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**Article:**

Papadia, Andrea and Schioppa, Claudio A. (2024) Foreign Debt, Capital Controls, and Secondary Markets: Theory and Evidence from Nazi Germany. *Journal of Political Economy*. ISSN 1537-534X

<https://doi.org/10.1086/728112>

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# Foreign Debt, Capital Controls, and Secondary Markets: Theory and Evidence from Nazi Germany\*

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November 7, 2022

## Abstract

We investigate how internal distribution motives can affect the implementation of an important macroeconomic policy: capital controls. In order to do this, we study one of history's largest debt repatriations, which took place under strict capital controls in 1930s Germany, providing a wealth of quantitative and qualitative historical evidence. We show that the authorities kept private repatriations under strict control, thus avoiding detrimental macroeconomic effects, while allowing discretionary repatriations in order to reap internal political benefits. We formalize this mechanism in a model in which elite capture can affect optimal debt repatriations and the management of official reserves under capital controls.

**JEL:** E65, F38, H63, N24

**Keywords:** Sovereign risk, Capital controls, Elite capture, Germany, Nazi regime, Foreign debt, Secondary markets

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\*For their comments and suggestions, we thank: the editor Harald Uhlig and three anonymous reviewers at the Journal of Political Economy, Thilo Albers, Ramon Marimon, Josefin Meyer, Kim Oosterlinck, Albrecht Ritschl, Moritz Schularick, Christoph Trebesch, and attendees at the EHES Conference in London, the EHA Annual Meeting in Washington DC, the 2016 RES Conference, the 2021 EEA-ESEM Congress, as well as seminar and workshop participants at the EUI, Warwick University, Queen's University Belfast, and LSE. We are grateful to William Brown and Richard Burdekin for sharing their data with us. For their patience and help, we also thank Ben White and Lorna Williams at the Bank of England Archive, the staff of the LSE Library, Reinhard Frost at the Deutsche Bank Historical Institute, and the staff of the German Federal Archive in Berlin Lichetrfelde and the German Federal Military Archive in Freiburg im Breisgau. Andrea Papadia gratefully acknowledges financial support during the various stages of writing this paper from the DIW Berlin, the Pierre Werner Chair of the Robert Schuman Centre for Advanced Studies and the Max Weber Program at the EUI, the LSE, and the Economic History Society. Claudio Schioppa thanks Philippe Weil for his comments and continuous support, and acknowledges research grants from Fondazione Luigi Einaudi. All errors are our own.

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## The Protestant Ethic...

[...] the Schachtian policy of buying back un-serviced loans below par contributed to crushing Germany's moral standing with the creditors.

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**Hermann Abs**, Head of the German Delegation at the 1952 London Conference on German External Debts<sup>1</sup>

## ...and the Spirit of Capitalism.

He [Hermann Abs] bought back some of the external German debt [...] and made a large arbitrage profit (the difference between the very low price of German debt abroad, and its face value price within Germany) on the deal on his own account.<sup>2</sup>

# 1 Introduction

The power structures that sustain authoritarian political regimes can lead to policies that are in open contradiction with the intended economic goals and the rest of the policy apparatus. In fact, while an authoritarian regime may very well have the necessary control over economic life to reach its macroeconomic objectives, this same control provides opportunities to advantage politically connected elites that underpin the regime's power, even if to detriment of macro policy objectives.

We illustrate this point using the prominent example of the implementation of capital controls in Nazi Germany. In the 1930s, Germany introduced draconian measures to halt the outflow of foreign exchange (FX) reserves. Restricting access to FX reserves disrupted the servicing of foreign-currency private debt, forcing German citizens and firms to default on their foreign obligations (a realization of *transfer risk*). Yet, these measures were circumvented with the authorities' approval of private debt repatriations. We argue that this was the case because repatriations had dual political benefits for the regime: Nazi supporters could be granted substantial economic rewards, and totalitarian control over society and the economy could be reinforced.

Both debt repatriations and capital controls are common empirical phenomena, thus understanding their practical implementation and political economy aspects is of considerable importance. Indeed, [Arslanalp and Sunder-Plassmann \(2022\)](#) show that repatriations are a common feature of sovereign debt crises. Despite this, studies on the topic have been scarce. Capital controls are even more common, in fact they are ubiquitous. According to the latest version of the database in [Fernández, Klein, Rebucci, Schindler, and Uribe \(2016\)](#), in 2019 only seven countries out of the 100 analyzed had no capital controls of any kind and only 33 countries could be classified as having generally unimpeded capital flows.

While capital controls are amply discussed in the recent macroeconomic literature, the political economy of these policies has been largely overlooked, as demonstrated by two recent review articles ([Rebucci and Ma, 2019](#); [Erten, Korinek, and Ocampo, 2021](#)). Previous literature has addressed the political economy of capital controls ([Alesina and Tabellini, 1989](#);

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<sup>1</sup>[Klug \(1993, page 54\)](#), originally from [Schwarz \(1982, page 60\)](#).

<sup>2</sup>[James \(2004, page 59\)](#). In the late 1930s, when these transactions took place, Abs was an influential Deutsche Bank board member. After WWII he became a key figure in German and world financial circles.

Schulze, 2000; Alfaro, 2004), but mostly dealt with the decision to introduce this policy, rather than its practical implementation and macroeconomic consequences. Appendix A offers additional considerations on this literature.

Capital controls can deeply affect economic life and, in extreme cases, even fundamental personal freedoms. Regulatory hurdles, micromanagement, and government control increase the importance of discretionary administrative decisions, thus enabling elites close to the political power to exploit the regulatory framework to their advantage, a phenomenon known as elite capture.<sup>3</sup> James (2020) highlights the intrinsic arbitrariness that follows the introduction of capital controls, while Rajan and Zingales (1998) outline the connection between capital flows and relationship-based capitalism. Relationship-based capitalism and other forms of elite capture can hinder the emergence of “good” institutions or contribute to the deterioration of existing ones, with potentially adverse long-term effects on sovereign defaults (Reinhart and Rogoff, 2004), capital flows (Alfaro, Kalemli-Ozcan, and Volosovych, 2007; Schularick and Steger, 2010; Matsuyama, 2014; Broner and Ventura, 2016), growth (North, 1990; Acemoglu, Johnson, and Robinson, 2005), and public goods provision (Hinnerich and Pettersson-Lidbom, 2014).

Capital controls range from simple prudential measures to avoid excessive risk-taking in some business sectors (e.g., pension funds and insurance) to complete government control over all capital inflows and outflows. These measures can take one or more of the following (partially overlapping) forms: a) crisis tools e.g., to stop bank runs and capital flight (e.g., Greece from 2015 to 2019) or to prevent large capital outflows that would endanger the stability of the exchange rate and debt sustainability (e.g., Iceland from 2008 to 2017); b) macro-policy tools, e.g., in the form of control over inflows, aimed at achieving one or more of these policy objectives: reducing pressure on the exchange rate,<sup>4</sup> altering the composition of flows, reducing their volume, and/or allowing for a more independent monetary policy;<sup>5</sup> c) temporary tools (Klein, 2012; Reinhart and Smith, 2002) which may evolve into a long-term policy (e.g., the exchange control systems established in the UK and other European countries during World War II, which stayed in place well into the 1970s (Dooley, 1996)); d) defining and essential features of an economic system (e.g., as in contemporary China).

The German case spans points a), c), and d), thus providing evidence on varying degrees of capital control and their political economy implications, relevant for many countries today. Moreover, as was the case in Nazi Germany, it has been relatively common for capital controls to take the form of exchange controls (Ghosh and Qureshi, 2020), allowing the government to regulate all operations involving foreign exchange and thus controlling the current as well as the capital account. Our case may therefore inform a variety of other settings and illustrates

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<sup>3</sup>Evidence of elite capture exists for both developing countries (Johnson and Mitton, 2003; Andersen, Johannesen, and Rijkers, 2022) and advanced ones (Faccio, 2006; Tahoun, 2014).

<sup>4</sup>The new mercantilist policies of foreign reserve accumulation might complement this objective. For an overview of the prudential vs. mercantilist motive for reserve accumulation, see Costinot, Lorenzoni, and Werning (2014), Ghosh, Ostry, and Tsangarides (2017), and Pasricha (2022).

<sup>5</sup>See Magud, Reinhart, and Rogoff (2018) for a literature review and further discussion of these points. In this paper, we refer to exchange controls as representative of capital controls due to the de facto impact they have on capital flows and the direct control over economic life they impose.

a point raised by Hayek (1944, page 92): “The extent of the control over all life that economic control confers is nowhere better illustrated than in the field of foreign exchanges.”

Our case study is also relevant because it features one of the largest debt repatriations in history. The German repatriations started as a private initiative in 1931 and, at their peak in 1933, amounted to 2% of German GDP. The capital controls first introduced in 1931 were substantially tightened in 1934; however, significant amounts of debt continued to be repatriated in the second half of the 1930s. Throughout the 1930s, 33% of all German long-term foreign debt was repatriated by private entities (Klug, 1993).

Although scholars have tackled the German crisis before, no complete and fully coherent analysis of how capital controls and repatriations coexisted has been produced.<sup>6</sup> We provide such an account drawing on a wealth of primary and secondary evidence, as well as economic theory. We proceed in three steps.

First, we illustrate the evolution of the German crisis, focusing on capital controls and repatriations, and provide quantitative evidence to substantiate how access to secondary markets played a central role. Specifically, we show that restrictions on secondary market access were key drivers of the dynamics of the spread between the price of German securities traded in Berlin and international financial markets. These restrictions led to a persistent spread, which was crucial for the repatriations: by discriminating who could access FX, the authorities could determine who benefitted from the arbitrage profits and other benefits that could be obtained by repatriating German debt at discounted prices.

Second, we provide a detailed account of the incentives driving the decisions of the German policy makers, grounded in extensive historical evidence. We show that, while Germany as a whole stood to lose from debt repatriations given that these were a transfer of scarce resources abroad, these operations were politically beneficial for the regime. By granting or denying access to secondary markets, the authorities rewarded political allies, punished others, and extended their totalitarian control over society as a whole by eliciting collaborative behavior from private companies willing to allow interference in their operations in exchange for coveted foreign exchange (Kobrak, 2003). As Ellis (1940b, page 167) put it at the time: “[t]he aim of exchange control [...] after the advent of the National Socialists was the furtherance of their economic and political power both abroad and at home.”

