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TWO GREAT TRADE COLLAPSES:
THE INTERWAR PERIOD & GREAT RECESSION COMPARED

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Two Great Trade Collapses: The Interwar Period & Great Recession Compared
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ABSTRACT

In this paper, I offer some preliminary comparisons between the trade collapses of the Great Depression and Great Recession. The commodity composition of the two trade collapses was quite similar, but the latter collapse was much sharper due to the spread of manufacturing across the globe during the intervening period. The increasing importance of manufacturing also meant that the trade collapse was more geographically balanced in the later episode. Protectionism was much more severe during the 1930s than after 2008, and in the UK case at least helped to skew the direction of trade away from multilateralism and towards Empire. This had dangerous political consequences.

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1. Introduction

Economic historians have always known that globalization is neither new nor irreversible: the world economy has seen many waves of integration and disintegration over the centuries. When globalization goes into reverse, this is typically not because technologies are unlearned, although there are surely exceptions to this, as there are to any rule. Rather, all that new technologies can do is to define the limits of what is feasible. How close societies actually get to the technological frontier depends on politics. When globalization unravels, this is typically because some perturbation to the system has disturbed either existing domestic political equilibria favoring openness, or the geopolitical system as a whole. These perturbations can be long drawn out affairs – shifts in comparative advantage, creating winners and losers, or growth differentials across nations, upsetting the international balance of power – or they can be short and sharp, as in the case of financial crises.

Southeast Asia is a particularly good location in which to reflect upon the ebbs and flows of globalization over the course of the centuries. There have been two traditional trade routes between East and West Eurasia.¹ The first went overland, from China, through the Takla Makan desert to Transoxiana, and from there onto either Europe in the West, or India in the south. And the second went by sea, in three stages: from China to Southeast Asia, from Southeast Asia to India, and from India to Arabia. Chinese goods might be transshipped across the Isthmus of Kra, or shipped through the Straits of Malacca or the Sunda Strait. As a general rule,

¹ For a lengthy discussion of these, see Findlay and O'Rourke (2007).

trade by sea was cheaper and faster than overland trade, although the land route flourished when geopolitical stability made it possible to travel safely across Central Asia, notably during the *pax Mongolica* of the 13th and 14th centuries. An indication of the scale of the trade flows comes from the famous Belitung shipwreck dating from around 830 (Flecker, 2001). This contained large quantities of Chinese ceramics and other trade goods (about 60,000 items in all) with designs indicating that many of these had been produced specifically for the Middle Eastern market.

In a series of important publications (e.g. Reid, 1988 and 1993), Anthony Reid has written about Southeast Asia's "Age of Commerce", stretching from some time in the early 15th century to the middle of the 17th. Southeast Asian trade was given a major boost by the Ming voyages of discovery, which took place between 1405 and 1433 under the naval leadership of Zheng He. These led to a dramatic increase in Chinese imports of goods such as pepper and sandalwood, sufficient to have left a trace in the European price record. As imports into the most important market of the period, China, soared, the residual supply of spices available to the peripheral European market fell sharply, leading to a sharp spike in prices (Figure 1).

Figure 1. English and Flemish real pepper prices, 1400 – 1500

Although the Ming voyages ceased, Southeast Asian trade continued to expand for two centuries, in part due to the arrival of new traders, particularly from Europe and Japan, and in part due to the upturn in global trade fuelled largely by American silver. Thereafter, Southeast Asian trade went into sharp decline. While there were several reasons for this, an important one was the establishment by the

Dutch East India Company, the VOC, of an effective hegemony in much of the region. They were able to monopolize not just the trade in cloves, but the production as well, with an immediate and striking impact on both the volume of exports, which stagnated, and the export price, which collapsed (Figure 2). The Euro-Asian price gap for cloves soared (Figure 3): despite the global reach of the great European trading companies, in some cases they led to a dramatic disintegration of markets, as measured by the gap between consumer and producer prices, with extremely negative consequences for Southeast Asia. Globalization has not been unidirectional, in this region or anywhere else in the world.

Figure 2. Southeast Asian clove exports and prices, 1500 – 1789

Figure 3. Clove price gaps, Amsterdam-Southeast Asia, 1580s-1880s

Since 2008, journalists, politicians, and in some cases economists who should have known better, have woken up to the possibility that our own era's globalization might also some day go into reverse. In a historical perspective, this would not be so surprising – we have lived through an admittedly short, but very sharp global economic crisis (which has not been particularly short on the periphery of the Eurozone), superimposed upon a long run shift in comparative advantage that has placed traditional manufacturing communities in the rich countries of the world under considerable pressure. The political disasters of 2016 suggest that we should take the risk seriously, although it is important to point out that, to date, there has

not been a major reversal of trade policy, despite the increasing number of government interventions documented by Simon Evenett and colleagues.²

A comparison that is frequently made is with the 1930s, a canonical era of deglobalization, although the interwar period is usually used primarily as a bogeyman, rather than analyzed in any detail. In this paper, I want to offer some preliminary comparisons between the trade collapses of the Great Depression and Great Recession. What is similar between the two episodes, and what are the major differences? Why was the later trade collapse so much sharper, and why was the subsequent recovery more impressive? Why did the earlier episode lead to so much more protectionism, and what was the impact of higher barriers to trade? And what were the long run political implications of the 1930s collapse in trade?

2. Two great trade collapses: some basic facts and compositional issues

Panel A of Figure 4 plots indices of the volume of world trade during and after the Great Depression of 1929 to 1933, and the Great Recession of 2008-9. Both series are plotted relative to their values in the month when world industrial output hit its pre-crisis peak: June 1929, and April 2008, respectively. As can be seen, the trade collapse in the latter episode was much sharper than in the former. One year into the Great Recession, in April 2009, the volume of world trade was 18% below its pre-crisis level, whereas world trade was "only" 8% lower in June 1930 than it had been a year earlier. This was both striking and alarming, but also puzzling, given that a year into the two crises, world industrial output had declined by very similar amounts

² See <http://www.globaltradealert.org> See also Bown (2016).

(Figure 4, Panel B). Trying to explain this apparently greater elasticity of trade with respect to output became a major focus of subsequent applied research, although explicit comparisons were only rarely made between the Great Recession and the earlier episode.³

Figure 4. Two great trade collapses and industrial depressions

Appealing to the emergence in recent decades of global value chains does not, on its own, resolve the issue. If gross trade flows are higher relative to net flows today than they were 80 years ago, this can explain a bigger absolute trade collapse, but it cannot on its own explain a bigger percentage trade collapse, since the gross flows enter into both the numerator and the denominator of this figure. However, if imports of some categories of goods fall more than others during sharp recessions, and if the categories that are particularly badly affected disproportionately involve value chains, then you can indeed expect to see a large percentage decline in trade (O'Rourke, 2009). It is not the value chains in themselves, but their interaction with compositional effects, that can help to explain the very high elasticity of trade with respect to output and income that was seen after 2008.

There has been a great deal of work exploring the composition of the Great Recession's trade collapse (e.g. Levchenko et al., 2010; Bricongne et al., 2012 ; Gopinath et al., 2012). If those categories of expenditure that fall the most during economic crises (investment and expenditure on consumer durables) are particularly

³ Exceptions include Eichengreen and O'Rourke (2009), Almunia et al. (2010), and Eaton et al. (2011).

import-intensive, this can obviously help to explain the very sharp downturn in trade. It turns out that these asymmetric falls in expenditure are very important in explaining the 2008-9 trade collapse, although the existence not only of vertical supply chains, but of inter industry linkages, complicates the analysis (Bems et al., 2010, 2011, 2013; Bussière et al., 2013; Eaton et al., 2016).

But this still doesn't explain why the elasticity of trade with respect to output was so much greater during the Great Recession than during the Great Depression. After all, expenditure on capital equipment and consumer durables falls particularly sharply during all economic crises. Were these expenditures less import-intensive during the 1930s than today? If so, it should be the case that the commodity composition of the two trade collapses differed greatly. Indeed, given that we are talking about two economic episodes separated by eight decades, it might seem strange if that were not the case.

What was the composition of the trade collapse during 2008-9? In a particularly detailed study, Levchenko et al. (2010) divide US trade flows into 10 categories, depending on sector and end-use, and distinguishing between durable and non-durable goods. These are: foods, feeds, and beverages; industrial supplies and materials (both durable, and non-durable); petroleum and products; automotive vehicles, engines, and parts; other consumer goods (both durable, and non-durable); other capital goods (aircraft, computers, and other); and other goods. They find that trade in automobiles declined very sharply, on both the export and import side; that trade in industrial supplies was also particularly badly hit; that the value of petroleum imports (there were no exports) fell more than any other category; and that trade fell by much less in the food and consumer goods categories (especially

non-durable consumer goods). More generally, trade in goods fell by a lot more than trade in services, while trade in durable goods fell by a lot more than trade in non-durables.⁴

What about the Great Depression? In on-going work with Alan de Bromhead, Alan Fernihough, and Markus Lampe (de Bromhead et al., 2017a), I explore the commodity composition of the 1929-1931 trade collapse in the United Kingdom. This was roughly comparable to the 2008-9 trade collapse in the United States, in that the UK maintained a generally free trade policy during the period. The collapse in British imports thus reflected collapsing British import demand, just as was true in the US during the later episode. We divide British imports and exports into the same categories as used by Levchenko et al., excluding computers that were not relevant during the earlier period. We then calculated the percentage declines in the value of UK imports and exports for each of these nine categories during 1929-31, and compared these with the corresponding US declines during 2008-9.

