The London School of Economics and Political Science

'We'll Give Up Our Blood but Not Our Gold': Money, Debt, and the Balance of Payments in Poland's Great Depression

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Declaration

I certify that the thesis I have presented for examination for the PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

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Abstract

The Great Depression was the pre-eminent macroeconomic event of the 20th Century, yet our understanding of it remains highly uneven. Very little has been written since the advent of modern quantitative research methods about the Depression in Eastern Europe. The case of Poland presents a particular puzzle for the literature, which since the mid-1980s has stressed the international gold standard as the main channel through which the Depression was propagated internationally. Seen from one perspective, Poland fits this ‘Golden Fetters’ thesis neatly: it was one of the last countries to abandon the gold standard, remaining in the “Gold Bloc” through April 1936, and suffered correspondingly, with a 25% fall in real GDP during the crisis. The puzzle, rather, is how Poland, a heavily indebted, poor, largely agrarian economy was able to maintain its commitment to gold for seven years—and, given the economic cost of doing so, why it was willing to.

This dissertation examines Poland’s long tenure on gold from three angles: the genesis of the Polish Złoty in the hyperinflation of the 1920s; a comparative study of Polish, German, Austrian and Hungarian sovereign bond yields during the Depression to establish why the latter three countries defaulted and Poland did not; and, finally, a detailed examination of the balance sheets and internal documents of the Bank of Poland to uncover how it managed to defend the Złoty’s gold parity through 1936. I find that the common thread running through Poland’s monetary history throughout the interwar period is geopolitical: the monetary policy followed the needs of national security, particularly the shifting alliance with France, at once Poland’s closest strategic partner and the leading gold-standard economy. The failure of this alliance to prevent Hitler’s remilitarisation of the Rhineland provided the direct impetus for Poland’s decision to shed its ‘golden fetters’.

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Much like Władysław Grabski could not have put an end to the Polish hyperinflation of the 1920s without the efforts made by his predecessors to create the fiscal foundations for a viable state, this thesis could not have been written without the support and guidance of many others. Of them I now sing the paean.

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Chapter 1: General Introduction

By almost any conventional metric, Poland's experience of the Great Depression of the 1930s was among the harshest on the European continent, if not the entire world. The country entered the crisis in a paradoxical position: politically independent, having wrested its renewed existence out of the power vacuum that followed the end of the First World War after 123 years of partition between the Prussian/German, Austrian, and Russian Empires; but economically battered, first from extensive wartime destruction, then from interwar Europe's second-worst hyperinflation through 1924 and continued monetary instability through 1926. Its leadership, the authoritarian *Sanacja* regime established by Marshal Józef Piłsudski following a military coup in May 1926, responded to the crisis by pursuing an aggressive programme, conventionally termed 'deflationary'[1], of fiscal and (to a lesser extent) monetary austerity, all to maintain the convertibility of the currency, the Złoty, into gold, a stance only abandoned after seven years, in April 1936. The results were catastrophic, particularly in the agricultural sector which, as of the 1931 census, still employed 61% of the population, and the ground lost during the crisis in comparison to Germany, which abandoned gold in 1931 and embarked on a vigorous recovery, surely did its part to set the stage for the wartime calamity to follow.

Yet for all this, the Polish economy between the two World Wars has been studied to a remarkably limited degree, particularly in the last four decades, and still less has the Polish experience been put into the wider European and world context. The Polish scholarship went through a brief flourishing during the political thaw between the end of Stalinism in 1956 and renewed crackdowns on intellectual life in 1968, aided by several economists who had direct experience of policy-making in the interwar period and who had finally been allowed back into the universities to teach. Following their passing, no second generation of scholars of modern Polish economic history arose, and the advances made in our knowledge since then have been sporadic, hobbled by a lack of domestic interest and international awareness of the subject, the latter magnified by the near-absence of the Polish angle from the canonical Western comparative works on the Great Depression: Eichengreen's seminal *Golden Fetters* is a classic example, discussing Poland only briefly in the context of its hyperinflation and not at all in the Depression.[2] Indeed, some works, including Accominotti (2012), classify Poland as a non-gold bloc economy

[1] At least two Polish works adopt the title *Deflacja Polska* to describe the Polish Great Depression: the postwar Keynesian economic historian Zenobia Knakiewicz (1967) in her analysis of Polish economic policy during the Depression, and Witold Staniewicz (2003) in his posthumously published memoirs.
[2] Eichengreen (1995), Table 7.1 (pp. 188-91), correctly shows the dates of Poland's entry onto and exit from the gold standard, but gives the country scarcely a mention in his later discussion of the gold bloc.

despite acknowledging its persistence on the gold standard throughout the Depression.[3] Nikolaus Wolf's doctoral thesis and several subsequent contributions a rare and creditable exception to this general trend.[4]

The present dissertation, which builds on previous work submitted as a MSc thesis at the London School of Economics in 2016, seeks to breathe new life into the study of the turbulent macroeconomic history of the Polish Second Republic, beginning with an explanation of what seems to be the central question of the country's underperformance: why the Polish government and central bank were willing, and, indeed, able to maintain gold convertibility until almost the very end of the interwar 'gold bloc'. Of the 'gold bloc countries', only France, Switzerland, and The Netherlands abandoned the gold standard later, and Belgium, a 'gold bloc' member universally acknowledged as such by the literature, had devalued its currency in March 1935, over a year before Poland.[5] The core argument of the thesis is that Poland's monetary policy, not just during the Great Depression but also in the hyperinflation years that preceded it, was subordinated, to a hitherto under-appreciated extent, to the reborn Polish state's precarious geopolitical position: to the need to defend its independence and territorial integrity from the states and powers from whose territory it had reconstituted itself, particularly against the irredentist ambitions of Germany and (Soviet) Russia.

During the period of hyperinflation, the link between geopolitics and monetary politics was direct: the ebbs and flows of Polish inflation expectations, inferred from high-frequency exchange-rate data, correspond closely to the ebbs and flows of the Polish state's military and diplomatic campaign to secure its independence on the most favorable terms and in the most favourable borders possible. While the establishment of a privately owned and operated central bank in 1924 and the formal entry of the Polish Złoty onto the gold standard in 1927 severely limited the ability of the state to employ the currency to fund outsize military commitments and buffer diplomatic shocks such as the 1925 trade war with Germany, the link between money and geopolitics remained operational, because Poland's security needs remained too large and too pressing to be met solely out of the country's present resources. With the failure of the Western Allies to press the German government into extending the pledge it had made in the 1926 Treaty of Locarno to renounce revision of its western borders to cover also the territories it had lost to Poland in the east, and with persistent German revisionist pressure and periodic Soviet war

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[3] Olivier Accominotti, 'Asymmetric Propagation of Financial Crises during the Great Depression' (LSE Research Online, 2012), http://eprints.lse.ac.uk/41704/.

[4] For the PhD thesis, see Nikolaus Wolf, 'Economic Integration in Historical Perspective: The Case of Interwar Poland, 1918 - 1939' (PhD Thesis, Humboldt University, 2003). Wolf's two articles on the Polish gold standard are 'Should I Stay or Should I Go? Understanding Poland's Adherence to Gold, 1928-1936', *Historical Social Research / Historische Sozialforschung* (2007); and 'Scylla and Charybdis. Explaining Europe's Exit from Gold, January 1928–December 1936', *Explorations in Economic History* (2008).

[5] On Belgium's exit, see Eichengreen (1995), pp. 357-65.

scares, the long-term survival of the Polish state required a powerful military ally that could be counted on to come to Poland's assistance in the event of war.

For reasons of geography, as well as sheer willingness (or otherwise) to become embroiled, if necessary, in a new European war so soon after the devastation of the previous one, the only plausible candidate was France. It was the French government's decision to remain committed to the gold standard despite its collapse across most of Europe in the crisis of 1931, combined with the rising tide of extreme nationalism in Germany, that provided the pivotal underpinnings for Poland's long durance on its cross of gold. Conversely, it was the French failure to oppose the German remilitarization of the Rhineland in March 1936 that cleared the way for Poland's exit from gold, by breaking up the united front of the Foreign Ministry and the military that had, from the death of Piłsudski in May 1935 onward, successfully parried the attempts of the increasingly skeptical President Mościcki to engineer a radical departure from the monetary status quo. In so arguing, this thesis thus proffers a resolution to the unacknowledged, yet fundamental, disagreement between Nikolaus Wolf's (2007, 2008) finding of a large unexplained residual between the date of Poland's actual departure from gold and the date predicted by Poland's fundamental economic and political position; and the bulk of the Polish literature[6], in which Poland's departure from gold is portrayed as an unwanted necessity, the result of a (putative) worsening of these fundamentals in the spring of 1936. In so doing, it provides hard backing, in the form of six new datasets and an extensive survey of Polish and British archival documentation, for Wolf's hypothesis, which had been based primarily on a survey of the secondary literature on interwar Poland's foreign relations, that the French alliance is indeed the correct prism through which to view the rationale for Depression-era Poland's deep, self-inflicted monetary wounds.

1.1 Interwar Poland: A Brief Guide to the Terrain

The fundamental feature of the economics, as of the politics and much else besides, of interwar Poland is that the country spent the entire 'long' nineteenth century, from 1795 to 1918, out of existence, partitioned between three empires whose common monarchical conservatism belied fundamental differences in economic structure, legal institutions, and vision for governing the territories that they had annexed. To frame the general pattern of relations succinctly, all three partitioning powers were at least wary of, and often hostile to, Polish nationhood, with

[6] See, for instance, Landau and Tomaszewski, *Gospodarka Polski Międzywojennej, 1918-1939* (vol. 4, 1989), and, for a version of the argument updated with reference to modern economic theory, Cecylia Leszczyńska, *Polska Polityka Pieniężna i Walutowa w Latach 1924-1936* (2013).

Austria(-Hungary, after 1867) the relatively most liberal of the three.[7] German and Russian efforts to assimilate their Polish conquests increased in severity over time, with the unification of Germany under Bismarck and the two failed uprisings against Russia in 1830-31 and 1863 driving the repression of Polish nationhood to new heights. Only the Austro-Hungarian state maintained an official tolerance of Polish culture and Polish-language education; Prussia/Germany and Russia pursued policies of forced assimilation that restricted the Polish population's ability to access education, conduct political activity, freely practice their religion[8], and even speak their own language.

This repression had severe, harmful effects on Poland's long-term economic development, as vividly shown by Wolf in a series of recent econometric studies.[9] It failed, however, to extinguish the Polish aspirations to reclaiming a nation-state of their own, and after Poland re-emerged on the map out of the vacuum left by the collapse of the Central Powers in 1918, the bitter experience of partition gave rise to a deeply rooted ethos of sacrifice for the sake of maintaining the country's independence against the irredentist claims of its occupiers-turned-neighbours. It is through this ethos that, I argue, Polish financial history between the wars must be read if one is to make sense of it. It is certainly no coincidence that the great majority of the leading political figures of the interwar Polish state had devoted their lives prior to 1918 to the struggle for independence. Both of the defining political movements of the Polish Second Republic[10], the ethno-nationalist Right whose intellectual and political father was Roman Dmowski, and the (para)military grouping around Józef Piłsudski that would come to wield dictatorial power following the coup of May 1926, took the shape that they did in large part because of the pressures placed on them by their respective occupiers. The ethnic Catholicism that formed the focus of Dmowski's National Democracy was largely a reaction to the Protestant *Kulturkampf* being carried out in the German partition, whereas the fires of Siberian exile and direct, partisan resistance against the Tsar and his *Okhrana* gave the Piłsudski grouping its characteristic ideological pragmatism, secretiveness, and paramilitary ethos, with the core

[7] A recent econometric paper that examines the differences in policy toward the partitioned lands and their long-term consequences is Paweł Bukowski, 'How History Matters for Student Performance: Lessons from the Partitions of Poland', *Journal of Comparative Economics* (2019).
[8] Most ethnic Poles (though by no means all) were then, and remain now, Roman Catholics, and the experience of partition was a major reason for the identification of Polishness with Catholicism that has been a characteristic feature of the Polish nationalist right-wing in modern times.
[9] See, among others, Nikolaus Wolf, 'Path Dependent Border Effects: The Case of Poland's Reunification (1918–1939)', *Explorations in Economic History* (2005); and Nikolaus Wolf, Max-Stephan Schulze, and Hans-Christian Heinemeyer, 'On the Economic Consequences of the Peace: Trade and Borders After Versailles', *The Journal of Economic History* (2011).
[10] The First Republic being the Polish-Lithuanian Commonwealth that had existed from 1569 until the Partitions in the late 18th century.

leadership around Piłsudski tending to see themselves as bound by duty to carry out the orders of their *Wódz* (Commander) without hesitation.[11]

As the Industrial Revolution spread throughout Europe, the political divisions between the fragments of partitioned Poland came to encompass the economic sphere as well. The traditional trading relationships that had sustained the Polish-Lithuanian Commonwealth, such as the Vistula grain trade, were displaced by new patterns of commerce and finance centred on the metropoles of the partitioning powers: Berlin, Vienna/Budapest, and St. Petersburg, with the Polish lands serving primarily as an agricultural hinterland. This is not to say that industry was absent from the partitioned territories—indeed, Poland following independence might best be described as only semi-agrarian, with the census of 1921 showing a high, but not overwhelming, 64% share of the population employed in agriculture—but with the partial exception of the comparatively wealthy and well-developed German partition, the picture was one of islands of industry (coal and steel in Upper Silesia and the Dąbrowa region; textiles in Łódż and around Warsaw; oil in Eastern Galicia around Lwów/Lemberg/Lviv) in a sea of low-productivity agriculture divided between peasant smallholdings and noble families' estates whose relations with the peasantry continued to contain elements of old feudal ties.

Because industrialization spread through continental Europe unevenly, with Prussia experiencing its effects relatively early but with the transformation in the east still largely incomplete by the time of the outbreak of the First World War, the three partition zones developed at different speeds, creating a formidable challenge of economic integration for the reborn Polish state. The map of the Polish railroads in Figure 1 is just one example that gives a vivid illustration of the scale of the problem. It is immediately apparent that the networks in the former Prussian part of Poland much more highly developed than in the other areas, and few connections existed across the old imperial borders. (What this map does not show, furthermore, is that the Russian railroads were of a different gauge than the others, and the tracks needed to be replaced wholesale before they could be efficiently used to ship goods to Danzig and the ports in Germany through which the great majority of Polish exports flowed.) What this fragmentation meant in quantitative terms has recently been explored in work by Nikolaus Wolf with several co-authors[12], as well as Grosfeld and Zhuravskaya (2013)[13] and, most recently, Bukowski (2019). The general tenor of their findings is that the disruptive influence of the borders is less substantial than what the traditional narrative in the historiography, or, indeed, naïve OLS regression,

[11] Andrzej Garlicki, *Józef Piłsudski 1867-1935*, 2nd ed. (2017), Ch. 2.

[12] See Carsten Trenkler and Nikolaus Wolf, 'Economic Integration Across Borders: The Polish Interwar Economy 1921-1937' (2005) as well as the already cited Wolf (2005) and Wolf et al. (2011).

[13] Irena Grosfeld and Ekaterina V. Zhuravskaya, 'Historical Legacies in Contemporary Politics: Evidence from the Partitions of Poland', *SSRN Electronic Journal* (2013).

suggests. In particular, Wolf et al. (2011) find that an important factor that aided the resumption of trade following independence was the existence, already in the pre-independence period, of ethnicity-based trading networks that spanned across the partition borders. Still, even though the partitions amounted to less than a threefold Iron Curtain for trading patterns, the costs of integration were far from trivial, and the Cabinet papers for 1918-1921 reveal them to have been a constant preoccupation and a heavy burden for a government apparatus that was just finding its feet in a chaotic post-war environment.[14] Indeed, Bukowski (2019) argues that the disparities *still* have not been fully overcome, and discontinuities in educational attainment and political participation across the partition borders are still visible in the present day.[15]

Figure 1: Rail Network of the Polish Second Republic, 1930[16]

The political and social history of Poland in the post-independence period is inextricably tied to the economic questions that this thesis is dedicated to addressing, and a fuller exposition

[14] Archiwum Akt Nowych (AAN), Akta Prezydium Rady Ministrów 2/I.

[15] The divisions are visible even in the outcomes of present-day elections. For instance, in this map of the 2011 parliamentary election, support for the Catholic-conservative party PiS maps almost exactly onto the border of the former Russian partition. https://upload.wikimedia.org/wikipedia/commons/6/62/Polish_Sejm_election_results_2011.svg

[16] Map taken from the public domain collections of the National Library of Poland, https://polona.pl/item/koleje-rzeczypospolitej-polskiej,NzA1OTA1MjE/0/

of these matters is provided as and where needed in the subsequent chapters. Presented here is a concise outline to orient the reader in the broad strokes of the argument to follow.

The starting position of the reborn Polish state in November 1918 had three defining elements. In the economic sphere, the situation was one of ruin, caused in the first instance by wartime devastation as the front line crossed and re-crossed for four years the territories partitioned from the Polish-Lithuanian Commonwealth. The administrative and political situation was one of even greater dislocation given the absence of pre-existing institutions for governing, the result of a century of direct rule from the partitioning powers' capitals. At the same time, a broad consensus existed (at any rate among the ethnic Polish majority) in favour of carving out a state on the most favourable terms possible, despite deep divisions between political factions about the desired demographic makeup of the new polity.

Unlike in Western Europe, where the stabilizing factor of the British and French occupying armies was present to police the armistice, the simultaneous implosion of all three of the empires that had partitioned Poland left a political vacuum, one which the Western Allies were not in a position to *begin* to organize until the signature of the Treaty of Versailles nearly eight months after the Central Powers' surrender.

Under such conditions, the Polish state was able—and, to a large extent, forced—to place its future in its own hands and take the initiative in drafting its new borders by force of arms, whether by supporting local insurgent efforts, as in the Wielkopolska[17] uprising and the three Silesian insurrections[18], or through open warfare, whether direct, as in the Polish-Bolshevik War of 1919-1921, or covert, as when General Lucjan Żeligowski feigned a mutiny on Marshal Piłsudski's orders to capture Vilnius and the surrounding area from Lithuania. All this had to be accomplished with a crippled economy, at a time when the Polish institutions of government lacked such bare essentials as a functioning tax authority or a unified legal code.[19]

In political terms, the accomplishments of the Polish state in the five years following independence were remarkable. The country had decisively defeated the Red Army on the battlefield in 1920 and signed a favorable peace treaty with the Bolsheviks at Riga in 1921, which fixed its eastern borders just west of Minsk. Through a combination of astute diplomacy (Dmowski, for one, was an active participant in the Versailles conference) and the successful creation of facts on the ground, the border settlement with Germany gave Poland access to the sea via the League of Nations-supervised, majority-German city of Danzig and a coastline of its

[17] The region, whose name, dating back to the medieval division of Poland into warring princedoms, means 'Greater Poland', is centered around the city of Poznań (Posen, in German) and formed the southern half of the German partition.
[18] Ryszard Kaczmarek, *Powstania Śląskie 1919 - 1920 - 1921* (2019) is a recent, useful book-length treatment from the Polish perspective.
[19] The newly independent Polish state inherited no fewer than five distinct legal orders from the partitioning powers, and work to unify them was ongoing well into the 1930s.

own (short, but sufficient to establish a port under Polish sovereignty at Gdynia, which by the 1930s had eclipsed Danzig in shipping volume), as well as just over half of the coal-rich and heavily industrialized region of Upper Silesia. By 1922, the internal borders between the former partition blocs had been formally abolished, and progress was being made on placing the entire country on a shared system of law. The new Constitution of 17 March 1921[20] established Poland as a democracy with a semi-presidential political system, in which the Parliament (Sejm and Senate) was elected on a proportional ballot of all adult citizens without distinction as to sex, and the directly elected Deputies and Senators in turn elected a President, whose powers were limited relative to those of the Prime Minister.

In keeping with the political-science literature on parliamentarism[21], the combination of proportional representation and a multiplicity of political cleavages in society (not only along the traditional left-right axis, but also along ethnic lines given that the polity included substantial Jewish, Ukrainian, Byelorussian, and German minorities, and even between the various partition blocs) made for unstable governments. No fewer than sixteen Cabinets succeeded one another between independence in November 1918 and the end of parliamentary democracy with Piłsudski's coup in May 1926, and the political mood was often febrile: the first President of the Republic, Gabriel Narutowicz, served less than a week in office before his assassination by a right-wing extremist. These divisions notwithstanding, by 1924 Poland had consolidated its position as a sovereign state. The League-mediated territorial settlement in Upper Silesia and the formal incorporation of the Silesian Voivodeship into the Second Republic in June 1922 marked the end of the scramble for territory. The Polish state would continue in its 1922 borders through to the dismemberment of Czechoslovakia in 1938. Even the political situation began to stabilise: following the promulgation of the Constitution and the election of Stanisław Wojciechowski to the Presidency—and, what went with it, the temporary retirement of the intrigue-prone Piłsudski from the political scene—the churn of governing Cabinets slowed, with the final two premierships before the Piłsudski coup[22], those of Grabski (December 1923 – November 1925) and Skrzyński (November 1925 – May 1926) among the longest-lasting of the Second Republic's short period as a functioning democracy.

Economically, progress in the years immediately following independence was much slower. The needs of reconstruction and the ongoing armed struggle to maintain Poland's independence and secure its territory were large and pressing, while the state's capacity to

[20] For the full text of the 1921 Constitution (in Polish), see http://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU19210440267/O/D19210267.pdf.

[21] A classic work on this subject is Giovanni Sartori, *Parties and Party Systems: A Framework for Analysis* (1976).

