Currency Valuations, Retaliation and Trade Conflicts Evidence from Interwar France

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Abstract

The devaluations of the 1930s facilitated a faster recovery from the Great Depression in the countries depreciating, but their unilateral manner provoked retaliatory commercial policies abroad. This paper explores the importance of the retaliatory motive in French trade policy during the 1930s and its effects on trade. Relying on a novel dataset of bilateral tariff rates and a difference in differences approach, the quantification of the protectionist response suggests that retaliation was an important motive behind increasing tariffs. The resulting beggar-my-neighbour penalty reduced trade to a similar degree that modern regional trade agreements foster trade. Furthermore, the analysis of contemporary newspapers reveals that the devaluations of the early 1930s triggered a lasting Anglo-French trade conflict marked by tit-for-tat protectionist policies. Overall, the quantitative and qualitative results indicate that the unilateral currency depreciations came at a high price in political and economic terms.

Introduction

After China's alleged currency manipulation in the early 2000s and American and Japanese quantitative easing in the recent crisis, exchange rate policies have become as much of a political battleground as an academic field over the last decade.[1] At the heart of such debates is the argument that the country deliberately undervaluing its currency significantly gains at the expense of others. A lower real exchange rate stimulates exports, which in turn creates current account problems abroad (Goldstein and Lardy, 2006). Retaliatory tariffs, it is frequently invoked (see e.g. Krugman, 2010), could alleviate the pain by partly offsetting the misalignment and provide a cure by ultimately forcing policymakers to re-align the allegedly undervalued currency. Therapy, however, might fail as retaliatory tariffs carry a strong political economy implication and thus provide a breeding ground for trade wars. The exchange rate and tariff policies of the 1930s provide a blueprint for such a worst-case scenario, but so far we know little about the relative magnitude of such retaliatory policies and their effect on trade.

When Britain had unilaterally left the gold standard in the autumn of 1931 and other countries followed suit soon after, policymakers in these countries had not intended to manipulate their currencies. However, their counterparts abroad perceived the exit from gold as such. At the forefront, French policymakers retaliated by raising tariffs and introducing quotas specifically aimed at those countries that had left the gold standard. Indeed, contemporary and more recent contributions (see e.g. Liepmann, 1938; Eichengreen and Irwin, 2010) have mentioned this episode anecdotally and Haim Shamir (1989) referred to it as the Franco-British trade war. Unfortunately, no detailed study on the force of this retaliation relative to the general increase of protectionism exists. How important was this element in French protectionism in the interwar period? What were the effects on trade and commercial policy more generally?

The French commercial policy reaction was emblematic for the last of three stages of interwar protectionism, which contemporary Harvard economist George Roorbach (1933) identified. In the first phase of the Depression governments followed the classical protectionist motive and imposed tariffs to reduce competition for domestic producers. In a second phase, they resorted to more protectionism, now including quotas, to balance their budgets and to protect their currencies. Barry Eichengreen and Douglas Irwin (2010) put forward a trilemma framework in a similar vein to analyse the varying degrees of protectionism across countries. They show convincingly that countries more reluctant to leave the gold standard became more protectionist. On the other hand, leaving the gold standard gave way to a third stage of protectionism, in which countries resorted

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[1]Whether justified or not, the Obama administration and his successor-elect have suggested that China was manipulating its currency (N. Irwin, 2016). Furthermore, it attracts attention from fields spanning from trade (Staiger and Sykes, 2010) to economic growth (Rodrik, 2008). See Eichengreen (2013) for a comparison to the 1930s.

to discriminatory commercial policies. In contrast to the previous two stages, quotas, tariffs, and exchange controls were often directed at specific countries. This "pernicious" bilateralism (Irwin, 1993b) has become exemplary for the disintegrating commercial world in the interwar period.[2]

This study substantiates the view that the third stage of protectionism mattered qualitatively and quantitatively for the breakdown of world trade. In line with Shamir (1989), the analysis of contemporary newspapers reveals a change in public discourse, in which retaliatory sentiment gained momentum after the devaluations. On the empirical side, this study makes two contributions by analysing a largely neglected dimension of tariff data. In contrast to other economic powers of the time, French statisticians recorded tariff revenues on a bilateral level. This facilitates the calculation of bilateral protection rates. With this measure at hand, one can reasonably distinguish between general tariff increases and those directed at certain trading partners using a difference in differences approach. Whereas the general increase in tariffs amounted to 5 %, the discretionary increases against devaluing countries, the beggar-my-neighbour penalty, accounted for an additional tariff increase of 7.5 %. The absolute magnitude of the penalty is thus similar to the tariff reductions reached through modern treaties such as the North American Free Trade Agreement (Burfisher et al., 2001). A back-of-the-envelope calculation and an empirical estimate of the effect on trade suggest that the penalty reduced imports from devaluing countries by about 20 %. Ironically, while the devaluations of the 1930s relieved the pressure to become more protectionist in countries with depreciated currencies, they were a direct impetus for more discretionary and retaliatory tariff policies abroad.

The results of this study have two major implications. In terms of the historiography of the Great Depression, they elucidate the relative importance of retaliation as a complementary explanation for the rise of protectionism. Regarding the devaluations, one might still agree with Eichengreen (2013, p. 431) that "effective international coordination was impossible to achieve" and that they were "part of the solution, not part of the problem." However, the magnitude of their economic and political costs raises doubts about their unqualified benevolent assessment in the literature, which Barry Eichengreen and Jeffrey Sachs (1985) had initially cautioned against. In terms of economic policy, this study highlights the importance of international policy coordination. Unilateral devaluations and protectionist reactions thereto can have large devastating effects. Even if seemingly impossible at times, it appears to be more promising to fight an alleged currency manipulation with diplomacy than risking a situation similar to that of the 1930s.

The remainder of this paper is organised as follows. Section 1 reviews the relevant literature

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[2]See also the views of the contemporaries (League of Nations, 1936, Chapter 6). Michael Kitson and Solomos Solomou (1995) are critical of this notion and the gravity literature can be interpreted in a similar manner (Eichengreen and Irwin, 1995; Wolf and Ritschl, 2011; Gowa and Hicks, 2013).

in two parts. It summarises contemporary and more recent scholarship on the devaluations of the 1930s and their link to commercial policies. It then briefly places interwar France in this exchange rate-commercial policy nexus by discussing her metamorphosis from the alleged villain to the victim of exchange rate policies. With a focus on the Anglo-French relationship, Section 2 provides a qualitative account of the relation between the devaluations and discretion in French tariff setting, highlighting the escalating economic nationalism. Equipped with the lessons from the qualitative analysis, Section 3 quantifies the force of the retaliatory response and investigates the effects on trade.

1. Parity choices and commercial policy consequences in the interwar period

As previous research on the interwar period suggests, one cannot treat commercial and exchange rate policies independently in this episode. Hence, the first part of this section discusses recent scholarship, which links the rise of protectionism to the gold standard. Countries that had left the gold standard early felt less pressure to become protectionist. However, devaluations like those of the 1930s can be beggar-my-neighbour and might thus exacerbate general protectionist tendencies by provoking retaliation. Indeed, contemporary scholars made a strong connection between the devaluations, the following retaliation and the corresponding increase in the overall level of protectionism. Relying on the France-focused interwar literature, the second part of the section illustrates the French metamorphosis from the villain to the victim of exchange rate policies. After returning at a presumably undervalued parity, she found herself confronted with roughly a doubling of the real value of the franc against the pound. The commercial law equipped policymakers with several commercial policy devices, which they employed to retaliate for the devaluations.