We find a striking, positive correlation between the commodity composition of trade in both episodes: on the import side, there were particularly small declines in imports of food and consumer goods, and particularly large declines in imports of industrial supplies and automobiles. Exports of industrial supplies were particularly badly hit in both episodes, while exports of consumer non-durables declined by a comparatively small amount. The similarity between the two episodes is impressive, especially for imports, and especially given that we are comparing the trade experiences of two different countries separated by more than eight decades. While

⁴ See also Bricongne et al., 2012 and Gopinath et al., 2012.

it is too soon to generalize from such results, it seems as though similar expenditure and compositional effects may have been at work during both episodes.

If the underlying economic forces during the two trade collapses were similar, what explains the higher elasticity of trade with respect to output during the later episode? The most plausible explanation rests on the changing structure of international trade more generally, which in turn reflects changing patterns of comparative advantage and growth. It is to these that I now turn.

3. The changing structure of international trade

The most obvious difference between the global economies of 1929 and 2008 is the way in which modern manufacturing has spread across the globe in recent decades. This process began in the late 19th century in Latin America and East Asia, but in Southeast Asia only began in earnest in the 1960s, despite a precocious start in the Philippines (O'Rourke and Williamson, eds., 2017). Manufacturing's share of GDP was well under 10% in Malaysia as late as 1960, and was only a little higher in Indonesia. By the end of the century, rapid industrial growth had led to these shares peaking at around 30% in those two countries, and at 35% in Thailand (Bassino and Williamson, 2017).

Southeast Asia's delayed industrial start was largely due to patterns of comparative advantage: resource- and land-rich, and labor scarce, unskilled wages were high there relative to in India or China, while colonial educational policies meant that skilled labor was relatively scarce as well. Over time, population growth lowered relative wages in the region, while independent governments invested in

education. ISI spurred some industrial growth, but small markets meant that it was less effective than elsewhere in the periphery. Trade liberalization and FDI would eventually play crucial roles in spurring further manufacturing and aggregate growth in the region (*ibid.*).

As a result of developments like this all around the developing world, the international division of labor that had developed in the 19th century, and still applied in the 1930s, gradually started to unravel. Despite the early industrial growth in China, Japan, and elsewhere mentioned earlier, it still made sense in 1950 to think of the world economy as being divided into an industrialized North and a non-industrialized South. In 1937, primary products accounted for 96% of merchandise exports in Africa and Australasia, and 98% in Latin America (Yates, 1959, pp. 227-30). As late as 1953 “developed economies” (excluding Japan) accounted for 90.6% of world manufacturing output, slightly more than in 1913 (Bairoch, 1982, p. 304), and for over 90% of the world’s manufactured exports (Yates 1959, p. 228).⁵ As late as the mid-1960s, manufactures accounted for less than 10% of Southern exports to the industrialized economies: North-South trade still largely consisted of an exchange of Northern manufactures for Southern primary products.

All of this has changed beyond recognition. Thanks to industrialization in Asia and elsewhere, a substantial majority of Southern exports to the North now consist of manufactured goods. And as the world as a whole has industrialized and become richer, a much greater share of world trade in general now involves manufactured goods. In 1929, manufactures accounted for 44% of global merchandise trade; by 2007, this figure had increased to 70% (Almunia et al., 2010, p. 228). This matters for

⁵ The latter calculation excludes Soviet bloc countries.

the volatility of international trade, for the simple reason that manufacturing output and trade is more volatile than primary production and primary products trade. Between 1929 and 1932, world manufacturing output fell by 30%, while agricultural primary production remained constant; world manufacturing trade fell by over 40% between 1929 and 1933, while non-manufacturing trade fell by less than 7% (Figure 5). Similarly, world manufacturing output fell by 10% between 2008 and 2009, while agricultural output actually rose; world manufacturing trade fell by 15% between 2008 and 2009, as compared with declines of just 2% and 5% for agricultural products and fuels and minerals, respectively (Figure 6).

Figure 5. World output and trade during the Great Depression

Figure 6. World output and trade during the Great Recession

Clearly, the fact that the world economy is now more heavily concentrated in volatile manufacturing can help to explain why trade fell more sharply during the Great Recession than in the first year of the Great Depression. Indeed, when the focus is limited to manufacturing trade alone, the declines experienced during 1929-30 and 2008-9 were identical (15% in both cases: Figure 7, Panel A). The difference is that manufacturing trade was a minority of total trade in the earlier episode, and a majority in the later one. Panel B of Figure 7 takes the sectoral trade indices in Figure 5, Panel B, and calculates two weighted averages of these. The first, which is the series labeled "Great Depression", uses 1929 weights for manufacturing and non-manufacturing (44% and 56% respectively), and yields a one-year decline in trade

between 1929 and 1930 of 6%, close to the 7.5% decline actually experienced during the Great Depression. The second, labeled “Great Depression with Great Recession weights”, uses 2007 weights (70% and 30%), and produces a one-year decline of 10%, not so far from the 12% decline experienced during the Great Recession. It seems as though compositional effects can plausibly explain why trade fell so much more violently during the Great Recession than it had done during the first year of the Great Depression, and they may have also played some role in the relatively rapid recovery of trade from 2009 onwards.

Figure 7. The changing composition of world trade 1929-2007 and the Great Trade Collapse

4. Regional impacts

The spread of manufacturing across the world also had implications for the regional composition of the Great Trade Collapse of 2008-9, as compared with the trade collapse of the interwar period. The volume of exports fell in an almost identical manner in both advanced and emerging economies after 2008, although this average trend for the emerging economies disguises some regional variation, with exports from Africa and the Middle East, and especially Latin America, falling less than elsewhere (Figure 8). In sharp contrast, while the volume of exports from Europe, including the USSR, fell by 31.5% between 1929 and 1932, and while they fell by 41.5% from North America during the same period, they fell by only 4.5% from the rest of the world. On the other hand, the *value* of exports from the various

regions of the world fell by quite similar amounts over the same period (Findlay and O'Rourke 2007, p. 450).

Figure 8. Regional export volumes during and after the Great Recession

The contrast between these interwar value and volume figures reflects the catastrophic deterioration in the developing world's terms of trade during the Great Depression. Its output may not have declined to any great extent, but falling export prices led to a depression in the developing world anyway. To take just two examples: between 1929 and 1931, the gold price of rubber fell by an astonishing 84% in Malaysia, while the price of tea fell by 62% (Findlay and O'Rourke 2007, p. 449).

This terms of trade collapse across the developing world had a variety of political implications. In Latin America, declining export earnings made it increasingly difficult to service countries' international debt obligations, and Eichengreen and Portes (1986) find that the size of the terms of trade shock experienced by individual countries helps to predict whether or not they defaulted on those debts. Elsewhere, plantation economies suffered greatly, despite the efforts of colonial governments to protect plantation owners. Anthony Reid (2015, p. 320) considers this to have been the beginning of a necessary and healthy rebalancing of Southeast Asian economies, away from an artificial dependence on cash crop exports, organized by the colonizers, towards a more natural situation in which Asian peasants and manufacturers, and intra-Asian trade flows, played a greater role.

In some countries, however, it was the peasants themselves who produced the cash crops for export whose prices were now plummeting, and there the political consequences of falling commodity prices were often severe – especially when colonial administrators insisted on continuing payment of taxes, particularly poll taxes. In Burma, a widespread peasant revolt broke out in December 1930, and was only suppressed after two years of fighting, while Vietnam also saw a peasant revolt at the same time. In Africa, there was political unrest in Nigeria, rioting in Togo, and outright rebellion in the Belgian Congo. In this way, the terms of trade shock associated with the 1930s trade collapse helped to pave the way for post-1945 nationalist movements that would eventually sweep away the European empires that still dominated vast areas of the world in the 1930s.

The newly independent countries that would emerge as a result of decolonization in most cases pursued import substitution policies, at least initially. The interwar period helped to promote post-war protectionism in this and many other ways. And where countries had, in the 1930s, the political independence required in order to make their own choices about trade policy, they typically used that independence to erect a variety of trade barriers. It is to the rise of interwar protection that I now turn.