[22] Save for the third Witos premiership, which amounted to a re-creation of the Skrzyński government albeit with the replacement of the Socialists, who had defected, by Witos' agrarians, and which was in office a mere two days before the coup broke out.

marshal resources to meet these objectives was limited. In addition to wartime damage to infrastructure[23], the baleful legacies of the partition borders, and Poland's abrupt separation from its traditional export markets by Communist revolution in the east and German attempts to use trade sanctions as a means of reversing the Versailles territorial settlement in the west[24], the occupying powers had vacated the Polish lands without leaving behind the basic machinery of government—tax collection, information-gathering, law enforcement—that a state needs to function. With the prospect of famine, or, worse, of renewed loss of independence looming in the background, the government in Warsaw had few options but fund its expenditures by resort to the printing press of the Polish State Loan Bank. The result was hyperinflation, the second-worst in interwar Europe, behind only the infamous case of Germany. By January 1924, when the fever broke, retail prices stood at some 2,988 *million* times their 1914 levels.[25] The hyperinflation period is critical for understanding why the Polish Great Depression took the shape that it did, and as such is the subject of the second chapter of this thesis, a more detailed outline of which is given later in this introductory chapter.

What is essential to note at present is that bringing stability to the currency, given the very unfavourable starting conditions, was a long and a messy affair. A serious attempt at a stabilization almost came to fruition under Finance Minister Michalski in 1922, but was undone by Marshal Piłsudski's abuse of his power as interim Head of State to bring down the government. A second attempt, by Prime Minister and Finance Minister Władysław Grabski in 1924, succeeded in replacing the Polish Mark with a new currency, the Złoty, and the Polish State Loan Bank, essentially an arm of the Treasury, with the privately owned Bank of Poland. Grabski's scheme, however, could not withstand the double blow of an intensification of the Polish-German trade war and a brutal recession as the monetary stimulus provided by the bank of issue's accommodating policy stance came to a screeching halt.

By August 1925, the Bank of Poland, with its reserves exhausted, was forced to suspend the free convertibility of the Złoty. While the government that formed upon Grabski's resignation, with Jerzy Zdziechowski as Minister of Finance, was able to re-stabilise the currency by the spring of 1926, the combination of economic collapse (with unemployment reaching lows that would not be surpassed until 1932, four years into the Great Depression[26]) and renewed inflation (a

[23] Landau and Tomaszewski (1967), pp. 64-67 and 224-226, gives a survey of the damage. Taking the example of rail infrastructure, 41% of railway bridges were destroyed during World War I and its aftermath, a number which rose to 95% in parts of the eastern provinces.
[24] A short, general-audience treatment of this subject by the present author can be found at https://blogs.lse.ac.uk/brexit/2019/04/15/brexit-lessons-from-the-silesian-backstop-of-1919-25/
[25] *Wiadomości Statystyczne GUS*, II/3 (4 February 1924).
[26] *Wiadomości Statystyczne GUS*, compilation of headline figures ("Monthly Time Series of Key Variables", 1925-) available from https://theadonsiemion.com/data-digitisation/.

cumulative price increase of some 71% in the two years between April 1924 and April 1926) eroded the legitimacy of the parliamentary system.

It is in this environment that, on May 12 1926, Marshal Piłsudski, who in the years since handing over power had grown indignant at his alienation from the political scene and what he perceived as the corruption and ineptitude of the 'Sejmocracy' to which he had bequeathed power, convinced a part of the Warsaw garrison to mutiny and march on the capital. With the sympathies of the military (except in the heartlands of Dmowski's National Democracy movement in the west of the country) tending to favor the Commander who had led them twice to victory, and with hundreds dead from the fighting in the streets, President Wojciechowski agreed on May 14 to hand over power to Piłsudski and his clique of old combatants, with Kazimierz Bartel as the figurehead Prime Minister but Piłsudski, ostensibly merely the head of the military, unquestionably in charge.[27] From henceforth until its demise in 1939, the Second Republic would be one in name only.

The political agenda of the Piłsudski regime is aptly described by its own slogan, *Sanacja*: the 'cleansing of the body politic' of influences seen by Piłsudski as weakening it, and their replacement at the reins of power by the strong arm of Piłsudski himself. Though Piłsudski had positioned himself as a socialist during his years in opposition to the Russian Empire, and though the direct pretext for his coup was the replacement of the Socialists by a party of the right in the governing coalition, once in power he governed unencumbered by strong ideological commitments—except, perhaps, a commitment to strength. While his hounding, incarceration, and exile of the Parliamentary opposition did not discriminate by creed, the alliances of convenience by which he governed were, if anything, with the traditional mainstays of the right: the landed aristocracy and representatives of big business.[28] A portion of Piłsudski's ruling clique consisted of technocrats: President Ignacy Mościcki, for instance, a noted chemist, and his erstwhile deputy at the Mościce chemical works Eugeniusz Kwiatkowski, perhaps the leading personality of interwar Poland's economic development.

The core of his power base, however, lay in the cadre of former revolutionaries and military men whose allegiance to him dated, in many cases, to the years of conspiracy against the Tsarist regime and the First World War. To these men he entrusted the key offices of state: to his

[27] This arrangement bears uncanny comparison with the democratically elected, but fundamentally illiberal, current government of Poland, in which Andrzej Duda holds the Presidency and Mateusz Morawiecki the Premiership, but both are *de facto* subordinate to 'deputy Prime Minister' Jarosław Kaczyński. Both Piłsudski in the early stages of his rule and the PiS government now display a fondness for stretching the letter of constitutional law to the limit in order to violate its spirit. In Piłsudski's time, the task of finding ways to turn the Constitution against itself was carried out by the lawyer Stanisław Car [i.e. Tsar], who acquired the sobriquet 'His Interpretational Majesty' from the liberal opposition.

[28] Even these choices, however, may have been pragmatic, reflecting a desire to transact with the least (and thus, presumably, lowest total cost) number of political actors.

wartime adjutant Józef Beck, the Foreign Ministry; to Kazimierz Świtalski, Walery Sławek, and four other former companions-in-arms, the Premiership; to Colonels Ignacy Matuszewski and Adam Koc, and his subordinate in the independence movement Władysław Zawadzki, the maintenance of the gold standard. It would not be getting too far ahead of the argument to highlight the order of priority that these appointments reveal in the Piłsudski regime's economic policies. Whereas even the largest infrastructure projects, such as Kwiatkowski's establishment of a port on Poland's sovereign territory at Gdynia that within ten years of its founding had eclipsed in shipping throughput the ancient Hanseatic port of Danzig that it neighbored, could be entrusted to mere fellow-travelers, the levers of fiscal and, after 1931, monetary policy were reserved for the true loyalists, those who had fought and bled for him and whom he could therefore trust implicitly. Piłsudski behaved, in other words, as though the gold standard were not merely instrumentally important, a sop to a populace exhausted by a decade of inflation and a magnet for foreign capital inflows—though of course it was both of those things—but a fundamental national interest, a reason of state. The core contention of this dissertation is that such was indeed the case: that military-strategic imperatives sustained Poland's tenure on the gold standard for longer than any purely economic rationales would have justified.

The period between Piłsudski's seizure of power in May 1926 and the onset of depression in 1929 were a brief high noon for the Polish economy. Against the backdrop of Piłsudski's long campaign to stamp out the vestiges of the Sejm's independence, commerce and industry rebounded from their post-hyperinflation nadir. Having inherited a stabilized currency from its parliamentary predecessors, the Piłsudski regime claimed credit for the achievement, and moved to cement it by negotiating Poland's entry into the international gold standard system following the conclusion in October 1927 of a large stabilization loan in New York and London to give the central bank a nearly threefold buffer of excess reserves. Foreign commercial capital, particularly in the form of short-maturity inflows from the United States, flooded into the country in volumes that bear comparison with the well-studied, contemporaneous credit boom to Germany. Among the major beneficiaries of these conditions of easy money were agricultural smallholders, to whom the land reform act of 1925 had given the opportunity to purchase land parceled out from rural magnates' estates on credit. As a result, the agricultural sector, though shrinking gradually in its structural importance (the population share in agriculture had fallen from the 64% recorded in the census of 1921 to 61% a decade later), began a long-delayed modernization, with imports of farm machinery and artificial fertilizers balanced in the national accounts by the growth of foreign-denominated liabilities.[29] This growing debt stock, while sustainable so long

[29] Landau and Tomaszewski (1971), pp. 148-157, give an account of the progress in agriculture during this period. See also the memoirs of Staniewicz (2003), who was the minister for agricultural reform at the time.

as prosperity held, would become a major burden on the Polish economy once the fair economic winds turned rapidly to ice beginning in 1929.[30]

1.2 A Bird's Eye View of the Polish Depression

To understand why the Polish Great Depression is overdue for a close study, one need look only at the exceptional levels of hardship suffered by the country between 1929 and 1936. Polish per-capita GDP shows a decline, in real terms, of 25% between 1929 and the trough year of 1933: the steepest of any European country and matched only by the contraction in the much wealthier and more-industrialised United States. Furthermore, this decline was persistent: whereas Germany, the United Kingdom, and the Scandinavian economies had re-attained their 1929 level of output by 1934, as late as 1936 Poland's per capita income stood at just 77% of its pre-Depression level in per capita terms.[31] Even more dramatic was the collapse of prices. The wholesale price index of Poland's Central Statistical Office shows a sustained decline in the Polish price level down to a minimum of 52.1% of its 1928 value by March 1935, a level which remained practically constant until the second half of 1936.[32]

Even this low figure conceals significant variation and understates the collapse in the living standards for the majority of Poland's population. Whereas the overall wholesale price index as of September 1932, a month which may be taken as representative, stood at 64.9% of the 1928 level, the WPI for industrial goods stood at 67.7%, while prices for the output of the industrial cartels which dominated Polish large-scale industry stood 3.2% *above* the 1928 level (implying that the overall WPI underestimates the contraction in prices experienced by the millions of people employed in non-cartel industry and in handicrafts). Worst of all was the situation of the farmers, who as of the 1931 census represented 60.9%[33] of the Polish population: whereas the cost of their consumption basket, composed largely of industrial goods, stood at 82.1% of the 1928 level as of the fall of 1932, the price of their output at point of production amounted to just 44.8%. This extreme disproportion between industrial and agricultural prices continued and even intensified throughout the Depression, with the farm price of produce falling to 33.2 (1928 = 100) by May 1935, as against an industrial *wholesale* (not the higher and in this context more relevant retail) price index of 60.7.[34]

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[30] See Chapter 3 of this thesis for a detailed discussion of the Polish debt problem.
[31] Jutta Bolt, Robert Inklaar, Herman De Jong, and Jan Luiten Van Zanden. "Maddison Project Database 2018." University of Groningen (2018).
[32] Data complied from *The Economist Historical Archive*, Gale Cengage (2012).
[33] Czesław Brzoza and Andrzej Sowa. *Historia Polski 1918-1945*. Kraków: Wydawnictwo Literackie (2006), p. 110
[34] *The Economist Historical Archive*, Gale Cengage (2012).

What these numbers meant in human terms is all too clear from the writings of contemporary observers: widespread misery, concentrated in particular in the rural areas. The military officer Jerzy Michałowski, reporting in 1934 on conditions in the southern province of Rzeszów for Poland's Institute for Social Affairs [Instytut Spraw Społecznych], states that the peasantry in the areas he surveyed have been reduced to eating just one hot meal of boiled vegetables per day (consumption of meat being limited to "when the peasant is ill or the hen is ill"), and that "bread is eaten by all in the autumn, but in the great majority of smallholding households, [i.e. those] owning 1-2 morgen [0.57-1.14 hectares] of land, its consumption from the New Year to harvest-time is a rarity."[35] Many—indeed, in the Rzeszów voivodeship, some 85% of—farming households were by 1934 no longer producing for market, and barter in farm commodities was increasingly common as a means of settling transactions.[36] The ground-level situation in the cities was better in some respects in that workers in urban industry drew their livelihood from the stronger 'arm' of the 'price scissors' and that those lucky enough to be working in the public sector and the cartelized branches of industry experienced, on average, constant or even growing real wages. For all that, the position remained grim, as the ranks of the underemployed and long-term jobless swelled and the resilience of urban prices and wages benefitted only the employed.[37] GUS figures show that, in 1935, some 54.2% of male and 82.1% female industrial workers earned less than was needed to cover their household's basic living expenses, in large part because those members of the household who were in work needed to use their earnings to support their jobless and underemployed kindred.[38]

1.2.1 Poland's Golden Fetters

A major factor accounting for the severity of the Great Depression in Poland was the country's tenacious defence of the gold parity of the currency, the Polish Złoty. Poland had formally stabilised its currency in relation to gold in October 1927, after an exhausting battle first with hyperinflation from its independence in 1918 to the Grabski stabilisation of 1924, and subsequently with the relapse of double-digit inflation between August 1925 and April 1926.[39] Once on the gold standard, Poland remained committed to it virtually until its bitter end, leaving only at the end of April 1936. As is well-known, adherence to a fixed currency standard acts as a

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[35] Quoted *in extenso* in Adam Leszczyński, *Ludowa Historia Polski* (2020), pp. 458-59.
[36] Ibid.
[37] Economic theory leads one to suppose that these two circumstances—wage rigidity and large-scale unemployment—were directly related. In this light, focus in the GUS headline statistics on the total wage bill as a key economic indicator is readily understandable.
[38] Figures cited by Landau and Tomaszewski (1982), pp. 135-36, and taken from Mały Rocznik Statystyczny 1938 (GUS).
[39] Chapter 2 of this thesis covers the hyperinflation period at length.

check on inflation, though at the substantial cost of subordinating a country's monetary—and, in the absence of foreign lending, fiscal— policy to the task of maintaining the gold reserves of the bank of issue above the statutory minimum.[40]

In the Polish case, the 'golden fetters' bound the economy tightly. As Knakiewicz (1967) documents, when the Depression began the Polish government opted to pursue a 'policy of survival', seeking above all to preserve a balanced budget (net of stockpiled cash reserves and borrowing).[41] The attitude of the government was not entirely passive, especially as the Depression continued: policy efforts were made, for instance, to eliminate the disparity between agricultural and industrial prices by exerting pressure on the cartels; reschedule the payments of agricultural debtors in default through the establishment of the Bank Akceptacyjny in 1933; and reduce unemployment by funding public works.

All of these efforts, however, were subordinate to the imperative to stay on gold, a fact which weighed heavily on their effectiveness. For instance, the attempts to mandate lower prices for cartelised goods collided with the fact that the high domestic prices for these articles subsidised price-cutting on foreign markets which brought in indispensable foreign exchange; and the public works programmes of 1934-35 were financed by internal loans, which for public-sector employees amounted to a tax on salaries. Despite a growing literature on fiscal multipliers in the interwar period[42], no study has been done to date to calculate the multiplier effects of the Polish public works schemes on aggregate demand. In any event, the general thrust of government policy was contractionary. To discourage all but the most essential imports, the government carried out further increases in Poland's already high tariffs and attempted to regiment trade through clearing agreements. Meanwhile, government expenditure was successively cut back from 2.935 billion Zloty in the 1929-1930 fiscal year to 2.168 billion Zloty in 1935-1936. This fall was especially pronounced for non-military expenditure, with expenditure on armaments constituting a 28.5% share in the budget at the start of the Depression but accounting for only 10% of the cuts. Funding for education was hit particularly hard, and the result was a fall in primary school attendance rates from 95.3% in 1928/29 to 88.7% in 1934/35, which proved lasting: the last available figures, for 1938/39 when output had finally exceeded pre-Depression levels, show an attendance rate of only 90.6%.[43]

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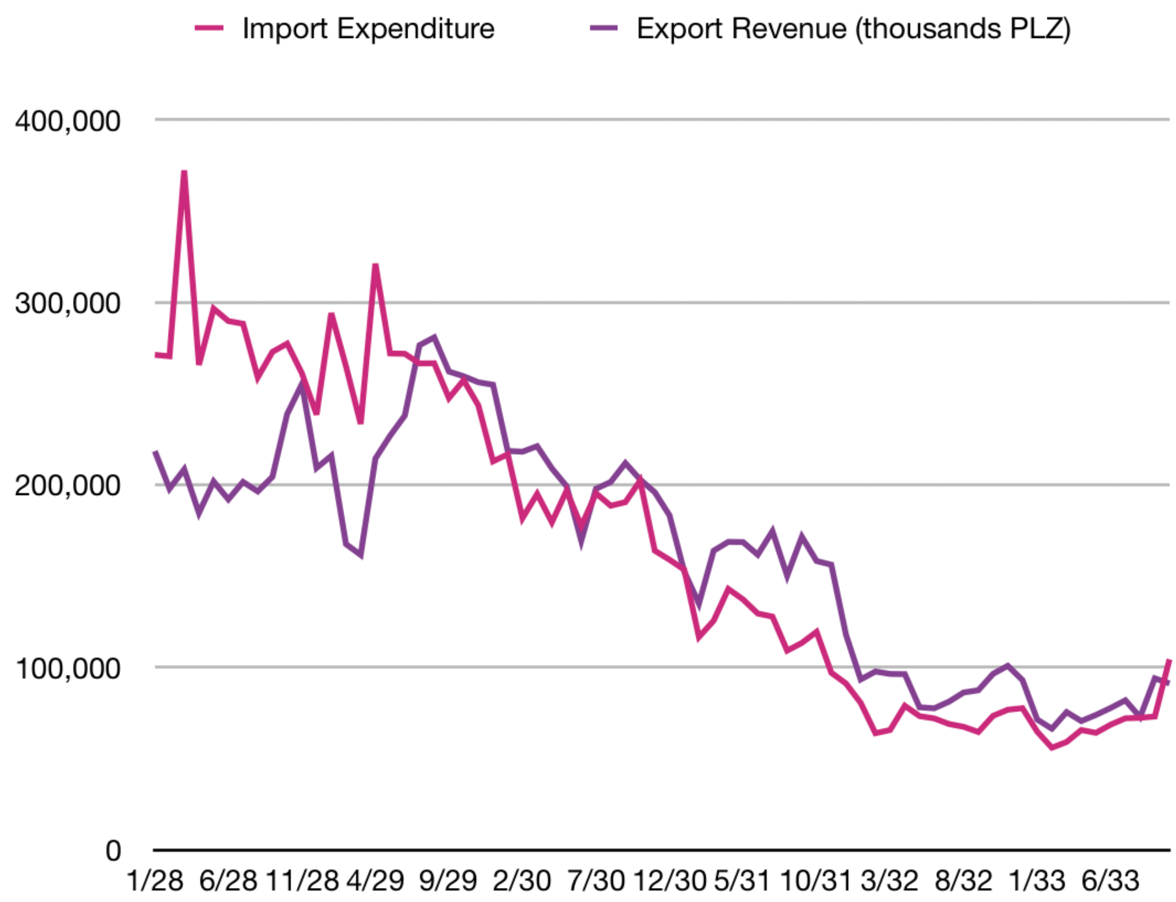
[40] Robert Mundell. "Capital Mobility and Stabilization Policy under Fixed and Flexible Exchange Rates." *The Canadian Journal of Economics and Political Science* 29, no. 4 (1963)
[41] Zenobia Knakiewicz. *Deflacja Polska 1930 - 1935* (1967).
[42] See Nicholas Crafts and Terence C. Mills. "Self-Defeating Austerity? Evidence from 1930s' Britain." *European Review of Economic History* 19, no. 2 (2015); James Cloyne, Nicholas Dimsdale, and Natacha Postel-Vinay. "Taxes and Growth: New Narrative Evidence from Interwar Britain." Cambridge, MA: National Bureau of Economic Research (2018).
[43] Brzoza and Sowa (2006), 375.

It is difficult to escape the conclusion that the cost in human welfare and living standards of Poland's monetary policy regime was unusually severe even by international standards, which raises the question of why the government chose this course, and how it succeeded in persisting in it for so long.