Devaluations and the Rise of Protectionism

For explaining the "trade policy disaster" in the interwar period, Eichengreen and Irwin (2010) and Irwin (2012) advance a modified macroeconomic trilemma illustrating the policymakers' constraints. They could pick only two of the following three policies: a fixed exchange rate, open trade, and independent monetary policy. Bound by their gold standard orthodoxy, i.e. the refusal to leave the gold standard, some resorted to protectionist policies such as quotas and tariffs to protect the value of their currency rather than reducing it. The trilemma explanation provides us with a powerful framework to understand what probably had set the general protectionist movement in motion besides the more classical motives such as an unemployment. However, Irwin's evidence teaches us much less about the political economy implications of these devaluations as he relies on aggregate rather than bilateral tariff measures. Why would countries retaliate against the devaluations pursued by other countries?

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Inspired by the theoretical and empirical work by Eichengreen and Sachs (1985, 1986), a broad consensus on the positive effect of the devaluations for the depreciating countries emerged.[3] Countries that had left the gold standard early, tended to recover faster. For those who stayed, Eichengreen and Sachs point out two counteracting effects. On the one hand, they would lose competitiveness as their exports would be relatively more expensive. On the other, gold inflows from devaluing countries could ease monetary conditions. This could outweigh the demand shift and "thus, a devaluation under a gold standard may or may not be beggar-thy-neighbor[...]" (Eichengreen and Sachs, 1986, p. 70). However, Eichengreen and Sachs (1985, p. 943) conclude that the devaluations were in fact beggar-my-neighbour as depreciating countries on average acquired gold stocks in the aftermath of the devaluations.[4]

This assessment resonates well with contemporary scholarship. It was in the 1930s that Joan Robinson (1937, pp. 210–228) popularised[5] the "beggar-my-neighbour" term by comparing the commercial policy environment to the famous card game with explicit references to the devaluations. She (1937, p. 210f) described what economists nowadays call a non-cooperative game: *"In times of general unemployment a game of beggar-my-neighbour is played between the nations, each one endeavouring to throw a larger share of the burden upon the others. As soon as one succeeds in increasing its trade balance at the expense of the rest, others retaliate, and the total volume of international trade sinks continuously [...]."*

Robinson's stance was far from isolated. Other contemporary economists emphasised the bilateral consequences of the devaluations. Amongst other reasons for the rise of protectionism, Heinrich Liepmann (1938, p. 361–364) pointed to retaliation for exchange rate depreciation. In his free trade manifesto, Ranald M. Findlay (1934) bemoaned the retaliation of twenty other nations after the devaluations, particularly emphasising paradigm shifts away from free trade such as in the Netherlands (Findlay, 1934, p. 31). Roorbach (1933, p. 89f) argued explicitly that the devaluation "resulted in a movement for still further restrictions of imports by the gold standard countries" or in the words of MacKintosh (1936, p. 1): the "protectionist plea is most likely to be heard when he [the producer] is asking to be protected against a fresh threat to his position."[6]

In sum, the trilemma view on the rise of protectionism can explain why tariffs rose in the first

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[3]See for example: Campa (1990), Bernanke (1995), and Mitchener and Wandschneider (2015).

[4]Given the large body of literature referencing their study without or little qualification, it is important to point out that Eichengreen and Sachs (1985, p. 946) criticise both, the reluctance of some countries to leave the gold standard and the failed coordination of the devaluations. Typically studies only highlight the positive aspects of the currency depreciations (e.g. Bernanke, 1995) or stress the theoretical outcome of them not being beggar-my-neighbour per se (e.g. Campa, 1990), but do not acknowledge their beggar-my-neighbour character.

[5]See Irwin (2012, p. 125). Sometimes, it is also referred to as "beggar-thy-neighbour," but not so in Robinson's work.

[6]Naturally, there were also some sceptics. While acknowledging that the "fear of exchange dumping" increased

place. However, the devaluations facilitating freer trade were a beggar-my-neighbour policy as the gold standard literature and contemporary economists suggested. The latter also suggested that countries retaliated, contributing to the upward spiral in protectionism. Having established the nexus between the rise of protectionism, the exchange rate regime, beggar-my-neighbour policies, and retaliatory responses thereto, we can now place this case study in its context and time by analysing the French metamorphosis from the alleged villain to the victim of exchange rate policies.

Economic and political instability in interwar France

Figure 1 shows French economic activity and nominal trade data for the period 1925–1936, indexed to 1928.[7] From 1925 until 1928 the French business cycle exhibited high volatility, which was accompanied by inflation and political instability. Between 1924 and 1926, ten different governments had ceased to rule (Prati, 1991, p. 221). Only under the presidency of Raymond Poincaré did French authorities manage to stabilise the currency in the second half of 1926.[8]

France returned to the gold standard de jure in 1928 by establishing convertibility at one fifth of the pre-war parity (Mouré, 2002, p. 142–144). Poincaré actually favoured a further revaluation of the franc. However, the governor of the Banque de France, Moreau, insisted to immediately restore convertibility. According to Kenneth Mouré (2002, 142), two major arguments drove the parity choice. First, Britain and Italy experienced severe difficulties when returning to their pre-war parities. Secondly, throughout the phase of instability the franc was already down to about 10 % of its pre-war parity and a stabilisation at more than 20 % was considered too difficult. The economic activity estimate substantiates Mouré's observations. Having just recovered from a downturn, the necessary deflation for a further revaluation of the currency hardly seemed a desirable policy option.

Pierre Sicsic (1992) argued that French contemporaries did not consider the franc undervalued although in fact it was. Their counterparts abroad criticised the undervaluation of the franc. In

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trade barriers, Frank Graham and Charles Whittlesey (1934, p. 411) argued in line with Irwin's (2012) trilemma that "it is at least equally probable that the attempt to maintain the nominal exchange value of a currency will lead to the erection of unscalable trade barriers." Others such as Ethel Dietrich (1933) were worried about the actual mechanics of setting tariffs aiming at specific countries, pointing to the large number of goods, which were covered by trade treaties and most favoured nation (MFN) clauses. In practice, however, tariffs could be raised as the next section shows.

[7]The index is from a more recent version of Albers and Uebele (2015) and scaled to annual GDP data.