5. Interwar trade policy: causes

Figure 9 compares the evolution of tariffs during the Great Depression and Great Recession. In the former case, the series is the unweighted average of the average tariff rate in 32 countries, provided by Clemens and Williamson (2004). The

individual country series are constructed by dividing import duties by the value of imports, and are thus trade-weighted average tariffs. In the latter case, the series are the figures provided by the World Bank's World Development Indicators, for the world as a whole, of the simple mean of the applied tariff rates within given product categories. Since the interwar data are based on weighted average tariffs, while the Great Recession data are based on unweighted averages, the series are not strictly comparable. Given that weighted average tariffs tend to be downward biased (since goods with higher tariffs are accorded lower weights) the comparison probably understates the relative height of average tariffs during the earlier episode (Anderson and Neary, 2005).

Figure 9. Average tariffs worldwide during and after the Great Depression and Great Recession

As can be seen, there was no general increase in tariffs following the Great Trade Collapse of 2008-9. Average tariffs if anything fell slightly, remaining within a band of between 6 and 7%. In sharp contrast, interwar average tariffs rose from 14.5% in 1928 to over 22.5% in 1932. This greatly understates the increase in interwar protection, since tariffs were far from being the only protectionist policy device used during the period – and they were certainly not the most restrictive. The 1930s saw the widespread introduction of quotas and other quantitative restrictions on trade, including the widespread adoption of exchange controls. Multiple exchange rates were also used in many cases, biased against imports. Even the United Kingdom, the traditional champion of free trade, switched towards a

protectionist policy in late 1931, following a strong showing by the Conservative party in the general election which took place in October of that year.⁶ Despite the increase in protectionist interventions since 2008 documented by Global Trade Alert, the recent crisis has clearly seen nothing even remotely comparable to the worldwide increase in protection of the 1930s.

Why were the two experiences so different? Effective post-war international institutions, preventing backsliding on previous agreements to liberalize trade, are surely an important part of the explanation. However, it should be remembered that the interwar period also had an international institution, the League of Nations, which attempted to liberalize trade during the period. The fact that this institution proved ineffective was surely in large part endogenous to other political forces operating both within countries and between them. Economic historians have tended to emphasize the deeper causes of the failure of interwar economic cooperation in general, and the failure to prevent the wholesale erection of tariff barriers in particular. To some extent, these deeper causes had to do with the underlying sources of political tension during the period, mostly related to the aftermath of World War I. But they also had to do with flawed macroeconomic policies and institutions.

No serious economic historian believes that interwar protection caused the Great Depression, but the two phenomena were linked in the sense that they shared, to a large extent, a common cause, namely the gold standard (Temin, 1989; Eichengreen, 1992). In combination with the open international capital markets of

⁶ The Conservatives were the traditional protectionist party in Britain: to that extent, today's Tory Brexiteers are merely reverting to type.

the 1920s, the gold standard implied that negative monetary shocks were rapidly generalized, as in the case of the infamous 1928 decision to raise interest rates in the United States. Worse, when countries as a result found themselves in recession, they had no macroeconomic policy instruments with which to respond. Staying on gold ruled out activist monetary policy, while countries did not feel able to use activist fiscal policy either. Indeed, their commitment to fiscal discipline meant that in many cases they engaged in pro-cyclical austerity, in an effort to keep budget deficits under control. And in many cases, to be fair, it seemed as though they had little alternative, as new lending dried up on international capital markets. It was only once countries had shaken off the "golden fetters" of the gold standard, and regained macroeconomic policy-making independence, that they started to recover – the United Kingdom in 1931, the United States and Germany in 1933, and the last holdouts in the so-called Gold Bloc as late as 1935 or even 1936.

As Eichengreen and Irwin (2010) argue, the gold standard also played a key role in promoting the protectionism of the interwar period. In part, this was simply because anything that prolonged the depression necessarily heightened demands for protection from import competition. And in part, the gold standard mattered for protection because when governments were unable to combat the depression with either fiscal or monetary policy, they inevitably turned, eventually, to those policy instruments that were at their disposal, notably tariffs, quotas, and in many cases, exchange controls.

But the gold standard also mattered for protection because of the way in which it was dismantled. As Eichengreen and Irwin point out, the first best solution would have been for all currencies to devalue against gold simultaneously. This is not

what happened – instead, some devalued earlier than others, in the process stealing a competitive march on their rivals. Countries remaining on gold found themselves with overvalued currencies, and the resulting balance of payments difficulties that they faced, exacerbated by the fact that international borrowing was no longer possible, led them to protect their domestic markets. As contemporary commentators pointed out, resort to protection was greatest in those countries staying on gold the longest: an irony, given that adherence to gold was supposed to signal a commitment to a rules-based international economic order. And it was often when countries finally decided to abandon gold that they started to pursue trade liberalization. Thus, the United States left gold in 1933, and the following year enacted the Reciprocal Trade Agreements Act, which Douglas Irwin (1998a) considers to be the moment when the US pivoted towards its post-war role as defender-in-chief of the multilateral international trading system.

Seen from this perspective, the big difference between the trade collapses of the Great Recession and Great Depression was the macroeconomic responses to the two crises. By 2009, central banks and governments around the world were engaging in monetary, and in some cases, fiscal, stimulus. While many commentators have since then decried the lack of ambition shown by governments when it came to fiscal stimulus, there can be no doubt that the macroeconomic response to the Great Recession was incomparably superior to the policies pursued during the 1930s. This obviously explains why the Great Trade Collapse of 2008-9 was so short lived in comparison with the trade collapse of 1929-33, but it also explains why there was so much less protection during the later crisis than was experienced during the earlier one.

6. Interwar trade policy: consequences

What was the impact of interwar protectionism? If it was effective, then it should have disintegrated international commodity markets, driving wedges between producer prices in exporting countries and consumer prices in importing countries. Economic historians have spent considerable energy trying to document the evolution of these international price gaps in previous periods, as a way of gauging long-run trends in globalization. Comparatively little work has been done exploring the impact of interwar protection on global markets (and I am unaware of any work attempting to do the same for the period since the Great Recession, perhaps because there is no reason to believe that international commodity markets have in fact become less well integrated). However, what work has been done for the interwar period suggests that protection did impede international commodity market integration.

When using prices in order to accurately measure trends in commodity market integration, or disintegration, it is important to compare like with like. Hynes et al. (2012) therefore use price data extracted from the *International Yearbook of Agricultural Statistics*, published annually by the International Institute of Agriculture, the forerunner of the FAO. The yearbooks contained 374 weekly price series for a great variety of commodities and locations. From these price series, we were able to extract 27 pairs giving price quotations for identical commodities in two different cities – for example, "Danish, creamery for export" butter quoted in both

Copenhagen and London, or "No. 2 winter, American" wheat quoted in both Chicago and Liverpool.

Armed with these pairs of price series, we were able to calculate commodity and city-pair specific price gaps, annually. We did so in two ways. First, we estimated threshold auto-regressions (TARs), annually, allowing us to calculate the trade costs (as a percentage of destination prices) above which price gaps have to rise before arbitrage takes place. Second, we averaged the weekly prices to get annual averages, and directly calculated the resulting percentage price gaps. Both methods tell a consistent story. International price gaps had increased sharply during World War I, but fell thereafter as the international economy gradually returned to normal. On average, for those commodities for which city-pair price data were available for 1913, the TAR methodology indicated that trade costs were 60% higher in 1922 than they had been before the war. By 1929, they were only 42% higher, but in 1933 they were 159% higher. As late as 1938, markets were still much less well integrated than they had been in 1929: average trade costs were 168% higher than they had been in 1913. These findings are consistent with the increase in average trade costs between 1929 and 1933 estimated by Jacks et al. (2011), who follow Head and Ries (2001) and use gravity techniques and data on bilateral aggregate trade flows.

These higher percentage trade costs were more the result of changes in the numerator (trade costs) than in the denominator (prices). Higher freight rates were not to blame, since, *contra* Estevadeordal et al. (2003), they fell in real terms between 1925-29 and 1930-34. Trade policy seems like a much more plausible candidate: comparisons between price gaps involving the UK and countries inside the Empire such as Canada (which faced no agricultural tariffs when exporting to the

UK) and countries outside, such as Argentina, which did face agricultural tariffs when exporting to Britain, clearly indicate that trade policy was an important factor driving higher trade costs during this period. However, there is also anecdotal evidence suggesting that scarce credit and uncertainty may have been increasing trade costs during the period, even between countries such as Canada and the UK.

It seems as though commodity markets disintegrated during the 1930s. What were the implications of interwar protectionism for trade flows? The current consensus is probably that, while protectionism depressed trade flows overall, its impact was minor relative to the enormous collapse of output and incomes experienced during the period.⁷ In an early contribution, Irwin (1988b) used partial equilibrium techniques (and econometrically estimated elasticities), and found that even in the absence of any change in tariff rates (but accounting for the income declines of the period), US imports would have declined by 31.9% between 1930:II and 1932:III, as compared with the 41.2% reduction that actually took place. Even in the absence of the Smoot-Hawley revisions to tariff schedules (but accounting for the impact of income declines and deflation), US imports would have fallen by 38.3% over the period, or by almost as much as actually occurred. The finding is therefore that trade declines were primarily due to falling income, with deflation also playing an important role (by raising the ad valorem equivalent of specific tariffs), and Smoot-Hawley being a relatively unimportant player in the process.⁸

⁷ Madsen (2001) is an exception.

