduction. Customs duties had been increased on individual items or groups of commodities by fifty countries, in most cases by a succession of enactments which, in several countries, numbers over twenty tariff changes in the sixteen months. Import quotas, prohibitions, licensing systems and similar quantitative restrictions, with even more frequent changes in several important cases, had been imposed by thirty-two countries. Import monopolies, for the most part of grains, were in existence in twelve countries; milling or mixing regulations in sixteen others. Export premiums were being paid in nine, while export duties or prohibitions had been imposed in seventeen. This bare list is utterly

industries built up during the war and added anti-dumping provisions. See Hirst (1925).

inadequate to portray the harassing complexity of the emergency restrictions that were superimposed upon an already fettered world trade after the period of exchange instability was inaugurated by the abandonment of the gold standard by the United Kingdom in September 1931. By the middle of 1932, it was obvious that the international trading mechanism was in real danger of being smashed as completely as the international monetary system had been.”¹⁸

So far, the discussion has focused on two groups, the exchange control countries led by Germany that restricted foreign currency transactions after July 1931 and the sterling bloc led by Britain that devalued in September 1931. A third group was the gold bloc, whose members remained on the gold standard despite the turmoil of 1931. The members of this group, which included Belgium, France, the Netherlands, and Switzerland, continued to endure deflationary policies. While foreswearing exchange controls they raised tariffs and tightened quotas on imports in an effort to insulate their economies from the downturn while conserving gold reserves. A fourth and final group included countries that never joined or left the gold standard at various points, including Spain (never on the gold standard), Canada (formally delinked from gold in January 1929 and in practice a flexible rate country), Argentina and Australia (which delinked from gold in December 1929), Japan (delinked in December 1931), and the United States (delinked in April 1933).

These four groups are listed in Table 1, along with the timing of their actions. Most sterling-bloc countries went off the gold standard in late 1931. The gold bloc countries in column two remained on the gold standard until September 1936, except for Belgium which went off gold in March 1935. Most of the exchange control countries imposed such restrictions

¹⁸ Similarly, the Bank for International Settlements (1933, 12) noted: “The multiplication of tariffs, quotas, and prohibitions in recent years has largely been a result of sudden currency changes: There can be very little hope of a return to freer trade so long as the present monetary uncertainty prevails.”

in mid- to late-1931. Finally, the last column indicates when other unrelated countries allowed their currencies to depreciate against gold.

To be sure, in some countries the response reflected not just the exchange rate regime but also special circumstances. For example, Denmark was a member of the sterling bloc and as such had close trade and financial ties to Britain. But as an agricultural exporter, Denmark suffered an especially sharp terms-of-trade shock, adversely affecting its ability to import, and suffered unusually extensive discrimination against its exports, many tariffs and quotas in the 1930s being harshest on agricultural imports. Unlike other sterling bloc countries, Denmark therefore imposed exchange controls.¹⁹

Several Latin American countries, such as Argentina and Chile, also both devalued and imposed exchange controls. Although Latin American controls were not as far reaching as those of European countries, they probably dominated the depreciation in their effect on trade.²⁰ Some Eastern European countries, such as Romania, also imposed exchange controls and devalued at different points.

Countries that remained on the gold standard opted for exchange controls (Germany), trade restrictions (France), or both. If the exchange controls were comprehensive, they could be

¹⁹ By the end of 1931, 95 per cent of the value of Danish imports required foreign exchange permits. Evidence presented below suggests that, despite its devaluation along with Britain in 1931, Denmark should be categorized as an exchange control country. As Salmon (2003, 234) notes, “For Denmark, the depression inaugurated acute problems of adjustment and brought far-reaching institutional changes Its response was to introduce a system of exchange and import control which transformed Denmark almost overnight from one of the most liberal economies in Europe to one in which there was ‘a greater regulation of economic life than in any other western country with the possible exception of Germany.’ The key instrument was the import licensing system introduced in the autumn of 1931.” Also see Thomsen and Thomas (1966) and Johansen (1987).

²⁰ See Obstfeld and Taylor (1998).

administered in a manner that left no need for additional measures such as tariffs or quotas. Import licensing and government allocation of foreign exchange meant that officials could determine the total amount of spending on imports and the allocation of that spending across different goods and country suppliers. Therefore, a country imposing exchange controls might not have to resort to higher tariffs and quotas because it already had the ability to limit imports through administrative actions.

Alternatively, countries that went off the gold standard had less need to adopt trade and payments controls. A devaluation is equivalent to an export subsidy plus an import tariff, so implicit in the decision was a change in relative prices that would discourage imports. Furthermore, to the extent that devaluation relieved financial pressure on the economy, allowed monetary policy to be more expansionary and thereby promoted economic recovery, those countries would have fewer reasons to restrict trade.²¹

Some countries even began to reduce trade barriers after leaving the gold standard. In 1934, a year after the United States went off gold, Congress enacted the Reciprocal Trade Agreements Act authorizing the president to reduce U.S. import duties in trade agreements with other countries. After the remaining gold bloc countries devalued in September 1936 and started to recover, they began removing some of their trade barriers. The League of Nations (1942, 85) noted that “Before the end of October 1936, tariff reductions and/or quota relaxations had been announced in France, Switzerland, the Netherlands, Italy, Czechoslovakia, and Latvia.” For example, having devalued in September, France reduced its tariffs by 15-20 per cent the next

²¹ Britain being the glaring exception, for reasons explained above.

month, and Switzerland reduced many of its import tariffs by more than 50 per cent.²² Relaxing the gold constraint and pursuing more expansionary monetary policies relieved the pressure to maintain restrictive trade policies.

4. Evidence from Trade Policy Measures

The previous section suggested that countries remaining on the gold standard either restricted international payments (exchange control group) or restricted trade directly (gold bloc), whereas countries off the gold standard (sterling bloc and others) did not resort to such measures to the same extent. This section examines the evidence that currency devaluation and trade and exchange controls were substitutes so that countries leaving the gold standard did not impose protectionist measures to the extent as countries remaining on gold. We present data on import tariffs, import quotas, and exchange controls. Although these measures of commercial policy are all crude and imperfect, they each broadly support our hypothesis.

A. Tariffs

The simplest indicator of the level of tariff protection is customs revenue as a share of the value of imports. This measure can be criticized as being downward biased because high or prohibitive duties get a low or no weight in the index. Yet despite this shortcoming, average tariffs have been shown to be highly correlated with much better measures of trade policy.²³

²² The League of Nations' World Economic Surveys for 1936/37 and 1937/38 speak of a "net movement" toward liberalization

²³ Kee, Nicita, and Olarreaga (2008) find that the correlation coefficient between the average tariff and the more nuanced trade restrictiveness index of Anderson and Neary (2005) is 0.75 for a recent sample of countries. Similarly, Rodríguez and Rodrik (2001, 316) conclude, "It is common to assert . . . that simple trade-weighted tariff averages or non-tariff coverage ratios - which we believe to be the most direct indicators of trade restrictions - are misleading as

This suggests that the average tariff is still a useful indicator of trade policy, if used with care.