[8]The precise reason for the stabilisation remains debated. Thomas Sargent (1984) argues that Poincaré could stabilise the franc by returning to sound fiscal policies. Alessandro Prati (1991) contested this argument by showing that France already ran a surplus in 1924. He emphasises the role of a new tax law in creating demand for government bonds and stopping the monetary financing of bond repayments.
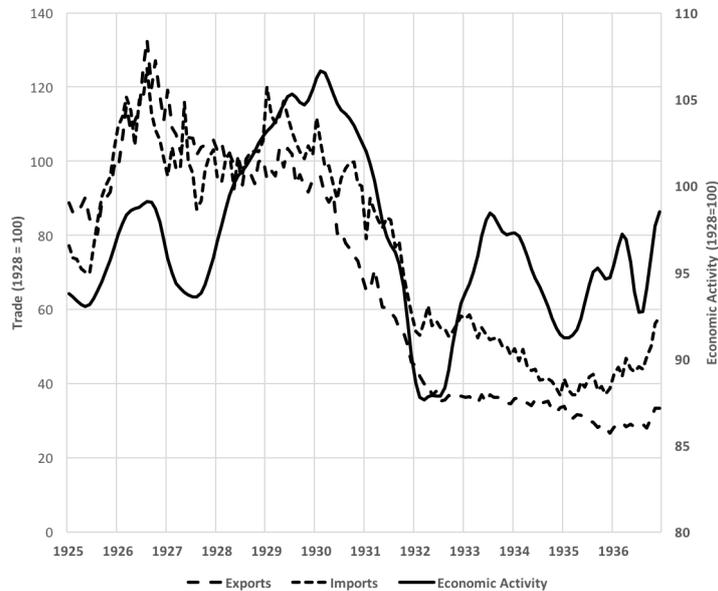
Figure 1: Economic activity and trade in Interwar France (seasonally adjusted)

the beginning of 1928, *The Economist* estimated the misalignment to be 25 % against the pound in terms of purchasing power (Hamilton, 1987, p. 146). Some authors link this undervaluation and France's alleged sterilisation of gold inflows to the global decrease in prices (Hamilton, 1987; Irwin, 2010). Doubtlessly, the French accumulation of gold had deflationary effects abroad. However, to what degree French policy makers "caused the Great Depression" (Johnson, 1997; Irwin, 2010) as opposed to the gold exchange standard system per se is still debated (see e.g. Mazumder and Wood, 2013). In the light of the volatility of the preceding years, it is not too much of a surprise that France did not return to her pre-war parity. Moreover, Sicsic (1992) demonstrates that the decision was far from being tactical. Nonetheless, French monetary policy caused unpleasantness elsewhere, especially in Britain (Mouré, 2002, p. 183). It is fair to say, whether justified or not, that some modern and contemporary economists have pictured France as a villain of exchange rate policies. In fact, references to the period 1928–1931 shall resurface in discussions after the British exit from gold (see Section 2).

As the Depression took its course, the first big wave of devaluations occurred in autumn 1931. The degree of the devaluations was by no means negligible: In real terms, the franc's value against the pound roughly doubled in the following years.[9] Furthermore, other countries effectively left the gold standard by imposing exchange controls. As Figure 1 shows, the French trade balance worsened substantially. As we shall see in more detail in the next section, French policymakers

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[9]Own calculation based on the exchange rate from the Global Financial Database and wholesale prices from Statistisches Reichsamt (1936, 1937).

reacted more forcefully to the devaluations than their foreign peers had done in 1928. One could think of 1931 as the year in which France shifted roles from the alleged "villain" to the perceived "victim" of exchange rate policies.

The discontent with the devaluation translated to an increased imposition of protectionist measures. Besides the imposition of quotas (Dietrich, 1933), the French tariff law from 1928 facilitated a large degree of discretion in tariff setting (Sollohub, 1932, p. 406): the government could change certain tariffs by decree[10] and her commercial treaties, despite containing MFN clauses, were so flexible as to allow parliament to regularly adjust minimum tariff rates. This flexibility and the room for discretion more generally is perhaps best illustrated by the Canadian consternation and position on a potential renewal of the Franco-Canadian commercial treaty of 1922. The Bennett Ministry concluded "that nothing was to be gained by the treaty's continuance" after France had repeatedly increased rates on important Canadian export goods (The Economist, 1932a, p. 124).

In sum, the French interwar years were marked by political and economic turbulence. Having returned to gold at a presumably undervalued parity in 1928 due to the political and economic turmoil, France might have played an important role in the disastrous decline of the world price level. In this sense, France had been the villain concerning exchange rate policies. Tables turned in 1931 when the pound and other foreign currencies dropped sharply in value against the franc. Those devaluations were beggar-my-neighbour and, given that commercial law equipped French policymaker with the means to retaliate, one could expect some reaction.

2. The Rhetoric of Retaliation - A Qualitative Account

To understand the harsh reactions and the relevance of retaliation, this section provides a qualitative account of the political climate in the interwar policy arena. The importance of retaliatory tariffs over time is perhaps best summarised by Figure 2. It presents keyword counts from the Manchester Guardian for expressions related to either retaliation or tariffs more generally. It suggests that, while the tariff question was relevant throughout the 1920s with about 260 counts per year, retaliation became more topical in the beginning of the 1930s. While it was mentioned a mere 17 times per year from 1920–1929 on average, the corresponding average for 1930–1933 is 104. The increase in 1930 is clearly in response to the Smoot-Hawley legislation, but it trails the magnitude of retaliatory sentiment in 1932 by far. In this year, articles with the word combination "tariff" and "retaliation" appeared on average almost every other day.

In order to add substance to the data and to characterise the general political climate, the following section discusses the French commercial policy based on articles from the Manchester

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[10]The annual summary tables of the Journal Officiel (*Tables du Journal Officiel*) for the years 1931, 1932, 1933 list 18 decrees in total, often containing multiple orders.
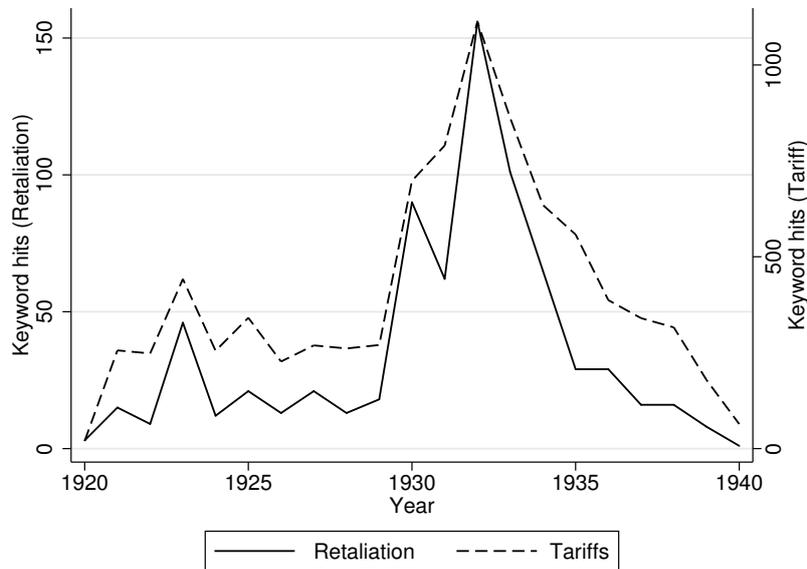
Figure 2: Frequency of Keywords in the Manchester Guardian

Source: Own calculation from the Manchester Guardian Online Archive provided by ProQuest. "Tariffs" includes hits of "tariff" or "tariffs" in combination with "exports" or "imports." Retaliation includes hits of "retaliation" or "retaliatory" in combination with "tariff" or "tariffs" or articles containing the expression "tariff war." Advertisements are excluded. It is important to note that some of these counts might include coincidental hits, but the margin of error seems small.