⁸ Estevadeordal, Frantz and Taylor (2003) estimate a gravity trade model using pooled data for 1913, 1928 and 1938. They find large negative coefficients on average tariffs, although these are often statistically insignificant at conventional levels. They also find that world trade could have been about 50% higher in the

Perhaps it is not so surprising that protection has emerged in the cliometric literature as a relatively minor contributor to the world trade collapse of 1929-33 – world income and output fell by so much during this period that it can plausibly account for the majority of declining trade, leaving relatively little for rising trade barriers to explain. But the quantitative literature has also tended to downplay the impact of trade policy on a second striking feature of world trade during this period – its decreasingly multilateral nature.

Folke Hilgert wrote particularly frequently on the subject. As early as 1935, he noted that the traditional multilateral payments system, which had been established in the nineteenth century, had broken down (Hilgerdt, 1935). Rapidly industrializing economies in Continental Europe and the United States traditionally paid for their increasing imports of food and raw materials by running an export surplus in manufacturing goods vis-à-vis the UK. The UK, in its turn, financed this manufacturing deficit in large part with the income it made on its enormous overseas investments, but also by means of a manufacturing export surplus to its colonial empire. Debtor countries financed their debts by exporting primary products, both to Britain itself, and to Continental Europe and North America.

All this changed dramatically during the 1930s: “We may characterize the change that occurred as a disintegration of world trade: while previously international settlement took place within a world-wide network of multilateral

1930s than it actually was if world tariffs had stayed at their 1913 levels. However, their counterfactual does not address the issue of what the impact was of the increase in protection after 1929 on world trade between 1929 and 1932. Similarly, Jacks et al. (2011) do not address the issue of what caused the trade collapse of 1929-33, although they find that for the entire 1921-39 period, rising trade costs fully offset the impact of GDP growth on world trade flows.

transactions, there was in the 'thirties a tendency to achieve settlement either in bilateral exchange between two countries, or within the limited range of countries attached to each other by political or other ties" (League of Nations, 1942, pp. 90-1; cited in Eichengreen and Irwin 1995, p. 1). Table 1 gives the League of Nation's data on the share of major countries' exports going to, or imports coming from, their empires or spheres of influence. As can be seen, these shares increased systematically after 1929. The increase occurred during the Depression years in the cases of Britain, France, the United States, and Portugal; it occurred after 1932 in the cases of Germany, Italy, and Japan. The share of Italian exports going to her colonies and Ethiopia rose from 2 to 23% between 1929 and 1938, while the share of German exports going to southeast Europe rose from 5 to 13%, and the share of Japanese exports going to Korea and Taiwan rose from 17 to 33%. There were also large increases in imperial trade shares in both Britain and France.

Table 1. The share of formal and informal empire trade, 1929-1938

In a pioneering paper, Eichengreen and Irwin (1995) downplay the role of trade blocs in creating the trade balkanization of the period. Using the League of Nation's data on bilateral trade, they find that pairs of countries that both belonged to the British Commonwealth traded more heavily with each other in the 1930s. However, they also find that this effect was already present in 1928, before Britain moved to protection, and before the 1932 Ottawa agreements set in place preferential trade policies within the Empire. They conclude that "the tendency toward regionalisation commonly ascribed to the formation of trade and currency

blocs was already evident prior to the regional policy initiatives of the 1930s; to a considerable extent it is attributable to ongoing historical forces such as commercial and financial linkages between countries forged over many years.” Subsequent literature (Wolf and Ritschl 2011, Gowa and Hicks 2013), also using data on aggregate trade, has come to similar conclusions, although Gowa and Hicks (2013) find that trade policy may have boosted trade between the UK and her Dominions in a hub and spoke manner (though not between the Dominions).

In a recent paper, co-authored with Alan de Bromhead, Alan Fernihough, and Markus Lampe, I revisit the question of whether trade policy was responsible for the shift towards intra-imperial trade, but adopt an entirely different empirical approach in tackling the issue (de Bromhead et al. 2017b). Rather than exploring the relationship between bilateral aggregate trade flows, on the one hand, and joint membership of an imperial bloc, on the other, we explore in granular detail the changing trade policies pursued by the United Kingdom, and ask whether these can help to explain the increasing share of UK imports coming from the Empire. To this end, we construct a database of UK imports of 258 product categories (commodities), from 42 countries, between 1924 and 1938. We also calculate commodity and country-specific tariff rates, and code a series of dummy variables indicating whether quantitative restrictions of various kinds applied to imports of particular commodities from particular countries in particular years. This allows us to compute elasticities of substitution between varieties of the same good coming from different countries (for example, wheat coming from France and Canada).

We then plug those elasticities into a simple model of the UK economy, and calculate counterfactual import flows, for each commodity and trading partner,

assuming that the shift to protection in 1931 had not taken place (that is, holding the structure of protection fixed at its 1930 level in subsequent years). Having done this, we can calculate counterfactual Imperial shares of UK imports; by comparing these counterfactual shares with the actual shares, we obtain estimates of the impact of protection on the share of the British Empire in the UK's imports.

That impact was large. If trade policy had remained frozen at its 1930 level, the Empire would have accounted for between 30% and 32% of UK imports in 1935, whereas in fact it accounted for 39%. On a conservative estimate, trade policy accounted for 70% of the shift between 1930 and 1933, and 60% of the shift between 1930 and either 1934 or 1935. Discriminatory trade policy may not have been the major factor reducing trade flows during this period, but it had a major impact on the direction of those flows.

A trade theorist, impressed by the extent to which imports from some parts of the world were able to substitute for imports from elsewhere, might conclude that the welfare impact of interwar trade policies was not that great – at least, if it turns out that the results obtained for Britain can be generalized. But that would be to miss the political context of the period, and the real significance of these discriminatory trade policies, and the formation of imperial or quasi-imperial trade blocs. Contemporaries and subsequent historians, looking back at the experience of the interwar period, were in little doubt that the move away from multilateralism was one of the most destructive and dangerous features of the interwar economy. It obviously reflected the growing political tensions of the period, but observers felt that it also contributed to them. Writing in 1941, J.B. Condliffe wrote that "it is now so obvious as to hardly need statement that bilateral trade took on aggressive and

destructive aspects as international rivalries were sharpened in the era of what is now known as pre-belligerency" (Condliffe, 1941, p. 287).

Bilateral trade could be particularly worrying when countries were heavily dependent on imported raw materials, since it inevitably led to concerns in some cases about future access to such items. In 1935, Hilgerdt wrote that "As bilateralism particularly renders the supply of raw materials to certain countries difficult, it threatens to lead to an intensified fight for influence upon (or the domination of) the undeveloped countries, and thereby to political controversies, which may adversely affect all forms of peaceful collaboration between nations" (Hilgerdt, 1935, p. 188). In particular, countries which financed their imports of raw materials from the tropics, or "regions of recent settlement", by exporting manufactured goods to the UK and other rich countries, might find themselves facing "the problem of commercial access to raw materials which overshadowed commercial and political relations during the thirties" (Hilgerdt 1943, p. 404). Efficient specialization required multilateral trade; "Failing this, there will always be a strong incentive for each country to increase the efficiency of its economy by including foreign areas under its domination. To ascertain the functioning of the multilateral trading system is therefore not only an economic task, it is also an object of general policy, as it reduces tensions of the kind that are instrumental in bringing about war" (*ibid*, p. 405).

In a recent paper co-authored with Roberto Bonfatti (Bonfatti and O'Rourke, forthcoming), I develop a model that helps to elucidate the ways in which such tensions might indeed bring about war. We consider a world in which a follower is catching up on an established leader, and in which the follower cannot credibly pre-

commit to not use its greater power in the future. In this type of model, the typical prediction is that the leader may therefore pre-emptively attack the follower, locking in the benefits of its existing strong position before it is too late. However, it was Japan that attacked the United States in 1941, not vice versa. In order to explain this and various other cases, we introduce two new assumptions into the standard model. First, we assume that the follower needs to import increasing amounts of raw materials from the rest of the world, as it undergoes structural change; and second, we assume that the leader, as the established hegemon, may be able to blockade the follower's trade.

The established leader may well be losing out to the catching-up follower in terms of potential military power. However, industrial catching up is a double-edged sword for the follower – while it makes its military apparatus potentially more powerful, rapid growth and structural change also makes it more dependent on imported raw materials. If the leader has the capacity to blockade these imports in case of war, the follower may actually become militarily weaker, rather than stronger, over time. In this case, it may be the follower that launches a pre-emptive war on the leader, and not the other way around. The follower may also decide to attack resource-rich peripheral areas in an attempt to become more self-sufficient, or entirely self-sufficient, in raw materials, even if by doing so it runs the risk that the leader will respond by declaring war on it. World War II obviously had many different causes, but equally obviously a desire to achieve strategic self-sufficiency helps to explain Japan's invasions of Manchuria, China, and Southeast Asia, as well as Germany's invasions of Poland, and, especially, the Soviet Union (Barnhart 1987, Tooze 2006). The breakdown of the multilateral trading system cannot explain Hitler,

or the outbreak of World War II, but it was surely one factor among several making the world a much more dangerous place during the 1930s.