Figure 2 presents the average tariff for selected countries in 1928, 1935, and 1938.²⁴ As expected, the sharpest increases between 1928 and 1935 are concentrated among members of the gold bloc and exchange control countries. With the exception of Britain the sterling-bloc countries do not show any major changes in their average tariff over the 1928 to 1938 period. By contrast, the average tariff of every member of the gold bloc rose noticeably between 1928 and 1935. In the case of the exchange control countries, the average tariffs of Austria, Germany, and Italy escalated significantly while those of Czechoslovakia and Hungary did not. This last fact can be explained by the fact that sufficiently rigid administrative controls on foreign exchange obviate the need for higher formal tariffs.

B. Import Quotas

Systematic data on import quotas in this period do not, to our knowledge, exist. However, the League of Nations calculated the share of imports covered by quotas for eight countries in 1937. As Figure 3 shows, sterling bloc countries (Sweden, United Kingdom, Norway, Ireland) employed import quotas to a lesser extent than gold bloc countries (Belgium, France, Netherlands, Switzerland). The implication is that countries with depreciated currencies

indicators of the stance of trade policy. . . . [yet] an examination of simple averages of taxes on imports and exports and NTB coverage ratios leaves us with the impression that these measures in fact do a decent job of rank-ordering countries according to the restrictiveness of their trade regimes.” Another criticism of this measure is that it fails to capture the structure of protection, either the effective rate of protection (the relative importance of tariffs on intermediate and final goods) or differences in rates of protection afforded sectors and industries producing different final goods. For this paper, where we are concerned with the macroeconomics of protection, we would argue that such considerations are second order. Nonetheless, we hope to explore these dimensions of the slide to protectionism in future work.

²⁴ These are based on data on customs revenue and imports presented in Mitchell (2007). Some of them were also used by Clemens and Williamson (2004), who kindly shared their data with

did not resort to import quotas to the same extent as countries remaining on gold.²⁵ While the sample is admittedly small, a t-test rejects the hypothesis of no difference in the use of quotas across the two groups at the 98 per cent confidence level. Of course, countries with exchange controls had other administrative mechanisms for allocating foreign exchange and did not need to impose quotas. They were not included in the League's tabulations.

C. Exchange Control

Table 1 lists the countries imposing exchange controls.²⁶ Members of the sterling area and other countries depreciating their currencies are not widely represented on the list. Countries still nominally on the gold standard are.

In the absence of estimates of the relative restrictiveness of exchange controls, it is hard to estimate their effects.²⁷ One can indirectly assess their effects by looking at the change in the volume of imports across countries. In effect we are looking at the impact of the choice of exchange rate regime on trade policy outputs (the volume of imports) rather than trade policy inputs (tariffs and quotas).

Normally one would expect countries depreciating their exchange rates to curtail their imports relative to countries maintaining their currencies at prevailing levels. But Figure 4,

us.

²⁵ As with most aggregate measures of non-tariff barriers, there are no details on how binding these import quotas were. In the United States, the coverage of import quota coverage was small, and about 85 percent was accounted for by a single commodity (sugar). Again, this is consistent with our hypothesis, the United States having depreciated the dollar in early 1933.

²⁶ The list is not complete; many Latin American countries imposed exchange controls, but they do not have enough other data to be used in our other empirical analysis. See Obstfeld and Taylor (1998) for a discussion of exchange controls in this period.

²⁷ Insofar as clearing arrangements were often associated with such measures, they provide an indirect indicator: by 1937, 12 percent of world trade was conducted through clearing arrangements, including more than half of the trade of Bulgaria, Germany, Greece, Turkey,

which presents the change in import volume between 1928 and 1935, shows the opposite. It is as if countries maintaining their currencies at prevailing levels imposed restrictive trade measures that depreciating countries did not. Trade policy outputs show precisely the same result as trade policies inputs, in other words, while they are not subject to the same kind of measurement error.

In most cases changes in the volume of trade are closely related to changes in domestic economic activity. Hence deviations from this relationship may be illustrative of other trade and payments restrictions. Figure 5 illustrates the relationship between changes in import volume and changes in real GDP between 1929 and 1935, controlling for whether a country imposed exchange controls. The underlying regression is:

$$(1) \quad \Delta \text{ Import volume} = -0.11 + 1.04 \Delta \text{ Real GDP} - 0.26 \text{ EXCHCONTROL}$$

(0.03) (0.30) (0.03)

where EXCHCONTROL is a dummy variable for exchange control countries ($n = 21$, $R^2 = 0.69$; robust standard errors in parentheses).²⁸ As the figure and regression indicate, countries imposing exchange controls reduced their imports by about 26 percent more, on average, than one would have expected based on the change in GDP. Most of the observations well below the regression line, such as Argentina, Chile, Denmark, Germany, Hungary, Italy, were exchange control countries. This suggests that controls were a significant factor in reducing international trade.²⁹

Romania, Hungary, and Yugoslavia (League of Nations 1942, 70).

²⁸ Data on the change in import volume is from the League of Nations (1939a). Real GDP is from Maddison (2006).

²⁹ This finding is consistent with more recent evidence in Wei and Zhang (2007) that exchange controls have a very adverse effect on trade.

5. The Tariff-Exchange Rate Relationship in More Detail

The previous section presented evidence from three indicators of trade policy – import tariffs, import quotas, and exchange controls – consistent with our thesis. In this section we provide a more detailed analysis of import tariffs, this being the trade policy measure that is available for the most countries and whose intensity as well as existence is readily measured.

We analyze changes in tariffs and exchange rates between 1928 and 1935 in a cross section of 40 countries. 1928 is just before the business cycle peak for most countries, while 1935 is roughly when trade protectionism peaked according to most accounts. This makes the periodization ideal for capturing the determinants of the decision to protect. A shorter period, say from 1928 to 1932, would not pick up the determinants of that decision as effectively since a number of the countries that suffered chronic deflation and unemployment as a result of opting to stay on the gold standard had only begun to experience such difficulties and had not yet ratcheted up tariffs. Similarly, a longer period, say through 1938, would be less informative in that all countries by then had gone off the gold standard, limiting the variation in the key independent variable, and insofar as some of the earlier gold standard countries that had protected their markets previously rolled back those measures subsequently (as noted toward the end of Section 3).³⁰

Figure 6 presents a scatter plot of the change in the average tariff and the change in the gold parity between 1928 and 1935.³¹ The change in the tariff is expressed as $\Delta \log (1 + \tau)$,

³⁰ Below we consider a number of these alternative periodizations and show that the results are consistent with the priors in this paragraph.