Guardian, the Financial Times and The Economist. It is centred on, but not limited to, the Anglo-French relationship. One can think of this episode in three acts. In the prelude to the devaluations, the protectionist idea was gaining momentum in France. However, policy measures were more likely to meet leniency in Britain before 1931 and hopes for cooperation were still present. After the devaluations, the rhetoric shifted towards a more nationalistic and retaliatory tone. This culminated in a perpetuating tit-for-tat game illustrated in the final part of this section.

Prelude

The move towards protectionism had already been visible in France before the crisis of 1931. She fought a tariff war with Australia around 1930 (Manchester Guardian, 1931h) and, like other countries, France considered retaliation immediately after the Smoot-Hawley bill was passed in June 1930 (Manchester Guardian, 1931i). France urged for negotiations and called the American MFN treatment into question (Manchester Guardian, 1930). While this threat did not materialise, France discriminated against the United States when she introduced a more draconian quota for American coal than for coal of other origins in July 1931. In light of the 89 % reduction of the American quota, the 6 % reduction on British coal seemed modest (Manchester Guardian, 1931g).

It may have been this comparison that provoked leniency in Britain. The Secretary of Mining, Shinwell, pointed out that the French quota did not aim to "embarrass" Great Britain, but was an effort by the French government to protect coal workers. Instead of calls for retaliation, there were calls for cooperation of the mining industries across Europe (Manchester Guardian, 1931g).

Tariff proposals in Britain remained of "revenue nature" before the end of 1931. In September, the Chancellor of Exchequer, Phillip Snowden, proposed a revenue tariff on luxury goods (Manchester Guardian, 1931m). As this was a large industry across the channel, this suggestion was met with "outstanding anxiety" in France (The Economist, 1931f, p. 517). The rhetoric began to change. Criticising the proposed measures, Rollin, French Minister of Commerce, emphasised that tariff increases should only be legitimate as countermeasures against unfair competition such as dumping (Manchester Guardian, 1931n). A British commentator hoped that the tariff menace could lead to new negotiations about a tariff truce, which had been initiated two years earlier but failed (Manchester Guardian, 1931o). Such hopes did not materialise, especially after September 20, 1931 when the British devaluation "fell like a bombshell on the [French] market" (French correspondent in The Economist, 1931b, p. 550). Economic nationalism and tariff war rhetoric soon replaced international sympathy and leniency. The spirit of cooperation and diplomacy came under strain.

Immediate Reactions to the Devaluations

The devaluation provoked "great surprise and consternation in French industrial and business circles" (Naudau, President of French Chamber of Commerce in London in the Financial Times, 1931b). The same was true for policymakers, nevertheless there was the hope that this would stop the British tariff plans. French Minister of Commerce Rollin commented, "it goes without saying that if the British Government have been thinking of new tariff measures, now that the depreciation in sterling constitutes an important bounty for British exporters, they must have given up the idea" (Manchester Guardian, 1931p). Once again, this illustrates that exchange rate and commercial policies were linked to the extent that policymakers would equate them.

In the initial weeks after the devaluation of the pound, the public did not perceive the float as a permanent situation. French newspapers speculated whether the pound will return at par or about 20 % below it (Manchester Guardian, 1931q). Neither this hope nor the one concerning the tariffs materialised. In Britain, the tariff question became a dominant topic in the run-up to the general election, with Labour opposing and the conservatives favouring protection (Manchester Guardian, 1931r).[11] The conservatives won the election by a large margin (Manchester Guardian, 1931f), indicating the substantial public support for protectionist policies.

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[11]"At the very moment that a tariff has become not only a superfluity but an absurdity we are to have a general election, it is generally believed, on that question alone" (Manchester Guardian, 1931r).

After the devaluations, small instances could trigger intense debates. When Britain announced the ban of French potatoes due to the Colorado Beetle, the Journée Industrielle considered this a protectionist measure and called for tariff reprisals (Manchester Guardian, 1931k). About a month later, the French Minister of Agriculture threatened to ban coal, tea, and whiskey from Britain if the embargo was not lifted (Manchester Guardian, 1931j). In the meantime, France had banned certain foodstuff from early October until the end of the year (Manchester Guardian, 1931l). In the case of butter and beef, this mainly hit two other depreciators, Denmark and Argentina (Manchester Guardian, 1931l).

In November, France reacted on a large scale to the devaluations. The surtax on goods from countries with depreciated currencies came into effect on November 14, 1931 (The Economist, 1932b). Certain goods such as grain and tea were exempted from this tariff and this list would be modified over time. The surtax in its initial form employed different rates across countries: 15 % for Great Britain, Australia, Denmark and Sweden, 10 % for Uruguay and Argentina, 8% for Norway, and 7 % on British India and the Native States (The Economist, 1931e, p. 956). A month later the surtax was fixed at 15 % for all these countries. However, given the many exceptions to it, the change of the tariff level against the individual country would not be equal to this amount.[12] Nevertheless, the British Mining Association reported immediate effects materialising in the cancelation of orders, because British coal exporters had become relatively more expensive for French importers (Manchester Guardian, 1931a).

Because of this apparent level of discretion and the fact that no other large coal exporter went off the gold standard, the British industrialists suspected that the surtax unfairly targeted Great Britain (Manchester Guardian, 1931c). The chamber of commerce argued that the surtax violated the most-favoured clause, which both countries had agreed upon (Manchester Guardian, 1931d).[13] To such criticism, the French Minister of Commerce Louis Rollin responded that the 15% would still not be enough to compensate for the competitive advantage gained by British manufactures through the devaluations (The Economist, 1931g, p. 1006). Moreover, a French correspondent argued that the new exchange rate resembled a 50 % ad valorem tariff. Regarding new proposed British tariff legislation, the correspondent stated: "The loss to France and to other countries will be very heavy, and many people here do not hesitate to say that the action of the British Parliament amounts to a declaration of economic war" (Manchester Guardian, 1931b). Clearly, the French

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[12]While the bilateral tariff rate against countries such as Sweden and Denmark indeed increased by more than 15 % ad valorem between 1930 and 1932, the same measure for Great Britain "only" doubled from 5 % to 10 % ad valorem. This seems to be due to the extensive use of exemptions of certain goods from the surtax (e.g. coal at a later point of time) as a bargaining device. Britain, however, was the exception rather than the rule. The quantitative section discusses the average effects taking into account all tariff measures rather than only the surtax.

[13]We shall later see, that the MFN treatment was actually more of an unspoken rule and no such contract existed.

industrialists did not hesitate to fuel this war. They insisted that the Minister of Commerce should not lose any time "in taking up the matter with the British government and, if necessary, to start retaliatory measures" (Financial Times, 1931a).

In sum, the last bits of leniency vanished after the devaluations and agitation took over in press and politics. The immediate reactions anticipated an upward spiral in protectionism, which is documented in the following section.

The Upward Spiral of Retaliation

Complementary to the global downward spiral of trade was an upward spiral in retaliation. Before the introduction of the General Tariff in early 1932,[14] the British parliament passed the Abnormal Importations Act on 17 November, 1931 (The Economist, 1932b). It empowered the President of the Board of Trade, Runciman, to impose duties on wholly or mainly manufactured goods of up to 100 % for a duration of 6 months (The Economist, 1931a). One justification for the tariff was the French surtax. Referencing France's return to gold at one fifth of its pre-war parity, the commentator argued that Great Britain could have imposed a tariff of 400 % in 1928 (The Economist, 1931a, p. 944).