As was the case for other policies, the Nazi Party put the bureaucratic might of the state behind its political objectives, even if the aggregate economic gains were limited or negative. This is evident in the counterpoint of favoritism: the persecution of some groups, particularly Jews. As recently shown by Ritschl (2020) for the systematic dispossession of Jews, and by Huber, Lindenthal, and Waldinger (2021) for the “Aryanization” of private firms, these policies did not lead to any substantial windfall for Germany as a whole, and often were downright destructive, but nonetheless these policies received the full support of the state. Notably, exchange control laws were employed as a tool in both policies, highlighting an even darker side of capital controls than simple favoritism. Using archival sources, we provide new evidence of discrimination within the system of repatriations.

Finally, we formalize the economic and political mechanisms of our case study in a model

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<sup>6</sup>See Appendix B.1 for an overview of existing works on the German repatriations and of their limitations.

of capital controls and debt repatriations, which generalizes the main intuitions of [Bulow and Rogoff \(1991, henceforth BR\)](#) and [Broner, Martin, and Ventura \(2010, henceforth BMV\)](#), adding a political economy element in the form of elite capture. Our model encompasses both of these contributions as special cases.

We show that a necessary condition for the government to allow repatriations when there is *de facto* government control over secondary markets is the presence of an elite that has the authorities favor.<sup>7</sup> In fact, in the presence of an influential elite, the government will prefer to gain control over the relative size of the slices of the cake (the internal distribution), at the cost of reducing the size of the cake (because some resources are transferred to foreigners in the form of repatriations). This extends the seminal work by BR, who show that a utilitarian social planner should not allow debt repatriations, as they are an inefficient use of resources.

The model also extends the Secondary Market Hypothesis of BMV, who show that well-functioning secondary markets serve as an enforcement mechanism for sovereign debt even when default penalties are low. This occurs because foreign creditors are able to sell their claims to domestic agents on secondary markets, thereby circumventing any blocks on direct repayments. Thus, only by controlling access to secondary markets can the sovereign acquire a discrimination technology against repayments to foreign creditors.<sup>8</sup> We allow for varying degrees of capital controls and partial default on foreign debt, as well as for the inclusion of privately held offshore funds – which breach the government’s foreign exchange monopoly. We also show that the endogenization of the degree of capital controls does not affect our main findings.

The rest of the paper is structured as follows. Section 2 provides the narrative of the German debt crisis alongside the supporting quantitative evidence. Section 3 discusses the political economy of the debt repatriations, focusing on the incentives of the German authorities. Section 4 presents our model of debt repatriations under elite capture. Section 5 concludes.

## 2 Capital controls, foreign default, and repatriations in the German debt crisis

In this section, we first show how foreign exchange controls were implemented in Germany to default on foreign debts. Second, we show how the totalitarian control over the economy gave the government the authority to control access to secondary markets. Third, we provide

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<sup>7</sup>A *de jure* domestic moratorium on payments to foreigners is not sufficient for the emergence of an arbitrage opportunity, because secondary markets will allow foreign debt to be repatriated, as shown by BMV.

<sup>8</sup>[Broner, Erce, Martin, and Ventura \(2014, henceforth BEMV\)](#) introduce the crowding-out of productive domestic investments due to private agents repatriating sovereign debt, showing that the enforcement achieved through secondary markets can have additional costs apart from the transfer of resources abroad. BEMV and BMV, as well as [Wright \(2006\)](#), provide some of the few examples in the recent capital controls literature where the incentives of the social planner are separate from those of domestic private agents. We show that this aspect is empirically relevant and develop it further by modeling it as transfer risk.

quantitative evidence that secondary market access restrictions were key in driving the spread between debt traded domestically and internationally.

Date	Event	Phase
1924	Adoption of the Dawes Plan.	0
1924-28	Germany borrows heavily on international capital markets.	
1929-30	Start of Great Depression.	
	Adoption of the Young Plan.	
Summer 1931	Twin banking and currency crisis. Rapid deterioration of FX reserves. Start of repatriations and introduction of capital controls. Repayments suspended on some foreign loans.	1
Jun-Jul 1932	Lausanne Conference: <i>de facto</i> end of war reparations.	
Jan-Mar 1933	Nazis seize power.	
	Hjalmar Schacht reinstituted as Reichsbank president.	
May 1933	Further reductions in foreign debt repayments including of Dawes & Young loans.	
March-July 1934	Talks with creditors break down; transfer moratorium implying complete default. Tightening of capital controls.	
1936	Continued deterioration of FX reserves. Hermann Göring becomes plenipotentiary of the Four Year Plan.	2
1937-38	Further tightening of exchange controls. Increasing official oversight over domestic and offshore private assets.	

Table 1: Summary of key events in the German debt crisis.

Table 1 summarizes the main historical events of the German debt crisis which will be referenced throughout the rest of the section. We divide these events in three phases. Phase 0 is the run-up to the crisis. Phase 1 goes from the introduction of exchange controls in the summer of 1931 to the formalization of the German default through the transfer moratorium of 1934. Phase 2 begins with this transfer moratorium and ends during the run-up to World War II, when the increasingly extreme policies of high-ranking Nazi Hermann Göring dominated the scene. Naturally, there was a strong degree of continuity between these phases, but the periodization is useful to highlight the key differences.

## 2.1 The credit boom and the onset of the Great Depression

After World War I, the winning powers imposed heavy reparation payments on defeated Germany.<sup>9</sup> The country defaulted on reparation payments practically from the start, and its policy of passive resistance to the ensuing Franco-Belgian occupation of the Ruhr contributed to the country spiraling into devastating hyperinflation in 1923. To help Germany maintain its monetary stability after the end of the hyperinflation and meet reparation payments, the 1924 Dawes Plan agreed between Germany and its creditors established a new schedule for

<sup>9</sup>The so-called London Schedule of Payments was drawn up in 1921, but uncertainty remained as to how much Germany would eventually have to pay (Schuker, 1988).



reparation payments and floated a loan with maturity in 1949, the proceeds of which went to Germany (Clement, 2004).<sup>10</sup>

Year	GDP	Reserves		Foreign Debt			
		Official	Secret	Commercial <sup>a</sup>	Reparations (NPV)	Total	Share of GDP (%)
1928	89.05	2.89	-	27.0	40	67	75.2
1929	89.25	2.66	-	31.0	46	77	86.3
1930	82.93	2.73	-	32.6	35	67.6	81.5
1931	69.15	1.16	-	33.6	34	67.6	97.8
1932	56.44	0.92	-	25.9	-	25.9	45.9
1933	57.72	0.40	0.04	23.2	-	23.2	40.2
1934	64.38	0.08	0.10	18.1	-	18.1	28.1
1935	71.75	0.09	0.20	17.3 <sup>b</sup>	-	17.3	24.1
1936	79.65	0.07	0.24	16.4	-	16.4	20.6
1937	89.11	0.08	0.30	14.8	-	14.8	16.6
1938	99.19	0.08	0.42	13.9	-	13.9	14.0

Table 2: German GDP, gold and FX reserves, and foreign debt (in billions of Reichsmarks (RM)). Source: Debt data are from Bundesbank (1976), GDP and reparations data are from Ritschl (2013); the large decline in reparations in 1930 is due to the different NPV of the new schedule of payments introduced with the Young Plan. Official reserves data are from Ellis (1940a) and include gold and foreign currencies; all values are end-of-year, except in 1928 for which the January 1929 figure is used. The secret reserves in RM are obtained by subtracting the official reserves from the total reserves reported in Banken (2009), Tabelle 33, pp. 241. *a*: private and public debts excluding reparations. *b*: the missing figure is linearly interpolated.

The Dawes Plan also made reparation payments de facto junior with respect to commercial debts (Ritschl, 2013). This opened the way for considerable capital inflows and, in the second half of the 1920s, all sectors of the German economy borrowed heavily on international capital markets. We refer to this period as Phase 0. By the end of the decade, Germany’s foreign debt (including reparations) amounted to over 86% of GDP (Table 2). The US was Germany’s principal creditor, holding over 40% of the total foreign private and public debt. Accordingly, the dollar was the main currency of denomination. Germany’s industry was the principal debtor, accounting for almost 62% of total foreign debt. A large share - around 46% - of German foreign commercial debt was short term, i.e., with a maturity of less than one year. Appendix B.2 provides further details on the composition of the debt.

The seniority of reparations and commercial debts was eventually reversed by the Young Plan, drafted and adopted between 1929 and 1930 (Ritschl, 2012, 2013).<sup>11</sup> The Plan, combined with the start of the Great Depression, caused a dramatic sudden stop and then a reversal of capital flows. Foreign reserves started to rapidly decline and remained at low levels for the rest of the decade (Table 2). In 1931, Germany experienced a full-blown twin banking-currency crisis in which fiscal troubles, the foreign debt burden, and the fragility of

<sup>10</sup>The majority of the 7% gold bonds were issued in the US and the UK, with other minor blocks issued in France, Switzerland, the Netherlands, Belgium, Sweden, and Italy (Auld, 1934).

<sup>11</sup>The Young Plan provided a new reparation schedule and fresh bond issuance. The bonds were issued mostly in French francs, US dollars, British sterling, and Swedish crowns.



the banking sector fed off each other in a downward spiral (Schnabel, 2004).<sup>12</sup> Following a sharp fall in GDP, the foreign-debt-to-GDP ratio reached its peak at the end of 1931, exceeding 100% (Ritschl, 2013).<sup>13</sup> That same year, Germany also began its protracted default on foreign creditors by interrupting repayments of some loans.

## 2.2 From the introduction of capital controls to total default

As the crisis unfolded, substantial debt repatriations by German individuals and organizations began as a private initiative. Shortly afterwards, in the summer of 1931, the German authorities introduced stringent exchange controls in order to curb the massive capital flight Germany was experiencing, some of which took the form of repatriations (Bonnell, 1940; Child, 1958; James, 1985), marking the start of what we refer to as Phase 1. The main feature of the controls - based on similar legislation in force during World War I and the 1920s hyperinflation - was a restriction of the availability of foreign exchange for private agents, achieved by giving the *Reichsbank* (the central bank) a monopoly over all foreign exchange (Hahn, 1989). Additionally, the authorities regulated the use of the foreign exchange that they granted. Amongst other things, this meant that the authorities began regulating and restricting the access of German investors to secondary markets for German debt held abroad.