Figure 2: Polish Visible Trade Flows, 1928-1933 (thousands PLZ)[44]

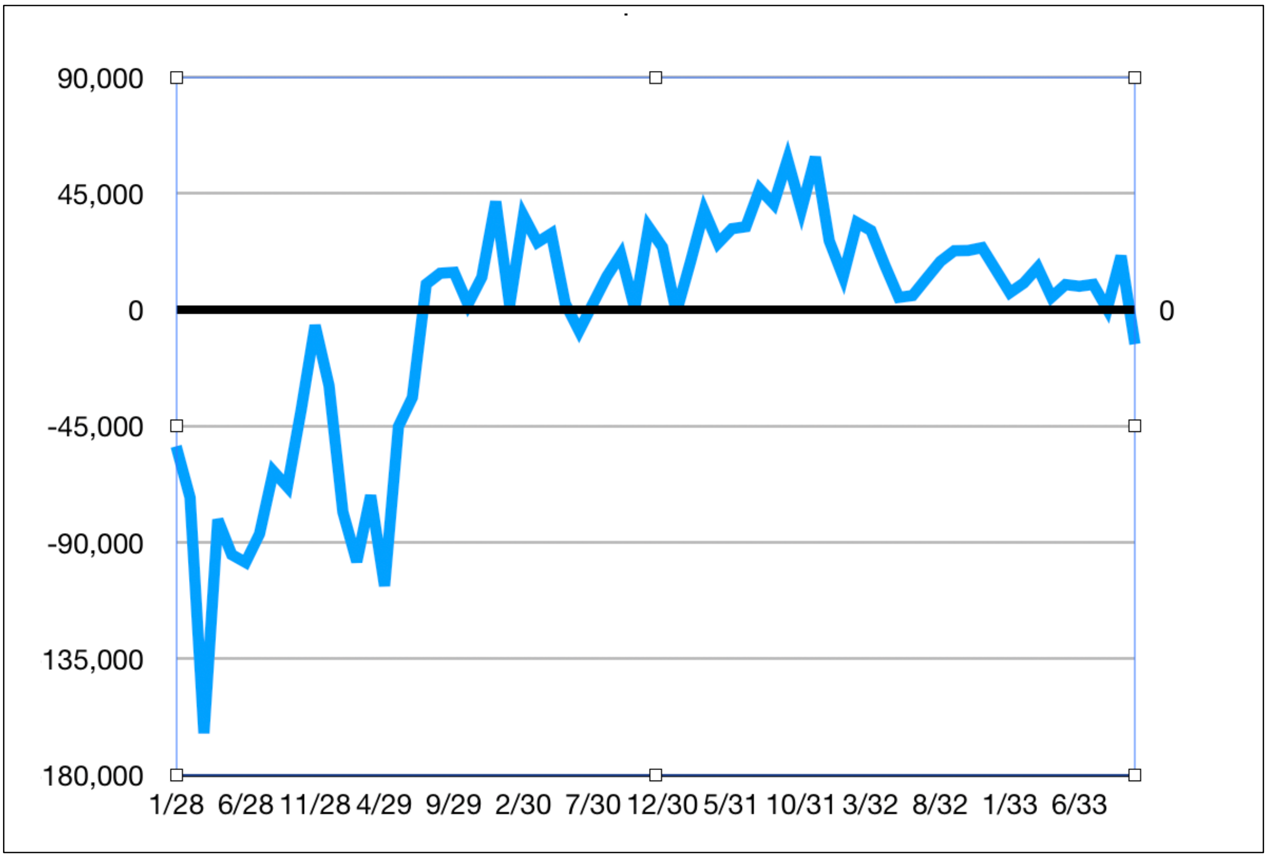


The puzzle is only deepened when one considers the weaknesses in Poland's fundamental balance-of-payments position going into the Great Depression. Unlike its gold-bloc peers, Poland was a net debtor— and a substantial one at that: on a rough calculation, which gives the proper sense of magnitude but which must be treated as approximate, particularly on the Polish side, its ratio of public debt to national income in 1932 (i.e. *after* the British devaluation of 1931, which eased the burden substantially) stood at 62.1%, rising to 98.8% once commercial debt is included.[45] To readers familiar with the recent Japanese and Greek financial crises, these may not

[44] Trade statistics for Figures 2 and 3 taken from the monthly statistical appendix of *The Economist.*
[45] Own calculations, based on national income figures from Zenobia Knakiewicz. Deflacja Polska 1930 - 1935. Warsaw: PWE (1967) and E. Lethbridge. "National Income and Product," in Kaser and Radice, *The Economic History of Eastern Europe.*(1985); and debt figures from I. Spigler "Public Finance." in Kaser and Radice, *The Economic History of Eastern Europe* Vol. II. (1987). See Chapter 3 for further discussion.

seem like unduly large ratios. Yet these levels are virtually identical to those at which the interwar period's most famous debt default, that of Germany on its reparations in 1931-32, occurred. The highest debt-GNP ratio achieved by Germany prior to its default, *inclusive of reparations,* was 104.3%. If one excludes commercial debt, the comparison becomes even less favourable to Poland. At the time of its suspension, German sovereign debt stood at 58.5% of national income, i.e., 3.6 percentage points *below* the Polish figure.[46]

Figure 3: Polish Visible Trade Balance, 1928-1933 (thousands PLZ).[47]



Nor was the stock of accumulated foreign liabilities the only issue: the flow had also turned sharply negative, as Polish farmers and industrial firms took advantage of the access of foreign capital afforded by Poland's formal entry onto the gold-exchange standard in October 1927 to make good on fourteen years of neglected capital investments. The corollary was a series of persistent, large trade deficits that in 1928 (counting only the visible trade balance) came out to some 4.7% of national product.[48] As Figures 2 and 3 show, the tightening monetary policy of

[46] Albrecht Ritschl. "Reparations, Deficits, and Debt Default: The Great Depression in Germany." In *The Great Depression of the 1930s*, edited by Nicholas Crafts and Peter Fearon. Oxford University Press (2013).
[47] See note to Figure 2 for source.
[48] Own calculations, based on national income figures from Knakiewicz (1967), and trade figures from the monthly statistical appendix of *The Economist.*

the Federal Reserve brought about a very rapid reversal of this deficit position through a sudden stop of foreign lending already in the summer of 1929, leading to a violent curtailment of trade and a consequent blow to aggregate demand. Compounding this difficulty, in the early spring of 1929, just as the Polish agricultural sector was taking on heavy leveraging, the world price of Poland's two principal grain exports, rye and wheat, began to collapse.

The combination of these two trends meant that the Polish economy was in trouble as early as six months before the 'conventional' beginning of the Great Depression with the Wall Street crash of October 24. An early indicator of distress was the ratio of bills of exchange (still the primary credit instrument in the Polish economy at the time) protested by the debtor. As reported by the Bank of Poland, this ratio had hit a "record figure" of 4.61 percent in February 1929, coinciding with a level of industrial unemployment that was marked even for the winter season.[49] By year's end, this 'record' had been bested two-and-a-half times over, with the reported rate of protested bills in December 1929 rising to 11.7%.[50]

1.3 Two Literatures on the Polish Depression

If the deck was stacked severely against Poland from the beginning of the Great Depression onward, how, then, did it survive as a member of the gold bloc until the very end? Surprisingly, this is not a question that the existing literature, with the exception of Wolf (2007 and 2008), has troubled itself to ask, in so many words. In large part, the culprit is the relative lack of cross-fertilisation between the Polish historiography on the Great Depression and the international literature.

1.3.1 Polish Historiography on the Depression

Traditional Polish accounts of the Depression have tended to suffer from two interlocking shortcomings: a narrow focus on the economic crisis as a Polish phenomenon, with insufficient attention given to the global context, and a predilection for description of facts over a rigorous economic analysis of causes. This frame of scholarship is perhaps understandable in light of the historical context. The circle of scholars in Poland concerned with the interwar economy was always narrow, forcing the large amount of preliminary documentary and archival work to proceed without the benefit of a division of labour; access to foreign archives during the Cold War, even in 'friendly' Eastern Bloc countries, was prohibitively difficult; and the state ideology of Marxism-Leninism placed limitations on the conceptual lenses through which phenomena

[49] "Overseas Correspondence - Poland." *The Economist*, 27 April 1929
[50] "Overseas Correspondence - Poland." *The Economist*, 15 February 1930

could be studied, particularly as Western economics turned away from classical Keynesianism beginning in the late 1960s.

The two most comprehensive Polish works on the Depression are the third volume of Landau and Tomaszewski's *Gospodarka Polski Międzywojennej* (1982) and Knakiewicz's (1967) *Deflacja Polska.* In large measure, these works relegate the financial and monetary aspects of Poland's Depression to secondary importance, giving a descriptive treatment of developments in these areas but not ascribing to them any major causal role. Thus, Landau and Tomaszewski spend several pages identifying the major players in Polish monetary policy, but they limit their analysis of the effects of remaining on the gold standard to the observation that "[c]ontemporary scholars generally hold a negative view of Polish monetary Policy in the years of the Depression."[51] Their treatment of banking, meanwhile combines a careful description of important events and major actors in Polish banking policy with a similar paucity of macroeconomic analysis. The two authors see the difficulties faced by the Polish banking system as "the result of a breakdown in other areas of the national economy [u]nder the influence of the crisis in industry, trade and agriculture."[52] The possibility of causality running also in the other direction— from distressed banks to distress in other areas of the economy through a fall in the money supply and the rationing of credit, along the lines of Friedman and Schwartz (1963)[53] is entertained for two sentences, but no attempt is made to assess the importance of this feedback loop.

Knakiewicz's work, for its part, is more analytical, and the degree to which the author, though behind the Iron Curtain, is in conversation with the Keynesian economic mainstream in the West is remarkable. (By comparison, the first volume of Landau and Tomaszewski's four-volume work, published in the same year, draws explicitly on the conceptual apparatus of Marxism-Leninism and goes out of its way to lament the Polish victory in the 1920 war with the Soviet Union as a defeat for the working classes.) Nevertheless, Knakiewicz, too, sees the Polish Depression primarily in the light of an ill-chosen domestic policy response to the global fall in agricultural prices which began late in 1928. She distinguishes between 'defensive' countercyclical policies, which involve the use of contractionary fiscal and monetary policy to force a downward adjustment of the domestic price level to match the exogenous fall in world prices, and 'offensive' policies, which aim to "break away from global economic conditions through the creation of artificial local ones"; i.e. increased government spending and a loosening

[51] Zbigniew Landau and Jerzy Tomaszewski, *Gospodarka Polski Międzywojennej: Wielki Kryzys 1930-1935* (1982), p. 250
[52] Ibid., p. 286
[53] Milton Friedman and Anna Jacobson Schwartz, *A Monetary History of the United States, 1867-1960* (1963).

of the money supply.[54] The distinction between 'defensive' and 'offensive' policy is not essentially one about monetary regime: Knakiewicz classifies devaluation and imposition of exchange controls as 'defensive' if it is not accompanied by active measures to stimulate demand; likewise, she notes that 'offensive' policy can proceed even without devaluation, citing the example of the Reconstruction Finance Corporation established in 1932 under the Hoover presidency.[55] Using this framework, Knakiewicz argues that the Polish Depression was the result of a "great misunderstanding": a mistaken choice by the government to respond to the demand shock from abroad via 'defensive' rather than 'offensive' means, which sprung from the attachment of the government and the business circles on which much of its political support rested to mistaken orthodox economic doctrines rather than correct Keynesian ones.[56]

1.3.2 Western Approaches to the Great Depression: An Overview

Knakiewicz's analysis is an open-economy one only in the crudest sense: in her view, whilst the original impulse for the crisis was transmitted from abroad, if Poland had only moved quickly to sever the connection between domestic and world prices when trouble arose, all would have been well. The Western literature on the Great Depression, by contrast, though it has very little in specific to say about the case of Poland, has made use of the revolution in macroeconomic thought since the 1970s to provide a much richer account of the means through which the Great Depression was transmitted worldwide. This more recent literature has emphasised the role of financial interconnections, and the various ways in which they placed constraints on actors' behaviour.

At the risk of some oversimplification, three currents can be identified in this literature: approaches that emphasise the role of the international currency regime, those that see disturbances in the banking sector and international balance-sheet contagion as pivotal to the Depression's spread, and those that point to the balance of payments, in particular the accumulation of sovereign debt, as a causative source of instability, often by fuelling feedback cycles with currency and the banking sector as in the twin crisis model of Kaminsky and Reinhart (1999).[57] In the following paragraphs, I sketch out the contribution that these approaches can make toward understanding the Polish Depression, and, conversely, what questions they leave open for research. For now, it is worth adding that the Polish scholarship is slowly beginning to catch up to the global literature: in particular, Leszczyńska's (2013) history of the Bank of

[54] Knakiewicz (1967), p. 42
[55] Ibid., p. 43
[56] Ibid., p. 336
[57] Graciela Kaminsky and Carmen Reinhart. "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems." *American Economic Review* 89, no. 3 (1999).

Poland[58], to which Chapter 4 of this thesis is a direct response, makes explicit reference to the three 'generations' of balance-of-payments models and to comparative work by Bordo and others on the transmission of the Great Depression, though it remains in the style of Landau and Tomaszewski in its reliance on low-frequency, highly aggregated data for its quantitative results and draws heavily on the conclusions of that venerable duo in its analysis of the factors shaping Poland's exit from the gold standard in 1936.

1.3.3 The Great Depression Seen as a Currency Crisis

The view that currency crises were the prime mover of the Great Depression (henceforth the "currency view") is built around the contention that the gold-exchange standard reconstructed after the First World War had several major structural weaknesses relative to the 'classical', pre-war gold standard that not only predisposed it to an early failure, but also ensured that economic distress could spread unchecked throughout the global payments system.

As articulated by Eichengreen and Sachs (1986)[59] and Eichengreen (1995), the progenitors of the argument in the modern literature, the flaws of the reconstructed gold standard were threefold. First, whereas before the Great War the commitment of central banks to maintaining the convertibility of their currencies into gold at par was not generally in doubt, the demands of wartime mobilisation led governments to promise social legislation and the expansion of the right to vote (often on a proportional franchise), which introduced a conflict in macroeconomic policy objectives between the old priority of controlling inflation and the new one of delivering steady employment for the newly enfranchised. Indeed, Eichengreen argues, drawing on the theoretical model of Alesina and Drazen (1991)[60], that the pressure from the ballot box for low unemployment and generous social welfare led in the 1920s was responsible for long delays in stabilisation in many European countries.[61] Thus, international investors in the interwar period were much more likely to expect a devaluation, and move to withdraw their assets accordingly, when the commitment of a country to currency stability came under scrutiny.

Given governments' less-than-ironclad commitment to the 'rules of the game' of the international gold standard, even small shifts in countries' fundamental positions could rapidly result in (first-generation) balance-of-payments crises of the sort described by Krugman

[58] Cecylia Leszczyńska, *Polska Polityka Pieniężna i Walutowa w Latach 1924-1936* (2013).

[59] Barry Eichengreen and Jeffrey Sachs. "Exchange Rates and Economic Recovery in the 1930s." *The Journal of Economic History* 45, no. 4 (1985)

[60] Alberto Alesina and Allan Drazen, 'Why Are Stabilizations Delayed?', *The American Economic Review* 81, no. 5 (1991).

[61] Eichengreen (1995), Ch. 9

(1979).[62] This potential for instability made cooperation between central banks to provide emergency liquidity in times of crisis, as had been done on several occasions before 1914, essential. Unfortunately, given Britain's financial losses during the War, the Bank of England found itself unable to reprise its former coordinating role, and the prospects for central bank cooperation in the post-war period were further reduced by the thorny, interlocking issues of war debts and reparations. In consequence, while several international economic summits were held to discuss responses to the Depression, very little concrete help materialised for countries whose financial systems were under acute stress.

The third fundamental weakness of the interwar gold standard, proponents of the currency view argue, was inherent in the easing of central bank reserve requirements that emerged out of the deliberations of the 1922 Genoa Conference. Before the war, notes issued by most central banks needed to be backed by a certain proportion of gold bullion held by the central bank, against which banknotes could be redeemed on demand (a gold-bullion standard). The inflationary pressures unleashed by the war and its aftermath, however, increased the nominal value of monetary circulation worldwide relative to a much less-than-proportional increase in the supply of gold bullion, which implied painful deflationary adjustment if the gold-bullion standard was to be preserved. Seeking to avoid this outcome, post-war policymakers instead reconstituted the international monetary system as a gold-*exchange* standard, in which not only bullion, but also foreign exchange denominated in currencies that were likewise convertible into gold, was accepted as backing for a central bank's note issue. While this arrangement eased the transition back onto the gold standard, it was inherently unstable, in that if a single country were to devalue its currency or suspend its convertibility into gold, the gold cover ratio of all other central banks that included the now-devalued or inconvertible currency in their foreign exchange reserves would instantly be eroded.

In times of economic turmoil, the likely consequence was a cascade of forced exits from gold, and, as Eichengreen notes, such a chain of events can explain the collapse of the gold-exchange standard across much of Europe in the wake of the Austrian and German suspensions (July - October 1931).[63] Ferguson and Temin (2003) analyse this episode further, and argue that the German financial crisis that set the stage for the British collapse was predominately a currency event, with "bellicose rhetoric emanating from Weimar about Reparations"[64], in particular chancellor Brüning's announcement of his plans for a customs union with Austria in March 1931 (a violation of the spirit if not the letter of the Treaty of Versailles) and his

[62] Paul Krugman. "A Model of Balance-of-Payments Crises." *Journal of Money, Credit and Banking* 11, no. 3 (1979).
[63] Eichengreen (1995), chs. 9-10.
[64] Thomas Ferguson and Peter Temin. "Made in Germany: The German Currency Crisis of July 1931." In *Research in Economic History*, 21 (2003), p. 4

declaration, on 6 June, that Germany would be unable to pay further reparations, which the authors argue prompted a run on German banks and a flight to safety by foreigners who had made investments in the German economy and German debt.

Proponents of the 'currency view' do not deny that problems in the banking sector played a major role in the spread of the Depression, but rather, claim that it was the liquidity crunch and flight to safety caused by currency collapse that put the banking sector under pressure, and not the reverse. Thus, Ferguson and Temin argue that the 1931 German banking crisis "could have been avoided [had not] Brüning abrogated his international obligations" by threatening Anschluss and an end to reparations, and in so doing incited currency withdrawals that forced the Reichsbank to tighten monetary policy sharply. Likewise, Accominotti (2009) draws out how the collapse of the German currency in the 1931 crisis was transmitted to the Bank of England through a liquidity crisis among British commercial banks that had invested heavily in Germany, which resulted in a run on Sterling when those banks turned to the Bank of England's discount window for liquidity.[65]

From a currency perspective, the Polish case is particularly interesting because the country managed to *avoid* this sort of collapse of confidence in its currency despite the sharply unfavorable economic fundamentals and despite being on the receiving end of the very same 'bellicose rhetoric' from Brüning and his government that Ferguson and Temin blame for the German exit from gold. The Polish currency remained little troubled by sudden capital flight until its final year on the gold standard, which did see a sharp outflow of reserves in October 1935 and a relapse in the final days before exchange controls came into effect in April 1936. As will be shown in Chapter 4, however, the causality in both of these episodes runs from a government announcement of a radical change in the monetary policy to a flight of capital, and in neither case was the drop in the gold cover sufficient in magnitude to make departing from the gold standard a matter of no choice. Thus, in the Polish case, it is the *lack* of a currency crisis in 1931-32 rather than the existence of such a crisis in 1935-36 that requires explanation. That there is indeed a case to be answered here is vividly suggestion by the reserve position of the Bank of Poland throughout the Depression. Although the large size of the stabilization loan taken in 1927, which raised the Bank of Poland's reserves to nearly three times the legal minimum, helps explain how Poland avoided falling into currency difficulties in the early years of the Depression, by 1931, this safety cushion had largely been exhausted, and thus a supplementary explanation, from the intersection of foreign policy and domestic political economy, becomes necessary to explain the Polish monetary system's resilience in that year.

[65] Olivier Accominotti. "The Sterling Trap: Foreign Reserves Management at the Bank of France, 1928-1936." *European Review of Economic History* 13, no. 3 (2009)

1.3.4 The Great Depression Seen as a Banking Crisis

The suggestion by proponents of the 'currency view' that the banking troubles that occurred during the Great Depression were in large part the result of the collapse of the ramshackle foundations of the reconstructed gold-exchange standard regime is explicitly countered by a second group of scholars, who emphasise the importance of problems originating within the banking sector in initiating the disaster in the broader economy. In its modern form, this explanation underpins the pioneering work of Friedman and Schwartz (1963), who describe in detail how, in the case of the United States, the combination of Federal Reserve inaction in the name of "purging the rot" in the American financial system and the particular structure of US banking, in which regulations placed severe constraints on branch banking and thus on banks' ability to hedge risks through diversification, led to three nationwide waves of bank failures between 1930 and 1933 and thus to a catastrophic fall in the money supply and output. Further, while the institutional circumstances that drove the meltdown of the United States banking system were unique, the United States was far from the only country that experienced severe bank failures during the Depression. A long-standing literature, most recently revived by the work of Straumann (2019)[66] and Macher (2018 and 2019),[67] examines the failure of a different set of banking institutions, the universal banks of Austria, Germany, and Hungary in 1931

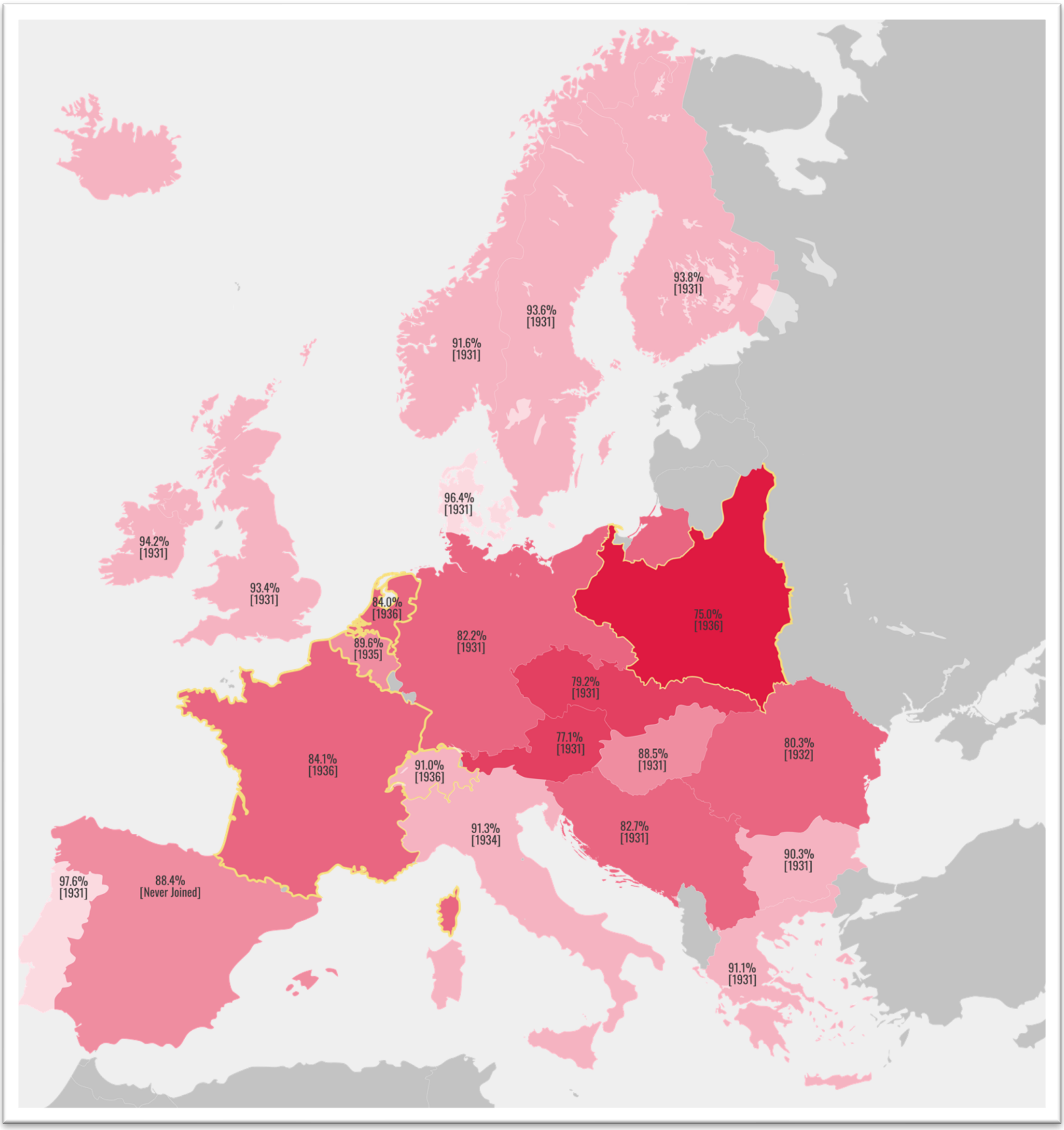
The potential added value that this literature provides for understanding the Great Depression in Europe can be seen from Figure 4, which maps the peak-to-trough decline in European countries' GDP during the Depression against the date at which those countries left the gold standard. If all that mattered to the depth of economic sacrifice that countries endured during the Depression were adherence to the 'golden fetters' of a fixed exchange rate plus free movement of capital, then one would expect countries that left early, in 1931, to have had a uniformly milder Depression than countries that left later. This expectation is only partially borne out by the data: the group of early leavers that suffered a decline in GDP of less than 10%—mostly the countries of northern Europe, plus Greece and Bulgaria— is counterbalanced by the early leavers in central Europe, whose performance is on the whole little better than that of the members of the gold bloc. What can explain the poor performance of this group? One possibility is that the central European economies suspended the gold standard in 1931 but did not use their new-found freedom of action to engage in monetary expansion, preferring exchange controls and a conservative fiscal stance to the radical step of devaluation: Eichengreen uses this line of reasoning to explain the large output contraction in Czechoslovakia, which remained aligned with

[66] Tobias Straumann, *1931: Debt, Crisis, and the Rise of Hitler*, 1st ed. (Oxford: Oxford University Press, 2019).