With the new tools at hand, retaliation was discussed quite openly in the House of Commons. Members of parliament considered whether it was legal within the current treaty status to place special tariffs on French luxury goods and agreed they could (House of Commons, 1931-1932c).[15] These discussions also made clear that while Great Britain had received most favoured nation treatment under an old French law, no binding treaty existed and thus any French tariff imposition would be legal. Three decrees were issued under the Abnormal Importations Act. These fixed mostly prohibitive duties of 50 % on a variety of goods. While not aimed at specific countries per se, the tariff affected the United States, France, Germany and Holland the most as the details of the first (The Economist, 1931c, p. 994), second (The Economist, 1931i, p. 1061) and the third schedule (The Economist, 1931h, p. 1221) demonstrate. The Economist (1931h, p. 1220-1223) argued that the schedules were a small concession to protectionism in statistical terms but not in principal and concluded that Runciman was playing a "dangerous game." Despite criticising the French surtax and discrimination, Runciman pointed out "there is no connection whatever between that decree and our orders, or the legislation which preceded them" (House of Commons, 1931, p. 1473).[16] Considering the parliamentary debates and his own introduction of the speech, this statement does not appear overly credible.

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[14]See the analysis of Kitson and Solomou (1990).

[15]See also O'Connor's comment concerning the surtax: "Will not the best possible representation [regarding the French surtax] be made when we have a tariff of our own?" (House of Commons, 1931-1932a) .

[16]The Economist (1931h) argues that the third schedule was probably not aiming at *one* specific country.

French reactions to these emergency tariffs included the reduction of the quota on British coal less than eight days after the passage of the law (The Economist, 1932b), which was "designed to restrict entries of British and other foreign fuels" (The Economist, 1931d).[17] However, until the British General Tariff was introduced in the end of February 1932, France also made some concessions. She lifted the surtax on coal in order to obtain favourable treatment for some agricultural products (Manchester Guardian, 1932c). This bargaining failed, at least at a large scale. It did not affect the British introduction of the general tariff of 10 % ad valorem (Imports Duty Act), which came into effect on February 29, 1932 (The Economist, 1932c).

Interestingly, the second section of the general tariff provided the Board of Trade with powers "to impose supplementary duties in case of foreign discrimination" on top of the general tariff (House of Commons, 1931-1932b). While the final decision remained with the House of Commons, recommendations were made by the Import Duties Advisory Committee and it appears that the House always followed those (Capie, 1981, p. 160). Each of the 135 recommendations issued between 1932 and 1936[18] included not only one but a list of goods on which additional tariffs should be charged. Despite its name, the general tariff thus included discretionary elements.

France responded to the general tariff with the introduction of new quotas in "rapid succession" (Manchester Guardian, 1932d). A particularly draconian example was the quota on British textile machinery, which reduced import allowances to less than 10 % in 1931 terms (Manchester Guardian, 1932a). These new quotas also covered cotton yarn and piece goods (Manchester Guardian, 1932b). In the following two years, the above characterisation as a tit-for-tat game remains true for Anglo-French commercial relations. For instance, a new anti-dumping bill in December 1932 was introduced, which allowed France to super-impose tariffs of up to 50 % on all merchandise from countries that treat her less favourably than their other trading partners (The Economist, 1932d, p. 1081). In 1933, there were still British demands for retaliation against the surtax (Manchester Guardian, 1933a,c). This demand became even stronger, when France did not apply the surtax against the United States after the dollar devaluation. The Manchester Guardian (1933b) argued that France had "fear of annoying the U.S." The surtax against Britain was only suppressed from January 1934 onwards (Manchester Guardian, 1934). The quotas remained in place.

Focusing on the Anglo-French commercial policy relationship, this section has demonstrated the importance of retaliation following the devaluation of the pound in terms of rhetoric and actions

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[17]Demanding retaliation was not unique to the Anglo-French relationship as experiences in other countries illustrate (see e.g. Manchester Guardian, 1931e).

[18]Counted in the House of Commons Archive provided by ProQuest (in 1932: 9 recommendations, 1933: 23, 1934: 36, 1935: 35, 1936: 32). For a more detailed account of this part of the Act, see also the work by Forrest Capie (1981) on this episode.

taken. French policymakers understood the unilateral devaluations as a protectionist measure and retaliated. This led to similar reactions abroad. The "potato instance" vividly illustrates that small actions could provoke severe threats. This qualitative analysis informs the quantitative part of this study in two ways. First, trade policy had indeed discretionary elements. Policymakers raised tariffs against certain countries by targeting their main export goods and by introducing a surtax on depreciated currencies. Second, quotas soon became the commercial policy tool of choice, which might render post-1932 tariff rates of secondary importance. However, they remained relevant at least until 1932 (Section 1).

3. Retaliation - A Quantitative Account

The qualitative evidence suggests that French policymakers perceived the devaluations as a beggar-my-neighbour policy. They retaliated against what they considered currency manipulation. How severe was this reaction? Unlike most other studies on protectionism, this study rests on data on *bilateral* protection instead of the overall level of protection.[19] Combined with a difference in differences approach, these data enable us to distinguish discretionary tariff setting from the general increase in tariffs, which could be due to trilemma forces, unemployment or other domestic pressures. We can then assess the relative importance of retaliation and its consequences for trade.

Data & Summary Statistics

French data on bilateral import values and tariff revenues for the years 1926 until 1933[20] were transcribed from the *Tableau général du Commerce de la France*. To the best of this author's knowledge, French statisticians were the only among the main economic powers to record tariff revenues by trading partner for this period and thus the analysis is naturally confined to France. For unknown reasons, they halted their data collection efforts after 1933. This is not of great concern for this analysis as it focuses on the cross-sections of 1930 and 1932, because the devaluations happened in late 1931.

From these data, we can calculate the average *bilateral* protection rate $tr_{i,t} = \frac{R_{i,t}}{M_{i,t}}$, where R is the tariff revenue and M the value of imports from trading partner i at time t for the years 1926-1933. If data permitted, it would be preferable to employ even more disaggregated tariff data on the country-good level[21] or to additionally investigate other non-tariff measures such as quotas, which became increasingly important over time. Unfortunately, no comprehensive data on the latter

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[19] Among the few works that come to mind are the ones by Béatrice Dedinger (2012) on the late 19th century and by Kazunobu Hayakawa (2013) on modern trade data.

[20] Unfortunately, the *Tableaus* themselves do not include any information on whether revenues from the surtax are included. However, a government memorandum from 1933 suggests so (Ministère des Finances, 1933, p. 133 & 427).

[21] For its potential relevance, see the now classic and then fierce debate between John Nye (1991) and Irwin (1993a).

exist to support the impression from the qualitative section of this study that they were also used disproportionately against devaluing countries. However, the aggregate counterpart of the bilateral protection rate, the average protection rate, usually provides a good proxy for protectionism (see e.g. O'Rourke, 2000, p. 462).[22] Furthermore, tariffs remained a popular commercial policy tool at least until 1932.