Notwithstanding constraints to secondary market access and the lack of government-coordination, the German repatriations were large, reaching their peak at 2% of German GDP in 1933. Table 3 reports our estimates of the value of repatriated German debt between 1931 and 1938 obtained using archival sources combined with Klug (1993).<sup>14</sup> In total, around 33% of all German long-term foreign debt was repatriated to Germany in the form of bonds, including 35% of all long-term dollar-denominated debt, and a further 7% was repatriated in the form of scrip and blocked accounts (Klug, 1993). Seen another way, the repatriations amounted to almost 3% of global debt in 1932 (of which Germany had a 14% share). To put this in perspective, in the 1980s, 4.1% of the initial stock of debt was repatriated by several countries through government-coordinated and negotiated schemes.

Although the repatriations involved a far from negligible proportion of Germany's foreign debt, they were clearly not as large as they would have been if left unchecked by the government. This is evidenced by the strong desire to bring repatriations fully under the control of the authorities, mostly fulfilled by 1934, and by the persistence of a spread between the domestic and foreign prices of German securities, indicating unfulfilled arbitrage opportunities. The spread also meant that the real value of repatriations was substantially lower than their face value.

The motivations driving both buyers and sellers of German securities are the least controversial element of the episode. Germany's spiraling descent into the Great Depression

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<sup>12</sup>A large literature exists on the 1931 crisis. See, for example, Ferguson and Temin (2003), Temin (2008), Ritschl and Sarferaz (2014), and De Broeck and James (2019).

<sup>13</sup>The 1931 figure in Table 2 refers to mid-year, when the debt-to-GDP-ratio had not yet reached 100%.

<sup>14</sup>Some debt repatriations also took place in the 1920s but were quantitatively negligible.

Year	Bonds	Scrip & Blocked Marks	Total	Share of Foreign Debt (%)
1931	0.30	–	0.30	0.4
1932	0.56	–	0.56	3.3
1933	1.18	–	1.18	5.1
1934	0.49	0.09	0.58	3.2
1935	0.08	0.46	0.54	3.1
1936	0.03	0.27	0.30	1.8
1937	0.09	0.13	0.15	1.0
1938	0.05	0.14	0.19	1.4

Table 3: Face value of repatriated German debt (in billions of RM).

Source: The debt repatriation data is from [Klug \(1993\)](#) for 1933-38. The 1931 figure is our lower bound estimate based on evidence contained in *Germany Country File, Bank of England Archive OV34/148* and *OV34/179*. We obtain the 1932 estimate by subtracting the 1931 figure from Klug’s 1932 figure. This is because Klug assigned all repatriations taking place until 1931 to 1932 in the absence of a precise chronological breakdown. Figures are rounded up to the second decimal figure.

explains why default risk on German foreign debt increased dramatically between 1929 and 1931. At the same time, German investors perceived a widespread internal default as unlikely for both political and economic reasons.<sup>15</sup> The selective default risk led to different valuations of German debt between domestic and foreign investors. The latter were spurred to liquidate their holdings of German debt and recoup what they could through secondary market sales. The former had an incentive to purchase German securities abroad, because they expected that the securities would be serviced once repatriated.

While regulations surrounding repatriations were many and often revised, in practice, these operations were carried out in three main ways with the same fundamental economic repercussions.<sup>16</sup> First, firms and individuals could directly request foreign currency for a repatriation operation. The decision regarding the allocation of foreign exchange was made by the regional tax authorities where the applicant resided, following the guidelines of the German Minister of the Economy in conjunction with the German Minister of Finance and the German Minister of Agriculture ([Hahn, 1989](#)). Any funds granted were earmarked for a specific operation, which was then reported back to the *Reichsbank*. Before stricter exchange controls were implemented in 1934, domestic agents could bypass the authorities’ direct approval by buying foreign currency that was already eligible for repatriations on the market.

Second, firms could carry out a repatriation using part of their export proceeds, a system devised by finance minister Schacht and the powerful Employer Association (*Reichsverband der Deutschen Industrie*) ([Kobrak, 2003](#)). If a company could demonstrate that its production costs exceeded world prices, the *Reichsbank* could allow it to purchase German bonds in

<sup>15</sup>See Appendix D.1 for more details.

<sup>16</sup>As [Ellis \(1940a, page 9\)](#) recounts, there were “three general exchange-control laws, upwards of 50 separate decrees of amendment and adaptation, and something in the neighborhood of 500 administrative rulings, to say nothing of clearing, compensation, and payment agreements with partner countries.”

the foreign country where the export took place.<sup>17</sup> The third way to carry out repatriations was also tied to exports, but involved blocked accounts and scrip - essentially arrears of German foreign debt service - rather than bonds, and required the *Konversionskasse* and *Golddiskontbank* - both *Reichsbank* subsidiaries - to play a mediating role between buyers and sellers. This form of repatriations became predominant after 1935 and remained sizable until 1939 (Table 3). In Appendix B.3, we provide further details on this type of operations.

Our estimates of the amount of total foreign exchange needed to carry out the repatriations lead to several plausible scenarios in which the foreign exchange generated by the German economy was insufficient to finance all transactions, up to an estimated maximum of 1.5 billion “missing” RM.<sup>18</sup> The natural candidate to cover this shortfall is the offshore wealth of German individuals and companies. The huge capital flight caused by the 1931 crisis - around 3.4 billion RM (Ritschl, 2002) - means that such funds likely existed and could be used for profitable repatriation by those eager to bring funds back to Germany after the worst of the crisis was over. The likely use of offshore funds adds a layer of complexity to the workings of the repatriations. We tackle this issue from both empirical and theoretical perspectives in Sections 3 and 4 respectively, but - crucially - we show that the fundamental political economy mechanisms of these operations were the same as those of carried out using funds domiciled in Germany.

Whether purchased through simple financial transactions or export proceeds, and whether by the original issuer or another agent, the foreign currency bonds could be converted into RM bonds after repatriation (see Appendix B.4). Following conversion, the bonds were serviced in RM and could be sold back to the original issuer or, from June 1934, in the domestic stock market.

The way in which repatriations took place also did not affect the ensuing gains. If the buyer was not the original issuer, the security could either be held to maturity or sold at the higher prices prevalent in Germany. If the debt was repatriated by the original issuer, accounting profits could be realized by extinguishing the securities bought back below face value. Besides accounting profits, repatriations offered debtors the possibility of at least partially evading the blanket external default imposed by the sovereign, which might not have been in their interest. Some companies, for example, may have wished to continue servicing their foreign debts to preserve ties with their foreign counterparts. Buybacks offered the opportunity to not completely renege on foreign obligations.

The importance of the secondary markets on which the repatriations took place is underlined by the fact that restrictions imposed through capital controls were met with hostility by foreign creditors. A statement by the Council of Foreign Bondholders, for example, declared that restraints on bond repatriations would be met with “strong and [...] effective criticism on the ground that, by limiting the market in such bonds, it would act detrimentally to the bondholders”. The Creditor Representatives were even more explicit about the benefits of

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<sup>17</sup>On average, only 50% of export proceeds could be used to repurchase bonds (at least officially), while the rest had to be handed over to the Reichsbank.

<sup>18</sup>See Appendix ???. We thank one of the anonymous reviewers for pointing out this crucial aspect and directing us towards the sources used in the calculations.

the repatriations stating in 1934 that “German manufacturers and German debtors are benefited, as also are the foreign creditors, the holders of German dollar bonds, the demand for which at improved prices has been considerably increased as a result of these transactions.” A representative of financial firm Hallgarten & Co., at the hearings of the US Securities and Exchange Commission, declared: “I feel that any buying that is created in the market is beneficial, wherever it comes from. [...] repatriation acts as a support of the market [...] from a market point of view it is desirable”.<sup>19</sup>

1933		1934	
Month	Premium (%)	Month	Premium (%)
August	122.0	January	148.5
September	124.8	February	149.5
October	125.0	March	153.0
November	120.5	April	158.5
December	129.5	May	156.5
		June	200.0
		July	215.0
		August	250.0

Table 4: Premium for Foreign currency eligible for debt repatriations over regular foreign currency. Source: US Tariff Commission, Foreign Trade and Exchange Control in Germany. Report No. 150, 2d Series. Washington 1942, via [Child \(1958\)](#), page 118-119).

This qualitative evidence is confirmed by the quantitative analysis of bond prices in Section 2.4. The analysis shows that the introduction of exchange controls, which restricted access of Germans to secondary markets for German debt held abroad, widened the spread between the prices of these securities and their domestic prices. The appearance and gradual widening of this spread raised German investors’ incentives to participate in secondary markets as potential arbitrage profits increased. In 1933, a vibrant market emerged in which currency eligible for repatriations sold at ever larger premia over regular foreign currency because of the potential profits, which could be realized with repatriations (Table 4). Well-connected players could take advantage of the system and benefit from repatriations by being granted foreign exchange concessions. However, the transferability of foreign exchange, the rather porous nature of controls, and the potential use of offshore funds for repatriations meant that market mechanisms still allowed a relatively broad segment of German society to carry out repatriations. This, together with the end of reparations sanctioned by the Lausanne Conference of 1932, eroded the spread that had opened between the prices of German securities traded in Berlin and abroad in correspondence with the 1931 crisis and the introduction of exchange controls (see our analysis of bond prices in Section 2.4).

<sup>19</sup>The Council and Creditor Representatives statements are reported in [Eichengreen and Portes \(1990b\)](#), page 35) and [Klug \(1993\)](#), Page 37) respectively; the declaration of the Hallgarten employee is from the Securities and Exchange Commission *Report on the Study and Investigation of the Work, Activities, Personnel and Functions of Protective and Reorganization Committees*, Part V: Protective Committees and Agencies for Holders of Defaulted Foreign Governmental Bonds, US Government Printing Office, pp. 504, 1937.