³¹ The format mimics the scatter plots linking industrial production and its correlates with the exchange rate regime in Eichengreen and Sachs (1985).

where τ is the average tariff rate. The change in the gold parity indexes ounces of gold per unit of domestic currency in 1935 relative to 1928 (1928 = 100). We present two panels, one for a core group of mainly European countries ($n = 21$) and another for the full sample that includes many developing countries ($n = 40$), since the larger sample disguises much of the variation in the response of the core countries on which the bulk of the literature focuses. Both suggest that countries abandoning the gold standard and depreciating their currencies were less likely to raise tariffs.

To be sure, there is considerable variation around the average relationship. In the top panel the importance of these other factors is apparent in Hungary, Poland, Italy, and Britain, which are outliers from the average relationship. In the lower panel one might similarly inquire into country-specific determinants of the change in tariffs in Turkey, Egypt, Mexico, Colombia, Chile and Peru. In some instances these deviations from the typical relationship reflected idiosyncratic national circumstances, e.g. whether a country had lacked tariff autonomy in the 1920s and therefore sought to make up lost ground when it was restored in the 1930s. In others, like the British case discussed above, they reflect national politics.³²

In other instances deviations from the average relationship reflects the magnitude of the shock and other dimensions of the policy response, which affected the trade-policy response in ways that were not dissimilar across countries. To capture this second set of factors we estimate a regression of the form:

$$(2) \quad \Delta \log \text{TARIFF}_i = a + b_1 \Delta \text{PARITY}_i + b_2 \text{EXCHCONTROL}_i + b_3 \Delta \log \text{WPI}_i + e_i$$

where TARIFF is defined as $[(1 + \tau_{1935})/(1 + \tau_{1928})]$, which is the change in (one plus) the tariff

³² In the appendix we discuss these idiosyncratic circumstances in the aforementioned national

rate between 1928 and 1935 for country i , and ΔPARITY_i is the gold parity in 1935 relative to 1928, defined as the amount of gold that can be purchased with a unit of domestic currency, EXCHCONTROL is again our indicator variable for whether a country imposed exchange controls, and WPI is the wholesale price index (1929=100). The justification for including the exchange control variable was discussed earlier: countries imposing such controls did not change their parity but also did not necessarily impose higher tariffs because trade was restricted through the allocation of foreign exchange. Including the price level controls for the magnitude of the shock and the effect of deflation on the ad valorem equivalents of specific duties, as motivated by footnote 8 above.

This parsimony of this specification suggests that the equation may suffer from omitted variable bias in that there are other determinants of the change in tariffs that we cannot measure.³³ One might also be concerned about simultaneity (the decision to devalue and change tariffs were driven by the same factors) and reverse causality (countries with a differential willingness to abandon free trade might have a differential willingness to stay on the gold standard). A treatment for these problems is instrumental variables regression. The historical literature suggests several potential instruments.³⁴ Eichengreen and Sachs (1985) argue that the

cases.

³³ We experimented with a few plausible variables, such as a country's trade-to-GDP ratio in 1928 as a measure of openness and an indicator for a country's political regime from the Polity database. These tended to be insignificant and none of them affected the results we report in the text.

³⁴ Wolf (2008) find that banking crises, central bank independence, gold reserves, the character of the political system, and the identity of one's most important trading partner all had an impact on the timing of a country's exit from the gold standard. But few if any of these variables are useful for our purposes, since they are unlikely to satisfy the exclusion and exogeneity restrictions for a valid instrument. The change in gold reserves was one of the factors motivating the adoption of tariffs on balance of payments grounds; that is, it was likely to affect the decision

decision to maintain the gold standard was heavily shaped by the country's historical experience.³⁵ Countries that were international financial centers (Britain, France, the Netherlands, Switzerland, and the United States), a status that was a legacy of history, were reluctant to leave the gold standard because they feared losing financial business to other countries.³⁶ Although Britain did leave the gold standard under duress, other countries with financial-center status were reluctant to abandon the gold standard in response to the exigencies of the Depression.³⁷

to intensify protection directly. Banking crises causing some countries to depreciate their currencies may cause others raise their tariffs. Wandschneider (2008) similarly discusses the determinants of the exchange rate decision but provides few useful instruments for our investigation. As variables increasing the likelihood of staying on the gold standard she identifies per capita income, bilateral trade arrangements, the incidence of banking crises, the depth of the Depression, and the political regime, all of which are likely to affect trade policy directly and/or be affected by it. Wolf and Yousef (2007) consider many of these same variables and in addition peer or network effects, a la Simmons (1994) and Gallarotti (1995) in the form of how many other countries were on the gold standard in a given year. The idea is that the more of one's peers also adhere to the gold standard, the more attractive this remains for an individual country. It is not obvious the same peer pressure relevant for the decision to stay on the gold standard is relevant to the decision to maintain or abandon free trade. Mechanically, the number of other countries still on gold would not be the same as the number of other countries resisting higher tariffs. Economically, the peers that are relevant for the trade policy decision are countries one trades with; the peers relevant to the gold standard decision may be countries for which one competes for funds, or number of countries showing by their actions that gold convertibility is still associated with monetary policy and fiscal prudence. Still, with the number of countries on going down steadily over time, this variable may be picking up not just peer effects but also other influences that move with time.

³⁵ Bernanke (1995) argues that economic conditions in 1930 were very similar across countries, and yet some chose to leave the gold standard in 1931 and others did not; his argument is that cross-country differences in economic performance (whether caused by trade policy or anything else) were not the driving factor in the decision to abandon gold.

³⁶ Whether Paris deserves this financial-center status can be argued both ways; on the controversy, see Myers (1936). The coefficient estimates reported below remain basically unchanged when it is excluded, although significance levels are slightly lower.

³⁷ The potential loss of financial center status gave even Keynes reason to pause in advocating that Britain abandon the gold standard. Why Britain's status as a financial center did not suffice to keep her on the gold standard is an interesting question and the subject of a literature of its

Second, countries experiencing high inflation in the 1920s (Belgium, Bulgaria, Czechoslovakia, and France) or hyperinflation after World War I (Austria, Germany, Hungary, Poland) hesitated to abandon the gold standard in the 1930s for fear of reigniting inflation and rekindling disruptive distributional conflicts. They saw it as necessary to prevent a recurrence of high inflation and financial self-destruction. Other countries that had not shared this searing experience, such as the Scandinavians, were also more willing to abandon gold in response to the downturn.

This suggests using an indicator variable for financial center status (which is set to one for the countries mentioned above) and a measure of cumulative inflation (the price level circa 1925, where 1913 = 100) as instruments for the exchange rate and, possibly in addition, the decision to impose exchange controls (the preceding suggesting that exchange controls were an alternative to devaluation and thus potentially as endogenous).³⁸ Both the financial center indicator and cumulated inflation are plausibly regarded as predetermined (as not affected by contemporaneous changes in tariff policy). As noted above, financial center status is acquired over time; it is largely a function of events occurring prior to the 1930s. Similarly, inflation in the 1920s was exogenous to changes in the exchange rate in the 1930s. These variables are also likely to be correlated with the decision to abandon the gold standard for the reasons given.³⁹

own (Williamson 1992). One answer is that Britain was the only financial center to suffer a financial crisis, which left it little choice but to abandon gold. Wandschneider (2008) shows that banking crises significantly reduced the probability of countries staying on the gold standard.