7. A final thought

Let me end where I began, in Southeast Asia, at the heart of the old sea routes linking East and West. One of the most obvious features of Southeast Asian geography is the natural bottlenecks or choke points through which trade has to pass on its way in either direction: in particular the Malacca Straits, but also the Isthmus of Kra and the Sunda Straits. Whatever power was in control of these bottlenecks could potentially earn lucrative rents, based on taxing the trade passing through them. Between the seventh and eleventh centuries, a state known as Srivijaya, based in Palembang in south-eastern Sumatra, established a prosperous and powerful trading empire based on control of the straits. A raid in 1025 by the Chola dynasty of southern India ended Srivijayan hegemony, but the strategic importance of the straits never diminished. A Portuguese apothecary named Tomé Pires stayed in Malacca between 1512 and 1515, shortly after the Portuguese conquered it. In his *Suma Oriental*, written during his stay there, he wrote enthusiastically that "the Lord of Melaka has his hand on the throat of Venice" – since by controlling the straits, Portugal could choke off the supply of Southeast Asian spices going to her Venetian rival. Half a millennium later, the China Youth

Daily wrote that "It is no exaggeration to say that whoever controls the Strait of Malacca will also have a stranglehold on the energy route of China".⁹

If the experience of the 1930s trade collapse is anything to go by, discriminatory protection distorting the pattern of trade can be a very dangerous thing. If the very first article of the GATT prohibited discriminatory trade policies, this was for a good reason. Geography means that we will always live in a world in which some countries are dependent on imported food and raw materials, sometimes uncomfortably so. There will always be strategic vulnerabilities facing some states, and geographical chokepoints to exacerbate these. Despite some protectionist backsliding, the rule of law has generally held since 2008. Maintaining a rules-based, multilateral, international trading system will be crucial going forward, not just on economic grounds, but in order to keep the peace.

⁹ China Youth Daily, June 15, 2004.

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Trade of	Share of	In imports			In exports		
		1929	1932	1938	1929	1932	1938
United Kingdom	British Commonwealth, colonies, protectorates, etc.	30.2	36.4	41.9	44.4	45.4	49.9
United States	Philippines	2.9	6.1	4.8	1.6	2.8	2.8
France	French colonies, protectorates and mandated territories	12	20.9	25.8	18.8	31.5	27.5
Belgium	Belgian Congo	3.9	3.8	8.3	2.6	1.3	1.9
Netherlands	Netherlands overseas territories	5.5	5	8.8	9.4	5.9	10.7
Italy	Italian colonies and Ethiopia	1.5	1.1	1.8	2.1	3.6	23.3
Portugal	Portuguese overseas territories	7.9	10.4	10.2	12.7	13.9	12.2
Japan	<i>Korea and Formosa</i>	12.3	26.2	30	16.8	21.6	32.9
	<i>Kwantung</i>	6	4	1.6	4.8	6.8	13.7
	<i>Manchuria</i>	1.9	2.7	9	2.5	1.5	8.1
	<i>Rest of China</i>	5.8	4	4.4	10.9	7.3	8
	Total Japanese sphere of influence	26	36.9	45	35	37.2	62.7
Germany	<i>Bulgaria, Greece, Hungary, Romania, Turkey, Yugoslavia</i>	4.5	5.5	12	5	3.9	13.2
	<i>Latin America</i>	12.2	11.2	15.6	7.8	4.3	11.5
	Total German sphere of influence	16.7	16.7	27.6	12.8	8.2	24.7

Table 1. The share of formal and informal empire trade, 1929-1938

Source: League of Nations (1939, pp. 34-5).

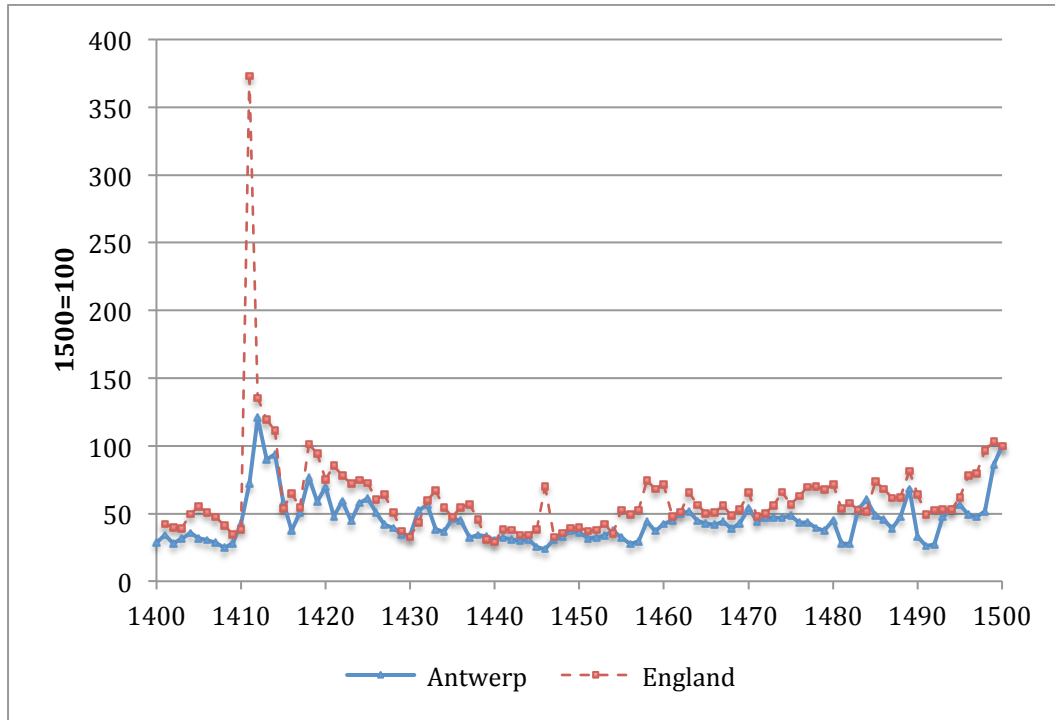


Figure 1. English and Flemish real pepper prices, 1400 – 1500

Source: O'Rourke and Williamson (2009).

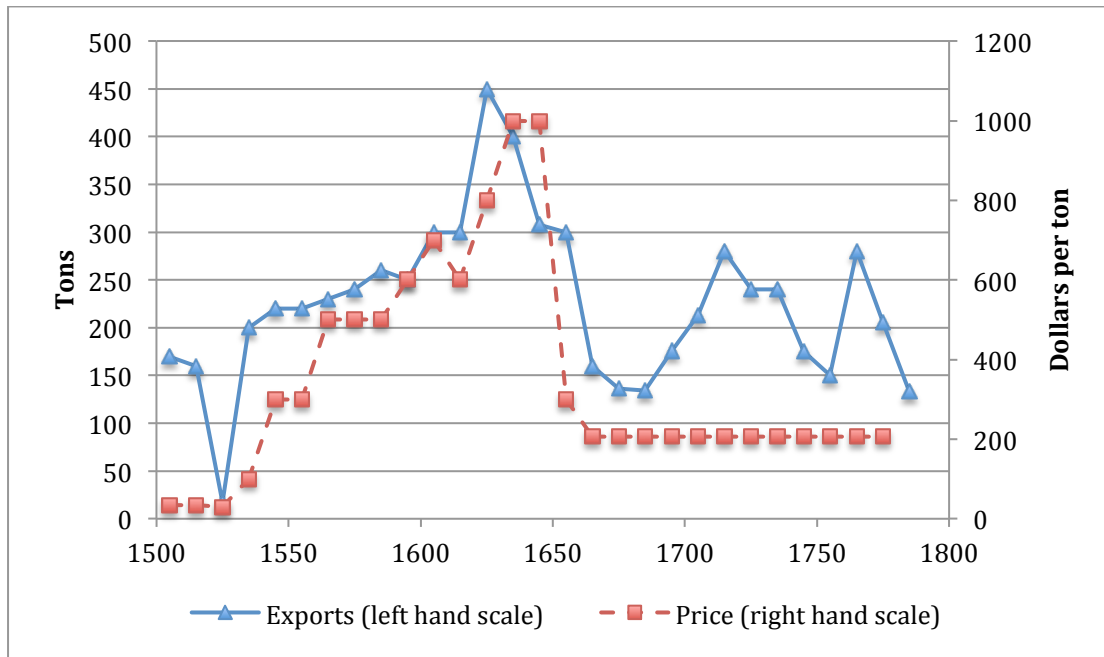


Figure 2. Southeast Asian clove exports and prices, 1500 – 1789

Source: Bulbeck et al. (1998, table 2.15, pp. 58–59).