[67] Flora Macher. "The Austrian Banking Crisis of 1931: A Reassessment." *Financial History Review* 25, no. 3 (2018); "The Hungarian Twin Crisis of 1931." *The Economic History Review* 72, no. 2 (2019).

the Gold Bloc until 1934 despite having imposed exchange controls in 1931.[68] On the other hand, the case of Austria, which experienced a slightly worse output contraction than Czechoslovakia despite having devalued in 1931[69], suggests that at least part of the explanation for the Central European slump lies outside the realm of currency.

Figure 4: Contractions of Output During the Depression and Dates of Exit from Gold.[70]



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[68] Eichengreen (1995), p. 364

[69] Kirsten Wandschneider. "The Stability of the Interwar Gold Exchange Standard: Did Politics Matter?" *The Journal of Economic History* 68, no. 1 (2008)

[70] Own work, calculated using GDP data from the Maddison Project (Bolt et al. (2018)). For a critical appraisal of this data on the example of Poland, see Chapter 3. Percentages are the ratio of the lowest output per capita

The failures of the Credit-Anstalt of Vienna, the German Darmstädter-und-Nationalbank (Danat-Bank), and the Budapest agricultural credit banks in the spring and summer of 1931 are well-known to economic historians. What is debated is the direction of causality between the failure of these financial institutions and weakness elsewhere in the Austrian, Hungarian and German economies. Beginning with Schnabel's (2004) response to Ferguson and Temin,[71] a growing literature has argued that the fragility of large portions of the Central European banking sector was due to incentive structures in the 1920s that rewarded banks for taking on excessive risks, and thus that their failure was not (or not primarily) a consequence of currency or balance-of-payments shocks. Once the banks fell into crisis, proponents of the banking view argue, the Austrian, German and Hungarian governments were forced into a hopeless predicament: either let the banks fail, causing catastrophic damage not only to the domestic economy but also to the thin margin of political legitimacy on which the governments' capacity to pass legislation amid economic anxiety and the rising tide of irredentism rested, or sacrifice creditworthiness and gold reserves to the herculean task of keeping the financial sector solvent. Either way, the fragile foundations on which the reconstructed interwar economy rested were fatally undermined, creating economic shockwaves well beyond Central Europe and "turning the worldwide recession into a depression".[72]

The work done by Flora Macher on the Austrian and Hungarian banking panics of 1931[73] is of particular interest to scholars of the Polish Depression, as her thesis raises important questions as to the legacy of hyperinflation for financial stability. Macher's thesis bears superficial similarities to Eichengreen's argument that higher postwar inflation predisposed governments toward worse economic performance during the Depression, but differs in the specifics. To Macher, the essential point is not that Austria and Hungary *had difficulties* stabilising, and thus clung more tightly to the gold standard, but that they were *unable* to bring their respective hyperinflations under control due to high monetary overhangs from the war, major shocks to their economic structures from border changes, and, crucially, political turmoil, and thus were forced to turn to external assistance from the League of Nations. While League assistance succeeded in curing the upward spiral of prices, it also came with onerous political conditions that guaranteed creditors' investment in the reconstruction loans. The loan granted to Hungary, for instance, came with "the requirement of a balanced budget and an independent central bank, the introduction of the fixed exchange rate system and free capital flows, and the

recorded during the Depression to the highest pre-Depression output level. Numbers in brackets are dates of departure from the gold standard. A full-size version of this image is available here, or on request. Gold borders denote gold bloc membership.

[71] Isabel Schnabel. "The German Twin Crisis of 1931." *The Journal of Economic History* 64, no. 3 (September 2004): 822–71.

[72] Straumann (2019), p. *v*

[73] Macher (2018, 2019)

acceptance of surveillance by the League of Nations to ensure that these conditions were all met."[74] However, the balanced-budget requirement in particular conflicted with the strong political pressures on the Austrian and Hungarian governments to subsidise key political constituencies— in the Hungarian case the Magyar agrarian elite, in Austria the owners of firms struggling to return to profitability following the wartime shock— from the public coffers.

Given that these payments could not be made from the ordinary budget, the governments of Austria and Hungary exerted pressure on the major universal banks of Vienna and Budapest to provide risky loans to these groups, resulting in a marked deterioration in the quality of these banks' assets. The rampant moral hazard left the banks in a highly exposed position, especially when, as in the Austrian case, the government sought to delay the day of reckoning by inducing the healthiest bank in the system, the Viennese Credit-Anstalt, to carry out a string of mergers with failing universal banks, during the course of which those banks' nonperforming assets were recorded on the Credit-Anstalt's balance sheet at fraudulent prices. Macher finds that the ultimate failure of the Credit-Anstalt in May 1931 touched off a series of bank runs throughout Central Europe and set the stage for the international monetary system's collapse.

Could Macher's findings provide an explanation—in an oblique manner—for why Poland remained on the gold standard while the remaining hyperinflation countries fell into default? This question was fundamental to the genesis of this thesis, and though its influence on the final product is somewhat submerged, having been overtaken by the finding that the thread between Poland's foreign and financial policy is a strong and abiding continuity throughout the political and economic upheaval of the 1920s and 1930s, it is worth making the logic explicit. Macher shows that the Austrian and Hungarian universal banks fell into difficulty during the Depression largely because they were being compelled by those countries' governments to extend economically unjustified credits to key political interest groups as a sort of fiscal policy by stealth. In other words, the Austrian and Hungarian hyperinflations were in large part the result of an Alesina and Drazen (1991)-style 'war of attrition' to determine which political interest groups would be forced to pay the financial burden of stabilization. As the Austrian and Hungarian states, reeling from military defeat and attempted revolution, were too weak to force one group or another to make the necessary economic sacrifices, they chose to pay for the stabilization by accepting the League-mediated bailout, despite the strict fiscal supervision that it entailed. The underlying distributional conflicts, however, remained unresolved, the state continued to lack the stomach for the political reckoning that would be required to force one side or another to back down on its demands, the universal banks became the vehicle for continuing to run fiscal deficits

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[74] Macher (2019), p. 646

in practice while concealing them on paper, and the banking system was left primed for collapse as soon as the economic climate soured.

It is in direct response to this argument that the present thesis begins its study of the Polish Great Depression by looking to the country's hyperinflation. There is *prima facie* a significant difference between the Polish and Austrian/Hungarian hyperinflations, in that Poland, unlike its Danubian coevals, managed to stabilize its currency out of its own resources, taking out only a straightforward loan with no conditionality[75] in 1927 from a consortium of mainly American private banks. Thus, while one of the legacies of the hyperinflation in Poland was the culling of the private banking sector and the growth of four large state banks to a position of dominance, the Polish government had a free hand in managing its own fiscal policy and despite its relatively greater direct footprint in the banking sector was not tempted to funnel political side payments through the banks, either its own or the surviving private joint-stock institutions. This forbearance, then, may explain why no large banks, and only one medium-sized one, failed in Poland in 1931, and thereby why there was no acute financial crisis in Poland in that year. Understanding why Poland was able to overcome the political obstacles to stabilizing its currency in the immediate post-war years therefore has the potential to help us understand why the Polish Depression unfolded as it did, with no exit from gold in 1931, for better or for worse.

1.3.5 The Great Depression as Sovereign-Debt Crisis

Arguments that debt burdens arising from the First World War hindered international economic and political cooperation during the Great Depression have a long pedigree. Recent contributions to the theory and empirics of sovereign debt in the macroeconomic literature— in particular, the development of second-[76] and third-generation[77] models of balance-of-payments crises in the 1990s and the systematic study of debt crises in the very long run by Reinhart and Rogoff (2009)[78]— have prompted a deeper look at the role that the build-up of sovereign debt played during the boom years of the 1920s played in the 1930s crash. The major contributions to the literature have been heterogeneous in focus, containing both studies of particular sovereign-debt crises, such as the German slide toward default between 1931 and 1933, and

[75] The loan agreement did stipulate that the American financier Charles Dewey would be retained for a period of three years (until 1930) as an independent observer of the Polish government's finances, but his role was a purely advisory one and he lacked the power to sanction the Polish government for any potential fiscal indiscretions.
[76] The seminal paper for this wave of the literature is Maurice Obstfeld, 'Rational and Self-Fulfilling Balance-of-Payments Crises', *American Economic Review* 76, no. 1 (1986): 72–81.
[77] A key contribution to this approach is the work of Kaminsky and Reinhart (1998), cited above.
[78] Carmen M. Reinhart and Kenneth S. Rogoff, *This Time Is Different: Eight Centuries of Financial Folly*, First paperback print (Princeton, NJ: Princeton Univ. Press, 2011).

panel-data approaches seeking to identify empirical regularities from as wide a sample of countries as possible.

Much of what we know about the causes and effects of sovereign default during the Depression is the fruit of pioneering research during the 1980s by Eichengreen and Portes. In a series of papers, these authors econometrically analyse an annual-frequency dataset of several hundred sovereign bonds quoted on the London and New York financial markets in the interwar period.[79] They report several findings of direct relevance to the present study. First and most importantly, they find that investors in the interwar period were sophisticated enough to price securities in accordance with their perceived riskiness and debtor countries' past track record of repayment, with the bonds of the British Dominions being priced most favourably, and those of the new borrowers of Eastern Europe labouring under a considerable risk premium amounting to a 1.15 (London) - 1.21 (New York) yield spread, as against the omitted alternative (Germany).

Having thus established that statistical inferences drawn from bond prices during this period are likely to be economically meaningful, the authors turn to analysing the causes of the global wave of defaults during the 1930s. Their regression analysis confirms the contention of the earlier literature that the severity of default was associated with the degree of exposure to the global collapse of commodity prices (an argument taken up in more detail in the following section of this chapter), but finds that the most important determinant of default lay in domestic fiscal policy. A consistently significant variable across their analysis is the degree of fiscal retrenchment, as measured by the central government deficit: "[c]ountries which prevented large government budget deficits from emerging, through either tax increases or expenditure reductions, were less likely to default than their less spendthrift counterparts."[80] As for the long-run consequences of default, Eichengreen and Portes find them to have been mild, with defaulting countries recovering faster in per-capita GDP terms and little evidence of a long-run penalty for defaulters on capital markets after World War II.

Among recent studies of sovereign debt during the interwar period, the work of Papadia (2016, 2017) is particularly deserving of note, as the author revisits the work of Eichengreen and Portes in the light of the many advances in econometric technique that have taken place in the thirty years since those authors had published their work.[81] Papadia assembles a large-scale panel of data on public debt and other macroeconomic variables, and analyses it to probe the

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[79] For a sample of this research effort, see Barry Eichengreen and Richard Portes, 'Dealing With Debt: The 1930s and the 1980s' (1989); 'The Interwar Debt Crisis and Its Aftermath', *The World Bank Research Observer* 5, no. 1 (1990).

[80] Eichengreen and Portes (1989), p. 12

[81] In the versions consulted for this dissertation: Andrea Papadia, 'Fiscal Capacity, Tax Composition and the (in)Stability of Government Revenues in the Interwar Period', Economic History Association Working Papers, 2016; 'Sovereign Defaults During the Great Depression: The Role of Fiscal Fragility', Economic History Working Papers (London School of Economics and Political Science, 2017).

determinants and causal channels of sovereign default in the 1930s. Papadia's analysis confirms the results of Eichengreen and Portes that investors into sovereign debt were sophisticated and savvy enough in their setting of risk premiums to secure positive returns for themselves, on average and on net, despite the wide incidence of defaults during the Depression. In addition, the greater sophistication of the tools at his disposal allows Papadia to come to several more precise conclusions as to why countries did or did not default at this time.

Interesting for the Polish case is, first, the finding that the size of the total outstanding stock of foreign debt is an important predictor of default—as I stress in Chapter 3, Poland's debt/GDP ratio during the worst years of the Depression was of the same order as Germany's, but Poland did not follow Germany off gold in 1931 or 1932. Another result of Papadia's that raises interesting questions for Poland is that fiscal policy matters in a more nuanced way than the earlier scholarship would suggest. Papadia finds that merely maintaining a balanced budget was not enough to forestall default, because what mattered was not the government's *policy stance* as such, as the quality of the underlying fiscal institutions; i.e. their resilience and flexibility, as reflected in the elasticity of fiscal revenues to the fall in national income. Given that the new Polish state had no functioning tax system upon regaining independence and that the system it had at its disposal going into the Depression was in large part cobbled together under extreme inflationary pressures, it is quite striking that the Polish fiscal apparatus was evidently flexible enough to avert default even when the Polish debt/GDP ratio neared 100%. A thorough investigation of how Poland met the fiscal challenges of the Depression is beyond the scope of this thesis but remains fertile ground for further work. Finally, and less surprisingly, Papadia finds that default, when it occurred, typically happened after a country had left the gold standard (and therefore no longer risked its suspension of payments triggering a currency panic). Poland fits into this pattern well, with the exit from gold at the end of April 1936 being followed by a large-scale debt default just over a month later, in the first week of June. There are multiple possible interpretations of the brevity of this interval between the imposition of currency controls and the suspension of debt payments, but it is certainly consistent with a premeditated shift in economic policy toward domestic rearmament, which is this thesis' argument.

Papadia's work is only one very recent contribution to the literature on sovereign debt in the Depression, which has also included both single-country studies such as Ritschl and Sarfaraz' (2014) re-examination of the German crisis of 1931[82] and comparative approaches including the work of Reinhart and Trebesch (2014)[83], as well as the long-run perspective of Eichengreen et al.

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[82] Albrecht Ritschl and Samad Sarferaz, 'Currency versus Banking in the Financial Crisis of 1931', *International Economic Review* 55, no. 2 (2014).
[83] Carmen M Reinhart and Christoph Trebesch, 'A Distant Mirror of Debt, Default, and Relief', *National Bureau of Economic Research Working Paper Series* No. 20577 (2014).

(2019).[84] This comparative work is illuminating, but its light covers the field unevenly, with the focus mainly on the advanced economies and the case of Poland discussed obliquely if at all. If there is nevertheless a takeaway from these studies for the Polish experience in particular, it is the by now familiar refrain that Poland presents a frustratingly loose fit for existing narratives. One of the standout findings of Eichengreen et al., who are among the first to examine debt maturity in a comparative context, is that increasing the interest rate on new issues was not the only way in which creditors could respond to periods of greater risk; demanding a shorter maturity for repayment was another. Indeed, a recent strand of theoretical literature has shown that, when there is doubt as to the ability of a borrower (who cannot pre-commit to an order of precedence for settling debt claims) to service its debts in full, it is rational for creditors to self-insure against default by demanding repayment at ever-shorter maturities.[85] An intriguing feature of the external debts of the Polish state during the Depression, however, is that they remained overwhelmingly long-term, *including* the few new issues that Poland was able to secure, mainly from French investors, after the flow of American lending to Europe went into reverse.

Finally, perhaps the most direct evidence of Poland's outlier status where sovereign debt is concerned comes from a paper by Accominotti (2012) that applies principal-components analysis to monthly-frequency bond spread data to investigate the propagation channels of the Depression. He finds that the reversal of international capital flows in September 1931 accounts for most of the identifiable co-movement between the bonds in his sample, but that Poland and Japan stand apart by being spared the worst of the common shock. In Chapter 3, I repeat the principal-components exercise using a smaller sample of countries and daily-frequency data and find that Accomminotti's result is robust to this change of specification: where sovereign debt is concerned, Poland's experience is unique within Central Europe.

1.3.6 Other Approaches: Trade and Agriculture

It is worth commenting briefly on a fourth, emerging strand of the modern literature on the Great Depression as it relates to the case of Poland: the argument that contractionary pressure in goods markets was in itself a leading driver of the global economic crisis. Insofar as this new literature echoes the traditional Polish literature's focus on the Great Depression in Poland as the manifestation of a global agrarian crisis, which hit Poland particularly severely due to the dominant role of agriculture in Poland's economy, it raises the possibility that perhaps this structural characteristic is to blame for the particularly harsh course of Poland's Depression. The key new work on the role of trade in the Depression is the PhD dissertation of Thilo Albers, which

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[84] Barry Eichengreen et al., 'Public Debt Through the Ages', *National Bureau of Economic Research Working Paper Series* No. 25494 (2019).
[85] Markus K. Brunnermeier and Martin Oehmke, 'The Maturity Rat Race', *Journal of Finance* 68, no. 2 (2013).

studies the multiplier effects of falling import demand by countries' top three export partners on those countries' income.[86]

Contrary to what a reading of the Polish literature would lead one to expect, however, out of the 22 countries in Albers' sample the impact of the 'trade channel' of the Great Depression as identified by Albers is *smallest* for Poland, with the shift-share instrument accounting for only 12% of Poland's decline in GDP, compared with 32% for the next-lowest country, Romania, and 154% for Belgium, where the explanatory power of the 'trade channel' is highest.[87] This finding, or perhaps lack of a finding, for Poland is intriguing and deserves further study. One possible explanation is that Poland, while highly structurally dependent on agriculture, was not a large net exporter of agricultural products during the Depression, but instead derived most of its visible trade surplus from the sale of coal to Scandinavia and southern Europe: markets not captured by Albers' shift-share instrument. Thus, it may be more revealing in this context to look for a causal effect of the Polish agrarian crisis within the domestic economy; for instance, by following the approach of Rieder and Messner (2017), who use county-level microdata for the United States to examine the impact of agricultural-sector distress on the likelihood of regional bank failures.[88]

The lack of quantitative work on Polish economic history, and particularly the lack of digitised data sources at an appropriately low level of aggregation, means that an in-depth study of the contribution of agricultural distress to the harshness of Poland's Depression remains to be done. Nevertheless, such comparative data as is available indicates that the agrarian crisis was not the sole driver of Poland's poor performance in the Depression years. As Figure 4 (p. 33, above) shows, Poland is an outlier even in comparison with the other agrarian economies of Eastern Europe, which, all else the same, should have been affected to a similar extent by the collapse of world grain prices. Indeed, were the agricultural price shock the primary impulse underlying Eastern Europe's Depression, Romania, Bulgaria and Yugoslavia, having greater shares of agriculture in GDP, should have suffered *larger* output losses than Poland.[89] Empirically, however, the opposite is the case: these economies differed from Poland in that they both abandoned the gold standard sooner and recovered sooner. The comparison with Bulgaria, which abandoned gold in 1931and suffered only a 10% peak-to-trough contraction in real output, is particularly striking. Whether there was a Polish 'farm channel', and whether it was quantitatively significant for the Polish Depression, remains to be determined. One can be relatively confident, however, that the farm crisis was not the main driver of Poland's Depression.

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[86] Thilo Albers. "Trade Frictions, Trade Policies, and the Interwar Business Cycle" (2018b). Ch. 3

[87] Albers (2018b), p. 205

[88] Kilian Rieder and Todd Messner. "Was There a Farm Channel to the Great Depression in the United States? New Evidence from County-Level Data on Farm Foreclosures." Working Paper. (2017)

[89] Kaser and Radice (1986), Ch. 3, is a rich source of comparative figures on the relative importance of agriculture to the various economies of interwar Eastern Europe.

1.4 Six New Datasets on the Polish Economy

The foregoing survey has shown that the case of Poland in the Great Depression has characteristics that place it at variance with each of the three prevailing explanations of the crisis in the modern literature. A deeper examination of the antecedents and dynamics of the Polish crisis is therefore called for, one that engages explicitly with the comparative literature and takes advantage of the advances in quantitative research methods and electronic access to sources that have taken place since Landau and Tomaszewski's generation. The present study is not the first to apply such methods to the Polish case, and I am indebted to the work of Kirsten Wandschneider and Nikolaus Wolf for their pioneering contributions to the study of the interwar Polish economy.

The PhD thesis of Wandschneider (2003)[90] and the papers it has been adapted into discuss Poland as one of four case studies of financial stabilisation in the wake of the First World War using weekly-frequency bond and exchange-rate data. Wandschneider's analysis is complementary to that of this dissertation insofar as she examines Poland as one of four Central European countries, the others being Hungary, Austria, and Czechoslovakia, whose macroeconomic situation was a direct result of their re-formation as sovereign states in 1918. She finds strong evidence of financial contagion between Austria, Hungary, and Czechoslovakia during the 1920s and early 1930s, and some degree of transmission of macroeconomic shocks from those countries to Poland as well. Wolf (2007, 2008), meanwhile, examines the case of Poland in a wider comparative setting, employing a monthly-frequency panel analysis to reveal that Poland remained on the gold standard for longer than its fundamental macroeconomic position would have indicated.