³⁸ Alternatively we included high- and hyperinflation dummies; again the results remain essentially unchanged. We also tried a weighted regression, using the log of real GDP from Maddison (2006) as weights, but this had virtually no effect on the results.

³⁹ One might plausibly think that countries with authoritarian political regimes would be more likely to resort to exchange controls; restrictions on political freedom and economic freedom tended to go together in this as in other periods. A country's political regime in 1929 could then

Table 2 reports the results. In column 1 the coefficient on the exchange rate in 1935 (relative to the 1929 parity) is positive and significantly related to the change in tariffs between 1928 and 1935. This is the relationship depicted in Figure 6: countries maintaining their gold parities tended to increase their tariffs more than others. When the change in parity is instrumented using the dummy variable for financial center status, the coefficient is both larger than its OLS counterpart and more precisely estimated. However, the first-stage F statistic suggests that the instrument may be weak.

In column 2 we include a dummy variable for exchange control countries. As discussed above, this variable is endogenous since countries using exchange controls had problems achieving monetary stability after World War I and therefore wanted to remain on the gold standard. As an instrument we use inflation during World War I and the 1920s (measured as the peak price level in the early 1920s, with 1913 = 100). The results show the same pattern as in column 1, namely a point estimate on the change in exchange rate parity that is larger than the OLS coefficient.⁴⁰ The first-stage F statistics are much larger and give less concern about weak instruments. Column 3 includes the log of the wholesale price in 1935 (relative to 1929) as an additional covariate. The pattern is the same as in column 2: depreciated currencies were associated with smaller tariff increases.

be used as an instrument for the exchange control indicator (results like those in footnote 33 suggesting that this variable does not belong in the second stage). In fact, this instrument works nearly as well as the log of the early 1920s price level.

⁴⁰ In the IV regression, exchange control is treated as an endogenous dummy variable, so it would be inappropriate to estimate the first stage through non-linear methods such as probit. Hence, the first stage is simply a linear OLS regression of exchange control on the two instruments. Alternatively, we used peak annual inflation in the 1920s as the first-stage measure of inflation. Again the basic results carry over (both point estimates and quasi t-statistics change only slightly).

Thus, the results indicate that there is a strong relationship between the change in the exchange rate and the change in import tariffs between 1929 and 1935. The IV results suggest that the observed association between the two is not driven by omitted variables or reverse causation.

We also ran these regressions for 1928-1932 and 1928-1938, as shown in Table 3. Above we presented arguments for why the results for these alternative periods should be weaker. As expected, the results for 1932 are uninformative, reflecting the fact that in many countries important changes in trade policy had only begun taking place. The results for 1938 are similar to those for 1935 although somewhat weaker; only when one controls for exchange control is it obvious that exchange rate choice matters for tariff policy.

Thus, the evidence here is consistent with that of the previous section; namely that countries devaluing their currencies did not resort to protectionism to the same extent as countries maintaining their gold parities.

6. Conclusions

With the outbreak of the Great Depression, policy makers were confronted with the policy dilemma noted by James Meade (1955). In the face of an unprecedented macroeconomic collapse countries had a choice between three policies: deflation, currency depreciation, or direct controls over trade and payments. Rejecting deflation as too wrenching given the severity of the shock and the magnitude of the requisite wage and price adjustment, these three options were effectively reduced to two: maintaining fixed exchange rates or maintaining open trade.⁴¹

⁴¹ As Meade concluded, “free trade and fixed exchange rates are incompatible in the modern

We find evidence for such a tradeoff: countries that stayed on the gold standard imposed more trade restrictions than those depreciating their currencies. By giving up one policy instrument (monetary autonomy and the exchange rate) with which to fight the depression, countries resorted to another (trade controls). There were deeper historical reasons for this choice. Countries that had experienced difficulty maintaining monetary stability after World War I and suffered high inflation chose to stay on the gold standard and maintain the exchange rate peg; they therefore sacrificed trade policy on the altar of financial stability. So did most countries that had acquired financial-center status over time and now valued its maintenance. France and a number of other countries in this position free capital mobility and used import tariffs and quotas to regulate trade and the balance of payments; Germany and the exchange control countries did not maintain free capital mobility, leaving only the choice of whether to impose higher tariffs or allocate foreign exchange to regulate trade and the balance of payments. Countries that did not suffer from monetary problems after World War I went off the gold standard, allowed their currency to depreciate, and were able to maintain more liberal trade policies.

These historical factors help explain the differential resort to protectionism in the Great Depression. Our account helps explain why some countries were more inclined than others to a protectionist response and lends structure to the otherwise chaotic tale of the collapse of world trade. It suggests that had more countries been willing to abandon the gold standard and use monetary policy to counter the slump, fewer would have been driven to impose trade restrictions

world.” His own preference was for depreciation over trade controls on the grounds that the latter had a number of unfortunately corollary costs. This choice set is somewhat analogous to the interwar trilemma between capital mobility, fixed exchange rates, and monetary autonomy

in a desperate if ultimately futile effort to stem the rise in unemployment.⁴²

Many observers have noted the parallels between the Great Recession of today and the Great Depression of the 1930s and fear a return of the protectionism seen in the earlier crisis. The message for today would appear to be “to avoid protectionism, stimulate.” But how? In the 1930s stimulus meant monetary stimulus. The case for fiscal stimulus was not understood; indeed it had not been made. Monetary stimulus benefited the initiating country but had a negative impact on its trading partners.⁴³ The positive impact on its neighbors of the faster growth induced by the shift to “cheap money” was dominated by the negative impact of the tendency for its currency to depreciate when it cut interest rates. Thus, stimulus in one country increased the pressure for its neighbors to respond in protectionist fashion.⁴⁴

Today the problem is different because policy instruments are different. In addition to monetary stimulus, countries are applying fiscal stimulus to counter the Great Recession. Fiscal stimulus in one country benefits its neighbors as well. The direct impact through faster growth and more import demand is positive, while the indirect impact via upward pressure on world interest rates that crowd out investment abroad as well as at home is negligible under current conditions. Other countries being able to export more to the country applying the fiscal stimulus, there is no reason for them to respond in protectionist fashion.

The problem to the contrary is that the country applying the stimulus worries that benefits will spill out to its neighbors, who are free riding. Fiscal stimulus is not costless; it means

analyzed by Obstfeld, Shambaugh, and Taylor (2004).

⁴² The preceding sentence is, of course, historically counterfactual. Some countries had powerful reasons, rooted in their national histories, to refuse to abandon the gold standard and reflate.

⁴³ As shown by Eichengreen and Sachs (1985).