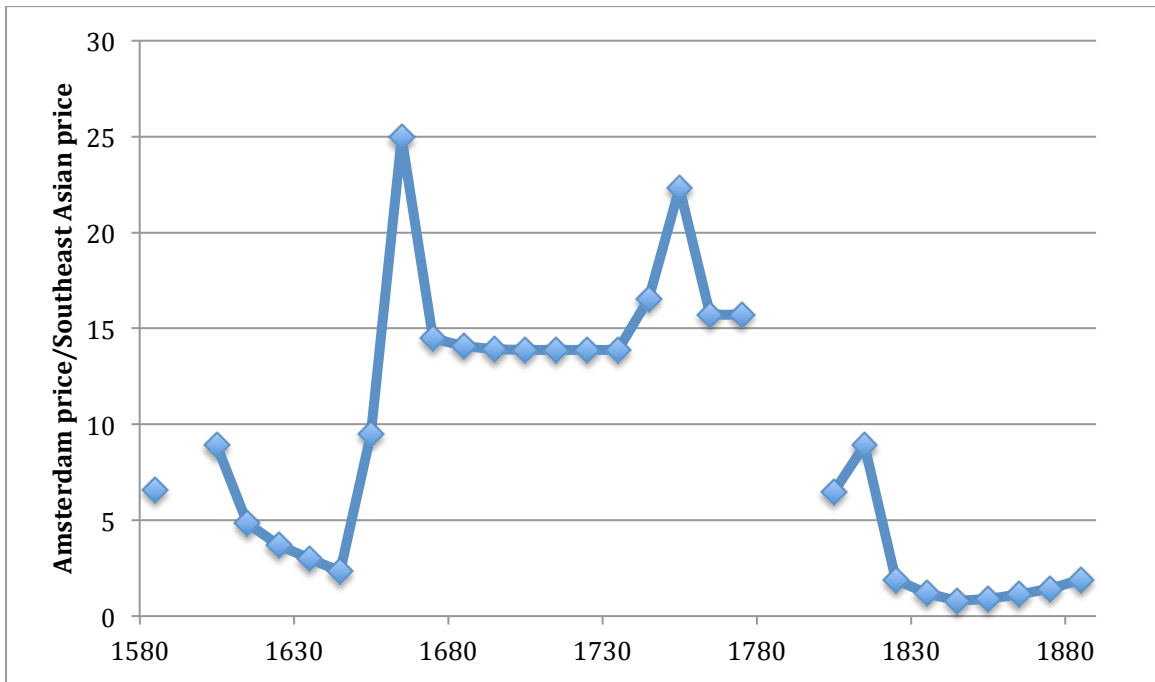
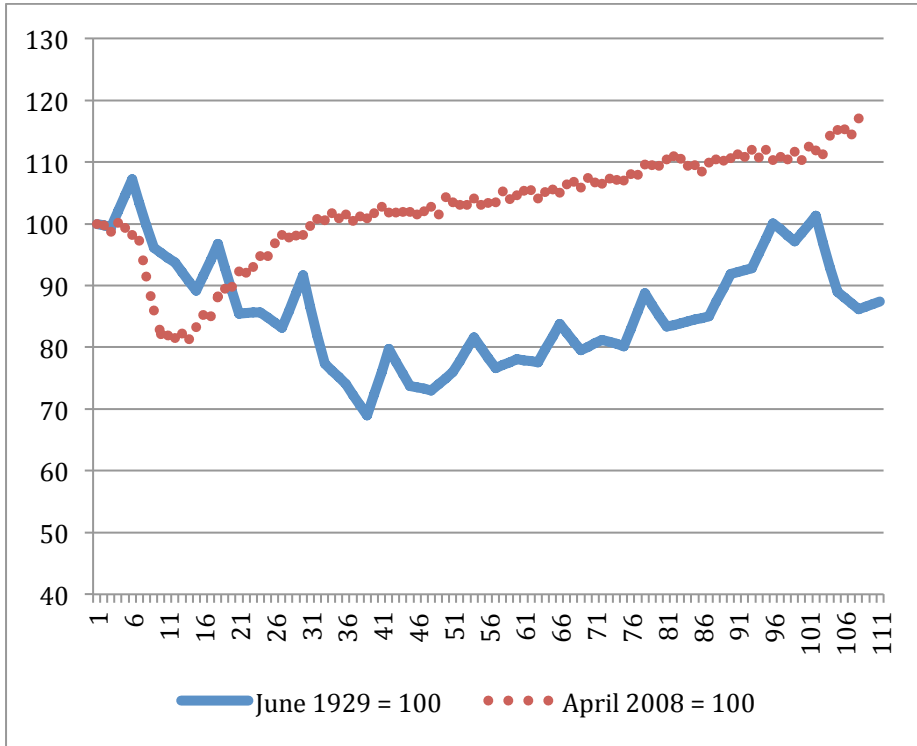
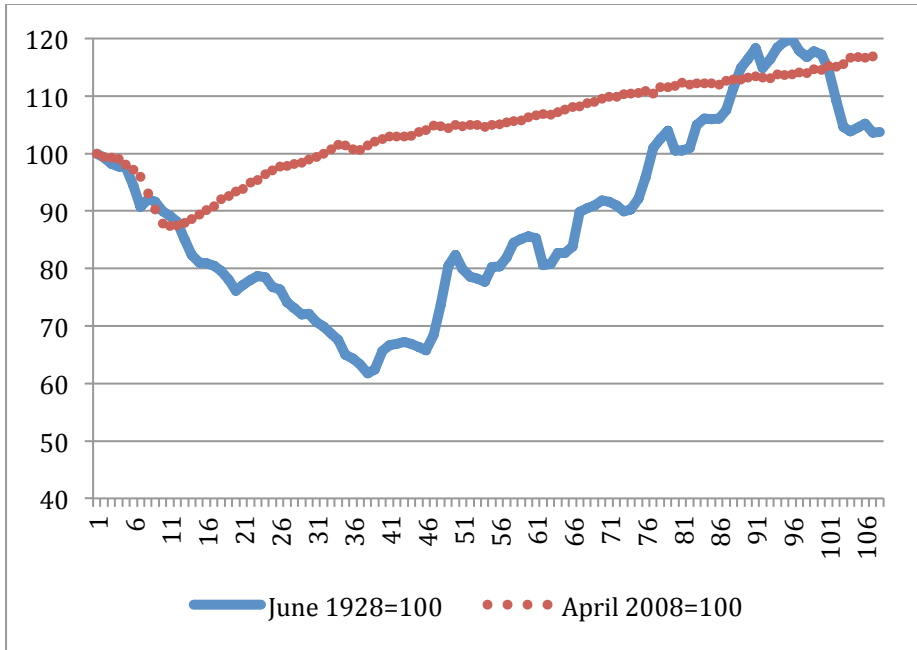


Figure 3. Clove price gaps, Amsterdam-Southeast Asia, 1580s-1880s

Source: O'Rourke and Williamson (2002), based on data in Bulbeck et al. (1998).