Where this thesis differs from these earlier approaches is in the depth and the frequency of the data collected, as well as the choice of countries. Like Wandschneider and Wolf, I collect bond and exchange-rate data, but I do so at the highest frequency possible (daily), for both the New York and London capital markets (as against Wandschneider's use of only London figures), which allows for the precise identification of the timing of shocks. Furthermore, I expand the analysis beyond Wandschneider's sample by comparing directly the experiences of Poland and Germany: a country which, I show, closely resembles Poland in its economic and political fundamentals on the eve of the Depression but which experiences very different outcomes thereafter. Furthermore, in addition to improving on Wolf and Wandschneider's own financial data series, I gather a much broader pool of quantitative information from Polish statistical publications, which is essential to placing the developments on the financial markets in their

[90] Kirsten Wandschneider, 'Central Bank Independence and Policy Performance: Central-East Europe 1919-1939' (PhD Thesis, Urbana and Champaign, Illinois, University of Illinois at Urbana-Champaign, 2003).

proper context. A major omission from Wandschneider's figures, which I rectify, is the lack of a GDP series for Poland in her thesis. As I show, GDP estimates covering 1929-1938 do exist for Poland, and while there is uncertainty about the absolute level of Polish national output, the various series all show a much slower recovery (with the Great Depression persisting until 1936/1937) than Wandschneider infers from the index of industrial production which she uses as a proxy.[91]

The latter effort especially—the gathering of a wide range of data beyond that presented in the international financial press—is a major innovation of this thesis, as the largely non-quantitative state of the economic history research conducted on the interwar period by scholars within Poland itself has meant that the digital availability of data on the wider Polish economy has until now been poor, despite a few recent inroads, for instance the digitization by Albers (2018a) of a range of macroeconomic time series for various countries on the basis of German and League of Nations statistical publications.[92] Therefore, the drafting of this dissertation could not have proceeded without the gathering of no fewer than six datasets that are either entirely new or at higher frequency than the versions of them that have found use in the literature to date. (The quantitative portion of this activity either already is, or will shortly be, made available for other scholars' use at the author's academic website.[93])

In addition, extended periods of archival study, largely though not exclusively at the Central Archives of Modern Records (Archiwum Akt Nowych, AAN) in Warsaw, served to supplement the quantitative data with a 'ground-level' view of how events were perceived and what decisions were taken by policy actors and the wider (business and international) community. It is worth sketching out the contours of this effort according to two categories: the hard numerical figures taken from various statistical and financial publications, and the body of newspaper and archival sources used to make sense of them.

With currency, debt, and banking as the three major foci of the modern Great Depression scholarship, I have sought to gather the highest-resolution data possible to help assess what these explanations can tell us about the Polish case. For the first two prongs of this effort, relating to currency and debt, I have constructed daily-frequency[94] price series based on hand-collected

[91] Wandschneider (2003), p. 29, states on this basis that Poland's recovery from the Great Depression was accomplished in 1933, which is not a chronology that an examination of the Polish literature and output data would support.
[92] Thilo Albers, 'The Prelude and Global Impact of the Great Depression: Evidence from a New Macroeconomic Dataset', *Explorations in Economic History* 70 (2018a).
[93] https://theadonsiemion.com/data-digitisation/
[94] By necessity I exclude non-trading days, such as weekends, bank holidays, and other periods when the financial markets were closed (such as the March 1933 US bank holiday). As a rule, data from the New York market was available for six days out of every week (excluding Sundays), and data from London for five (with the exception of a brief interlude in 1930-31 when the London stock exchange experimented with Saturday trading).

observations from two mainstays of the London financial press: *The Times* and *The Economist*. The first dataset from these sources consists of the exchange rate between the Polish currency (the Polish Mark before May 1924, the Złoty thereafter) and the British Pound. In the first instance, this data was collected for the period between 12 February 1920 (with sporadic observations stretching back to July 1919) and the official Polish entry onto the gold standard on 15 October 1927 from *The Times;* the series was then extended through July 1936 using daily and weekly data from *The Economist*. (The extension into the Depression years is not a part of the formal quantitative analysis of this thesis, but was useful informally, for instance as an additional piece of evidence that the Polish exit from gold in 1936 was not anticipated by foreign market participants.)

Whereas the first dataset concerns currency, the second, also from the *Times*, consists of daily-frequency bond prices: the close-of-trading prices of every national-level sovereign bond (thus excluding bonds issued by municipalities and state-owned enterprises) quoted on the London and New York markets for Poland and three other Central European countries: Germany, Austria, and Hungary. As it appears in Chapter 3 of this thesis, the data was collected for the period from Poland's entry onto gold on 15 October 1927 through to the end of May 1936, approximately a month following Poland's imposition of exchange controls. (Additional data collection beyond the analytical scope of this thesis has since extended the Polish series through to the end of 1936.) For the London market, the data, reprinted from the London Stock Exchange's *Official Record of Dealings*, includes both buyers' and sellers' prices, with an average between the two taken when a single daily figure was needed for time-series analysis. Further discussion of this dataset, which totals some 43,111 observations, is deferred to Chapter 3, but its potential extends well beyond the narrow use to which it has been put in this study.

The third prong of the Great Depression scholarship with which this thesis is concerned is the literature on banking, and in particular on the monetary policy of the Bank of Poland throughout the Depression. (The fragmented state of the quantitative source material on commercial banking has precluded, for the time being, a formal extension of this analysis to the interactions between the Bank of Poland and other Polish financial institutions, or to the factors contributing to the survival of most Polish commercial banks despite severe aggregate deposit losses between 1930 and 1932.) The basic dataset for analysing the policy of the Bank of Poland is drawn from *The Economist*[95] and consists of the thrice-monthly balance sheet returns of the Bank of Poland, which cover all of the important items of its assets and liabilities, including notes in circulation, gold and foreign exchange reserves, direct loans outstanding, discounted bill portfolio, and advances to the government. This data was collected for the full period from 1924

[95] Though, as discussed further in Chapter 4, it appears to be identical to its counterparts in Polish statistical publications, as well as the archives of the Bank of Poland itself.

to 1936, and so includes a comparison of reserve levels during the Depression and the failed first attempt to secure the convertibility of the Polish currency in 1924-25. It is supplemented by information, also from *The Economist* but recorded separately, on the subsidiary issue of coins and bills by the Treasury (this at monthly frequency), giving in combination a full picture of the evolution of the Polish narrow money supply.

The explanation for why the two London publications were chosen in constructing the above series over local Polish ones is twofold. One reason is logistical: while newspapers in Poland did report the latest exchange, bond, and share quotations, and while complete collections of the major Polish papers[96] have been digitised, the files are currently embedded in a cumbersome user interface and are not searchable or machine-readable. As collecting the data just for Chapter 3, on sovereign bonds, required nearly a full year of consistent effort even with the benefit of advanced in-text search tools, collecting the same data from the Polish sources would not have been feasible even within the generous time-frame of a doctoral dissertation. Furthermore, for certain sub-periods, most notably for exchange-rate data over much of the hyperinflation years, the officially quoted Warsaw prices differ from the prices on foreign markets due to the Polish government's attempt to shut down speculation by administrative fiat; in other words, the Warsaw exchange rates for these periods certainly do not reflect the market fundamentals that are the focus of this study. It would, of course, be desirable if in future Polish newspaper sources were similarly accessible: for instance, much of the financial history of interwar Poland would benefit from the daily-frequency corporate share prices quoted in the *IKC* and *Kurier Warszawski*. For the purposes of the present study, however, with its focus on the largely neglected open-economy aspects of Poland's Depression, the lack of a systematic survey of Polish news sources does not seem a major handicap.

An additional benefit of using machine-searchable news sources is that it has been possible to combine quantitative data collection with the creation of a database of all of the articles in the *Times* and *Economist* between the day of independence, 11 November 1918, and July 1936, that mention Poland in a political or economic context. The purpose of this database (or, rather, two databases: one for each newspaper) has been, in the first instance, to provide a window onto the set of information and body of opinion available to international market participants in managing their investments into Polish assets. While formal sentiment analysis using statistical techniques is beyond the scope of this thesis, the survey of the foreign press has proven invaluable in identifying key movements in the time series, particularly the results of Bai-Perron structural break analysis. The news articles were collected in the following way. First, a search was performed for all articles containing the keywords 'Poland', 'Polish', 'Warsaw', or

[96] In particular, the Kurier Warszawski and Kraków-based Ilustrowany Kuryer Codzienny are available from provincial digital libraries associated with the Polish national library's Polona digitization project.

'Złoty'. Articles with no relevance to Poland the country (such as the frequent references of the London family by the surname Poland[97]), or whose subject matter was obviously unrelated to economics or politics (such as the frequent reports of the relative performance of Polish airmen in various aerial races across Europe) were excluded; all others were retained. The final output consists of some 3,800 articles from the *Times* and 3,400 from the *Economist*, indexed by date and subject matter. It is hoped that these files (available, for the moment, by request) will be of use to future researchers by providing a ready-made timeline of events and commentary on Polish history as it unfolded.

A final, but in some ways the most comprehensive, source of quantitative information used in this thesis derives not from Fleet Street, but from the collected publications of Poland's Central Statistical Office (Główny Urząd Statystyczny, GUS). The full set of these records for the interwar period has been made available by GUS on the institution's website.[98] In total, they number some 80,000 pages of data on virtually all aspects of interwar Poland's economy and many social questions. With such an abundance of material, in this project I have had to make very selective use of this data, focusing my efforts on digitising the monthly-frequency series of headline economic variables published from 1922 to 1923 in *Miesięcznik Statystyczny GUS*, and from 1926 to 1939 in *Wiadomości Statystyczne GUS*. In total, the data collected thus far amounts to some 300 time series, with most of the series concerning Poland but with some comparison figures for four major economies (the United Kingdom, United States, Germany, and France).[99] The quality and availability of the GUS data bears the scars of the difficult rebirth of the Polish state: there is very little data prior to 1921 and a restricted output for 1923-25, when budget cutbacks forced the cessation of much of GUS's activities. Nevertheless, particularly for the period of the Great Depression, the GUS series have been invaluable in rounding out the economic backdrop of the present thesis.

The effort pursued throughout this doctoral project to ground the study of interwar Polish macroeconomics on new, quantitative foundations, did not come at the expense of the detailed archival work that is at the traditional heart of the practice of economic history. Von Thadden's reassurance, in his 1994 monograph on Poland's hyperinflation, that "World War II did not hit

[97] The family is worthy of a study in its own right. Originating from Bavarian fur traders in the 1740s, its members have included, among others, a Lord Mayor of London; a celebrated Victorian criminal lawyer; an admiral involved in interdiction of the Atlantic slave trade and the Kagoshima incident that accelerated the Meiji restoration; a women's croquet champion in the 1920s; a member of the Lloyds Board of Directors in the 1930s; ten generations of London furriers; three generations of Conservative MPs; a noted philatelist; a founder of the charity St Mungo's; and a Vice-President of eBay.

[98] The GUS Digital Library, available at http://statlibr.stat.gov.pl/, contains publications dating as far back as 1809, though GUS as an institution was not established until 1918.

[99] In addition, and outside the scope of this thesis, I have begun work on digitizing the contents of *Wiadomości Statystyczne GUS*, the statistical bureau's digest of its most important findings, for the full period of its existence from October 1923 onward. The fruits of this effort, still in its infancy, may be found at https://theadonsiemion.com/data-digitisation/.

the data situation significantly" and that "no bombs hit the archives"[100] is facially incorrect—during the planned destruction of Warsaw following the collapse of the 1944 Uprising, the Nazi regime systematically burned the great majority of the cultural and historical materials they discovered, and it is estimated that the Polish state archives in Warsaw lost some 97% of their collections.

Fortunately, however, thanks to the Polish resistance movement's efforts to evacuate as much of the archival documents to safety as possible, as well as the Nazis' sheer self-interest in the preservation of certain records of an economic or financial nature in order to ease the plunder of Poland's resources for their war economy, the impact of these losses for our hopes of understanding the background of economic events is not nearly as severe as might otherwise be expected.

In particular, the papers of the Cabinet, Ministry of Finance, and Ministry of Foreign Affairs were largely among those evacuated by the Home Army before the Uprising. The records that survived as a result of Nazi self-interest, meanwhile, include the archive of the Central Statistical Office, taken by Hans Frank's General Government to Kraków, where it withstood the war basically intact, and the Bank of Poland's documents, which were removed from Warsaw by the Wehrmacht before the razing of the city in 1944, and are thus also largely extant (including, in particular, the all-important minutes of the governing bodies) despite some losses to shelling when the building was used by the Home Army as a stronghold during the insurrection.[101] I have drawn on all of these collections, but especially those of the Cabinet and the Bank of Poland, in the drafting of this thesis, with particular emphasis on the hyperinflation years and the critical junctures of the Depression: 1929-1932 and 1935-1936. In the interest of avoiding duplication of scholarly effort, this corpus of archival evidence—totaling over 10,000 high-resolution images as well as an extensive catalogue of AAN files of relevance to the financial history of interwar Poland[102]—is available from the author upon request, as are all the previously mentioned datasets. Also important to this study was the trove of archival evidence unearthed by William A. Allen at the Bank of England over the course of his recent research into the relationship between the Polish and British central banks during the interwar period[103], which is likewise available from him on request. Archival research at the Banque de France, Bank of International Settlements, and the German state archives was in the plans for this dissertation but could not be

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[100] Götz von Thadden, 'Inflation in the Reconstruction of Poland, 1918-1927' (PhD Thesis, London School of Economics, 1993), p. 19.
[101] The building remains in ruins to this day, one of the few structures in the Polish capital not to have either been torn down or reconstructed since 1945.
[102] Its volume— some 120 pages in manuscript—testifies to the great untapped potential of the Polish archives for economic historians.
[103] William Allen, 'Poland, the International Monetary System and the Bank of England, 1921–1939', *NBP Working Paper Series*, no. 328 (2020).

carried out due to the coronavirus pandemic, though the Banque de France staff did provide valuable assistance in tracking down documents remotely.

1.5 Outline of the Argument

By its very nature, the task of updating the Polish scholarship on the Great Depression in the light of the many open questions raised by the international literature has required a selective approach. The attempt to answer the key question of this thesis—why Poland remained on the gold standard for so long and why in April 1936 it at last opted for a change of course—unfolds here in three substantive chapters, which were initially intended as independent papers, but which have evolved with time toward something more akin to a rough cut of a monograph. Of these, the first chapter, which treats of the hyperinflation of 1919-1924 and its aftermath through 1927, retains the character of a self-contained argument, and as the longest of the three papers constitutes, as it were, a thesis-within-a-thesis, whereas the two chapters on the Depression, the first on debt and the second on central banking, form an interconnected suite. Here is a foretaste of what they contain.

Chapter 2, *Hyperinflation and Stabilisation in Poland, 1919 – 1927: 'War of Attrition' or Politics by Other Means?*, is a response in equal parts to two works of scholarship: on the one hand Flora Macher's tracing of the genesis of the Austrian and Hungarian banking crises in those countries' inability to overcome the distributional conflicts fuelling their hyperinflations except through the poisoned chalice of a conditional loan from the League of Nations; on the other the pathbreaking but nowadays largely overlooked PhD thesis of Götz von Thadden (1993) on the Polish hyperinflation itself. Its central concern is to explain how Poland was able to achieve its stabilisation without external support; its primary means of doing so, the daily time series of exchange-rate quotations collected from the London *Times* for 1919-1927, which are used as a proxy for currency market participants' expectations of Polish inflation. The basic finding of the paper, one almost entirely novel to the literature[104] is visible with the naked eye, though confirmed formally using time-series analysis: far from being a monotonic process of steadily increasing prices, as the famous paper by Sargent (1982) on the four interwar hyperinflations assumes (the misperception comes from Sargent's use of monthly data and his focus on the final and most dramatic year of price increases)[105], the Polish hyperinflation occurred in stages, with

[104] Von Thadden (1994) discusses some of the policy reforms at the centre of the argument, but largely misses their significance.
[105] Thomas Sargent, 'The Ends of Four Big Inflations', in *Inflation: Causes and Effects* (National Bureau of Economic Research, 1982).

long periods of stability—the longest lasting eight months—interspersed with phases of rapid price rises.

Why the Polish hyperinflation was a tale of plateaux rather than a continuous increase until Władysław Grabski's reforms set in is revealed by a comparison of the structural breaks in the time series identified using the method of Bai and Perron (1998) with the Polish cabinet papers deposited at the AAN and the database of news relating to Poland from the *Times* and the *Economist*. What I find is that the Polish hyperinflation was a product of rational and not—*pace* von Thadden and the early Polish literature—adaptive expectations. Where my analysis expands on Sargent's, who draws the same conclusion, is in identifying the main driver of these expectations: the changing fortunes of Poland's military—at the time the recipient of well over fifty percent of the state budget—during the country's wars of independence. News of demobilization, as when a ceasefire was agreed in the Polish-Bolshevik War in January 1921, brought an immediate halt to inflationary expectations, whereas news of renewed conflict, as when the third and most severe Silesian Uprising (amounting to a full-fledged Polish-German border war) erupted in May of that year, resulted in the exchange rate immediately beginning to weaken once more.

The most striking finding of the paper is that the Polish government, with Michalski as finance minister, could have stabilised the currency in 1922 and thereby averted the worst of the hyperinflation, but the cuts to the military budget that this course required provoked Piłsudski into extra-constitutionally engineering its downfall and thereby severely limited the scope for manoeuvre for future financial reformers. Similarly, I find that the exogenous shock of the Polish-German trade war, and not distributional conflict over the burden of stabilisation, was the primary cause of the return of inflation in 1925: indeed, the parliamentary system proved quite flexible in taking the necessary measures to bring inflation back under control. In other words, the dynamics of hyperinflation in Poland were fundamentally different from those in Austria, Hungary, and Germany, being tied much more closely to the inclement foreign environment than to domestic disagreement over which political constituencies were to be stuck with the cost of stabilisation. Thus, despite the common experience of hyperinflation, Poland lacked the "Macherian" incentive toward an abuse of the banking sector by the state to assuage distributional conflict at the cost of severe damage to the financial system's stability that was to prove so ruinous in 1931 in Austria and Hungary.[106]

[106] The analogy extends to Germany as well, albeit with adverse selection on the market for foreign credit (i.e., the surge of Western commercial lending under the transfer-protection clause of the Dawes Plan) taking the place of moral hazard in the banking sector as the maladaptive means of addressing the simmering distributional conflicts left over from the hyperinflation. (See Ritschl (2002) for the transfer-protection argument.)

Chapter 3, *Sovereign Debt and the Great Depression in Central Europe: Evidence from Transatlantic Bond Markets*, and Chapter 4, *Interwar Poland's Late Exit from Gold: A Case of Government as Conservative Central Banker?*, stand in relation to one another as a call and response. The focus of both is on the Depression years, though from differing angles: Chapter 3 takes an explicitly comparative view of the performance of Poland versus the three other Central European economies with hyperinflation in their recent pasts, whereas Chapter 4 uses the Bank of Poland's balance sheets and archival collections to explain the trajectory of Polish monetary policy.

The chapter on sovereign bonds is quantitatively the most ambitious of the thesis, but also the shortest. Its main concern is to use the extensive database of sovereign bond yields collected from the London financial press to discover why Poland, unlike Germany (as well as two comparison countries, Austria and Hungary, whose influence on financial events in Poland has been investigated by Wandschneider (2003) but which nevertheless are included in the analysis as economies with a common recent legacy of hyperinflation), did not experience a sovereign debt crisis in 1931. The paper's first task is to establish that the question is not trivial. One indication that it is not comes from the previous chapter's evidence that the Polish hyperinflation—seemingly so similar to the ones in the former Central Powers that Sargent (1982) treated them as manifestations of the same phenomenon—turns out to have been driven by a fundamentally different set of forces. The further evidence on this point in Chapter 3 deepens this impression of Poland as a country similar to its Central European peers in key economic fundamentals, and yet fundamentally different in outcomes.

On the side of similarities, I reconstruct estimates of the Polish ratio of external debt to GDP and find it to be very similar to that of Germany (inclusive of reparations) during this period—within a few percentage points both in its absolute magnitude and its division between state long-term and commercial short-term liabilities. This is, to say the least, a surprising finding, given that Germany has long been thought of as exceptional in its (unintendedly) privileged access to foreign credit under the Dawes Plan and its position at the centre of the tangled post-World War I skein of war debts, war reparations, and mutual recriminations. Is it an artefact of the admittedly poor quality of the GDP data used to construct the Polish estimates? Additional evidence from the balance of payments strongly suggests that the similarity is real, and that Poland is indeed as close a counterfactual case to Germany of a sovereign debtor in the Depression as the historical record is able to provide. What I find is an almost perfect congruence in the movements of the Polish and German current account following their respective currency stabilisations, a finding evocative of Hélène Rey's work on global financial cycles in the present day.[107] In passing, I also find new evidence of significant data problems in the sovereign-debt database of Reinhart and Rogoff (2010).

Yet despite the similarities in the sovereign debt burden, the legacy of hyperinflation, and exposure to the global payments cycle, Poland's treatment at the hands of its creditors turns out to have been fundamentally different from that meted out to the three other countries in the sample. Before 1931, international investors were notably more wary of Polish than of Austrian, German, and Hungarian debt, both charging the Polish government a higher risk premium and reacting more strongly to adverse developments. (A prime example is the Wall Street crash of 1929, which appears to have rattled bondholders' perceptions of Polish credit risk but had no discernible effect on the other countries' bond spreads.) In 1931, this relationship reverses wholesale: while all four countries' bonds are affected by the financial turmoil, particularly the Central European banking crises and Britain's departure from the gold standard, the spreads on Polish (and only Polish) debt recover quickly, and indeed remain at or even below their pre-Depression levels from late 1932 until *after* the Polish exit from gold on 27 April 1936.