(a) Mean Tariff Rate $\pm$ 1 SD
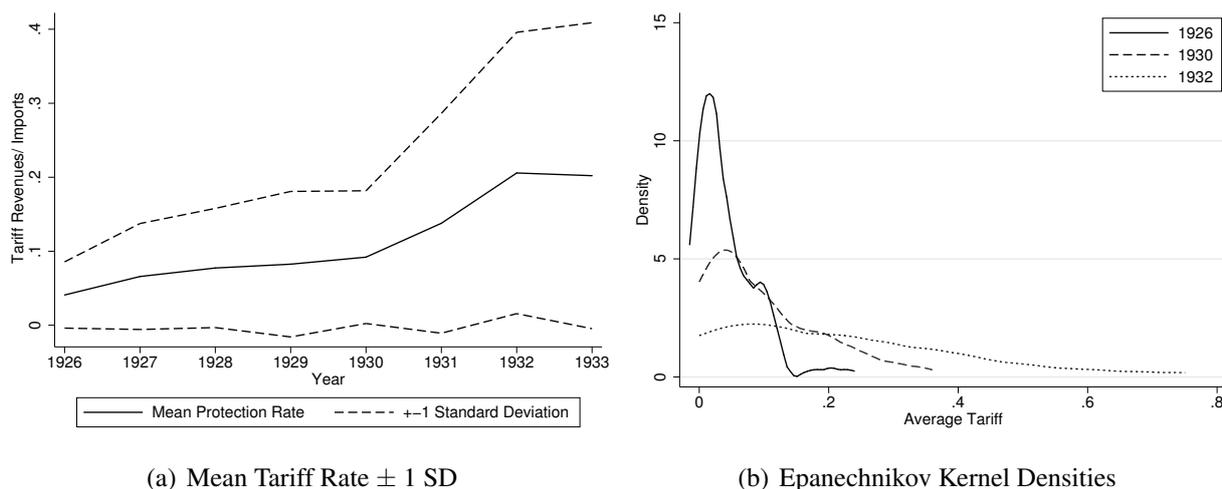
(b) Epanechnikov Kernel Densities

Figure 3: Heterogeneity in Tariff Setting

Source: Tableau général du Commerce de la France, issues: 1926–1933

A first glance at the data (Figure 3) illustrates the important difference between this and many other studies on protectionism (e.g. Clemens and Williamson, 2004; Eichengreen and Irwin, 2010). Panel (a) plots the mean tariff rate and its standard deviation (that is the cross-sectional variation for every year) for a balanced panel of 72 French trading partners for the period 1926–1933, practically covering all French imports. Most studies on protectionism focus on a measure similar to the solid line above: the average protection rate.[23] In contrast, this study focuses on the variation around the mean and its development over time as captured by the standard deviation in the graph.

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[22]The use of bilateral rather than aggregate trade and tariff data should further mitigate one of the most serious concerns against this measure. The composition of imports by trading partner is not likely to change drastically from one year to the other.

[23]Conventionally, researchers define the average protection rate T as the sum of tariff revenues t of country i from n trading partners j divided by the sum of i's imports M from n trading partners j. Hence it represents a trade-weighted average $T = \sum_{j=1}^{n} t_j / \sum_{j=1}^{n} M_j$. In contrast, the graph takes the (unweighted) average of the protection rate against all countries in the sample, which is $T = \frac{\sum_{j=1}^{n} \frac{t_j}{m_j}}{n}$.

This variation can be thought of as the level of discretion applied by policymakers and the figure demonstrates how this level of discretion increased substantially over the years.

The right Panel of Figure 3 is another way to understand this intuition. It plots kernel densities, a form of smoothed histograms, for three different cross-sections. Suppose that French policymakers, just as their British counterparts, would have introduced a general ad valorem tariff of 10 % in 1932. Ignoring potential substitution effects between goods, this would simply shift the distribution of 1930 along the x-axis by 0.1 without altering its shape. However, the distribution of 1932 is substantially flatter than in 1930 and this means that the discretion has increased besides the general increase shifting the distribution to the right. Both types of summary statistics tell the same story - the discretion in tariff setting in France increased substantially in the interwar period, particularly from 1930 to 1932.

The previous discussions suggest that large parts of this discretion could stem from the retaliatory action taken by France against devaluing countries. To test this hypothesis, we can make use of the data on gold adherence from a variety of sources (League of Nations, 1941; Wolf and Yousef, 2007; Bernanke and James, 1991; Crafts and Fearon, 2013). This study follows the general practice in the literature to focus on the de facto exit dates rather than de jure gold standard adherence (see e.g. Wolf and Yousef, 2007; Mitchener and Wandschneider, 2015). A country is coded as on gold in the respective year, if it was on the gold standard for at least 6 months of the year without exchange controls.[24]

Model

To estimate the force of the retaliatory response - the magnitude of the beggar-my-neighbour penalty - this study employs a simple difference in differences approach. The exit from gold by other countries can be considered as purely exogenous. Any endogeneity argument on why the exit from gold originated from French bilateral tariff policies can be easily dismissed on historical grounds.[25] As the treatment occurred in late 1931, the following model compares the cross-sections of 1930 and 1932:

$$ln(1 + tr_{it}) = \alpha + \beta \Delta GS_{it} + c_i + t_t + \epsilon_{it} \tag{3.1}$$

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[24]Taking official suspension dates does not change the results qualitatively, but is uncommon in the literature for a good reason. With heavy restrictions on the convertibility in place, it is questionable how much of a peg such a regime represents. For Ireland and Palestine, I take the exit dates for the United Kingdom, for Haiti those of the United States, and for the French colonies those of France. Colonies are coded according to the trade statistics.

[25]For example, see Wolf (2008) for a discussion about the structural reasons and Accominotti (2012) for the trigger for the exit from the gold standard. Furthermore, the countries that had left the gold standard were at various stages of economic development. It is thus unlikely that tariffs on certain goods independent from the retaliatory motive or international price effects drive the results.

where tr_{it} is bilateral protection rate against trading partners i and ΔGS is an indicator variable capturing, whether a country had left the gold standard. It is zero for all countries in $t = 1930$ and one for the treated countries in $t = 1932$.[26] To operationalise the tariff tr with $ln(1 + tr)$ is common in studies on tariff setting (see e.g. Eichengreen and Irwin, 2010; Schularick and Solomou, 2011). The term measures the mark-up created by the tariff. c_i and t_t are country and time fixed effects respectively and α the constant, which make the above equation a difference in differences approach. The time effect t_{1932} is of particular interest in this very setting as it describes the average overall increase in the tariff mark-up, whereas β measures the beggar-my-neighbour penalty, the average effect of retaliation in terms of the change in trade costs. Comparing the two coefficients shall inform us about the relative magnitude of retaliatory tariff policies in response to the devaluations.[27]

Results

Figure 4 presents the baseline result graphically. It plots the mean change in the tariff variable from 1930 to 1932 grouped by gold standard adherence of the trading partner. The average increase in the markup for those who remained on the gold standard was about 3 % and the corresponding change for those who had left it was around 12 %. This already suggests that the retaliatory component, which is the difference between these two estimates, was indeed very important for French commercial policy in those years. However, it is worthwhile to investigate the validity of this proposition with different subsamples.