⁴⁴ It would have been better for all of them to apply monetary stimulus, of course, but again this

incurring public debt that will have to be serviced by the children and grandchildren of the citizens of the country initiating the policy. Insofar as more spending includes more spending on imports, there is the temptation for that country to resort to “Buy America” provisions and their foreign equivalents. The protectionist danger is still there, in other words, but insofar as the policy response to this slump is fiscal rather than just monetary, it is the active rather than the passive country that is subject to the temptation.

But if the particulars of the problem are different, the solution is the same. Now, as in the 1930s, it is for countries to coordinate their fiscal and monetary measures. If some do and some don't, the trade policy consequences could again be unfortunate.

Appendix

In this appendix we analyze why some countries in our sample raised their tariffs by significantly larger or smaller amounts than would be predicted on the basis of the model in the text.

In some places where the increase in tariff rates in the 1930s was unusually limited, in Mexico for example, this reflects the fact that tariffs had already been raised to high levels in the 1920s. The Mexican government had already moved to provide generous trade protection to key constituents, nascent industry and organized labor. In 1925 President Calles created a Tariff Reform Commission dominated by industrialists and merchants to make recommendations to the president, who then set the tariff by decree. In practice the industrialists shaped the commission's recommendations, which the president then rubber stamped. This was palatable all around because the resulting rents were shared with labor.⁴⁵ Because this coalition secured high tariffs in the 1920s and little of direct relevance to their bargain changed subsequently, the further rise in rates in the 1930s was limited.

Similarly, the government of newly-independent Hungary introduced high tariffs on manufactured imports in the early-to-mid-1920s, in its case because it did not have other tax handles, its administrative capacity still being limited. Tariffs on textile imports were on the order of 50 per cent ad valorem, two to three times earlier Austro-Hungarian levels, and even investment goods were subject to tariffs of some 20 per cent. The other reason that Hungary did not raise tariffs more in the 1930s was that it made extensive use of exchange control. Importers requiring foreign exchange had to obtain it from the National Bank, which set the rate case by

⁴⁵ See Haber, Razo and Mauer (2004).

case. Inessential imports were typically subject to a rate 20 to 30 per cent higher than the official rate (which puts Hungary right back on the regression line in Figure 3).⁴⁶ The story was similar in Colombia.⁴⁷

Poland is another outlier in that its tariff was not increased to the expected extent. The country did revise its tariff in 1930 and then drafted a new law that went into effect in October 1933, but it relied on exchange control in the aftermath of Britain's devaluation. The government had difficulty in restoring monetary and fiscal stability in the 1920s, so it was loath to now abandon the gold standard. It stuck with a deflationary policy but "the disparity between internal and external price levels led to ever-increasing prohibitions and restrictions, a change-over to quota regulations, clearing agreements, etc., to restrictions on foreign travel for Polish citizens, and to ever-growing public interference in every domain" (Zweig 1944, 60). It increasingly regulated the economy in 1933-34 and in 1936 adopted drastic foreign exchange controls that prohibited virtually all imports except under license.⁴⁸

Italy is a case where one would have expected a substantial increase in tariff rates but the increase was even larger than expected.⁴⁹ Protection was a central plank of the Fascist Government's economic and political strategy from the mid-1920s, but the Government's foreign policy ambitions then led it to push the policy to its limits in the 1930s. Mussolini launched his "battle for wheat" to make the country self-sufficient in grain production. A full-fledged autarky campaign followed in 1935 in preparation for the war in Abyssinia. Once the

⁴⁶ This policy changed in 1935 when a system of multiple fixed rates was introduced.

⁴⁷ See Ocampo (1991).

⁴⁸ As Landau and Tomaszewski (1985, 103) note, "In the years of the Great Depression, however, the role of tariff protection in the domestic market was gradually falling. . . . In Poland a system of import prohibitions . . . was maintained."

war broke out, the League of Nations responded with sanctions, which reinforced the popularity of the autarky campaign. Unlike, say, Mexico, the situation was very different from that of the 1920s, resulting in sharp hikes in already high tariffs.

Turkey and Egypt are again a different kind of case. They lacked tariff autonomy in the 1920s but regained it in the 1930s. Turkey was prohibited by the Treaty of Lausanne from changing its import taxes prior to 1929. The 1930s then saw dramatic catch-up in part because export-oriented agriculture, which might have been expected to push back, was made up of small, politically-impotent producers. Constrained by a fixed exchange rate, the government provided little in the manner of monetary and fiscal stimulus; in conjunction with the fact that tariffs remained unusually low relative to domestic political aspirations in the 1920s this led to sharp increases in the 1930s.⁵⁰ In Egypt, the last of the commercial treaties that had limited tariff autonomy expired in May 1930.⁵¹ The authorities responded by sharply raising duties on imported textiles, sugar, shoes, cigarettes and spirits in order to promote import-substituting industrialization, something that they had been precluded from doing previously and which they had a special incentive to now undertake owing to the collapse of export-oriented agriculture.⁵²

Finally there was a group of countries that exported commodities to Britain and were hit especially hard by Imperial Preference, such as Denmark, Argentina, Portugal, Thailand, and the Baltic states. Not being part of the Commonwealth and Empire they were subject to

⁴⁹ For details, see Peri and Quadrini (2007).

⁵⁰ For details see Pamuk (2000).

⁵¹ Owen (1989), p.137 et seq.

⁵² Owen describes how the government invited foreign advisers to assist in designing a tariff structure that would be as effective as possible in promoting import substitution. The result was a three-tier structure with 4 per cent tariffs on raw material imports, 6 to 10 per cent rates on semi-manufactures, and 15 per cent rates for final manufactured goods.

discriminatory tariff increases limiting access to their most important market starting in 1932. In addition to depreciating their currencies in a desperate effort to maintain their competitiveness and manage their balance of payments, they hiked tariffs even more than one would otherwise expect. But the point is more general. Thailand similarly suffered a large shock to its exports and responded with unusually large tariff hikes of its own despite – like Denmark – having allowed its currency to depreciate more or less along with sterling.⁵³

⁵³ See Bank of Thailand (1992).

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Table 1: Exchange Rate and Payments Regimes, Sample Countries, 1929-1936

	Sterling bloc countries	Gold bloc countries	Exchange Controls	Others with Depreciated Currencies
1929	Argentina, Australia			Brazil, Spain, Uruguay
1930	New Zealand			Peru, Turkey
1931	Denmark, Egypt, Finland, Norway, Japan, India, Sweden, United Kingdom, Portugal, Thailand		Austria, Bulgaria, Czechoslovakia, Denmark, Germany, Hungary	Colombia, Mexico
1932			Romania	Chile, Greece
1933	South Africa			Cuba, United States, Philippines
1934			Italy	
1935		Belgium		
1936		France, Netherlands, Switzerland	Poland	Indonesia

Note: Year of departure from the gold standard for columns 1, 2, and 4. Year of imposition of exchange controls for column 3.