Despite the end of reparations, further concessions by international creditors (see Appendix B.6), and the start of the recovery from the Depression, the rise to power of the Nazis in January 1933 dealt a blow to the unstable status quo. The reinstatement of Hjalmar Schacht as the head of the *Reichsbank* was a particularly emblematic event for foreign creditors, as he was a resolute and vocal opposer of war reparations and of what he saw as connected debts, such as the Young and Dawes loans (Schacht, 1934; James, 1985). His first act as the new *Reichsbank* president was the unilateral decision to repay a large loan obtained by his predecessor from foreign central banks, which had represented a much-needed foreign exchange reserve buffer for the *Reichsbank*. Accordingly, we find an increase in the spread in our analysis, corresponding with these events (see Section 2.4)

Marking the official start of Germany’s generalized foreign debt default, a new Law on Payments Abroad was approved in May 1933 and implemented in July, forcing all foreign debts not covered by the 1931 Standstill Agreements to be repaid through a subsidiary of the central bank (the *Konversionskasse*), while reducing the debt service to 75% of the June 1933 level. The German government introduced aggressive measures even with regard to the Dawes and Young loans, which had commanded a privileged status until then. Most significantly, it unilaterally revoked the Gold Clause, which meant that the loans would now be serviced on the basis of their nominal value rather than on that of their original gold value (Clement, 2004). Despite these measures, foreign reserves continued to deteriorate rapidly (Table 2).

A further and decisive step towards default and the total control of debt repatriations came with the breakdown of negotiations with foreign creditors in the Spring of 1934, which paved the way for July’s transfer moratorium. Besides extending the German default to all foreign obligations (Ellis, 1941) making it the largest of the interwar era (Reinhart and Rogoff, 2013), the moratorium led to a substantial strengthening of the machinery to control all foreign exchange operations, including repatriations. This also made offshore-funded repatriations increasingly difficult to carry out. Unsurprisingly, this event is also associated with a large increase in the spread in our empirical analysis.

The market forces that had previously allowed a widespread recourse to repatriations were employed to restrict and control access to secondary markets. Specifically, the market for eligible foreign exchange described above had the unintended consequence of aiding the concentration of the repatriations in the hands of a few large banks, “which facilitated control by the authorities on which types of securities could be repatriated” (Child, 1958, page 118-19). The market ceased to exist altogether with the provisions of the August 1934 New Plan, which made “eligible” foreign exchange (i.e., foreign exchange that could be used for the repatriations) non-transferable.

These authoritarian developments correspond chronologically, and probably not coincidentally, with a crucial consolidation of Hitler’s grip on power. This was exemplified by merging the positions of chancellor and president following Paul von Hindenburg’s death and the elimination of internal opposition within the NSDAP in the so-called Night of the Long Knives. The increased control over foreign exchange operations had two effects: it gave the government the ability to more easily direct foreign exchange towards its political

goals, rearmament above all, and it made the competition for foreign exchange fiercer and political connections all the more valuable, since they were more crucial than ever to obtain foreign exchange. Consequently, appeasing cronies through foreign exchange concessions also became politically more beneficial. Indeed, quantitatively significant repatriations continued to take place (Table 3).

## 2.3 Ever tighter controls in the run-up to World War II

Despite increasingly tight exchange controls and renewed attempts to increase foreign exchange inflows through export promotion, Germany’s foreign reserves continued to dwindle, bringing the country to the brink of a foreign exchange crisis in 1936 (Table 2). The hemorrhage of foreign exchange was driven by the competition for it between different sectors of the economy for foreign exchange, and above all by the import needs of a rapidly accelerating rearmament effort. In this phase (which we refer to as Phase 2), the views of Schacht and Göring regarding the looming exchange crisis started diverging. While Schacht saw the need to reduce the foreign exchange demands of rearmament and/or other sectors of the economy, Göring was willing to entertain far more unorthodox policies (Schweitzer, 1962).

Eventually Göring won, becoming the plenipotentiary of the Four Year Plan with power over all foreign exchange dealings. The new ethos of exchange controls took legislative form in two reforms, one in May-September 1937, and the other in November-December 1938, both of which are associated with increases in the spread in our empirical analysis in Section 2.4.<sup>20</sup> Both reforms strengthened official oversight of foreign exchange operations and increased penalties for rule-breaking. The latter reform, in particular, has been identified as the “normative climax” of foreign exchange law due to its far-reaching authoritarian nature (Hahn, 1989, page 879).

Göring enlisted the help of the head of the *Schutzstaffel* Security Office, Reinhard Heydrich, as well as of the *Gestapo* to implement the new controls (Banken, 2006). The domestic assets of German citizens and companies came under closer than ever scrutiny as they were forced to turn any gold in their possession over to the government. Additionally, companies’ foreign capital was considered at the disposal of the authorities: all offshore-based companies controlled by Germans were ordered to remit funds not essential for the running of the companies, as well as any future surplus funds, to the Reichsbank for conversion into RM. The enforcement of the order was facilitated by the creation of 30 new regional foreign exchange offices (*Devisenstellen*) (Kobrak and Wüstenhagen, 2006). German Jews were particularly affected by these developments and by the introduction of harsher punishments, including the death penalty, for “economic sabotage,” a crime perpetrated by alleged foreign currency law violators (Bajohr, 1997; Banken, 2006).<sup>21</sup>

<sup>20</sup>May 27, Deutsches Reichsgesetzblatt, Jahrgang 1937, Teil I, Nr. 65, p. 600-601; and September 16, Deutsches Reichsgesetzblatt, Jahrgang 1937, Teil I, Nr. 105, p. 1018-19. November 8: Anträge auf Zuteilung von Devisen. December 12: Bekanntmachung des Gesetzes über die Devisenbewirtschaftung. Source: Deutsches Reichsgesetzblatt Jahrgang 1938, Teil I, Nr. 211, p. 1733-48.

<sup>21</sup>Austrian and Czech gold and foreign exchange reserves were also put at the service of German rearmament



## 2.4 Empirical evidence

Analyzing the evolution of the price spread between German bonds traded on domestic and international financial markets allows us to quantitatively substantiate our historical narrative. On the one hand, this variable reflects the differential default expectations of domestic and foreign creditors. On the other, the spread captures the efficacy of the exchange control system in restricting the access of Germans to secondary markets and thus to repatriations. In line with the Secondary Market Hypothesis of BMV, we expect restrictions to repatriations to increase the spread.<sup>22</sup>

We study the dynamics of the spread using weekly data on German bond prices in New York, London, and Berlin between 1930 and 1940. Specifically, we carry out a structural break analysis employing an “agnostic” methodology, whereby we treat both the break dates and number of breaks as a priori unknown, and link each identified break to a significant historical event. With this methodology there is no pre-selection on the number and timing of significant event, yet we only find breaks associated with reduced access to secondary markets, with the exception major events such as the rise to power of the Nazi regime and the start of WWII.

We also confirm the key role of secondary markets using a different approach, whereby we pre-select historical events which we expect to affect the price spread, and trace their impact using local projections (Jordà, 2005). This alternative approach stands in sharp contrast with the agnostic approach of the structural break analysis as it forces us to be very precise in the selection of historical events and their timing. With this alternative approach, we find that exchange control tightenings are associated with an increase in the spread, peaking at between 4 and 5 percentage points (pp) one week after the tightening. The cumulative effect on the spread is between 5 and nearly 8 pp. Considering that average spreads were between 28 and 57 pp, these are large effects; see Appendix C.5. Crucially for our analysis, financial markets in the 1930s were sophisticated, could process a large amount of information, and efficiently incorporated investors’ expectations (Lehmann-Hasemeyer and Streb, 2016). Additionally, sovereign bonds were widely traded in secondary markets, making their prices informative (Eichengreen and Portes, 1990a; Stone, 1991).

### 2.4.1 Data and methodology

Figure 1 presents weekly data for the Dawes and Young bonds traded on the New York and London Stock Exchanges, as well as quotations of German mortgage bonds on the Berlin Stock Exchange. The sample begins in December 1929 (the Young series starts in June 1930 in New York and in September 1930 in London) and ends in June 1940.

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needs following the annexations of Austria and the Sudetenland in 1938 (Banken, 2003, 2009). Despite this, foreign exchange shortages remained a source of continuous concern in the run-up to WWII.

<sup>22</sup>Accominotti, Albers, and Oosterlinck (2021) highlight a similar mechanism at the inter-creditor level of the German crisis: more senior foreign creditors, specifically those based in the UK, acquired German debt from junior ones when secondary markets functioned well, but once these markets became geographically segmented, transactions dwindled and spreads appeared.



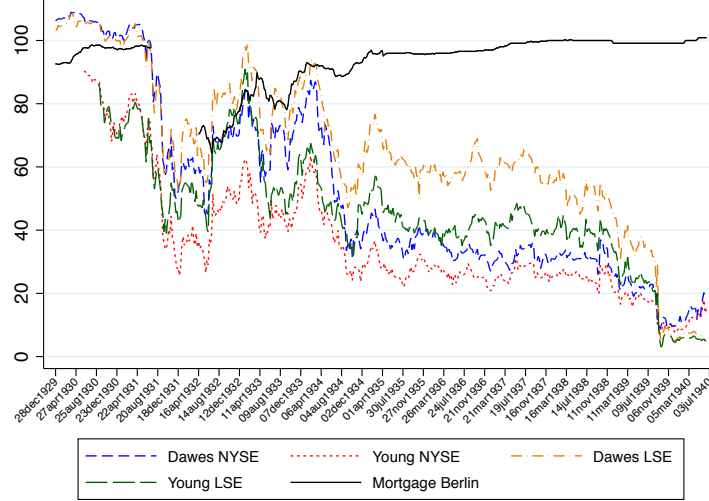


Figure 1: The price of Young and Dawes bonds in New York & London, and of mortgage bonds in Berlin. End of the week quotations. NYSE = New York Stock Exchange, LSE = London Stock Exchange. Sources: see text.