Panel A. World trade

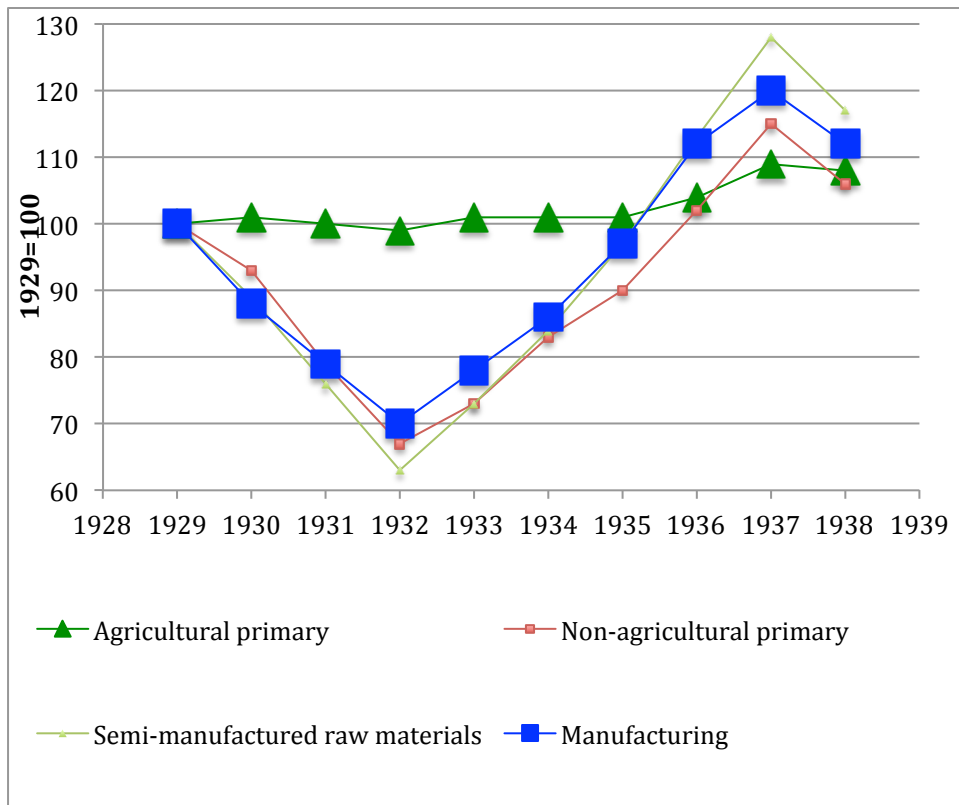


Panel B. World industrial output

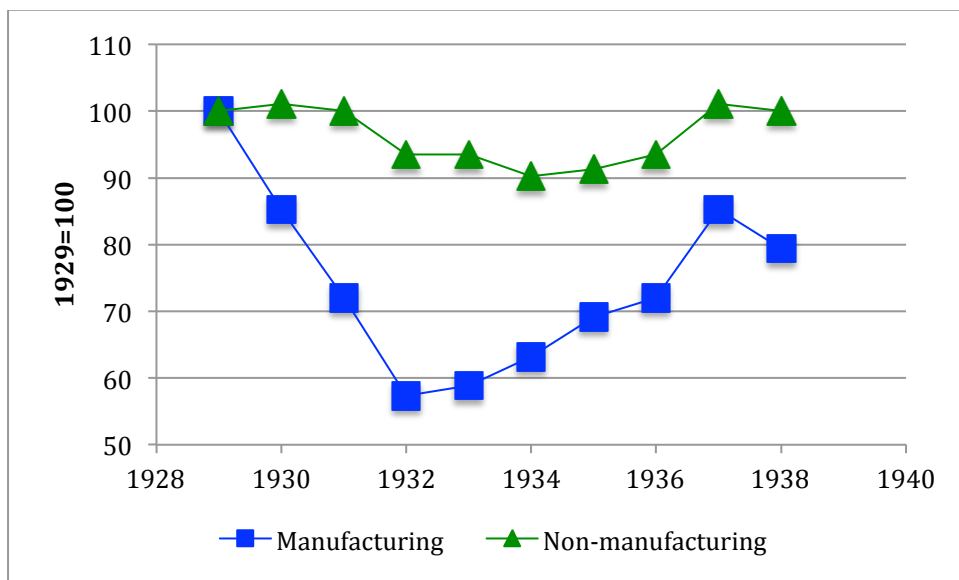
Figure 4. Two great trade collapses and industrial depressions

Source: Eichengreen and O'Rourke (2009), updated using

<http://www.cpb.nl/en/figure/cpb-world-trade-monitor-april-2017>



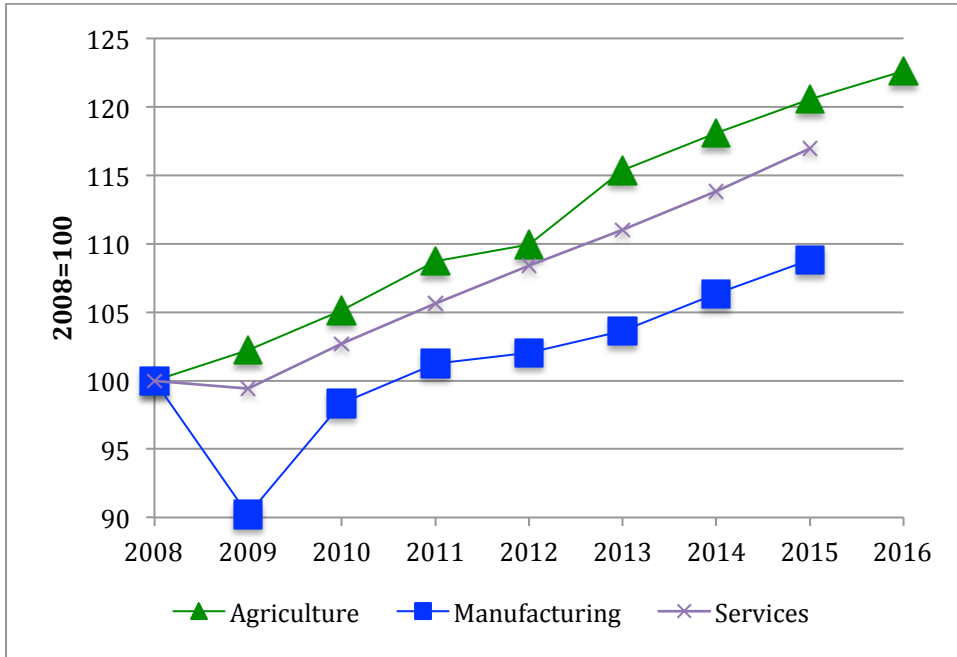
Panel A. World output



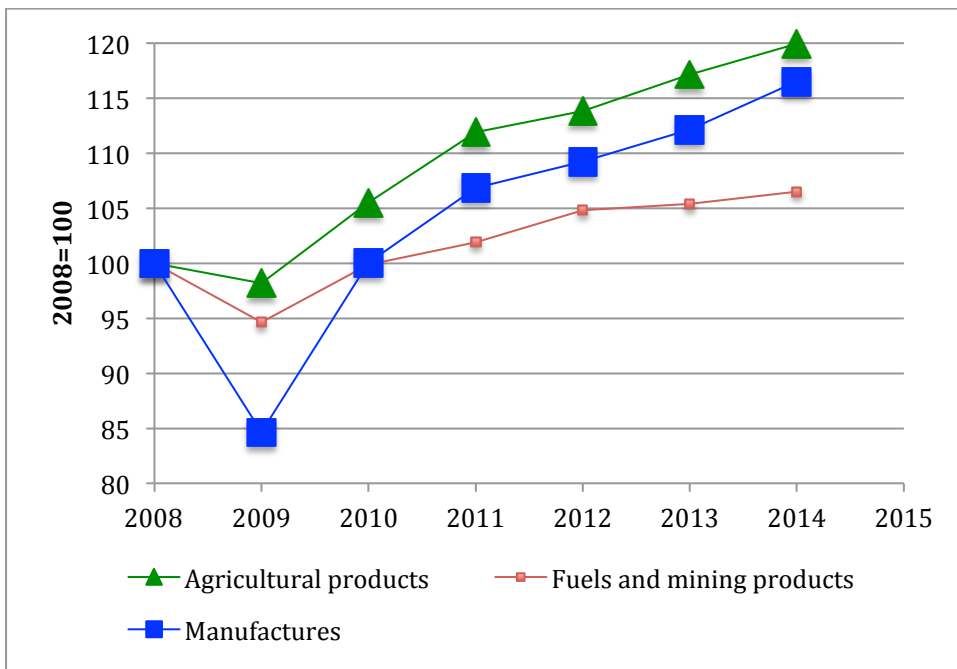
Panel B. World trade

Figure 5. World output and trade during the Great Depression

Source: Almunia et al. (2010).