Source: League of Nations, Money and Banking 1937/38, Vol. 1: Monetary Review, Geneva, 1939, pp. 107-109, and League of Nations, Report on Exchange Controls, Geneva, p. 29. These sources classify the gold bloc as Belgium, France, the Netherlands, and Switzerland, and classify the exchange control group as Austria, Bulgaria, Czechoslovakia, Denmark, Germany, Greece, Hungary, Italy, Poland, Portugal, Romania, Turkey, and Yugoslavia. Some of these latter countries also went off the gold standard at some point. Some countries that were part of the sterling bloc had departed from the gold standard before Britain (Argentina, New Zealand, Australia) and some after Britain (Thailand, South Africa). Denmark is a special case in that it was part of the sterling bloc but imposed exchange controls; see the text. Canada was not commonly classified as part of the sterling bloc; it was on the gold standard for a short time (1926-29) but maintained a managed float between sterling and the dollar; see Shearer and Clark (1984) and Bordo and Redish (1990).

Table 2: Relationship between Change in Average Tariff and Exchange Rate, 1928-1935

Dependent Variable: $\Delta \log (1+\tau)_{it}$

	(1)		(2)		(3)	
	OLS	IV	OLS	IV	OLS	IV
Exchange Rate (Ratio of Gold Par)	0.09* (0.05)	0.21* (0.10)	0.10* (0.05)	0.13* (0.07)	0.18* (0.08)	0.35* (0.18)
Exchange Control indicator	--	--	-0.01 (0.03)	-0.06 (0.03)	-0.01 (0.02)	-0.09* (0.05)
Log of Wholesale Prices	--	--	--		0.10 (0.08)	0.27* (0.14)
N	40	40	40	29	35	29
F	3.5	-	2.3	--	3.3	--
R ²	0.11		0.12	--	0.13	--
First-stage F	--	4.6	--	24.4, 49.8	--	27.1, 39.6

Note: Robust standard errors are reported. Constant term not reported. * = significance at 10 percent level. Instrument in column (1) is an indicator for financial center country. Instruments for columns (2) and (3) are financial center indicator and log of price level in 1923.

Table 3: Relationship between Change in Average Tariff and Exchange Rate, other years

Dependent Variable: $\Delta \log (1+\tau)_{it}$

	1928-1932			1928-1938		
	IV	IV	IV	IV	IV	IV
Exchange Rate (Ratio of Gold Par)	0.04 (0.10)	0.06 (0.08)	0.04 (0.12)	0.86 (1.52)	0.22* (0.13)	0.51 (0.33)
Exchange Control indicator	--	-0.02 (0.03)	-0.01 (0.03)	--	-0.07 (0.05)	-0.12 (0.08)
Log of Wholesale Prices	--	--	-0.05 (0.12)	--	--	0.30 (0.23)
N	40	29	29	39	28	28
First-stage F	6.9	14.3, 49.5	18.8, 33.5	0.5	29.1, 52.6	19.4, 42.8

Note: Robust standard errors are reported. Constant term not reported. * = significance at 10 percent level. See notes to Table 2.

Figure 1: World Trade and Production, 1926-1938 (1929 = 100)

Source: League of Nations (1939c), Appendix III.

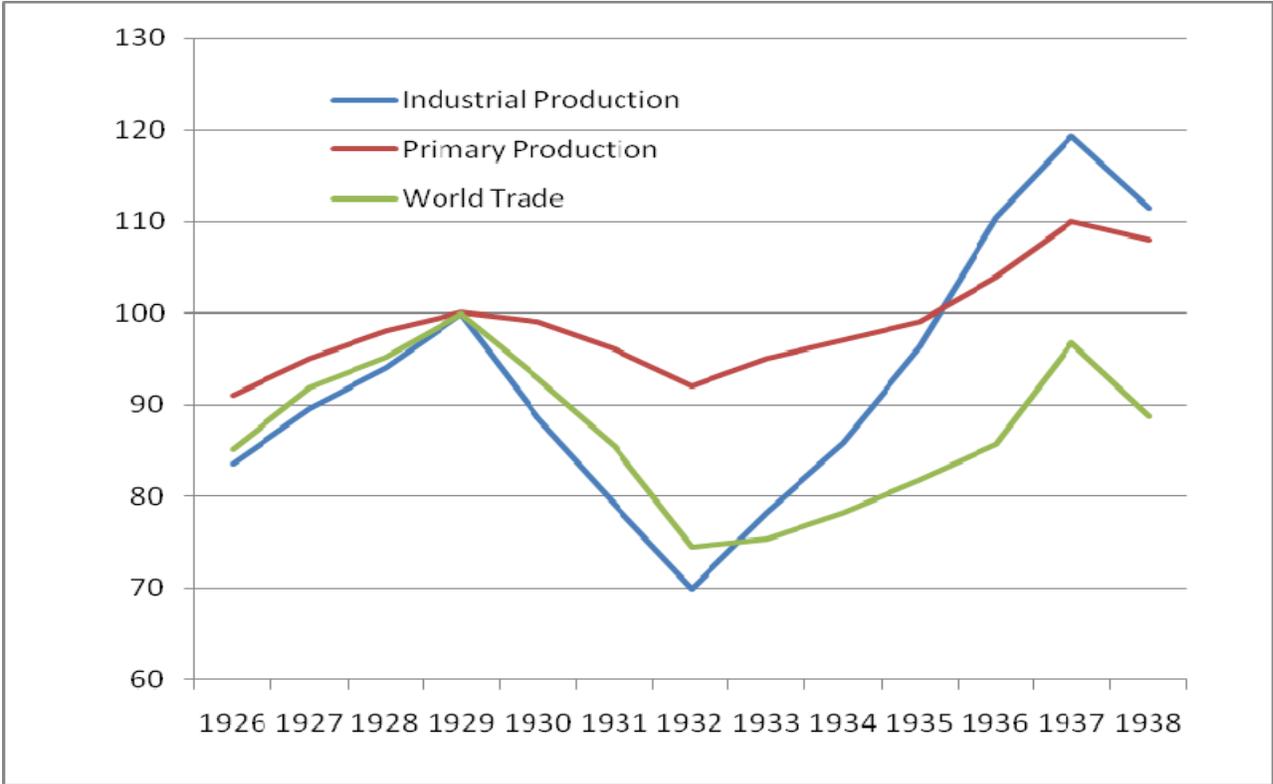
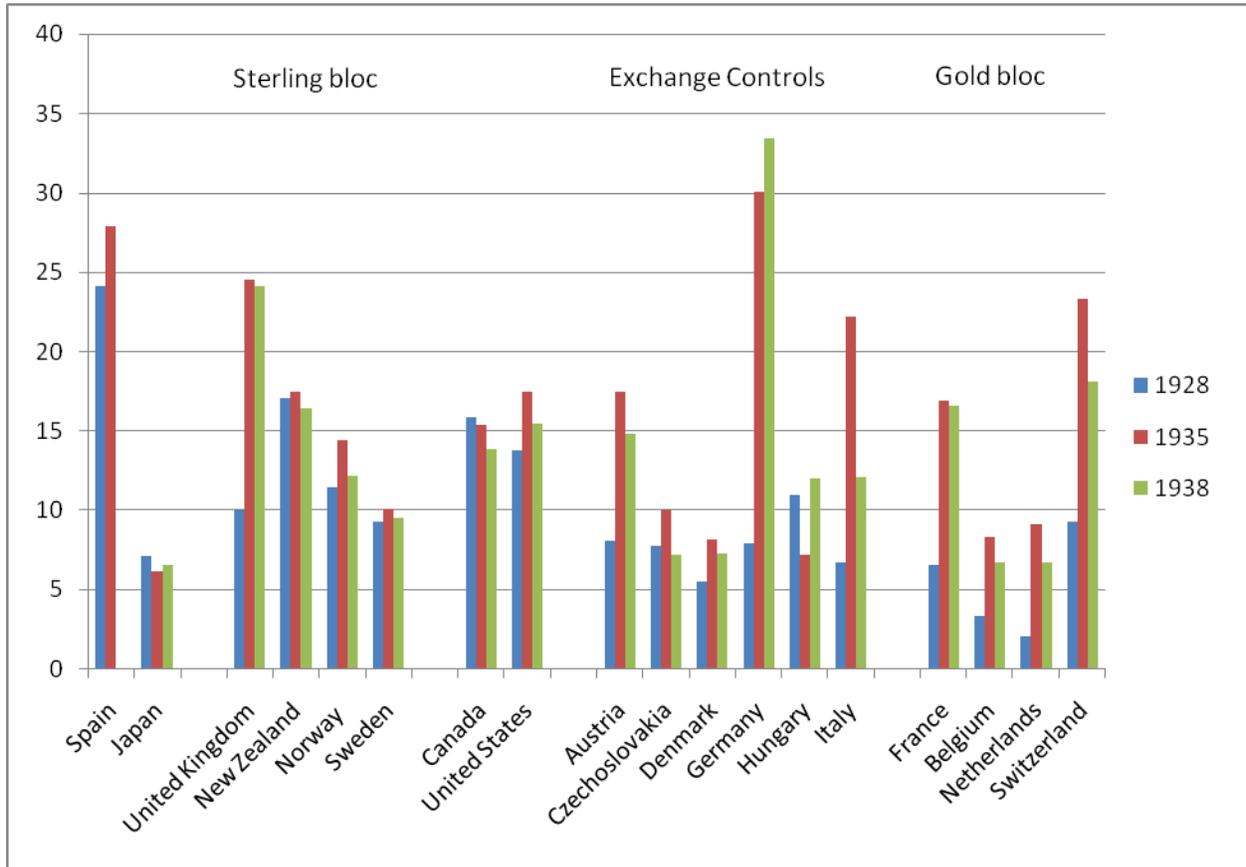