Columns (1) to (4) of Table 1 show the result of the OLS estimation for different samples, ranging from the full sample (1) to a very restricted sample (4).[28] The coefficient for the treatment variable ΔGS ranges from about 0.07 to 0.09. It remains stable when all trading partners with a share of less than 0.5 % in total French imports are dropped (3). The point estimate is smaller when the French colonies are excluded (2) as this drops parts of the control group. The average tariff was smaller for colonies than for other countries. Depending on the point of view, their inclusion might lead to an overestimation of the retaliatory effect, thus the more conservative estimate in

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[26]In other words, it is the interaction between the treatment group variable (those who are leaving the gold standard) and the time fixed effect t_{1932}. Naturally, this setup requires to exclude the few countries that either devalued earlier or were not on the gold standard during this period at all. This is plausible as this study focuses on the retaliation for the devaluations of 1931 and very few countries had left the gold standard before 1931.

[27]Any retaliation against foreign tariffs is not taken into account by the model. However, as countries leaving the gold standard became relatively less protectionist (Eichengreen and Irwin, 2010), any bias arising from this omission should bias strongly against finding significant effects for the retaliation against currency depreciation.

[28]These results are robust against the exclusion of outliers. The parallel trend assumption is met to a reasonable degree for most of the subsamples and particularly for the most restrictive sample (4) For the corresponding graphs, see Appendix A.
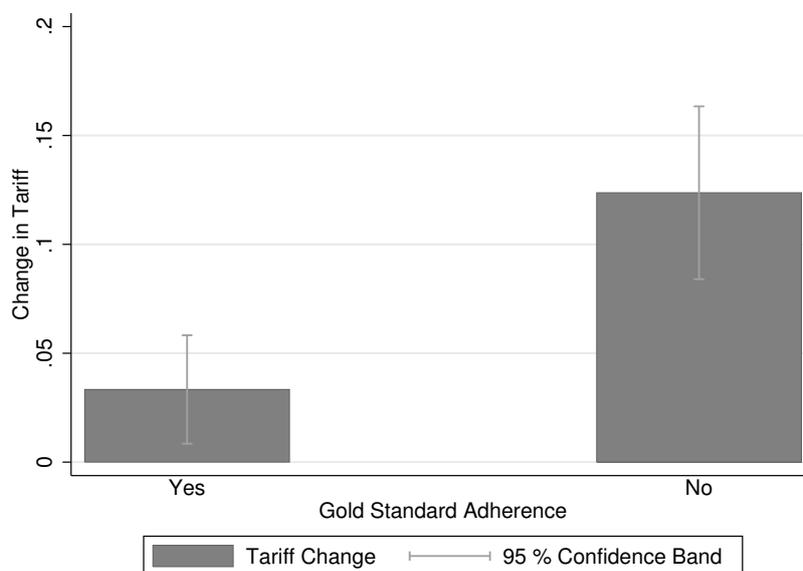
Figure 4: Tariff changes by Group, 1930–1932

Note: Change in tariff calculated as $ln(1 + \tau)$. All countries and colonies are included except for those that had left the gold standard before 1931.

column (2) is preferred. The most restricted sample (4) applies both restrictions and the coefficient for the treatment variable remains statistically indistinguishable from the preferred specification. Unsurprisingly, it loses some of its significance as the sample size shrinks and identification thus comes from changes in 20 tariff rates only.

We can now assess the relative magnitude of the beggar-my-neighbour penalty by comparing it to the general increase in tariffs. By definition, the coefficient for the 1932 time fixed effect captures the general increase in protection or, more formally, the cross-sectional mean of the difference between 1930 and 1932. This coefficient is consistently smaller than the coefficient for the treatment variable ΔGS, which measures the discretionary beggar-my-neighbour penalty. Given the relatively small sample size, we should not overemphasise this difference of the point estimates. The comparison of the coefficients suggests, however, that the beggar-my-neighbour penalty was at least as large as the general increase in protectionism for the period under consideration.

To put into perspective the magnitudes implied by these coefficients, consider the following example of France and her "average" trading partners A (leaving the gold standard) and B (staying on the gold standard). In 1930, the average protection rate against both countries in sample (2) as captured by the constant (not shown) was approximately 10 %. A French firm wanting to import a good for 100 francs from either country A or B would pay 110 francs in total. Two years later,

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Table 1: The Relative Magnitude of the Beggar-my-neighbour Penalty

Dep. variable:	ln(1+tr)			Imports	
Estimator	(OLS)	(OLS)	(OLS)	(OLS)	(PPML)
Sample	(1)	(2)	(3)	(4)	(5)
Restriction	None	No Colonies	Import share>0.5 %	Restrictions (2&3)	None
ΔGS	0.0903***	0.0736**	0.0911**	0.0680*	-0.301**
	(3.95)	(2.47)	(2.71)	(1.94)	(-2.22)
Time 1932	0.0334***	0.0501**	0.0258***	0.0489***	-0.441***
	(2.74)	(2.22)	(3.15)	(4.34)	(-3.72)
N	120	86	56	40	120
R^2	0.519	0.545	0.509	0.529	
pseudo R^2					0.986

t statistics in parentheses. Country fixed effects and constant included but not shown.

Robust standard errors applied (clustered at trading-partner level).

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

the firm would pay a $e^{.0501} - 1 \approx 5\%$ markup for imports from either country due to the general increase in tariffs. This would result in 115 franc in total for import of the good from country B. Additionally, the French firm would pay a markup of $e^{.0736} - 1 \approx 7.5\%$ when importing the good from country A or 122.5 franc in total. The beggar-my-neighbour penalty is thus sizeable and comparable in magnitude to the average tariff reductions of modern trade treaties.[29] What effects did the penalty have on trade?

The effects on trade

Column (5) shows the estimate of the treatment effect on imports using the PPML estimator (Santos Silva and Tenreyro, 2006). The specification mirrors the one for tariffs and can be thought of as a simple import demand function by countries. The coefficient is -0.3 (and significant at the 5% level) thus suggesting an additional $e^{-.3} - 1 \approx -26\%$ reduction in imports. While the size of the effect seems intuitively plausible, this result should be treated with care. The estimation is not theory-consistent and this might lead to biased coefficients.[30] While imperfect, we can

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[29] According to Mary Burfisher et al. (2001, p. 127), the US trade-weighted average was 4 % and the Mexican one 10 % for before the North American Free Trade Agreement.

[30] It misses the usual setting of fixed effects, which capture the multilateral resistance term. These time-varying fixed effects for each trading partner would also control for other variables such the competitiveness gained through

complement this evidence with a back-of-the-envelope calculation and compare the two implied effects on trade.

Keith Head and Thierry Mayer (2014, p. 165) employ such a calculation to verify the consistency of estimates for the effects of regional trade agreements, tariff elasticities and tariffs in the empirical trade literature. Analogously, we divide the world into group (A) suffering the beggar-my-neighbour penalty of 7.5 % and (B) just paying the "normal" tariff increase of 5 % in 1932. The following equations can then be employed to calculate the effect on trade.

$$\rho = \epsilon(ln\ \tau_j^A - ln\ \tau_j^B) \tag{3.2}$$

$$\tau^A = 1 + \kappa + t + \eta \tag{3.3}$$

$$\tau^B = 1 + \kappa + t, \tag{3.4}$$

where ρ is the elasticity capturing the effect of the beggar-my-neighbour penalty on trade, similar to the elasticity estimate for trade agreements. The price elasticity $\epsilon = -5.3$ and $\kappa = 0.36$ capturing the ad valorem equivalent of the home preference are taken from Head and Mayer (2014, p. 164f).[31] On top of the general tariff level in 1932, $t = 0.1 + 0.05 = 0.15$, countries in group A pay the additional markup of $\eta = 0.075$, which we all estimated above.