To account for this reversal of fortune, I narrow the focus to the Polish and German bond series. The daily frequency of the collected data allows for a fine-grained examination of movements in the respective bond spreads. The data is of sufficient quality, in fact, to provide strong evidence against the view of Ferguson and Temin (2003) that the German crisis of 1931 was a currency panic sparked by Chancellor Brüning's declaration of intent to enter into a customs union with Austria in March of that year, a move that would have violated the spirit if not explicitly the letter of the Treaty of Versailles. Instead, I find, again using structural break analysis, that the deterioration in the German and, interestingly, Polish bond spreads only sets in with the collapse of Danat-Bank in mid-July. There is some evidence of psychological contagion, therefore, from the crisis in Germany to Poland, and thus a question to be answered as to how the Polish financial system was able to weather the blow: this question is the 'call' to which Chapter 4 is the response. In the meantime, the structural break analysis reveals one final interesting twist for Germany, which is that creditors' confidence in Germany's capacity to repay seems not to have collapsed completely until the beginning of September 1931, over a month *after* Danat but nearly three weeks *before* the British exit from gold. What explains this timing puzzle is an open question, and the provocative hypothesis I propose is that a possible culprit is a final twist in the Austro-German customs union saga. If correct, that would imply that Ferguson and Temin's analysis is basically correct in its argumentation, though wildly askew in its proposed timing.

In Chapter 4, the focus returns squarely to Poland, and in particular to the policy decisions of the Polish central bank and the constraints, political and economic, that it laboured under.

[107] Hélène Rey, 'Dilemma Not Trilemma: The Global Financial Cycle and Monetary Policy Independence', *National Bureau of Economic Research Working Paper Series* No. 21162 (2015).

Here, my main tool of analysis is the balance-sheet series taken from *The Economist*, as well as the vault of news clippings from the Polish financial press and the GUS monthly time series. Besides seeking to explain the phenomenon of Poland's ability to maintain itself on the gold standard despite strongly adverse conditions, the paper's argument is a polemic with the rather limited body of existing Polish literature on the interwar Bank of Poland, with a particular focus on the conclusions of Leszczyńska (2013), which overlap with those of Landau and Tomaszewski (1989), regarding the circumstances under which Poland left the gold standard.

In the view of the Polish scholarship as set out by Leszczyńska, the Sanacja regime valued the gold standard out of a combination of domestic political factors—in part sensitivity to the inflation aversion of Polish citizens scarred by a decade of severe price fluctuations, in part the usefulness of a 'sound money' policy as a major point of distinction between the new regime and the old parliamentary one, under whose watch the hyperinflation occurred—as well as a conviction that the gold standard is ultimately self-equilibrating and in any case that international best practice supported it over the alternatives. The consensus of the Polish literature is that the exit from gold was the inevitable, "unwanted but necessary"[108] result of a calamitous fall in the central bank's gold reserves in April 1936, and not a premeditated policy decision.

The problem with the Polish account of the exit from gold is that there is little support for it in the fine-grained quantitative evidence. The cover of the monetary issue of the Bank of Poland by its gold reserves remained nearly ten percentage points above its statutory minimum as late as 20 April 1936 (the last balance-sheet return before the imposition of exchange controls), and the international bond price series shows no adverse movements in spreads on Polish debt before April 27 but a sharp rise in the implied risk premium as soon as the controls were imposed. Furthermore, the GUS data on the balance of trade, fiscal deficit, and even strike activity (another explanation for the exit from gold, favoured in the Communist-era historiography)[109] show Poland's fundamental economic position to have been stable and even improving on the eve of the departure. Meanwhile, Leszczyńska's argument that the official reserve figures conceal the true situation because it includes gold loaned to the Bank of Poland against interest by the Banque de France cannot explain the timing of the Polish departure, as on this measure Poland should have left gold already in 1932.

If economics cannot explain the Polish departure from gold, what can? On the basis of thorough research in the Polish and Bank of England archives, I conclude, in keeping with Wolf (2007, 2008), that the common factor that explains Poland's capacity and will to stay on the gold

[108] Leszczyńska (2013), pp. 336-342 is the fullest exposition of the traditional Polish thesis.
[109] See, for instance, Andrzej Ajnenkiel, *Polska Po Przewrocie Majowym: Zarys Dziejów Politycznych Polski 1926-1939* (1980), and to a lesser extent Marian Drozdowski, *Polityka Gospodarcza Rządu Polskiego 1936-1939* (1963).

standard in 1931 and its decision to leave in 1936 lies in the foreign policy. The gold standard was part and parcel of the alliance, political, military, and economic, with France, and so long as France (i) remained on gold and (ii) remained likely to honour its commitments as an ally, the Polish government did its utmost to cling onto its membership in the same monetary club, no matter the cost. I find that it is precisely this strong aversion to falling out of step with France that was behind the Polish government's moves in 1932 to forestall a planned suspension of convertibility by the central bank by packing its governing bodies with loyalists. Even when President Mościcki began to doubt the wisdom of continued deflation following the symbolic rebuke of the governing regime in the 1935 elections, a coalition of the military under Marshal Rydz-Śmigły and Foreign Minister Beck successfully blocked his repeated attempts to engineer an exit from gold.

What changed the situation, fundamentally and overnight, was Hitler's remilitarisation of the Rhineland and France's decision not to oppose it. Immediately after it became clear that France would not act, Rydz-Śmigły appealed to the government for an urgent programme of domestic rearmament, which to be conducted on any adequate scale was plainly inconsistent with the gold standard. Preparations to leave began immediately, accelerated in the first half of April with a cull of the hard-line gold standard supporters from their positions of influence, and culminated in the President ordering the Bank of Poland to make ready for an imminent departure at a summit held on April 21—all this before any speculative attack on the Polish currency began. As during the hyperinflation and as during the European financial collapse in 1931, Poland's monetary policy answered in the final account to its foreign policy.

Chapter 2:
Hyperinflation and Stabilisation in Poland, 1919 - 1927: 'War of Attrition' or Politics by Other Means?

2.1 Introduction

Hyperinflations are events of perennial interest to economic historians, and the early 1920s are almost unique in the extent of the monetary instability that followed the destruction of the classical gold standard in the fires of the First World War. When it had become clear that the troops would not be 'home by Christmas' and that the ongoing war effort would need to be sustained by an unprecedented re-orientation of the entire resources of the economy, the free convertibility of national currencies into gold went by the board in virtually all of the countries taking a share in the fighting, along with many of the neutrals. The end of the fighting in 1918 failed to bring a swift restoration of the pre-war monetary system. While most national governments agreed in principle that the return to a gold-based currency was a prerequisite for the re-establishment of normal economic relations and signed joint statements and resolutions affirming their commitment to return to gold at the economic conferences of Brussels (1920) and Genoa (1922),[110] their ability to do so was constrained by the degree to which they had been forced to resort to seignorage as a means of financing the war effort.

Essentially, three sets of outcomes then prevailed. On the one hand, for countries that had managed to cope with the exigencies of wartime without dramatic increases in the monetary base— the United Kingdom is a prime example— it was possible to return to the gold standard at the pre-war parity, albeit at the cost of several years of tight monetary policy and deep recession in order to bring about the necessary decrease in prices. On the other, those countries that had been forced into large increases of the monetary base during wartime— for instance France, where prices had approximately doubled between 1914 and 1918[111]— found a return to gold at the pre-war parity infeasible, and there ensued a more or less protracted struggle against ongoing inflationary pressures to return to gold at a reduced parity.

For four countries, Germany, Austria, Hungary, and Poland, the challenges of returning to the gold standard at any parity proved insuperable. These countries continued to rely heavily on seignorage to meet expenses even after 1918, and the result was an uncontrolled expansion of the money supply and an ever-escalating spiral of price and wage increases. By the time the hyperinflation was finally reined in, the nominal value of money in circulation stood in Austria at

[110] Barry Eichengreen. *Golden Fetters: The Gold Standard and the Great Depression, 1919-1939* (1995), pp. 153-162
[111] Pierre-Cyrille Hautcoeur. "Was the Great War a Watershed? The Economics of World War I in France," in *The Economics of World War I,* eds. Stephen Broadberry and Mark Harrison (2005), p. 187.

14,400 times, in Hungary at 14,800 times, in Poland at 1.8 million times, and in Germany at over one trillion times the level of 1914.[112]

For the countries that experienced them, the hyperinflations of 1918-1924 were traumatic events, whose consequences cast a pall over the troubled remainder of the interwar period. It is widely appreciated that the German hyperinflation "caused profound, and ultimately fatal, damage to the Weimar system," not only economically, but also by adding a potent source of disaffection to an already volatile political culture.[113] In her recent work on Austria and Hungary, Macher has made a powerful case for the central role of the hyperinflations in those countries in creating the incentives that led to the financial crises of 1931, which not only had a profound influence on the Austrian and Hungarian economies' trajectory through the Great Depression, but also likely played a role in precipitating the great wave of departures from the reconstructed gold-exchange standard, including the United Kingdom's suspension of gold convertibility, by the end of that year.[114]

In contrast to these well-studied cases, comparatively little has been published about the hyperinflation in Poland, either in English or in Polish[115]. The works in this literature have tended to be either descriptive in nature, providing a narrative of events but providing little by way of analysis of the factors causing the rate of inflation to speed up or decelerate; or conversely, as with Thomas Sargent's well-known comparative study of the four major European inflations[116]—have given a plausible economic explanation of the dynamics of the hyperinflation (in Sargent's case, the rational expectations hypothesis), but have fallen short of putting that explanation to a formal empirical test.

There are several reasons why this deficiency is particularly glaring in the Polish case. The first is the close link, discussed above, between a country's experience with hyperinflation in the 1920s and its subsequent fortunes during the Depression. There is good reason to believe that such a connection exists in the Polish case as well, not least because the failure of the parliamentary governments of 1920-26 to bring about price stability has often been cited as a catalyst for Marshal Piłsudski's military coup of May 1926[117], and the post-coup governments relied heavily on their 'sound money' credentials as a source of legitimacy and a counterpoint to the 'Sejmocracy' ('Sejm' being the Polish term for the lower house of Parliament) that had

[112] Sargent (1982), p. 44
[113] Niall Ferguson and Brigitte Granville. "'Weimar on the Volga': Causes and Consequences of Inflation in 1990s Russia Compared with 1920s Germany", *Journal of Economic History* 60, No. 4 (Dec. 2000), p. 1062.
[114] Macher (2018, 2019).
[115] An extensive discussion of the relevant historiography is left to Section 3.
[116] Sargent (1982).
[117] See, for instance, Garlicki (2017).

preceded them.[118] Understanding the (hyper)inflation of 1919-1927 therefore stands to shed much light on the puzzle of why the Piłsudski government remained committed to the gold standard until the bitter end in 1936, despite the profound economic sacrifices that this policy entailed.

No less important, there exist differences between the Polish experience of runaway inflation on the one hand, and that of the defeated Central Powers on the other. In contrast to Germany, Austria, and Hungary, Poland was not a sovereign state during the First World War (having been partitioned between the Hohenzollern, Habsburg and Romanov empires in 1795), but gained its independence with the Armistice in 1918. As such, it differed from its fellow hyperinflation countries by neither being liable for war reparations to the victorious Allies,[119] nor being branded a pariah state by the surviving Great Powers. Likewise, the country's route out of hyperinflation differed substantially from that of its peers for two reasons. On the one hand, the end of the hyperinflation in 1924 was accomplished out of the country's own resources, without recourse to an external loan; on the other, however, the initial stabilisation of 1924 failed to hold, giving way to moderate inflation in 1925-26. It was not until October 1927 that Poland, this time with the aid of a stabilisation loan, formally entered into the gold standard. These differences call into question the prevailing accounts of Europe's postwar monetary instability— notably those of Sargent (1982) and Eichengreen (1995)— that see in the four hyperinflation countries a common set of causes and policy lessons.

My aim in this paper is to evaluate whether the existing accounts of monetary instability in 1920s Europe provide a sufficient explanation for the case of Poland. To do this, I perform an in-depth analysis of the dynamics of inflation expectations in Poland between 1919 and *de jure* stabilisation of the currency in 1927 on the basis of a previously unexploited data set: daily quotations of the exchange rate between Sterling and the Polish Mark (before revaluation at the end of April 1924) / Zloty (after revaluation) collected from the *Times* of London. Structural break analysis is used to identify turning points in the time series, and Polish and British news sources, as well as papers of the Council of Ministers, Polish State Loan Bank and Bank of Poland from the Polish state archives, are used to attempt to identify the causes of the breaks.

I find that the stabilisation of 1924, almost exclusively the focus of the earlier literature, was preceded by two tentative stabilisations in 1921 and 1922, which lasted for up to eight months before unravelling. Further, I find that the most likely cause of the failure of these early

[118] Nikolaus Wolf. "Should I Stay or Should I Go? Understanding Poland's Adherence to Gold, 1928-1936," *Historical Social Research* 32, No. 4 (2007).
[119] Poland's war-related liabilities were limited to compensation to the governments of Germany and Austria for government property taken over on account of the new borders. Meanwhile, Poland was— in theory— assigned a share of the reparations payments from the defeated Central Powers, but the sums granted to Poland were negligible compared to those paid to the victorious Allies in the West.

efforts at monetary and fiscal consolidation to hold was not, as Eichengreen (1995) argues, 'wars of attrition' between the parties of the Right and the Left over the distribution of the cost of stabilisation across social classes, but the outbreak of border wars in Lithuania and Upper Silesia, which placed an overwhelming burden on the limited resources of the newly formed Polish state. Likewise, the collapse of the Grabski stabilisation in 1925 appears to have been the result not of insuperable distributional conflict but of a premature *consensus* among policymakers that the time had come to shift the focus of economic policy from halting inflation to promoting output, in collision with a further foreign-policy shock in the form of a breakdown in commercial relations with (and via) Germany. Thus, the main reason for Poland's delayed monetary stabilisation after World War I was not indecision by successive governments over the incidence of reforms, but the initially weak state capacity of the reborn Polish Republic, coupled with the willingness of its leaders to subordinate the stability of the currency to the fiscal demands of 'politics by other means'.[120]

2.2 A Historical Narrative of Poland's Hyperinflation

The existing literature on the monetary history of the interwar period has tended to group Poland, Germany, Austria and Hungary together, with the implication that the similar challenges that they faced sprung from similar initial conditions. For instance, Sargent, while making passing reference to "many differences in details among the Austrian, Hungarian, Polish and German hyperinflations", sees the four countries' experiences as essentially alike in that their hyperinflations were all fuelled by "enormous budget deficits on current account", and ended through the use of "deliberate and drastic fiscal and monetary measures" to engineer a change in the fiscal policy regime.[121] While technically accurate, generalisations of this sort tend to obscure the essential difference in the initial conditions facing Poland *versus* its peers at the close of the First World War.

The difference was this: Germany and the Dual Monarchy of Austria and Hungary entered the First World War as belligerents: states with decades-old political regimes and centuries of unbroken political history; states that possessed the fiscal, logistical and administrative apparatus to put millions of soldiers into the field. The War and the peace that followed it proved greatly disruptive to these polities and their economies. All three of the defeated Central Powers were forced to relinquish substantial territories with considerable economic importance. Germany was compelled, by the Treaty of Versailles, to cede northern Schleswig-Holstein, the important industrial territory of Alsace-Lorraine, and the Vistula valley, which entailed the

[120] The turn of phrase is due to Clausewitz: "War is merely the continuation of politics with other means".
[121] Sargent (1982), p. 43.

physical isolation of East Prussia from the remainder of the German state. The Habsburg Empire fared worse still: having disintegrated *de facto* during the final days of the War, it was broken up definitively by the treaties of Trianon and St-Germain-en-Laye, with the new Austrian and Hungarian states retaining a fraction (in the Hungarian case, less than one-third) of their pre-War territory. The "7000 miles or so of new customs borders across Central Europe" were bound to have a highly disruptive effect on commerce in the region, leading to a dis-integration of markets and even short-term famine, as when the flow of grain from the Pannonian basin to the cities of Lower Austria in exchange for Austrian manufactured goods was cut off in the winter of 1918.[122] To these losses of territory was added the burden of the reparations imposed by the victors on the governments of Germany, Austria and Hungary, amounting in the German case to 132 billion gold marks (or 50 million if the "C" bonds, intended from the beginning more for French public consumption than for repayment, are excluded).[123] Yet in all three cases, despite revolution and, in the Hungarian case, a successful counter-revolution that ended the short-lived Hungarian People's Republic under Bela Kun, the state apparatus and civil administration continued to function, albeit under radically altered conditions.

The situation in Poland was fundamentally different. Poland was not liable for the payment of reparations, for the simple reason that it had not existed as a sovereign entity between the Third Partition of its territory between the Habsburg, Hohenzollern and Romanov empires in 1795 and the very end of the War, on 11 November 1918. That is not to say, however, that Poland was spared the ravages of the fighting. On the contrary, lying as it did athwart the borders of Germany, the Dual Monarchy and Russia, Poland was the battlefield on which most of the war in the East was fought, and it faced as a result a correspondingly high level of devastation.

The damage touched all sectors of the economy, with particularly severe effects on infrastructure and the industrial and agricultural capital stock. Destruction of factories and other sites of productive activity was widespread, such that at the end of 1918, industrial employment in the former Russian territory of Congress Poland (which held the major industrial areas of the Russian partition) was down to 14% of its pre-war level, and the capital stock had been reduced to the levels of the mid-1870s.[124] In agriculture, particularly severe damage was done to the stock of timber and livestock: nearly 300,000 hectares of timberland were lost, the quantity of horses,

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[122] Nikolaus Wolf, Max-Stephan Schulze and Hans-Christian Heinemeier. "On the Economic Consequences of the Peace: Trade and Borders After Versailles," *The Journal of Economic History* 71, No. 4 (2011). Poland also teetered on the brink of famine in 1918-1919, which is one reason why it sought urgent relief credits from the United States in the early postwar years.

[123] Niall Ferguson, "How (Not) to Pay for the War: Traditional Finance and 'Total' War," in *Great War, Total War: Combat and Mobilisation on the Western Front, 1914-1918*, eds. Roger Chickering and Stig Förster (2000).

[124] Zbigniew Landau and Jerzy Tomaszewski. *Gospodarka Polski Międzywojennej: W Dobie Inflacji, 1918-1923* (1967), pp. 64-67.

cattle and swine declined by an average of 40-60% across the provinces of partitioned Poland, and the area of land under cultivation was roughly halved.[125] The railways, vital to the re-integration of the war-torn and partition-riven Polish economy, were especially hard-hit, with 41% of major rail bridges, 63% of stations, 48% of rail-yards, 36% of locomotives and 68.1% of the freight rolling stock destroyed from 1914 to 1918.[126] Nor could the human cost of the Great War be ignored: post-war governments faced a legacy of some 400,000 dead (including both military and civilian casualties) and a further 3.6 million internally displaced: they, or their next of kin, all needed to be taken care of.[127] Taken together, the damages suffered as a result of military activity imposed a burden on the Polish economy that the new government of Poland needed immediately to address.

On 11 November 1918, amid the final disintegration of the Central Powers, Marshal Piłsudski, the head of the Polish Legions during the War, arrived in Warsaw from his imprisonment in the German military prison at Magdeburg and took over power from the Regency Council of the German puppet Kingdom of Poland, created in 1916 out of occupied Russian territory. For the first time in a century, Poland became a sovereign state, albeit one with no fixed borders, no regular army, an administrative structure that needed to be built from the ground up, few skilled administrators to run the state apparatus, empty coffers and few ways of filling them in the absence of an effective tax system, and antagonistic relations with nearly all of its neighbours.

The most fundamental problem confronting any attempt to bring the new Polish state into existence as a viable polity was the need to knit together five pre-war territories, each with its own code of laws, system of taxes and tariffs, and economic structure. Moreover, the government that came into existence in November 1918 controlled just one of these territories, centred around Warsaw: the rest had to be bargained or fought for. Thus, the years between 1918 and 1922 saw the government in Warsaw engaged in a series of pitched conflicts, plebiscites held under the auspices of the League of Nations, and backroom dealings at the Paris peace conferences, to define the borders of the Polish state. In the area comprising the pre-war German province of West Prussia, the region of Greater Poland (Posnania) passed *de facto* from German to Polish control as the result of a Polish national uprising in the winter of 1919. The Versailles peace treaty between the Allied powers and Germany of June 1919 then confirmed the facts on the ground by formally assigning this area, as well as a corridor of land up the Vistula to the Baltic, to the Polish state. The major, coal-rich industrial centre of Upper Silesia, before the War a

[125] Ibid., p. 153-155
[126] Ibid., p. 224-25
[127] Ibid., p. 36

German territory, had its fate decided by three Polish uprisings, contested by German *Freikorps* paramilitaries (August 1919, August 1920, and May-July 1921), as well as a League of Nations plebiscite in March 1921, and the outright intervention of the Quai d'Orsay when those measures had failed to achieve a permanent resolution. To the south, tensions over the industrial region of Teschen led to a brief border war between Poland and Czechoslovakia in January-February 1919, which would poison relations between the two countries for the duration of the interwar period after attempts by the League of Nations to apportion the region via plebiscite foundered in the early months of 1920.[128]

The greatest struggle for the shape of the new-born Polish state, however, took place in the east, where a multitude of states, factions and national independence movement vied to seize as much of the power vacuum left behind by the collapse of Russia into civil war in 1917 as could be had. Freed by the armistice from their bond to the Great Powers under which they had fought during the War[129], the Polish Legions swept westward into the Russian territories of Ukraine and White Russia. The Polish offensive was initially successful, capturing eastern Galicia (before the War an Austrian territory) from the newly constituted People's Republic of Western Ukraine, and sweeping as far east as Minsk and Kiyv by June of 1920.

By then, however, Polish forces were experiencing stiffening resistance from the Red Army, advancing westward into the vacuum from Moscow. A concentrated offensive by Bolshevik forces under Kamenev and Tukhachevsky, with Trotsky and Stalin (who later bitterly remembered his wartime defeat) assigned to the Red Army as its political commissars, succeeded in driving the Poles back to the line of the Vistula. The turning point of the war came on August 15, when the Polish forces, bolstered a French advisory mission under General Weygand, launched a counteroffensive that threw the Red Army back in disarray. Fighting continued for several more months, during which time the Polish army recaptured much of the territory lost the previous summer. The war was ended on March 18 1921 by the Peace of Riga, which granted Poland the territory it had captured in the east (subsequently known as the *Kresy,* or Borderlands), as well as a promised indemnity of 30 million gold rubles, plus the return of railway rolling stock and art treasures looted by the Tsarist regime during the Partitions.[130]

The final addition to Poland's territory during its re-creation had its roots in the October 1920 'mutiny' of General Lucian Żeligowski, during which Polish forces (ostensibly on their own accord, but, in reality, under orders from Marshal Piłsudski) seized the city of Vilnius, which had strong historical and demographic ties to Poland but was claimed by the newly formed Republic

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128 Nikolaus Wolf. "Path Dependent Border Effects: The Case of Poland's Reunification (1918 - 1939)," *Explorations in Economic History* 42 (2005).