We manually collected the data for the whole period for New York from *The Annalist*, and from 1929 until the end of 1932 for London from *The Financial Times*, after which we splice the data with [Brown and Burdekin \(2002\)](#).<sup>23</sup> The Berlin mortgage bond data comes from [Global Financial Data \(2020\)](#). Two issues are immediately apparent: i) the series for Berlin is incomplete, because the Stock Exchange was closed from July 1931 to April 1932; ii) these bonds may not be representative of other categories of German bonds.

To deal with the first issue, we reconstruct the missing data for the bonds traded in Berlin assuming four different scenarios, all but one involving an eight-week slump in prices correlated with the dynamics of the US stock market. Three of the four scenarios differ in the timing of the start of the slump (ranging from July to August 1931), whereas the dynamics for the rest of the missing subsample are all based on interpolated monthly data of representative German fixed interest securities from the League of Nations.<sup>24</sup> The fourth reconstructed series consists of a linear interpolation for the whole missing subsample. We use these four reconstructed Berlin bond series to obtain 16 different spread series, four for each foreign-traded bond series studied (Dawes and Young) and for each location (New York and London). See Appendix C.1 for more details.

To assess the representativeness of the bonds, we turn to monthly data. Figure 2 reports the prices of a wide range of bond types and locations. Panel (c) illustrates that the prices of different types of public and private bonds traded in Berlin were highly correlated with each other, while panels (a) and (b) show that the Young and Dawes bonds traded in

<sup>23</sup> *The Annalist: A Journal of Finance, Commerce and Economics*, vol. 35-56, Jan 1930-Oct 1940, The New York Times Company. *The Financial Times & Weekly Supplements*, Dec 1929-Dec 1932.

<sup>24</sup> League of Nations Statistical Yearbook, Geneva, 1932-33.



Figure 2: The price of German bonds in different financial markets. Monthly averages. Source: Institut für Konjunkturforschung: *Konjunkturstatistisches Handbuch*. R. Hobbing, 1933 & 1936.

New York and London were representative of a broad range of German bond types traded internationally. In Appendix B.3, we further show that the bond prices we have collected are also representative of the valuation of blocked accounts, the other major asset employed in the repatriations.

The high correlation across German asset prices in international financial markets has a simple explanation: changes in sovereign risk dominated issues related to specific bond types. With the introduction of exchange controls in 1931, the decision to repay foreign debts, whether public or private, rested with German authorities, making all German foreign debt de facto sovereign.<sup>25</sup> Some differences existed in the treatment of foreign creditors based on location, with British creditors receiving a more favorable treatment than others on average (Auld, 1934; Eichengreen and Portes, 1988, 1989; Accominotti, Albers, and Oosterlinck,

<sup>25</sup>This situation carried on into the settlements of interwar German debts at the London Debt Agreement of 1953, where both private and public debts were negotiated jointly.

2021); however macro developments were similar for all foreign creditors, leading to common dynamics. Similarly, in Berlin, common macroeconomic and political developments drove the price of different bond types.

To determine the breaks, we follow the dynamic optimization procedure of [Bai and Perron \(1998, 2003\)](#), which estimates the break dates of a univariate process for a given number of breaks, after having tested for the optimal number of breaks. We assume an autoregressive process of the first order, in which the constant term and the autoregressive coefficients of the model are both subject to structural breaks. This means we allow for breaks both in the level and persistence of the process. We also control for local market conditions with the relevant stock market index taken from [Global Financial Data \(2020\)](#). for New York and *The Financial Times* for London. Appendix C.2 provides further technical details.

## 2.4.2 Results

Across all 16 spread series, there is support for between four and seven breaks. We present the results that allow for the highest number of breaks reasonably supported by each model. We summarize the key findings of the analysis in Table 5, while the full results for each spread series, including break dates and asymmetric confidence intervals, are reported in Appendix C.3. For each identified break, the table shows the earliest and latest point estimate of the break date across all 16 models. The table also reports whether each break led to a higher or lower spread and the historical event associated with it.

The results are remarkably consistent across different locations (London and New York), bond types (Young and Dawes), and scenarios regarding the evolution of the Berlin bond prices during the closure of the stock exchange. The results are further robust to different specifications of the models, to the use of a different stock index for New York, and to analyzing the price level of the Dawes and Young bonds instead of the spread (see Appendix C.4). This latter point highlights that the impact of capital control measures is reflected in changes in the prices of German bonds abroad and, thus, in the expected probability of repayment of foreign creditors, as we would expect based on our reading of events, rather than in changes in domestic expectations regarding repayment.

The first break we find corresponds to the start of the German exchange control system in the summer of 1931. This break date is not estimated as consistently across the different models as the other breaks for two main reasons. First, the break corresponds to the period when the German stock exchange was closed and, therefore, the period for which we rely on a reconstructed spread. This reduces the likelihood of identifying a clear break. Reassuringly, however, we find very similar break dates when we perform our analysis solely on the foreign debt price levels rather than the spread, indicating that the reconstruction of the data is not driving the results. Second, and more importantly, although in retrospect the start date of Germany’s exchange control system can clearly be identified, a large degree of uncertainty regarding the nature of the controls existed at the time. The measure was widely seen as temporary, and provisions to make the controls effective were introduced only gradually as Germany’s crisis deepened ([Ellis, 1940a](#)). Nonetheless, our statistical procedure clearly identifies a structural break during this crucial period.

Break #	Event	Earliest and latest break week among all models	Effect on the spread
1	Introduction of exchange controls	11 April 1931 - 10 October 1931	↑
2	Cancellation of reparations (Lausanne Conference)	11 June 1932	↓
3	Reichstag fire/Reinstitution of Schacht as Reichsbank president	11 February 1933 - 4 March 1933	↑
4	Negotiations breakdown, transfer moratorium, & further controls	3 March 1934 - 5 May 1934	↑
5	Further strengthening of exchange controls	14 July 1937 - 4 September 1937	↑
6	New foreign exchange controls announced and implemented	1 October 1938 - 31 December 1938	↑
7	Germany invades Poland and World War II begins	26 August 1939 - 2 September 1939	↑

Table 5: Historical events corresponding to the break dates in the German bond spread series. We use end-of-week data, therefore we report the date of the Saturday of the first week of the new regime following a structural break. For full results, including confidence intervals for each of the breaks, see Appendix C.3.

The second break is the only one connected with a decrease, rather than an increase in the spread. This is not surprising since the break is clearly linked to the Lausanne Conference of June-July 1932, which de facto put an end to war reparation payments, thus raising the expected value of the remaining German debts.

We identify another downward break in February/March 1933, in relation with two significant events clearly spelling out greater hostility towards foreign creditors. The first event is the Reichstag fire on February 27, followed by the introduction of the Reichstag Fire Decree the following day. The decree eliminated a large number of civil liberties and suppressed freedom of the press. As such, it was a first step in dismantling the Weimar constitution and paving the way for Nazi dominance over German society. The second event is the reinstatement of Schacht as the head of the *Reichsbank* on March 17, which, as discussed above, was unambiguously bad news for foreign investors.

The breakdown of negotiations between Germany and its foreign creditors in the Spring 1934 and the resulting complete transfer moratorium and strengthening of exchange controls are connected to a further increase in the spread and to the fourth identified break. This new legislation - announced after the so-called Transfer Conference of April-May and enforced from July 1934 - put debt repurchases under stricter than ever control, and perfected the complete monopoly of the Reichsbank over foreign exchange operations.

As mentioned above, we also identify the two most significant further tightenings of exchange controls in the run-up to WWII. These took place respectively in May-September 1937 and November-December 1938, following the change in leadership in foreign exchange matters from Schacht to the even more radical Göring in 1936.

The last break we identify is not an episode directly connected to Germany's foreign debt crisis. However, its importance for the probability of repayment of foreign debt holders is indisputable. This is the outbreak of World War II, represented by the Molotov-Ribbentrop pact and the German invasion of Poland on September 1, 1939.

Our results are also notable for what we do not find. In particular, we detect no breaks in relation with several changes in the service of German foreign debts not associated with the

tightening of exchange controls. Most remarkably, we do not find a break in correspondence to the May 1933 Law on Payments Abroad, which marked the official start of Germany’s soon-to-be-complete default on its foreign debt. The lack of breaks associated with these events is reassuring for our analysis, as these were changes that did not impact, in practice, the expected repayments to foreigners, as the existing exchange controls were already stricter than the nominal revisions in debt service.

To sum up, the tightening of foreign exchange controls is the distinctive feature of the foreign-debt-related episodes for which we identify a structural break, compared to those for which we do not. These results match well the narrative outlined in Sections 2.1-2.3 and highlight the importance of policies restricting secondary markets access during the German crisis. These policies closed the “backdoor” channel through which the effects of limited foreign debt services and increased default probability for foreign debt holders could be offset. The findings are also in line with the Secondary Market Hypothesis, which we put at the core of our theoretical model (Section 4) and provide a strong motivation to investigate how the authorities exploited secondary markets for their political gain (Section 3).

### 3 Debt repatriations as political favoritism

The costs of large, uncontrolled repatriations in terms of scarce resources transferred abroad were well known to the German government. Before the controls imposed in 1934 allowed the government to gain a solid control of all foreign exchange dealings, Reichsbank President Hans Luther expressed disappointment at the German authorities’ failure to curb debt repatriations more effectively. The Ministry of the Economy, although viewing the practice more favorably as a potential export-boosting tool, was also eager to keep it under strict control (James, 1985).

The starting point for understanding the authorities’ motivations with regards to repatriations is that any benefit, whether economic or political, of the repatriations depended on imposing some restrictions. By rationing foreign exchange and controlling its use, the German authorities could impose a foreign default and manage the loss of FX reserves, while choosing who could benefit from the repatriations. The price differential between domestic and international prices of German securities on secondary markets was also a consequence of these restrictions, and the German authorities were aware that additional repatriations would diminish the profitability of such operations by increasing prices on secondary markets.<sup>26</sup> This was, after all, common knowledge at the time as demonstrated by the creditor statements reported in Section 2. It follows that only a limited segment of German society could realistically be allowed to carry out and gain from the repatriations, and that tightly controlled debt repatriations could be a useful political tool for a government aiming to reward, punish, or elicit collaborative behavior.

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<sup>26</sup>This is illustrated by the correspondence of the Reich Commissar in occupied Netherlands, who planned to carry out some repatriations on his own account, but decided to sell some previously repatriated bonds instead, not to interfere with other ongoing repatriation (Bundesarchiv Berlin Lichterfelde, R 182/495).