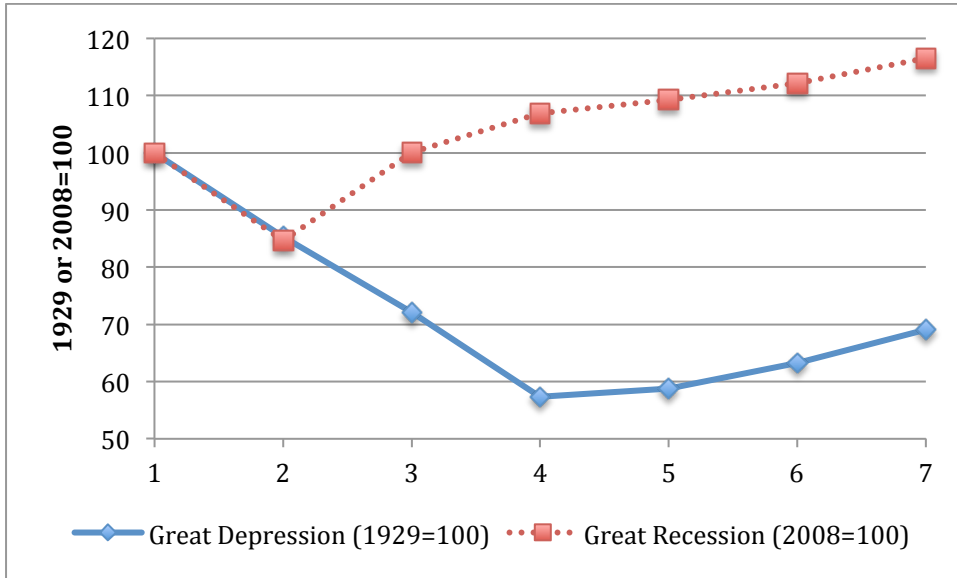
Panel A. World output



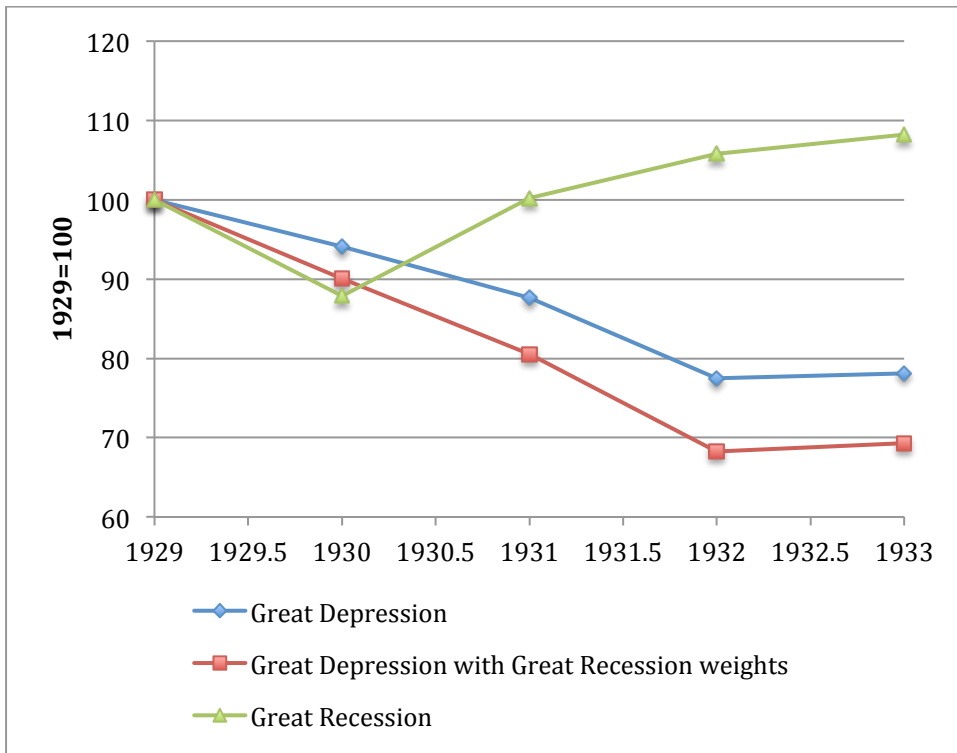
Panel B. World trade

Figure 6. World output and trade during the Great Recession

Source: World Development Indicators, WTO



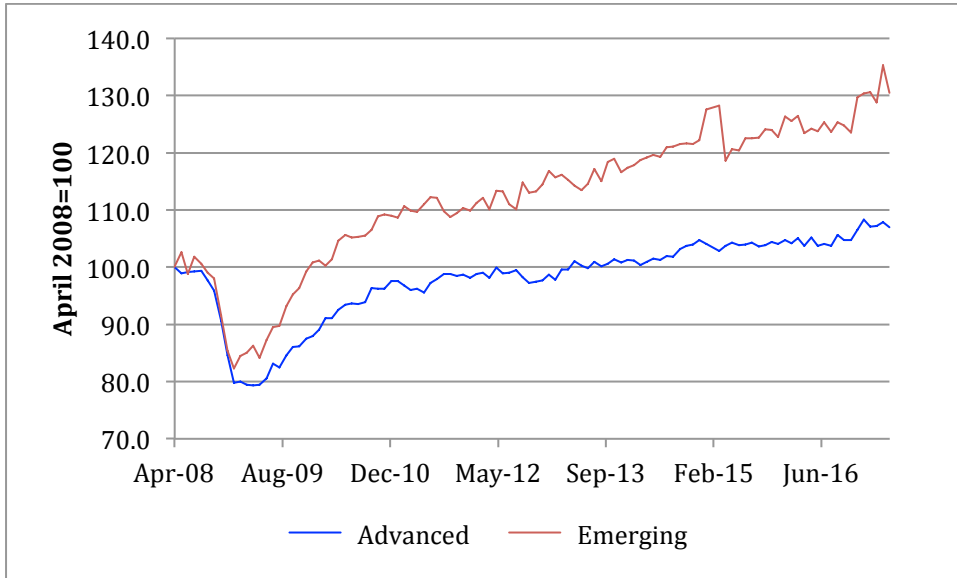
Panel A. World manufacturing trade during two crises



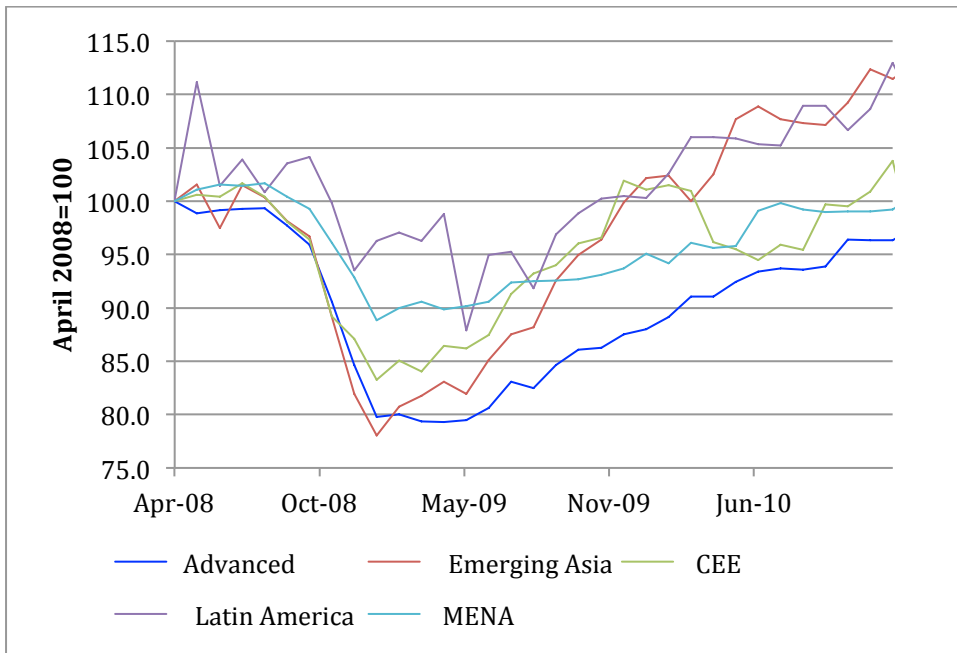
Panel B. The impact of compositional shifts on the volume of world trade

Figure 7. The changing composition of world trade 1929-2007 and the Great Trade Collapse

Sources: Panel A: as for Figures 6, 7; Panel B: Almunia et al. (2010), updated.



Panel A. Advanced versus emerging economies



Panel B. Regional export declines

Figure 8. Regional export volumes during and after the Great Recession

Source: <http://www.cpb.nl/en/figure/cpb-world-trade-monitor-april-2017>

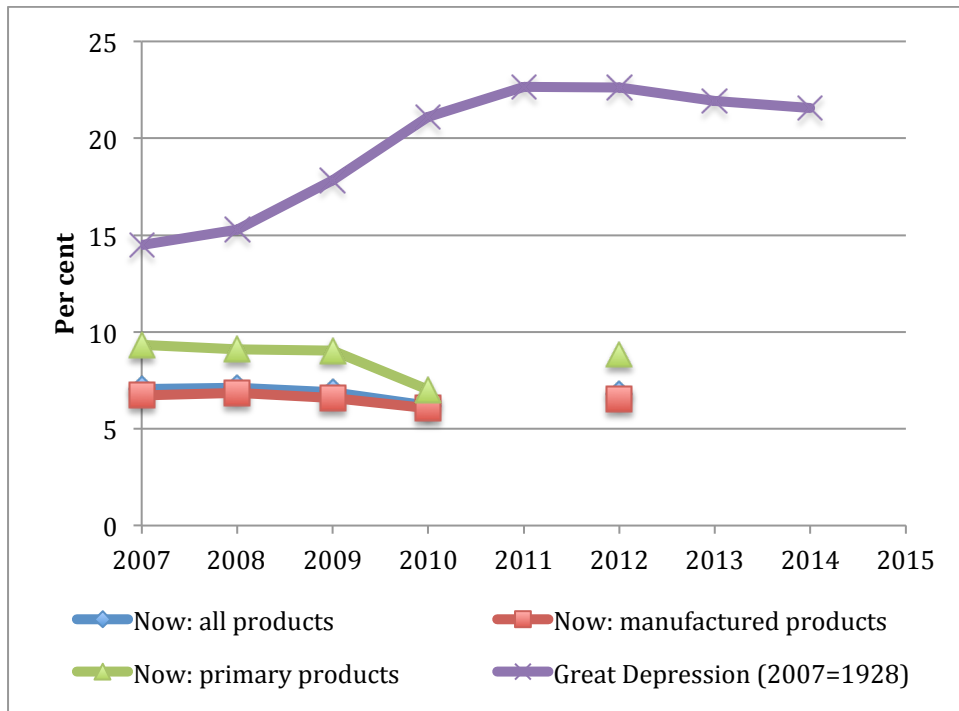


Figure 9. Average tariffs worldwide during and after the Great Depression and Great Recession

Source: Clemens and Williamson (2004), World Development Indicators.