With these parameters at hand, equation (3.2) facilitates the calculation of the elasticity of the beggar-my-neighbour penalty $\rho \approx -0.24$. Just as for trade agreements, we can now calculate the reduction in trade for the penalised group A. Trade would shrink by $e^\rho - 1 \approx -21.6\%$. Albeit being a bit smaller, the absolute size of the effect is comparable to the one found for regional free trade agreements in the gravity literature (Head and Mayer, 2014, p. 164f).[32] Furthermore, it is very close to the empirical estimate. Taken together, these two indicative pieces of evidence suggest that the reorientation of trade induced by the beggar-my-neighbour penalty is about 20 % and thus substantial.

In sum, the French retaliatory tariff response to the 1931 devaluations was fierce and the effects on trade were large. Taking the conservative estimates, the penalty is 7.5 % ad valorem whereas the general increase in tariffs amounted to 5 %. Both, an econometric estimate and a back-of-the-envelope calculation, suggest that this penalty reduced trade by about 20 %. The effect is

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the devaluation, exchange rate volatility or the trading partner's GDP. Excluding them might lead to biased estimates as we know from the gravity literature (see e.g. Head and Mayer, 2014, for a discussion of gravity specifications). Including them, however, is not possible as their inclusion would leave no variation to base the estimate upon.

[31]They constitute the median point estimate in the meta study by Head and Mayer (2014).

[32]Given the large dispersion of estimates of the price elasticity, there is substantial insecurity in this estimate. However, the same applies to CGE models estimating the effect of free trade agreements (Hillberry and Hummels, 2013).

hence not much different from the trade-creating effect of modern trade agreements - just with the opposite sign. As 1932 marked a first plateau rather than the culmination of protectionism, the cumulative effects of the retaliatory tit-for-tat policies that followed the devaluations of 1931 are certainly much larger.

4. Conclusion

Currency realignments can have strong political economy implications and the 1930s provide a blueprint for such a situation. This study has analysed their impact abroad on qualitative and empirical grounds. The discussion of newspaper articles suggests that the devaluations of the 1930s led to severe tensions that one could label as a brief trade war. It is particularly their unilateral nature that provoked further protectionism and created strong commercial policy tensions leading to a toxic tit-for-tat protectionist escalation. On quantitative grounds, the retaliatory response, the beggar-my-neighbour penalty, amounted to 7.5 % ad valorem and led to a trade reduction of about 20 %. This first quantification of retaliation in the interwar period, albeit stemming from one case study only, can provide lessons for the historiography of the Great Depression and economic policy.

From a commercial policy perspective, the devaluations were a doubled-edged sword. Whilst facilitating a faster recovery and less protectionism in countries depreciating (Eichengreen and Sachs, 1985; Eichengreen and Irwin, 2010), they directly fostered substantial protectionism abroad and opened the doors for a third phase of commercial warfare. In this phase, protectionism shifted from a general to a discretionary nature. This is not to question the assessment by Eichengreen and Irwin, but rather to provide a complementary explanation for protectionism in the 1930s and, perhaps to clarify why the previous literature and contemporaries have painted a much more chaotic picture of this commercial policy episode.

In terms of economic policy, the results of this study provide a counterexample to the oft-cited case of 1971 (see e.g. Krugman, 2010), when the United States successfully forced other countries to realign their currencies by imposing an import surcharge. There is no guarantee for retaliatory tariffs to solve currency disputes. On the contrary, the attempt to use them as a bargaining device might fail and instead provoke ever more protectionism. After all economic policy cooperation appears to be the best recipe to avoid disaster.

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Appendices

A. Pre-treatment Trends
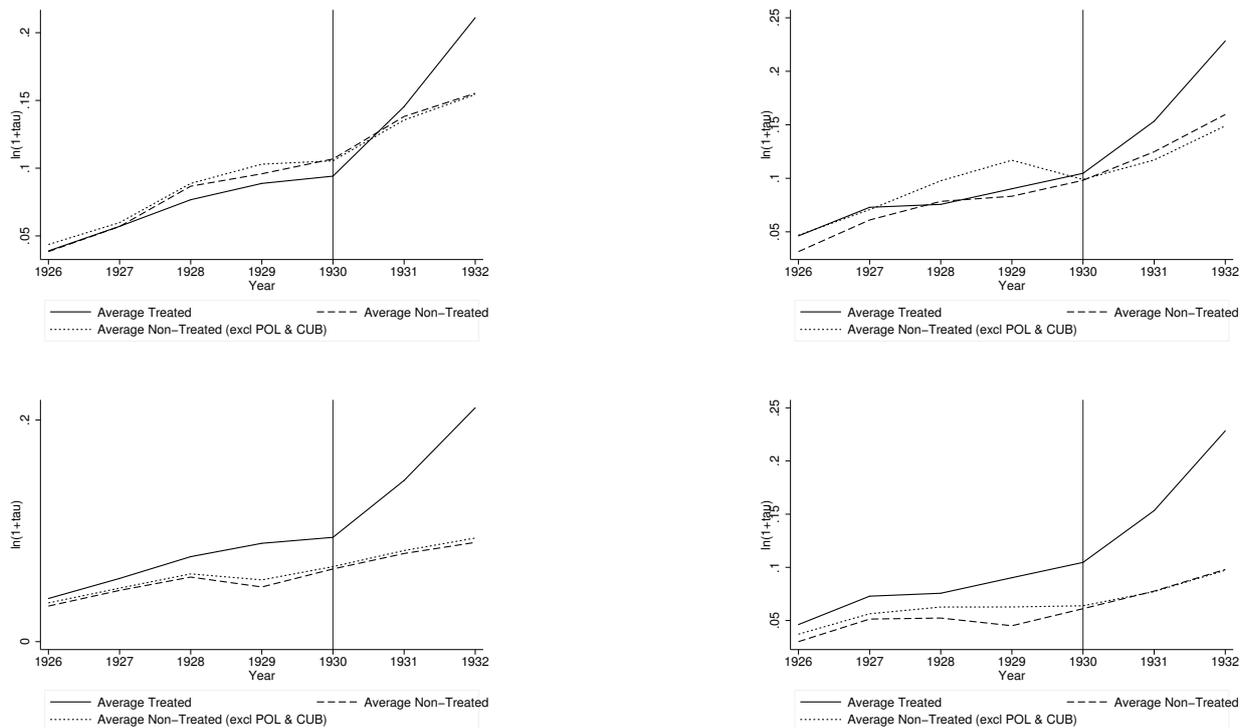
Figure 5: Pre-treatment trends

The upper two panels show the trends without colonies (the left one with the further restriction of excluding small trading partners). The lower left panel excludes only small trading partners and the lower right one shows the trends for the full sample. All graphs also contain the trends with and without Cuba and Poland. Poland and France signed a new commercial agreement in 1929 (American Journal of International Law, 1929, p. 641) and the Cuban tariff rate drops from 50 to 10 percent within one year, most likely due to the change in the tariff on sugar.

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