It is well established that favoritism in Nazi Germany had a strong economic component. Firms connected to the regime had superior stock-market performance (Ferguson and Voth, 2008), while the privatization of companies nationalized during the Great Depression was used by the Nazis to garner political support (Bel, 2010), as were policies aimed at protecting and extending the market power of large industrial firms (Crane, 2020). The counterpoint to this favoritism was the dispossessing and persecution of different sections of the German population, especially German Jews and companies perceived to have Jewish ties.

Rewarding some segment of society while punishing another was very much two sides of the same coin within the exchange control system. Indeed, these two activities shared the same tools: with the 1934 New Plan, the emigration of German Jews was integrated into the blocked account system, by transforming emigrants' assets into such accounts, which were then converted into foreign exchange at heavy discounts (Klug, 1993; Ritschl, 2020). At the same time, alleged currency law violations were used to force Jewish owners out of their businesses in the process of "Aryanization". The involvement of the *Gestapo* from 1936 onwards led to an escalation in which "most of the new currency regulations were aimed not only at halting capital flight but also at robbing the entire Jewish population of all its assets" (Banken, 2006, page 16).

The Weimar governments, which preceded the Nazi regime, were intertwined with Germany's traditional conservative elite. This may have influenced the allocation of foreign exchange in the early phases of exchange control, but it is clear that arbitrariness and bureaucratization reached their peak under Nazi rule, as regulations became more stringent and complex (Ellis, 1940b; James, 2020). During this phase, strong connections that existed between the NSDAP and the industrialists who provided support for Hitler's rise to power mattered enormously. These same entities aided Hitler's entrenchment and offered the material means to fulfill his goals of rearmament and territorial conquest (Schweitzer, 1964; Crane, 2020).

Even the supposedly more economically-motivated additional export system relying on repatriations was no exception; Ellis (1940a, page 43) states: "[...] the 'additional' exports involved a procedure which entailed far-reaching official supervision of the whole export trade, and the very looseness of the concept proved to be an easy device for favoring certain exporters and discriminating against others." Against this backdrop, select industries, individuals, and companies benefited greatly from the repatriations (James, 1985).

Complete records of foreign exchange applications have been lost, making it impossible to know all those who applied and were granted/denied the possibility of repatriating debt.<sup>27</sup> Even if these records had survived, they would have allowed us to find evidence of discrimination and favoritism only if these took place precisely at this stage of the process and not,

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<sup>27</sup>The vaults of two key institutions for the implementation of capital controls, the *Konversionskasse* and the *Golddiskontbank*, were located in what became East Berlin, and were reportedly destroyed or looted upon Soviet occupation. Before the London Debt Conference of 1952, Germany and the US went through a verification process to determine which German bonds were held outside Germany before the end of the war (the so-called Validation Law). This was done to prevent that repayments that were established by the London Debt Conference and meant for US creditors from going to the holders of looted bonds (US Department of State Bulletin *Validation of German Dollar Bonds*, Vol. 27, pp. 608-614, 1952).



for example, by preventively discouraging undesirable individuals and organizations from applying for foreign exchange, or by barring them from doing so altogether.

The latter appears to have indeed been the case. Archival records show that the government issued lists of firms excluded from the additional exports procedure, which, as we have discussed, relied on debt repatriations for its functioning. We have uncovered one such list in the German Federal Archive amongst the confidential decrees issued by the Reich Office for Foreign Exchange Management dating from 31 December 1939.<sup>28</sup> The list contains the name and location of 143 exporting firms that were added to an already existing list of excluded companies.<sup>29</sup> Our hypothesis is that “Jewish” firms would be discriminated and thus overrepresented in the excluded list, while rearmament firms would be favored and thus underrepresented in the list.

The results confirm this: compared to a Jewish population share of around 0.7% and 0.4% in the 1933 and 1939 population censuses respectively, 44% of excluded firms can be associated with a German-Jewish surname.<sup>30</sup> This may be an underestimation, as we can only observe patrilineally transmitted surnames. At the same time, we cannot be certain that all these firms were identified as “Jewish” by the regime in 1939, and there is also the possibility that German-Jewish names were overrepresented in the entrepreneurial/export-oriented portion of the German economy. However, these factors would have to play an enormous role to rule out the presence of discrimination in the additional export system.<sup>31</sup>

Further supporting our hypothesis, we find that only one excluded firm also appears in a list of nearly 4,400 firms receiving government rearmament contracts.<sup>32</sup> While factors other than favoritism can help explain this result - for example rearmament firms may not have been particularly active in exports, given the war effort- these would once again have to be very impactful to explain the patterns we find.

Several prominent examples of repatriations further illustrate how well-connected players received favorable treatment within the system of exchange controls. For instance, the companies *Miag Mühlenbau und IG* and *Schering AG* - closely tied to government bureaucracy and the Nazi regime because of their involvement in rearmament - handsomely profited from special foreign exchange operations (Klug, 1993; Kobrak, 2003).<sup>33</sup> More generally, with the blessing of finance minister Schacht, large industrial firms could report only their net foreign exchange balances rather than every single operation, something that allowed them to avoid obtaining explicit authorization for repatriations, as well as for other operations involving foreign exchange (Schweitzer, 1964). Particularly powerful companies - such as chemical giant *IG Farben* - enjoyed especially favorable treatment in their foreign exchange

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<sup>28</sup>Bundesarchiv Berlin Lichterfelde, R 2501/27610.

<sup>29</sup>To the best of our knowledge, this list no longer exists.

<sup>30</sup>We match the firms to a list of over 13,000 German-Jewish surnames contained in Menk (2005).

<sup>31</sup>Moreover, the definition of German Jews in the 1939 census was particularly broad, in line with the discriminatory nature of the Nürnberg Laws, and included the descendants of mixed marriages with at least one “fully Jewish” grandparent (Blau, 1950).

<sup>32</sup>We uncovered this in the German Bundesarchiv Militärarchiv Freiburg RH 8/1765.

<sup>33</sup>Both firms appear in the already-mentioned list of companies receiving government rearmament contracts.



dealings ([Schweitzer, 1960](#)).

Favoritism was also evident in the practice known as *Tarnung* - the camouflaging or cloaking of foreign assets - which was widely employed in the interwar period. This was another offshoot of the exchange control system and was also intimately related to debt repatriations. *Tarnung* was traditionally interpreted as a way for German businesses to shield themselves from potential expropriation by hostile foreign governments, but an equally, if not more important, motive was avoiding interference from the German government ([Kobrak and Wüstenhagen, 2006](#); [Jones and Lubinski, 2012](#)). In fact, *Tarnung* was explicitly opposed by the German authorities, except for brief periods or on an ad hoc basis.

As in other facets of the economy, however, the Nazis took a pragmatic approach in their dealings with individuals and companies, especially when turning a blind eye on officially prohibited operations - or even facilitating them - supported the pursuit of their political goals. Thus, arbitrariness and favoritism strongly affected the way in which German authorities dealt with offshore funds and assets.

*Schering AG* provides an illustrative example in this case as well. In 1934, the Reichsbank did not force the company to sell some shares it held in the US - the dollar proceeds of such an operation would normally have been handed over to the Reichsbank in exchange for German currency - because the shares commanded a price that was perceived to be too low. Instead, the central bank allowed *Schering AG* to use these shares as collateral for a five-year loan which was then used to carry out profitable bond and blocked account repatriations ([Kobrak, 2003](#)).

Another clear example of favoritism comes from the brief period when the government supported cloaking operations due to the increased fear of foreign expropriation, namely in September 1938 during tensions with other countries over German territorial claims in Czechoslovakia. The official order that allowed cloaking clarified that licenses should only be given to “reliable” companies. *Beiersdorf AG* - a pharmaceutical and skin-care firm - was denied a license because it was identified as a Jewish company ([Jones and Lubinski, 2012](#)). After the Munich Agreement reduced the danger of expropriation, the order was reversed and only cloaking operations that did not reduce the flow of foreign exchange to Germany were allowed. Good relationships with the authorities were key both in obtaining a license in the first place, and in keeping it afterwards ([Kobrak and Wüstenhagen, 2006](#)).

These examples involving offshore funds also demonstrate that the different origins of the funds employed in the repatriations did not appreciably alter the political economy of the practice. This was particularly true once the government extended its control over the wealth of Germans abroad, seen as a reservoir of coveted foreign currency. Chancellor Heinrich Brüning had attempted to extend official control over these funds already in 1931, but it was once again under Nazi rule that the Government really managed to do this thanks to the tightening of capital controls and increasingly severe penalties for undisclosed offshore funds. In 1936, Göring, as the newly established foreign currency commissar with absolute powers, ordered the seizure of all assets held by Germans abroad ([Banken, 2003](#)).<sup>34</sup>

Individuals and organizations other than companies could also benefit from foreign ex-

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<sup>34</sup>For a further discussion of offshore-funded repatriations see Appendix [D.2](#).

change concessions, particularly from being granted the possibility of repatriating debt. Renowned banker Hermann Abs made large personal profits by purchasing German debt abroad and selling it for higher prices in Germany. Not only was Abs a board member of Deutsche Bank at the time - one of the banks most active in the repatriations - he was also involved in several “Aryanization” operations on account of the regime (James, 2004).<sup>35</sup> Finance Minister Count Schwerin von Krosigk carried out a similar repatriation operation in November 1933, but was only granted half of the foreign exchange he had initially requested (Klug, 1993).

The most egregious and illuminating instance of Nazi favoritism comes from 1934, a year in which the bulk of repatriations was carried out by none other than the NSDAP itself. The operation was orchestrated by Minister of Propaganda Joseph Goebbels in 1933 to replenish the empty coffers of the Party and relied on foreign middlemen Colonel Francis Norris and Siegfried Wreszynski, who already enjoyed a reputation as “thawers” of frozen German debts. The two men were tasked with purchasing German debt throughout Europe and possibly the US, which was then repatriated and sold within Germany at higher prices.<sup>36</sup>

Granting of foreign exchange was not only employed as a reward, but also served to extend the government’s control over corporations and the private sector more generally. Desperate to increase their foreign exchange quotas to import raw materials, subsidize exports, or simply make arbitrage profits, companies curried favor with the Nazi regime, cooperating ever more closely with the government to help it achieve its political and economic goals (Feldman, 2001; Kobrak, 2003). As Ellis (1940a, page 132) stated: “The institution [of exchange controls] persisted because it was an instrument par excellence of political power - political power not only over other states but equally significantly over vested economic interests within the country. The National Socialist state developed this totalitarian instrument to one of its most formidable weapons.”