Figure 2: Average Tariff on Imports (percentage), various countries, 1928, 1935, 1938.



Source: see text.

Figure 3: The Share of Imports covered by Import Quotas in 1937

Source: League of Nations (1939b, 189) and Whittlesey (1937).

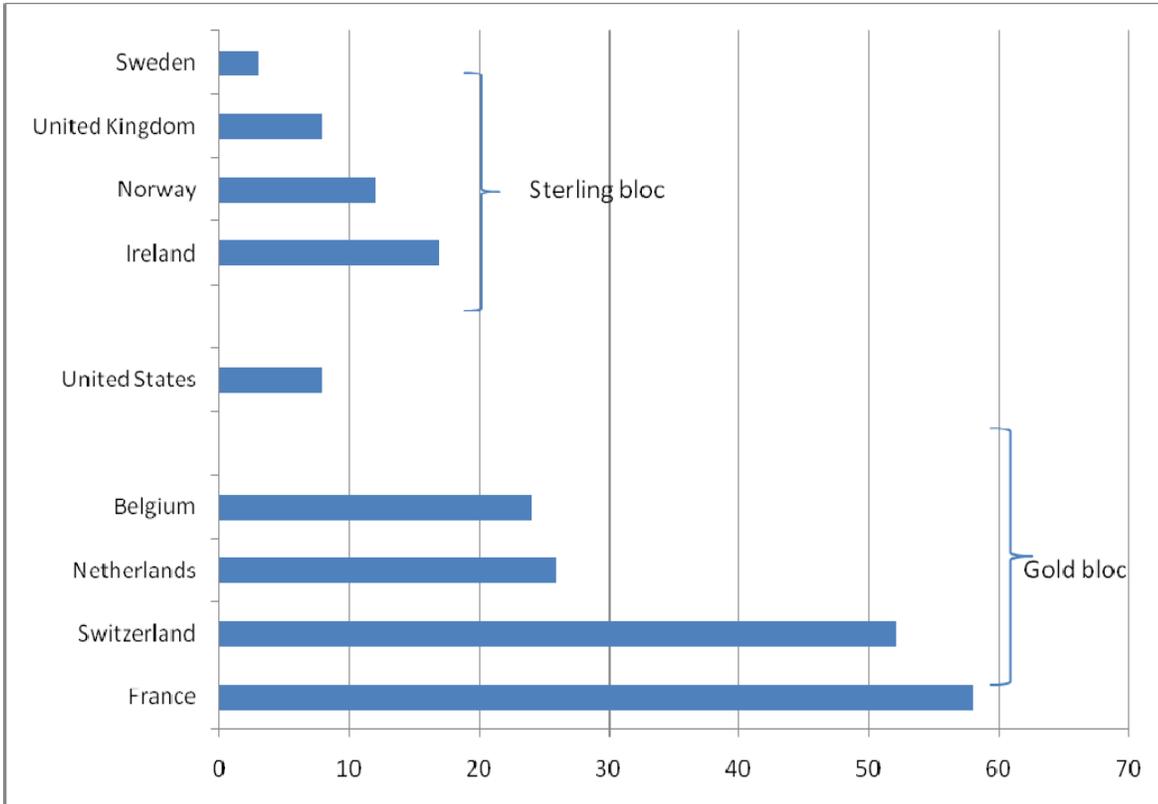


Figure 4: Percent Change in Import Volume, 1928-1935

Source: League of Nations (1939a), Annex II.