129 Polish military formations had served during the First World War in the armed forces of Germany, Austria, Russia and (on the Western Front) France.

130 Landau and Tomaszewski (1967), pp. 8-34.

of Lithuania as its capital. The city and surrounding area existed for several years as the 'Republic of Central Lithuania' before being unilaterally annexed by Poland in March 1922. Uncertainty about the territory's status persisted until the Council of Ambassadors of the League of Nations confirmed the annexation in March 1923, and Polish-Lithuanian relations remained frigid, with a totally closed border and no mutual diplomatic recognition, until the late 1930s.[131]

The ongoing and urgent demands of border wars on virtually all sides and the need to replace the one-quarter or so of national wealth that was destroyed in the Great War presented a formidable economic challenge for the new Polish state. Although precise information about government budgets is somewhat difficult to interpret during the inflation years, as late as February 1924, nearly a year after Poland's borders were finalised and five years after the Great War had ended, the special financial advisor to the Polish government E. Hilton Young found that "the budget has been falling into ruins, and it is the army and the railways [the main focus of government reconstruction outlays] that have been responsible for this expenditure". The figures for 1923 cited by Young show a railway deficit amounting to 365.4 million zlotys, and expenditure on the army totalling 369 million zlotys, as against revenues of 426.8 million zlotys and an overall deficit of 692 million.[132]

This situation, in which the two largest items in the budget dwarfed total revenues, was in large part caused by the need to build state fiscal capacity from the ground up by uniting the disjointed regional economies of the reborn Polish state. On the one hand, there was the problem of trade patterns: western Poland (formerly German), Galicia (formerly Austrian) and the Kresy had served before the War as the agricultural periphery of economic networks centred on Berlin, Vienna and St. Petersburg, respectively, while the Kingdom of Poland had been a major supplier of light-industry products, particularly textiles, for the Russian market, from which it had been severed by the Revolution. Only Upper Silesia, which remained outside Poland until 1922, possessed a significant concentration of coal-powered heavy industry.

Recent quantitative research by Wolf (2005) has called into question the long-standing assumption that the partition boundaries presented a severe hindrance to the adjustment of internal trade to new patterns after the war, arguing on the basis of a gravity model that while there was significant disruption, particularly in the short run (in 1926, the effect of the partition borders on intra-Polish trade was roughly the equivalent of a 25-45% tariff, though this impact declined over the 1926-1934 period of the sample)[133], on the whole "interwar Poland was a

[131] Wolf (2005), Landau and Tomaszewski (1967), pp. 8-34.
[132] Edward Hilton Young, *Report on Financial Conditions in Poland* (1924), p. 14.
[133] Wolf (2005), p. 426

surprisingly well-integrated economic area" when compared against the benchmark of cross-border trade between present-day US and Canada, and between EU member-states.[134]

Yet, the finding that the partition borders did not prove an insurmountable barrier to the re-integration of internal trade after independence understates the difficulties that the legacy of partition presented to the organisation of a functioning tax and administrative system. From the beginning, the new government faced several key disadvantages. The first of these concerned the tax structure— or, rather, structures, for the new state inherited four "different and irreconcilable" systems of taxation, each tailored to the needs, currency, and administrative framework of the former partitioning powers, not the unified Poland.[135] Their standardisation into a coherent, well-functioning system was a *sine qua non*, yet it necessarily "meant subjecting a large part of the population to taxes with which they were unfamiliar."[136] Worse, such a thoroughgoing reform took time. For instance, while an external customs regime was implemented by the end of 1919 (a full year after independence), it was not until the summer of 1921 that the internal customs frontiers between the former partitions were abolished (with difficulty and in the face of civil unrest in the relatively prosperous former West Prussia).[137] Full consolidation of the tax administration had to wait until January and June 1922, when West Prussia and Upper Silesia, respectively, were incorporated into the system. An income tax was nominally in place by 1920, but its implementation in the former Russian partition (the largest part of the country) was delayed by several years.[138] As late as 1924, Hilton Young's financial report to the Polish government indicated that the work on reconciling Poland's disparate fiscal regimes was far from complete: "It should be said that a final solution of this problem has not yet been attempted. It is a task that awaits the country in the future."[139] Young was correct: industrial taxation was only unified in 1925, and the final standardisation of the tax structure was not accomplished until 1936.

Compounding the problems raised by the lack of a coherent tax code was the lack of a bureaucratic apparatus, especially outside the capital, through which taxation could be made effective. That this problem was severe, and would take much time and effort to rectify, can be illustrated by the reply Finance Minister Karpiński received when he asked a delegation visiting from the city of Kalisz (250 kilometres from Warsaw, and connected by rail) in April 1919 about

[134] Ibid., p. 435
[135] Young (1924), p. 4
[136] Ibid.
[137] Wolf (2005), p. 418
[138] Ibid. p. 417
[139] Young (1924), p. 5

the success in that city of the capital levy that had been authorised by the Sejm three months before: “We do not know anything about a capital levy.”[140]

Even when the necessary systems of delegation and reporting were put into place, contemporary sources indicate that tax evasion remained a significant concern. This, too, was in part a legacy of partition: as Young notes in his Report, “for four generations [the people of Poland] rightly looked upon the tax collector as the agent of an alien and hated domination, whom it was a patriotic duty to thwart; and a habit learned during four generations is not unlearned in a day.”[141] While it is very difficult to quantify the extent to which tax evasion, which is unobservable, contributed to the Polish government’s difficulties in balancing the budget during the inflation years, it certainly had an effect, especially during the hyperinflation years when trust in the currency (the Polish Mark, itself a holdover from the partition period) was low and alternative means of payment such as the US dollar, chervonets ruble, and Maria Theresa thaler circulated freely.

If taxation could not be relied on to finance the costs of border wars and economic reconstruction, especially soon after independence when the demands on the budget were greatest and the fiscal capacity least, the Polish government had two conceivable alternatives for financing its expenditures. The first of these was to seek credit, whether at home or abroad. On the face of it, obtaining foreign credits was a desirable solution, as it would have given the government a much-needed breathing space to put together a working system of public finance, as well as provided ‘hard’ backing for the new currency that would be the permanent replacement for the unbacked Polish Mark inherited from the wartime occupation. Indeed, successive finance ministries in the years after independence made it their priority to attempt to negotiate such a credit, seeing in it a prerequisite for stabilisation.[142]

Unfortunately, the circumstances in which Poland sought foreign relief were inauspicious. Poland, coming into existence for the first time in a century, was the epitome of an ‘unseasoned’ borrower, with no track record of debt repayment and a pre-Partition legacy of fractious and ineffectual governments that was well-known to potential creditors.[143] It was not even certain, between the border wars Poland was engaged in and the pending deliberations over its future by the great powers at Versailles and elsewhere, whether and under what circumstances the Polish state would continue to exist.[144] With the advent of high inflation, the problem only worsened, as

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[140] Götz Henning von Thadden, “Inflation in the Reconstruction of Poland, 1918-1927” (unpublished PhD diss., London School of Economics and Political Science, 1994), 59.
[141] Young (1924), p. 5
[142] von Thadden (1994) and Landau and Tomaszewski (Ch. 13) provide a detailed account of these attempts.
[143] To this day, the phrase ‘a Polish parliament’ is a by-word in Sweden for a dysfunctional government.
[144] For the role of reputation effects and ‘seasoning’ in determining access to foreign capital, see Michael Tomz, *Reputation and International Cooperation: Sovereign Debt across Three Centuries* (2007).

foreign lenders saw in the monetary turmoil confirmation that Poland was a bad credit risk. Thus, Zygmunt Jastrzębski, the finance minister during the latter half of 1922, was reluctantly forced to conclude, toward the end of his term, that "reliance on foreign assistance is, unfortunately, an illusion… foreign assistance will come only when the greatest [economic] difficulties will have been overcome."[145]

As it happened, Poland was able to secure only $286 million in foreign credit between November 1918 and the Grabski stabilisation of January 1924. Of this sum, the bulk consisted of French armaments and US famine-relief credits, with the balance comprising industrial investment, mainly French and British. Between 1918 and 1921 (a period accounting for 98.8% of Polish foreign indebtedness before stabilisation), only 1.26% of all foreign loans granted to the Polish government were able to be directed toward monetary stabilisation.[146] Indeed, the credit constraint remained in force even after the end of the hyperinflation in 1924: while private lending resumed, prior to the formal stabilisation in 1927 the government could float large debt issues only against the security of long-term leases on state monopolies (tobacco, matchstick and alcohol), and predominately from lower-quality lenders, such as the new Fascist government of Italy (in the case of the tobacco loan) and Swedish multimillionaire "genius and swindler" Ivar Kreuger (in the case of the matchstick loan).[147]

Poland's difficulties in obtaining foreign credit were in part self-induced. The issue was not that credit was simply unavailable to Poland, on any terms, but that there was virtual unanimity among the post-independence governments that terms which, as Finance Minister Grabski made explicit, imposed "political or economy-wide" conditions on the Polish government, could not be accepted.[148] Poland could in theory have followed Austria's and Hungary's example in seeking a stabilisation loan from the League of Nations, in exchange for international supervision of its public finances. Indeed, a large loan with significant political preconditions was offered to Poland by the League in February 1925.[149] That all of the Polish governments, before and after the coup of 1926, saw such oversight as too high a price to pay for an early stabilisation of the depreciating currency is one of the distinguishing features of the Polish hyperinflation.

Nor did the Polish government have substantially more success in procuring loans domestically to cover the extraordinary fiscal demands of the postwar period. Capital markets in Poland in the early 1920s were much thinner than those of the US, Britain, or even France and

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[145] Quoted in Landau and Tomaszewski (1967), p. 308.
[146] Ibid., p. 320
[147] The sobriquet is due to R. Shaplen, *Kreuger, Genius and Swindler*, ed. J.K. Galbraith (Knopf, 1960).
[148] Zbigniew Landau and Jerzy Tomaszewski. *Gospodarka Polski Międzywojennej: Od Grabskieo do Piłsudskiego, 1924-1929* (1971), p. 215.
[149]" Report from the Finance Ministry Delegation to Geneva (Top Secret)," March 1, 1925. Kauzik, box 6. Archiwum Akt Nowych.

Germany. No large-scale financial centre existed in Poland before the War; capital markets in Berlin, Vienna and St. Petersburg had covered the majority of Poland's finance needs. Only 28 banking institutions, badly weakened by losses during wartime and the revolution in Russia, as well as severance from their pre-war correspondence and discounting networks, existed on the territory of Poland immediately after independence.[150] Inflation, by eroding the stock of real money balances, only worsened the situation, such that financial institutions either lacked the capital to lend and shifted their activities to the safer and more profitable field of currency arbitrage, or lent "for very short periods and at very high rates".[151] Far from being able to draw on the domestic banking system for the funds needed to stabilise the currency, the government felt compelled to "save trade and industry from paralysis" by using the bank of issue to "provide what can no longer be obtained elsewhere", such that, as Young noted in his 1924 report, much of "the trade and commerce of Poland [was being] financed out of credit… made for it by the government".[152]

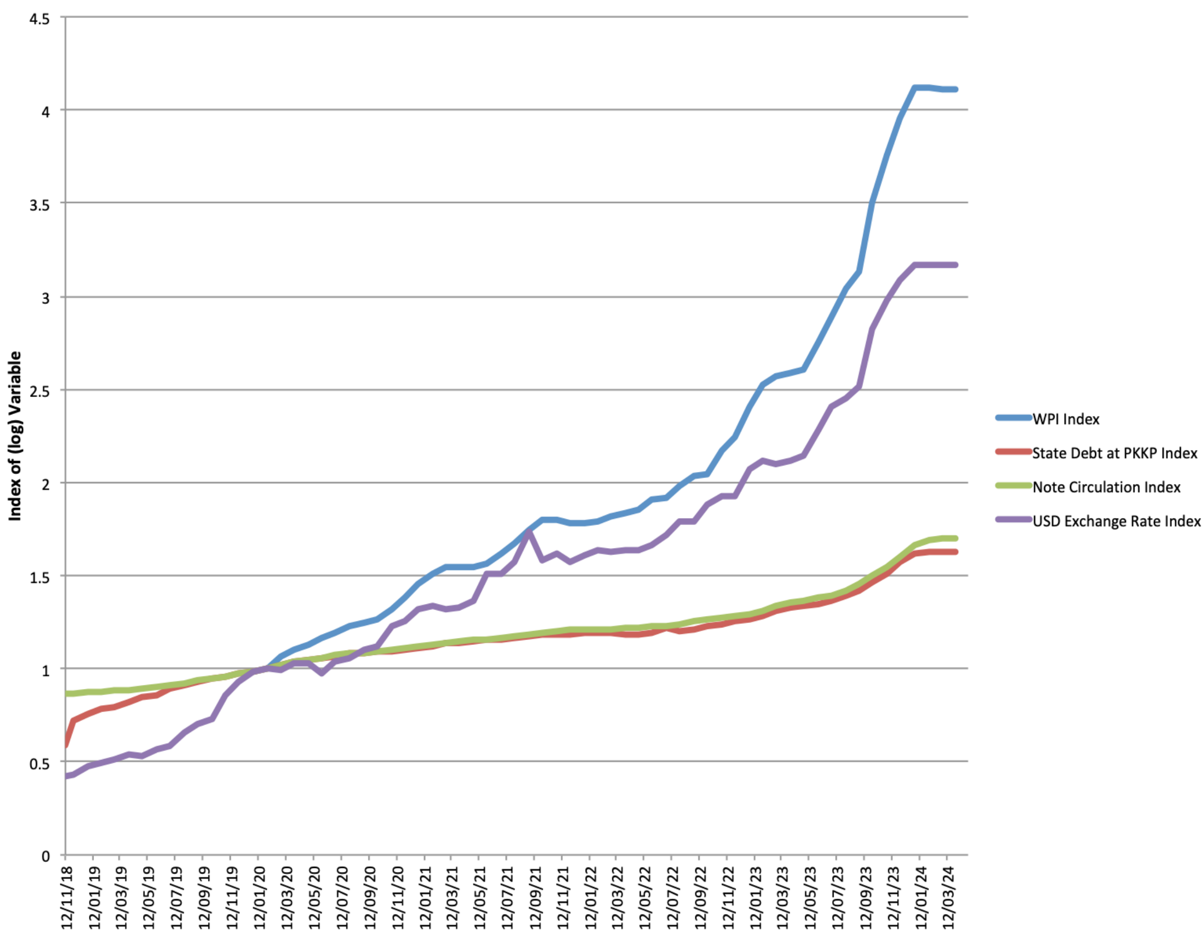
Meanwhile, the other possible form of domestic credit, borrowing directly from the public through the issue of bonds, also failed to produce satisfactory results during this period. A first attempt was made immediately after independence in 1918, when the government successfully floated a 5% bond issue that raised the equivalent of $75 million for the public coffers. The eight subsequent attempts to repeat this success (three in 1920, one in 1921, and two each in 1922 and 1923), however, disappointed expectations, with no issue raising more than $20 million and the issues during the years of peak inflation raising as little as $4, $1.8, $1.5, and $0.1 million as rampant inflation progressively eliminated the nation's savings. By 1923, even the indexation of the 6% internal loan to gold proved an insufficient incentive to attract more than the equivalent of $7 million to the public coffers.[153]

When the will or the ability to balance the budget was lacking, and credit could not be obtained at politically acceptable terms to cover the deficit, there was one tool of public finance that remained at the disposal of the Polish government: seignorage revenue from the creation of new money, which in effect "places a tax on cash balances by depreciating the value of money".[154] The inflation tax is a potentially desirable tool of public finance, as unlike other forms of taxation it operates automatically and requires for its implementation only a monetary authority willing to authorise the expansion of the stock of money in circulation. In Poland, this requirement was met from the beginning, as the new nation did not possess a central bank with any history of

[150] Landau and Tomaszewski (1967), p. 296
[151] Young (1924), p. 11
[152] Ibid., p. 12
[153] von Thadden (1994), p. 93
[154] Philip Cagan, 'The Monetary Dynamics of Hyperinflation', in *Studies in the Quantity Theory of Money*, ed. Milton Friedman (Chicago: The University of Chicago Press, 1956), p. 89.

policy independence or commitment to 'sound money'. Instead, the power to issue currency was vested in the *Polska Krajowa Kasa Pożyczkowa* (PKKP), conventionally translated as 'Polish State Loan Bank', but more literally rendered as 'Polish State Loan Fund', a translation that better captures its *ad hoc* nature and core mission: to fund the ongoing expenses of the government. During the period of the German occupation, the PKKP had issued 880 million Polish Marks (MP), of which 520 million had entered into circulation by November 11, 1918. Coming into power, the Polish government used the remaining 360 million, discovered in the PKKP's vaults, to fund urgent expenditures. When this reserve ran out, in January 1919, and with expenditures exceeding revenues by over 300%, the government directed the PKKP to begin the printing of new banknotes, and took to funding its expenditures by taking on credit at the PKKP.[155]

Figure 5. Relative Evolution of (log) Polish Monetary Variables and WPI, Nov. 1918 – Apr. 1924 (Feb. 1920 = 1)



[155] Landau and Tomaszewski (1967), pp. 254-261. Indeed, until the Constituent Assembly established procedures for annual budgeting in 1921, there was no centralised control over government expenditures; each government department possessed an account at the Bank of Poland on which it could draw *carte blanche* to cover its expenses.

Inevitably, as the note issue expanded, prices began to rise, and the result was runaway price inflation, which began at rates of approximately 15-25% per month, and by early 1923 had crossed the 50%-per-month threshold for hyperinflation proposed by Cagan (1956). While a 'play-by-play' account of the progress of the inflation is beyond the scope of this paper (the interested reader is referred to von Thadden's (1994) well-researched narrative), Table 1 and Figure 5[156] show the evolution, at monthly frequency, of several key monetary variables, as well as an index of wholesale prices, from independence to the establishment of the Bank of Poland at the end of April 1924.

Table 1: Monetary Variables and Wholesale Price Index, November 1918 - April 1924.
Note: Bolded entries indicate a change of more than 50% over the preceding month.

Date	Wholesale Price Index (1914 = 1)	State Indebt. at PKKP (1000s of MP)	Notes in Circulation (1000s of MP)	Price of US$1 in MP (Warsaw)
12/11/18		0	880150	8
30/11/18		**13930**	930457	8.5
31/12/18		**119921**	1024314	9
31/01/19		**209885**	1098147	11
28/02/19		**315000**	1160033	12
31/03/19		400000	1223196	13.5
30/04/19		575000	1345983	15.425
31/05/19		**925000**	1548295	15
30/06/19		1125000	1784564	17.5
31/07/19		**1925000**	2087921	19.65
31/08/19		2525000	2466612	28
30/09/19		3225000	2964709	35
31/10/19		4375000	3723571	41.25
30/11/19		5375000	4236211	**77**
31/12/19		6825000	5316925	110.125
31/01/20		8275000	6719870	144
29/02/20	35.8	10775000	8300261	159
31/03/20	44.5	14775000	10690618	156.125
30/04/20	51.8	19375000	16027865	181.25
31/05/20	57.5	22375000	17934653	180.25
30/06/20	65.0	27625000	21730074	141.75
31/07/20	71.5	33375000	26311387	189.75

[156] Data sources for Table 1 and Figure 1: WPI data is given by von Thadden (1994): pp. 184-186. Data on state indebtedness at the PKKP, notes in circulation and the Warsaw dollar exchange rate are taken from Jerzy Zdziechowski, *The Finances of Poland, 1924-1925* (1925), pp. 6-7.