In summary, repatriation concessions afforded the government considerable political advantages in the form of both carrots and sticks. The drawbacks were the opportunity cost of the foreign exchange used in the repatriations and the higher debt repayments these implied.

## 4 A model of debt repatriations

In this section, we provide a model of debt repatriations with elite capture. We then compare this work to the existing literature outlining our theoretical contributions. Finally, we show that the theoretical framework supports a broad typology of capital controls and different degrees of governmental control over the economy.

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<sup>35</sup> Abs also had ties to several prominent members of the German resistance, making him a complex figure.

<sup>36</sup> *Fast Thawers*, Time Magazine, April 9, 1934. For more details on this operation, see Appendix B.1.

## 4.1 Base Model

**Environment.** The domestic economy consists of a government and a continuum of domestic agents with unit measure. A fraction  $\omega$  of agents are government supporters  $s$  and the remaining fraction  $1 - \omega$  are non-supporters  $ns$ . Supporters and non-supporters alike receive an endowment  $e$ , the only source of income, and each agent inherits an equal share of private debt with total face value  $D_0 > 0$ , held by risk-neutral foreign agents. All quantities throughout are non-negative. There is full information sharing.

**Government.** The government collects a proportional tax on  $e$  net of debt reimbursements and repatriations expenses. In return, it provides a non-tradable good  $G$ . It also has the technology to perfectly control and discriminate access to international secondary markets, and only allows supporters to operate on these. Access to secondary markets gives  $s$  the opportunity to repatriate  $D_0$ . The government always enforces debt contracts between domestic agents.

**Market and domestic agents.** The timing of events is as follows. First, endowments  $e$  are realized and debt  $D_0$  is inherited by domestic agents. Second, the government determines the aggregate amount  $X$  of resources that  $s$  can use to repatriate debt traded on secondary markets. All supporters therefore have access to the same share of  $X$  to be taken from  $e$ . Third, secondary debt markets open. Denoting  $P$  as the unit price of debt and  $B$  as the aggregate units of debt repatriated, we have:

$$B = \frac{X}{P} \quad (1)$$

and therefore the amount of outstanding debt held by foreigners after repatriations is

$$D = D_0 - B \quad (2)$$

We assume that  $D_0$  is pooled from all domestic agents and securitized at no cost, so that every unit of debt represents a debt share  $B/D_0$  towards domestic agents and a share  $D/D_0$  towards foreigners.

In the fourth step, debt repayments are collected. The face value of  $B$  is repaid by domestic agents, as the government always enforces debt contracts between them. There are no default penalties, so the government will rationally not allow foreign debt to be serviced (a realization of *transfer risk*). Following BR's *direct punishment* approach to sovereign debt, foreigners can only collect:

$$R = \min\{\sigma(e, X, \beta, \phi), D\} \quad (3)$$

where  $\sigma(e, X, \phi, \beta) \geq 0$  is an enforcement technology available to foreigners,  $e$  are aggregate endowments and  $\beta$  and  $\phi$  are given constants. Parameter  $0 \leq \phi \leq 1$  is an exogenously set capital controls government policy whereby  $\phi = 0$  represents complete isolation from international capital markets and  $\phi = 1$  complete openness, with capital controls strictly decreasing in  $\phi$ . The role of  $\phi$  is to shield domestic private resources from foreign creditors. Function  $\sigma$  models the creditor-debtor interaction, effectively linking  $\phi$  to control over secondary markets: the power to assign  $X$  to supporters would be irrelevant without control

over secondary markets. Parameter  $0 < \beta < 1$  represents the efficiency of the enforcement technology, linked to e.g., military and political power. We assume furthermore that  $0 \leq \partial\sigma/\partial e < 1$  and  $-1 < \partial\sigma/\partial X \leq 0$ , meaning that creditors gain from the additional resources that they can seize in the debtor economy but less than one-for-one. The following is an illustrative example, with the main results not depending on this choice:<sup>37</sup>

$$\sigma(e, X, \beta, \phi) = \beta\phi(e - X) \quad (4)$$

Domestic agents will repay an amount  $R$  to foreign agents and  $B$  to other domestic agents, with the following equation pinning down the debt repayment fraction  $0 \leq \rho \leq 1$ :

$$R + B = \rho D_0 \quad (5)$$

Recall that the government collects proportional taxes and in exchange provides a non-tradable good  $G$  to domestic agents. Only supporters are allowed to carry out repatriations, therefore total taxes collected from  $s$  are  $T_s = t\omega(e - \rho D_0) - tX$ , with tax rate  $0 < t < 1$  and  $e$  aggregate endowments.<sup>38</sup> Taxes collected from  $ns$  are  $T_{ns} = t(1 - \omega)(e - \rho D_0)$ . The government budget constraint is then:

$$G = T_s + T_{ns} = t(e - \rho D_0 - X) \quad (6)$$

Summing up, the total payoffs available to supporters and non-supporters are, respectively:

$$y_s = e + G + \frac{B}{\omega} - \frac{X}{\omega} - T_s - \rho D_0 \quad (7)$$

$$y_{ns} = e + G - T_{ns} - \rho D_0 \quad (8)$$

Repatriations involve purchasing debt on the open market, so  $P$  must reflect the value of debt for creditors who do not sell, that is, the expected repayments at maturity  $R$  divided by outstanding debt post-repatriation  $D$ :

$$P = \frac{R}{D} \quad (9)$$

Imposing market clearing on the secondary market for debt, together with eqs. (2) and (9), leads to:

$$P = \frac{X + R}{D_0} \quad (10)$$

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<sup>37</sup>The value of  $\sigma$  cannot be higher than available aggregate endowments  $e$ , as it represents a costly enforcement process in the case of strategic default. If  $\sigma(X) < D$  when  $e \geq D$ ,  $X = 0$  and  $\phi = 1$ , then  $\sigma$  can be interpreted as allowing for a subsistence income that has priority over debt repayments. We focus on cases of strategic default i.e., with no capital controls and repatriations, aggregate endowments net of taxes are enough to service  $D_0$ . In Appendix E.2 we show our main results under different choices for  $\sigma$ .

<sup>38</sup>We assume that capital gains from repatriations are exempt from taxes, consistent with the policy choice of only allowing  $s$  to trade on secondary markets. Including capital gains in the tax base would lead to further redistribution policies, unnecessarily complicating the presentation without adding any insights.

From the above it follows that if  $\sigma > 0$  (and therefore  $R > 0$ ) then  $D > 0$ , the case of partial default. In fact, while the effect of an increase of  $X$  on  $P$  is always non-negative, the magnitude of the post-repatriation price variation ultimately depends on the impact of  $X$  on  $\sigma$ . Different functional forms for  $\sigma$  can give rise to different  $\partial P/\partial X$  even given the same  $\phi$  and  $\beta$ . This shows that *how* capital controls are implemented matters as much as the *amount* of resources involved in the default episode.

As a final step, the government optimally chooses  $X$  to maximize social welfare function:

$$U = \alpha y_s + (1 - \alpha) y_{ns} \quad (11)$$

where  $y_s$  and  $y_{ns}$  have been previously defined and are both a function of  $X$ .

**Proposition 1.** *If  $\alpha = \omega$  (i.e., the social planner is utilitarian) then  $X = 0$  is optimal.*

*Proof.* Note that, when  $\alpha = \omega$ , the FOC simplifies to  $-\partial R/\partial X = 1 + (1 - \omega)t$ . However, the LHS is always strictly less than the RHS (see Appendix E.4 for the full FOC).

**Proposition 2.** *A necessary condition for an optimal  $X > 0$  is  $\alpha > \omega$  (i.e., the social planner is non-utilitarian).* The result follows from analysis of the FOC. *Proposition 2* highlights that  $X > 0$  is possible only when the political weight commanded by supporters is higher than their population share. This captures the empirically-relevant case of elites having disproportionate influence also when they are a minority of the population.

Here we provide the intuition behind the main properties of the model; see Appendix E for analytical details and examples. When  $\alpha = \omega$ , repatriations for  $s$  are not allowed as they would not be Pareto-improving:  $ns$  would be worse off due to higher debt repayments and lower public spending, and the private gains of  $s$  would simply offset their share of (additional) collective costs. In general, the higher the value of the difference between the social planner's political bias and the share of supporters ( $\alpha - \omega$ ), the wider the range of structural parameters that lead to optimal  $X > 0$  and the higher the magnitude of  $X$ . Moreover, an increase in supporters share  $\omega$  always reduces the gains from additional  $X$ . This happens because, as  $\omega$  increases, the *collective* detrimental effects of repatriations in the form of higher repayments  $\rho D_0$  and lower public spending are internalized by a larger share of the population, and capital gains from repatriations cannot compensate for this. At the limit,  $\omega = 1$  corresponds to the case of BR, where collective and group interests perfectly match and therefore optimal  $X = 0$ . If a supporter could deviate from the government's decision, then she would make capital gains at the expense of all others: the government solves exactly this coordination problem. Note that in our model  $\omega$  need not reach unity in order to have  $X = 0$ , even when  $\alpha > \omega$ , which is a necessary but not sufficient condition to obtain  $X > 0$ .

We include public spending in the base model as it plays a role in the episode we study; however the main driver of detrimental effects on higher  $X$  is the higher share of debt repayments  $\rho$ . In fact, *Proposition 1* holds irrespective of public spending and taxation, whereas the value of proportional tax rate  $t$  only affects the magnitudes of optimal  $X$  attainable when  $\alpha > \omega$ .