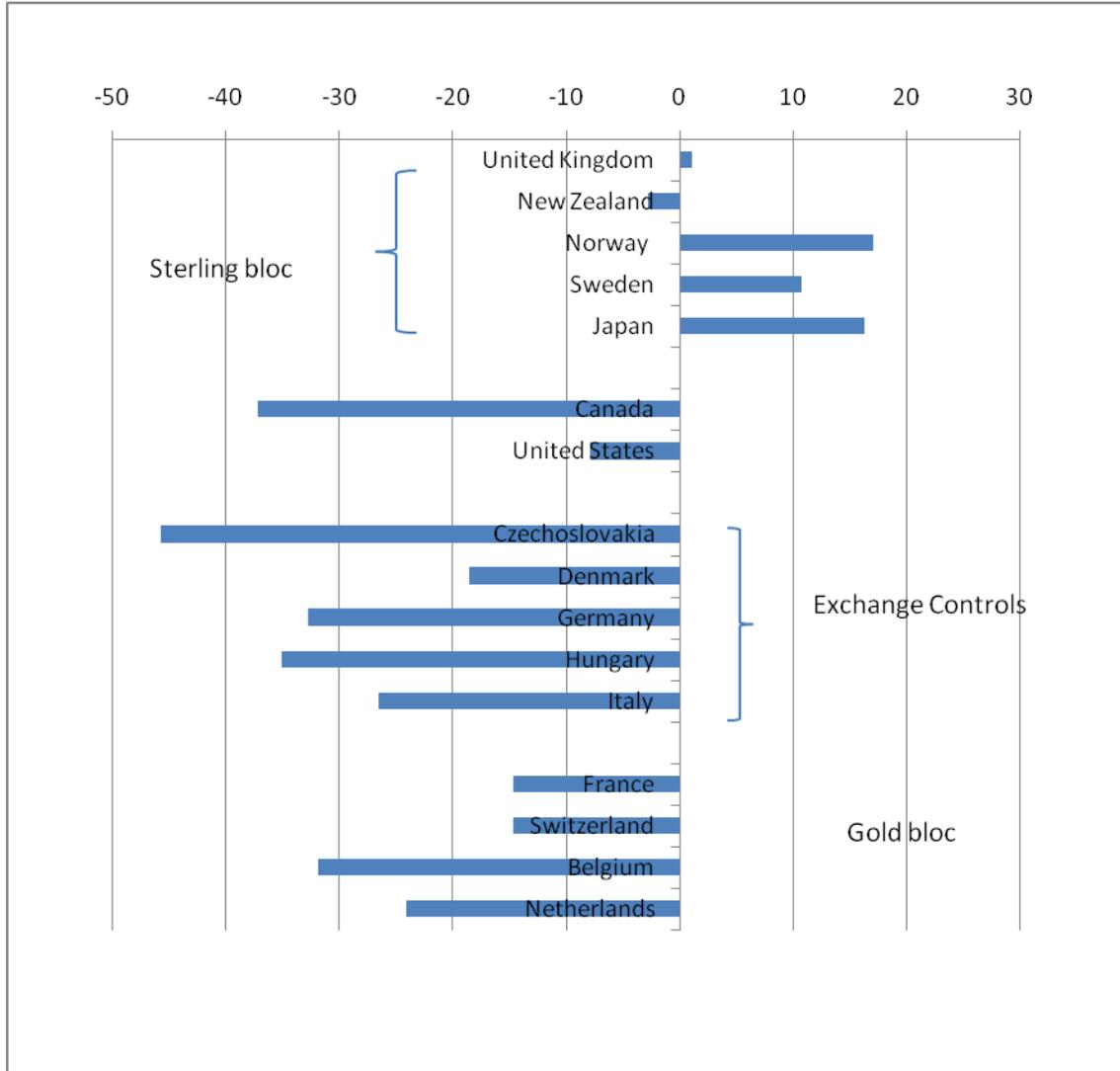


Figure 5: Change in Import Volume and Real GDP, 1929-1935

Note: Regression line excludes exchange control countries (denoted by red border).

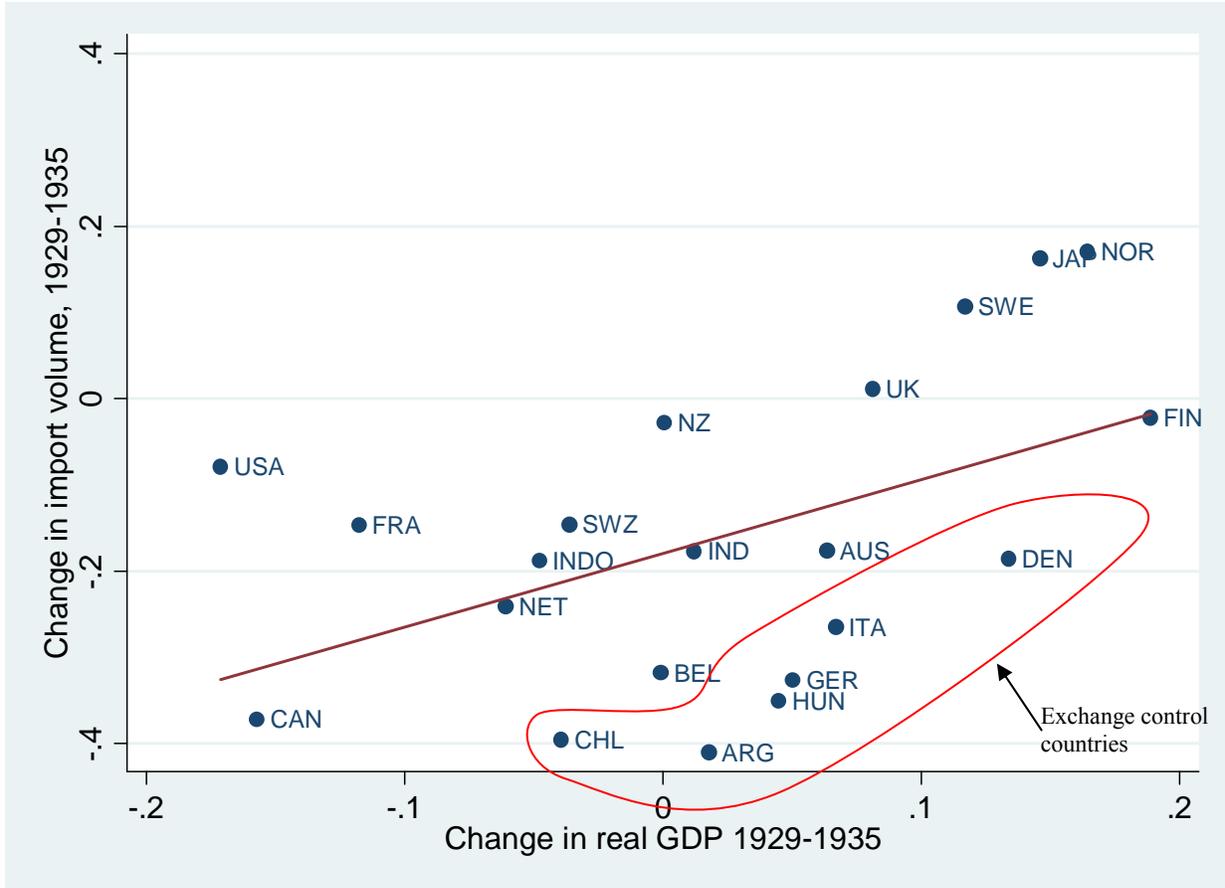


Figure 6: Exchange Rate Depreciation and the Change in Import Tariffs, 1929-1935 (core and full sample)