## 4.2 Discussion

Despite the complexities of the historical episode, the model captures its main features. First, it captures the different evaluation of default risk between foreigners and domestic agents. As showed throughout the paper, capital controls  $\phi$  affect this differential risk. However, unimpaired access to secondary markets by domestic agents would create the conditions for the differential risk to disappear, as foreign debt would be repatriated and fully repaid between domestic agents. Therefore, and second, we capture the fact that control over the access to secondary markets, in the form of centralized decisions over  $X$ , ensures that foreign debt cannot be repatriated and that a foreign default can take place. Third, we capture the alternative use of scarce resources between public goods and  $X$ . The totalitarian control over access to international markets gives the government all the tools and incentives needed to enforce a strategic default on foreign debt, stopping the transfer of resources to creditors through  $X$ . However, the fourth element, political bias favoring supporters ( $\alpha > \omega$ ), can lead to  $X > 0$ , to the detriment of the country as a whole. Totalitarian control creates the opportunity for an arbitrage profit to be realized by private agents, highlighting the importance of the power structure that leads to totalitarian control in the first place.

Our model encompasses as special cases the main results of two seminal contributions to the literature, namely BR and BMV. BR's main intuition is that by buying marginal debt at the average price, repatriations are a net transfer of resources to creditors. In the previous section we already showed that the extreme case of  $\omega = 1$  (all citizens are supporters) corresponds to the BR world, where collective and supporter interests match perfectly and therefore  $X = 0$ .

A key difference with respect to BMV is that, in the language of our model, they assume the government can control  $\beta$  and nothing else, and that trade on secondary markets (and therefore  $X$ ) is purely driven by *unregulated* private incentives.<sup>39</sup> In our model agents do have private incentives to repatriate, but, as in BR, the government controls  $X$ , thereby limiting private access to markets.

In BMV, when debt is in foreign hands the government will choose  $\beta = 0$  to strategically default on foreigners, the socially preferable outcome. However, smoothly functioning secondary markets allow to circumvent the policy, as citizens can access any amount of  $X$  they can afford to repatriate debt. In equilibrium all debt is repatriated (i.e.,  $D = 0$ ) and no strategic default is possible when  $\phi = 1$ .<sup>40</sup> In contrast to BMV, we allow  $R$  to be non-zero and its relationship with  $X$  is defined by  $\sigma$ : this allows for partial repatriations ( $D > 0$ ).

It is in this comparison with BMV that the crucial role played by secondary markets stands out most clearly. Since different specifications of  $\sigma$  represent alternative implementations of capital controls and can lead to different optimal  $X$ , this shows that *how* secondary markets are impaired matters and should be explicitly modeled in addition to other sources of debtor-creditor interaction.

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<sup>39</sup>To fully compare our model to BMV's base case one must assume  $\omega = 1$  and  $t = 0$ .

<sup>40</sup>BMV propose a variation of their model (Example 9, page 1544) that allows for what can be interpreted as debt repatriations under impaired secondary markets. However, all debt is repatriated in this case too.

Other works, notably [Krugman \(1988\)](#) and [Froot \(1989\)](#), reach the conclusion that sovereign buybacks can be socially beneficial under specific conditions. Their frameworks are very different from ours, departing most notably by implicitly assuming  $\beta = 1$ , an assumption closer to a case of corporate buyback (see footnote 42). This highlights the importance of studying more general frameworks for debt repatriations, especially when it concerns the debtor-creditor interaction as in function  $\sigma$ .

### 4.3 Extensions

**Imperfect government control over secondary markets.** The assumption that the government has perfect control over access to secondary markets can be relaxed by allowing for a class of domestic agents who have access to private offshore funds  $F$ , outside of the government's jurisdiction, and are therefore differently impacted by capital controls. This extension allows us to encompass all scenarios, from the base model with full government control, to the BMV world, in which government control over access to secondary markets is weak or absent, as well as the intermediate cases of partial government control.

Domestic agents who own  $F$  can freely choose the amount  $X_F$  to use to repatriate debt, after observing  $\phi$ .  $R_F$  is the expected creditor enforcement over  $F$  and can be modeled as:

$$R_F = \min\{\sigma_F(F, X_F, \beta_F, \phi_F), D\} \quad (12)$$

with  $\sigma_F = \beta_F \phi_F (F - X_F)$  an illustrative example. The efficiency of creditor enforcement on  $F$  is  $\beta_F$  and can differ from  $\beta$  in  $\sigma$  (eq. 4), reflecting the effect of domestic/foreign jurisdictions on debt enforcement. The effect of capital controls on  $\sigma_F$  is  $\phi_F = c\phi$ ,<sup>41</sup> as domestic policies offer weakened or no protection outside of the domestic government jurisdiction. Equations (2) and (9) are modified to include this additional class of agents and we define  $B_F = X_F/P$ , such that equations (10) and (5) are now, respectively:

$$P = \frac{(X + R) + (X_F + R_F)}{D_0} \quad (13)$$

$$(R + B) + (R_F + B_F) = \rho D_0 \quad (14)$$

We assume that the owners of offshore funds decide whether to repatriate before the rest of domestic agents and after observing  $\phi$ . Once  $X_F$  is chosen by the owners of the offshore funds, it has an impact on prices through equation 13. The increase in price in this stage has a dual effect on the optimal choice of  $X$  by the government. First, a higher price reduces capital gains from repatriations, everything else given. Second, it reduces the amount of debt that can be repatriated for a given value of  $X$ , therefore limiting the increase of debt repayments  $\rho D_0$ . Both these effects will lead to a meaningful reduction of equilibrium  $X$  only to the extent that the price increase is substantial.

A change in  $\rho D_0$  affects all citizens alike and does not impact the optimization problem of the government. Nevertheless, the distribution of capital gains across supporters and non-supporters might affect the choice of  $X$ , but only if it were observable by the government. In

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<sup>41</sup>Where  $c > 1$  when  $\phi < 1$  and otherwise equal to unity.



fact, if ownership of  $F$  is uniformly distributed among citizens, or if the distribution of  $F$  is not known to the government, then social welfare function (11) will not change and optimal  $X$  will not be affected beyond the effect of higher prices described above. Instead, if the government were to observe that  $F$  is disproportionately owned by non-supporters (relative to their population share), this would create the incentive for a redistributive policy favoring supporters in the form of higher  $X$ .

One key consideration when dealing with offshore funds is that of jurisdiction and how this relates to the reason for establishing these funds in the first place. One could reasonably assume that agents would not want to demobilize  $F$  if gains from repatriating debts are small. Therefore, a high  $X_F$  can only be expected when a large capital gain can be realized through repatriations. This gain, in turn, will be determined, through its effect on  $P$ , by the value of  $\phi$ . It is therefore realistic to expect that the introduction of mild capital controls would not mobilize the full amount of  $F$  for repatriations.<sup>42</sup> Another consideration is that offshore funds might be protected from being directly seized or controlled by the domestic government due to the lack of jurisdiction or the secrecy of the funds. However, if the government discovers the existence of funds  $F$ , their owners and their domestically held assets still fall under the jurisdiction of the government and can therefore incur into penalties. Even if secret at first, the probability of the government finding out about offshore funds will be correlated to the government's willingness to detect them, which could be signaled by tighter controls  $\phi$ . The nature of offshore funds, therefore, implies that  $X_F$  can only apparently be chosen freely from government control, but in practice the choice is not independent from domestic policy and from similar political economy considerations as those of the base model.

One last element to be discussed is the size of  $F$  relative to  $D_0$ . If  $F$  is very large, the model reflects the original BMV intuition that secondary markets outside of government's control completely drive repatriation dynamics. A smaller  $F$  represents an intermediate case between BR and BMV, therefore the model can flexibly incorporate more realistic scenarios of limited government control.

In summary, offshore funds introduce another channel of repatriations which remains open despite domestic controls aimed at curbing capital flight. The extension shows that domestic policy and the same elite favoritism mechanism as incorporated in the base model play a relevant role in repatriations from offshore funds. Therefore, the inclusion of funds outside government control, leaving open a channel for unwanted (for the social planner) repatriations, will not fundamentally alter the conclusions of the base model, but will only alter the magnitude of equilibrium  $X$ . In many plausible scenarios, this effect will be limited.

**Endogeneity of capital control policy.** The assumption that capital controls are exogenous is based on the historical episode we study, as well as the consideration that such an important policy, potentially isolating a country from international capital markets and leading to an external default, is unlikely to be determined on the basis of one channel that could favor the elite. Nevertheless, in Appendix F we extend the model to have  $\phi$  optimally

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<sup>42</sup>The effect of jurisdiction is also reflected in  $\beta_F$ . If  $\beta_F > \beta$ , then  $F$  is, relatively speaking, in double jeopardy from both government and foreign creditors. A higher  $\beta_F$  incentivizes repatriations as it conceptually similar to the case of a corporate buyback, where every unit of collateral is lost with certainty in case of default.

chosen by the government together with  $X$ . We show that an utilitarian social planner is a sufficient condition for  $X = 0$  (akin to *Proposition 1*) and that a non-utilitarian social planner leads to solutions where both  $0 < \phi < 1$  and  $X > 0$  (an extension of *Proposition 2* to this case).

## 5 Conclusion

We have looked back at history for insights on the political economy of capital controls and debt repatriations. More precisely, we have studied the repatriations of foreign debt carried out by Germany under strict capital controls in the 1930s, one of the largest episodes of its kind. We found that political economy mechanisms and discretionary access to secondary markets played a key role, with an impact both on internal redistribution (by favouring government supporters) and on international markets (through prices).

This line of research can be extended by further investigating the economic and political mechanisms that lead to the emergence of elites, as well as their feedback effect on the economy in the context of cross-border transactions. Additional avenues for research also include studying the feedback relation between the quality of institutions and capital controls, and its effect on both short-run and long-run economic outcomes.

Our study has shown that political economy considerations are not simply a nuance to be added to previously studied aspects of sovereign debt crises. Rather, this work demonstrates the necessity to further generalize frameworks in the sovereign debt literature to account for political elements. Macro theory often plays catch-up with empirical evidence, as debt crises display combinations of features that are studied separately in the literature. But existing theories are not irrelevant, on the contrary: we show that macro theory is instrumental in drawing lessons from history. The development of theories, however, can be further informed by the abundant and influential lessons from history. There are still lessons to be learned from the history of debt crises, and the study of history and economic theory are a complement to each other.

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