Table 1: Monetary Variables and Wholesale Price Index, November 1918 - April 1924. ***Note: Bolded entries indicate a change of more than 50% over the preceding month.***				
Date	**Wholesale Price Index (1914 = 1)**	**State Indebt. at PKKP (1000s of MP)**	**Notes in Circulation (1000s of MP)**	**Price of US$1 in MP (Warsaw)**
31/08/20	80.3	39625000	31085843	214
30/09/20	86.5	40625000	33203498	270
31/10/20	93.5	46925000	38456762	297.5
30/11/20	111.5	49625000	43236181	**510**
31/12/20	140.8	59625000	49361485	590
31/01/21	180.5	65625000	55079451	790
28/02/21	222.3	77125000	62560416	890
31/03/21	250.0	93625000	74087403	817.5
30/04/21	251.5	106625000	86755339	820.5
31/05/21	250.8	117625000	94575834	1016
30/06/21	272.8	130625000	102697302	**2075**
31/07/21	328.8	140625000	115242280	2090
31/08/21	401.0	158000000	133734219	2847.55
30/09/21	518.3	178000000	152792056	**6550**
31/10/21	628.5	198500000	182777295	3100
30/11/21	620.5	214000000	207029095	3590
31/12/21	578.0	221000000	229537560	2922.5
31/01/22	578.0	227000000	239615265	3445
28/02/22	607.0	230600000	247209505	4060
31/03/22	663.5	232100000	250665463	3867.5
30/04/22	721.0	220000000	260553764	4075
31/05/22	760.5	217000000	276001108	4002.5
30/06/22	923.0	235000000	300101132	4700
31/07/22	937.0	**360000000**	335426628	6075
31/08/22	1175.0	285000000	385787488	8625
30/09/22	1427.0	342500000	463706046	8865
31/10/22	1500.0	453500000	579972769	**14140**
30/11/22	**2360.0**	519500000	661092352	17320
31/12/22	3079.0	675600000	793437498	17800
31/01/23	**5391.0**	799500000	909160306	**35650**
28/02/23	**8431.0**	1085000000	1177300802	44750
31/03/23	9784.0	**1752000000**	**1841205619**	42300
30/04/23	10481.0	2161500000	2332396794	46625

Table 1: Monetary Variables and Wholesale Price Index, November 1918 - April 1924. *Note: Bolded entries indicate a change of more than 50% over the preceding month.*				
Date	**Wholesale Price Index (1914 = 1)**	**State Indebt. at PKKP (1000s of MP)**	**Notes in Circulation (1000s of MP)**	**Price of US$1 in MP (Warsaw)**
31/05/23	11130.0	2377000000	2733794112	52875
30/06/23	**18623.0**	2996500000	3566649071	**104000**
31/07/23	**30387.0**	4190000000	4478709058	**196750**
31/08/23	**52408.0**	**6473000000**	**6871776522**	249000
30/09/23	72278.0	**10265000000**	**11197737897**	350000
31/10/23	**276487.0**	**19080500000**	**23080402211**	**1612000**
30/11/23	**679347.0**	**42854000000**	**53217494679**	**3535000**
31/12/23	**1423007.0**	**111332000000**	**125371955360**	**6375000**
31/01/24	**2521667.0**	**238200000000**	**313659830013**	9300000
29/02/24	2484296.0	291700000000	**528913418744**	9250000
31/03/24	2452779.0	291700000000	596244205556	9250000
27/04/24	2423218.0	291700000000	570697550472	9250000

As the trends in Table 1 and Figure 5 show, the majority of Poland's governments between 1918 and 1924 proved unable or unwilling to renounce the use of seignorage to meet fiscal needs. Nevertheless, several Cabinets did make concerted efforts to stabilise the public finances. The existing literature on the Polish hyperinflation recognises four such attempts before the hyperinflation was brought under control. The first of these was engineered by Jerzy Michalski, finance minister from 26 September 1921 to 28 June 1922 in the centre-right government of Antoni Ponikowski. Whereas Michalski's predecessors had faced war and the need to repair extensive wartime damage, by late 1921 Poland's economic and political fortunes were in "an obvious upswing", and it is in this atmosphere that Michalski was able to put together a combination of tax increases, spending cuts (including placement of the army on a peacetime footing) and foreign trade liberalisation aimed at bringing Poland's balance of payments into surplus.[157] These efforts were temporarily successful at halting the growth of, and even slightly reducing, the state indebtedness at the PKKP and the rise in wholesale prices. Nevertheless, by the summer of 1922, the stabilisation unravelled. There is a lack of consensus in the literature on the causes of this turn of events: von Thadden (1994) blames the distributional consequences of the post-stabilisation recession for creating inexorable political pressure for a return to inflationary finance[158]; while Landau and Tomaszewski (1967) are skeptical that the stabilisation

[157] von Thadden (1994), pp. 123-128
[158] Ibid.

was "grounded in reality" in the first place, as the lack of a gold-based unit of account in which taxes could be levied meant that the value of the new taxes would be eroded by inflation during the time-lag between their announcement and collection, such that the reprieve for the public coffers from new taxation was temporary at best.[159]

The failure of the Michalski stabilisation gave rise to a year-and-a-half-long period of almost uninterrupted, and accelerating, growth in the monthly-frequency monetary and price series. Nevertheless, it would be a mistake to classify this period as one of passive helplessness on the part of policymakers, as two further stabilisation drives took place between July 1922 and November 1923. The first of these was carried out by Zygmunt Jastrzębski, Michalski's successor at the Treasury from 3 July 1922 to 4 January 1923 in a succession of conservative cabinets. Though he faced severe political constraints on his freedom to reduce the military budget, a point addressed in detail below, Jastrzębski believed that steps could be taken to create a sound foundation for the public finances, and in particular, to obviate the fiscal time-lag problem that had complicated previous efforts to end reliance on deficit monetisation.

Accordingly, on 27 September 1922, Jastrzębski announced the creation of a new unit of account, the Złoty (literally, 'golden'), equal in parity to the Swiss Franc, in which taxes and expenditures might eventually be reckoned. Unfortunately, a number of flaws, such as the failure of the 8% internal stabilisation loan meant to create backing for the new unit to attract support due to its lack of adequate protection against inflation, marred the execution of this plan. Upon Jastrzębski's departure from office, the zloty remained a mostly 'theoretical' currency: tax receipts and planned fiscal expenditures were reckoned in zlotys, though taxes continued to be levied in Polish Marks.[160] The task of placing the fiscal apparatus on a zloty basis was taken up by his successor in the Treasury, Witold Grabski, who saw in the promise of increased revenues from the valorisation of taxes an easier means of closing the fiscal deficit than the reduction of expenditures, which continued to be high owing to the ongoing demands of defence and reconstruction. With the exception of severe restrictions on dealings in foreign exchange and the issuing of a second gold loan that, by the dismal standards of Polish public finance after 1919, was a success, Grabski failed to persuade the Sejm to back his plan. Parliamentarians, even from his 'home territory' on the centre-right, tended to view the scheme as too complex, and too similar to Jastrzębski's failed scheme to have a realistic chance of success. Grabski's failure to 'sell' his plan to the Sejm prompted him to resign at the beginning of July 1923. Over the following months, however, as inflation continued to accelerate, the Sejm reconsidered the core planks of Grabski's

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[159] Landau and Tomaszewski (1967), p. 269. For the general phenomenon of inflation reducing revenues from non-indexed taxes, see Vito Tanzi, "Inflation, Lags in Collection, and the Real Value of Tax Revenue," in *Staff Papers (International Monetary Fund)* 24, No. 1 (1977).
[160] von Thadden (1994), pp. 128-131.

scheme and implemented them: a one-time capital levy, set in zlotys at PLZ 1 billion, was passed on August 11, followed by the full valorisation of the tax system on 30 November.[161]

By the final quarter of 1923, the Polish inflation had reached runaway proportions, surpassing the 50%-per-month mark on all of the measures set out in Table 1. While Finance Minister Kucharski stepped up efforts to reform the tax system (as discussed above) and attempted to create room for fiscal manoeuvre by enticing foreign lenders with the collateral of Poland's resource extraction industries (notably timber), a wave of industrial unrest swept the cities. The government (under Prime Minister Witos) attempted to stay the course, with some success, but collapsed on 15 December following the walk-out of a fraction of fifteen Galician peasant deputies from the ruling coalition over the issue of agrarian reform.[162] As the Polish Constitution did not provide for new elections upon the fall of a government, and forming an alternative coalition in the highly fragmented and fractious Sejm proved over the following days to be an impossibility, on 18 December President Wojciechowski asked Grabski to return to his previous post as Prime Minister, at the head of a government of national unity. On 21 December, following a debate described at the time as "the shortest and most good-humoured ever known in the Sejm", the second Grabski government was confirmed by an investiture vote of 193 to 76, which broke down along national, not class, lines, the Polish parties of the centre, right and left voting for the new government; the national minority parties voting against.[163]

Upon being confirmed, Grabski immediately began the implementation of a new, comprehensive programme of financial reform. The Witos government had, on 4 December, announced its scheme for the implementation of a gold-based currency and a new bank of issue. In his manifesto to the Sejm upon returning to office, Grabski endorsed this plan, while supplementing it with a call for further tax increases and expenditure cuts, a new internal loan, and the privatisation of the remaining state-owned enterprises. Most radically, Grabski asked the Sejm to grant President Wojciechowski emergency powers to pass economic legislation including the power to raise up to 500 million gold francs in government loans and to dispose of up to 150 million gold francs of state property.[164] After much debate, on 6 January 1924 the Sejm approved Grabski's special powers bill, the only major change from the original proposal being a reduction of the term of the emergency powers from twelve to six months.[165]

In the six-month window granted by the Sejm, the Grabski government made a number of sweeping reforms to the Polish public finances that ended the hyperinflation for good and laid

[161] Ibid. pp. 131-137.
[162] "Polish Cabinet Resigns," *Times* (London), December 16, 1923.
[163] "New Polish Cabinet Supported," *Times* (London), December 21, 1923.
[164] Ibid.
[165] "Polish Powers Bill Passed," *Times* (London), January 6, 1924.

the foundations of Polish monetary and fiscal policy for the remainder of the interwar period. On the fiscal side, a decree on 28 January established the position of Special Commissioner for Economies. February brought reforms to tax collection to protect the Treasury against depreciation and an increase in direct taxes, which was followed by a further increase on March 31; while in April a property tax was established, along with the administrative and assessment bureaucracies needed for its collection. As it would take some time for the new revenue streams to begin to enter the exchequer, the government turned to internal loans as a replacement of deficit monetisation. Of these, the most significant was the dollar loan of 31 January, which had the dual purpose of soaking up the great quantity of US dollars circulating in Poland as a 'hard-currency' alternative to the Polish Mark, and, in so doing, providing the gold-exchange backing for the Złoty, which was to be transformed from mere unit of account into the Polish Mark's permanent replacement.[166]

In the realm of monetary policy, the Grabski government began with the abolition of restrictions on dealings in foreign exchange on 31 January, followed on 3 February by a decree winding up the PKKP, transferring its duties to a committee charged with the creation of the Bank of Poland, and ending the practice of financing fiscal deficits through the creation of new money. Over the following months, the organisational details of the new central bank were worked out. Following the advice of E. Hilton Young, the Grabski government took pains to emphasise that the new Bank, in contrast to the PKKP, would be privately owned and operated, not an agency of the government. The charter of the Bank of Poland established it as a joint-stock institution, with a capital of 100 million Złoty, to be raised via public subscription: the government's initial holding was limited to 1% of the share capital. The Bank's President and Deputy President would be chosen by the President of the Republic, and could be dismissed only for "not fulfilling his duties; or being unable to undertake his post; or combining his presidency with other offices".[167] High-level decisions on Bank policy, such as the raising and lowering of interest rates, were to be undertaken by a twelve-member Council elected by the shareholders.

The Bank's independence was not absolute: notably, Article 26 of the Bank's charter granted the Finance Minister a three-day window to veto the election of any Council member. Indeed, as Chapter 4 of this thesis emphasises, the Piłsudski regime used this means and others to return the Bank of Poland to state control in fact if not in law during the critical years of the Great Depression, 1931-32. Initially, however, Grabski, as Finance Minister, acquiesced in the wishes of the shareholders and "gave permission for the nomination of candidates [to the Council]

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[166] Zdziechowski (1925), pp. 20-21.
[167] Zbigniew Landau, "The Relationship Between the Bank of Poland and the Government during the Interwar Period," in *Rebuilding the Financial System in Central and Eastern Europe, 1918-1994,* ed. P. L. Cottrell (1997), pp. 76-77.

that he had previously opposed".[168] Nor did the Bank of Poland have exclusive control of the money supply: the legislation which created it granted it a twenty-year, renewable monopoly on the issue of banknotes—but not coinage, which remained the prerogative of the Treasury.

On 15 April, the Minister of Finance issued the decree bringing the Bank of Poland into existence, and on 27 April, the Złoty replaced the Polish Mark as Poland's official currency, at a rate of 1,800,000 old Polish Marks to the new Złoty.[169] The currency reform was in every sense of the word a monetary and fiscal 'regime change', one which brought a definitive end to the hyperinflation and laid the foundations for the interwar Polish banking system. It did not, however, mark the final stabilisation of the Zloty. On 30 June 1924, the emergency powers granted by the Sejm to the Grabski government lapsed and were not renewed. Whereas Grabski had hoped that, by then, the combination of new taxes and reduced expenditures would be sufficient to balance the budget, in practice a sizeable deficit remained, amounting to 323.6 million Złoty for the year 1924, against a budget of 2.681 billion.[170] Though a vast improvement over the yawning deficits of the hyperinflation period, which at times had exceeded total revenues, this negative balance was obviously unsustainable within the parameters of the Grabski stabilisation.

Yet, the political will to take the final measures necessary to secure a stable currency failed to materialise. Just why this was so is an important question, to which the existing literature gives no conclusive answer. According to von Thadden (1994), the main difficulty was a lack of coordination between the disparate elements of the Grabski coalition. Broad-based as it was, it lacked a unifying economic programme beyond the manifest necessity of ending the hyperinflation. Once that objective had been achieved, however, consensus broke down, and "every attempt at structural reform could have put the government at risk".[171] Inaction, and acquiescence to the deficits that inaction brought, remained as the only alternative. Yet this picture is at odds with the tenor of the contemporary political debate, in which the deficits of 1924-1925 emerge less as a failure to agree on a policy of further austerity than as a deliberate economic strategy. This perspective underpins the report of Jerzy Zdziechowski, Reporter-General on the Budget in Poland's Sejm and chairman of the Sejm's Budget Committee, on *The Finances of Poland, 1924-1925*. Zdziechowski begins by defending the "policy of ruthlessness" undertaken by the government in 1924 to reform the country's monetary and fiscal institutions and thereby bring hyperinflation to an end.[172] Now that hyperinflation had been brought under control, however, he argues that continued austerity is no longer necessary, and, indeed, by

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[168] Ibid., p. 79.
[169] Zdziechowski (1925), pp. 20-21.
[170] Landau and Tomaszewski (1971), p. 219
[171] von Thadden (1994), p. 150
[172] Zdziechowski (1925), p. 68

"extract[ing] from the productive resources as large amounts as possible, no matter whether they could afford such amounts without injury to themselves", would be counterproductive to the nation's economic health.[173] In its place, he outlines a policy to ensure the "increase of production… without reservations and by as ruthless measures as we used to protect the zloty".[174]

The extent to which Zdziechowski's report represents a true programmatic commitment by Poland's government to a positive strategy for further economic development, as opposed to a cover for a lack of agreement in the government on a way forward, remains unclear and is an important question for research. The years 1924 and 1925 were a difficult time for the Polish real economy, as the end of the inflationary stimulus reduced the competitiveness of Poland's exports internationally and hardened the budget constraints faced by firms. The financial sector fell into difficulty as many of the new banks formed during the hyperinflation to exploit the numerous opportunities for arbitrage collapsed.[175] Industrial unemployment rose dramatically, climbing from 67,600 in January 1924 to 251,600 in December 1925.[176]

Viewed in this context, the government's policy programme as expressed the Zdziechowski report may have been disingenuous, intended to cast in a positive light the fact that, beyond addressing the short-term industrial crisis, the parties in Grabski's broad coalition could not agree on an economic programme that imposed a disproportionate share of these heavy sacrifices on their particular constituencies. Yet there is also a case to be made that the government's programme was sincere. Zdziechowski himself points to the deleterious effect the slump in production was exerting on fiscal revenues and advances a supply-side argument based on scale economies that only by increasing the volume of production can Poland become price-competitive on the world market. He thus concludes that the policy of increasing production is Poland's best hope to "maintain the stability of the currency reform that cannot be considered as a complete achievement until we have passed through the present economic crisis."[177]
Further, there is indeed strong evidence that the government saw heavy state investment in this period as a necessary guarantor of Poland's future balance of payments, which in turn was seen as underpinning the stability of the currency.

The crux of the issue was as follows: in the early post-war years, Polish international trade had overwhelmingly gone through the Free City of Danzig (which under the Treaty of Versailles was in an economic union with Poland, though one strained by frequently tense relations between its 90% German population and the Polish government) as well as through Germany.

[173] Ibid.
[174] Ibid., p. 69
[175] Landau and Tomaszewski (1971), pp. 230-237
[176] Ibid., p. 90
[177] Zdziechowski (1925), p. 69

While the Treaty of Versailles had granted Poland five years' preferential access to the German market, these provisions lapsed in January 1925, and subsequent negotiations between Germany and Poland to ratify a replacement agreement broke down over minority rights and the issue of the disputed Polish-German frontier. By the summer of 1925, the two countries were engaged in a full-scale tariff war, which posed a dire threat to Poland's ability to export owing to the lack of a commercial port on the narrow band of coastline over which it held sovereignty.[178]

The Grabski government's response to this threat was to order the construction of a new Polish port at Gdynia, a small fishing village with no pre-existing infrastructure, as well as a rail line linking the port with the industrial heartland in Upper Silesia. Construction of the new port proceeded rapidly, with the volume of freight passing through Gdynia rising from 10,000 tonnes in 1924 to 56,000 in 1925, 405,000 in 1926, and 2.83 million in 1929. The ultimate payoff was large: the proportion of Polish goods leaving by sea rose from 10.5% in 1924 to 45.2% in 1925. Yet so was the up-front investment, which was largely borne by the state treasury due to the ongoing difficulties in securing foreign loans, discussed above.[179]

Whether by inertia or by design, Poland's government between 1924 and 1926 committed itself to running an expansionary fiscal policy in an institutional environment in which a largely independent central bank (i) was committed, *de facto* if not yet *de jure*, to maintaining convertibility between the Zloty and gold at parity with the Swiss Franc; and (ii) held a monopoly on the issue of banknotes and was severely restricted in its ability to grant credits to the government. Clearly, both of these priorities, the fiscal and the monetary, could not simultaneously be sustained.[180] Had the Bank of Poland held complete independence in determining the country's monetary policy, the government would sooner or later have been forced to abandon its pro-growth policy and return to fiscal retrenchment. Yet the government retained one means of monetising its deficits: though it could neither print bills or go into debt with the Bank of Poland, it remained able to mint small change up to an unlimited amount. Thus began the 'coinage inflation' of 1925-1926, in which the government paid for many of its expenditures (including, most notoriously, civil servants' pay) in large quantities of petty coins, whose share in the money supply expanded from 15.6% in June 1924 to 53.2% in December 1925.[181] For reasons that are unclear and deserve further research, the Bank of Poland initially accommodated the increase in the money supply by failing to restrict the supply of banknotes,

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[178] Landau and Tomaszewski (1971), pp. 277-282

[179] Ibid., pp. 247-249. It should be noted, however, that the railroad portion of the Gdynia project was funded by a French-Belgian-Dutch financial consortium, in exchange for a lease on the revenues of the line.

[180] In theory, foreign credit provided another means of 'squaring the circle'. However, the brief influx of credit following the Grabski stabilisation was not sustained as the Polish economy sank into recession, and large inflows would not resume until the formal stabilisation in 1927.

[181] Landau and Tomaszewski (1971), p. 195

and a moderate inflation resumed, with wholesale prices rising by approximately 15.2% in 1924, 11.1% in 1925, and at an annualised rate of 55.4% from January 1926 to their peak in April.[182] Ultimately, faced with a loss of reserves, the Bank of Poland was forced on 30 July 1925 to suspend the free convertibility of Zlotys into US dollars.[183]

Though the Grabski stabilisation partially collapsed, the reforms put into place in 1924 prevented a renewed slide toward hyperinflation and provided the foundation of the ultimate stabilisation of the Zloty in 1927. Nevertheless, the combination of the Bank of Poland's suspension of convertibility and the deep economic recession marked the end of Grabski's political career. Despite surviving a vote of no confidence in the Sejm on 23 October 1925, Grabski resigned on 13 November, in the face of dwindling support in the Sejm and the ultimate breakdown of commercial talks with Germany. After a week-long cabinet crisis, a new government was established, headed by Count Skrzyński, who tasked Jerzy Zdziechowski, his chosen Minister of Finance, with the task of completing the economic reforms at which Grabski had fallen short.

Despite his previous advocacy for a permissive economic policy that prioritised output over inflation, Zdziechowski proved adept at his new brief. His stabilisation bill, which expanded indirect taxes and cut short the bureaucratic feuds within the government that had hampered previous attempts to balance the budget by assigning each ministry a non-negotiable spending quota, passed the Sejm on 22 December 1925.[184] This measure was fortuitously timed, for it was passed just as the post-stabilisation recession was beginning to lift. By May, the monthly deficit, which had amounted to 22.6 million PLZ, had turned into a surplus, and the fiscal balance would not return to deficit until well into the Great Depression.[185]

The fruits of Zdziechowski's reforms, however, came too late to save his government from collapse. Zdziechowski's programme was passed on the strength of the votes of the pro-business Right. It made few concessions to workers' and agrarian interests, whose power was temporarily at a low ebb owing to the economic crisis, a bad harvest, and their political representatives' association with the Grabski government. While the left-wing opposition did not constitute a majority in the Chamber, they did command much support among the public, and their alienation from the Skrzyński coalition at length called its legitimacy into question. The rise of social tensions in the spring of 1926 provided the backdrop to the return of Marshal Józef Piłsudski to the national stage following his self-imposed retirement after the passage of the 1922 Constitution. Deeply disgruntled with the parliamentary system which he had helped establish

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[182] Own calculations, based on data in von Thadden (1994), p. 186.
[183] "Money Market," *Times* (London), July 30, 1925.
[184] von Thadden (1994), pp. 165-167
[185] von Thadden (1994), p. 169; Landau and Tomaszewski (1971), p. 219.

but which he now saw as venal and inept, he arrived in Warsaw on 12 May at the head of a loyal Army division and demanded from the President the resignation of the Cabinet. He was rebuffed, and a small-scale civil war ensued, ending with the formation of a government led by Piłsudski loyalist Kazimierz Bartel, with Piłsudski himself taking the post of Minister of War.

Taking as his slogan *Sanacja,* the "regeneration of the body politic", Piłsudski would spend the remainder of his life working to subvert the institutions of Polish parliamentary democracy while maintaining their facade, until even this remnant of parliamentarism was abolished by the explicitly authoritarian Constitution of 23 April 1935. In so doing, Piłsudski and his government drew on two sources of legitimacy: first, the Marshal's record as a war hero and the founding father of Poland's independence, and, second, the contrast between his government's strong hand on the tiller of the national economy and the (purported) political and economic chaos of the period of parliamentary government on the other. Yet this economic valour was largely stolen: by the time the Piłsudski government achieved power, the parliamentary regime he tarred with the brush of economic incompetence had essentially completed the task of re-stabilising the currency. By April 1926, prices had already reached their peak, and with the budget in surplus little remained to be done apart from the negotiation of a loan to raise the gold-exchange reserves of the Bank of Poland such that they exceeded the ratio required by statute more than twice over, followed shortly by the formal declaration of the Zloty's convertibility into gold on 15 October 1927.

2.3 Poland's Hyperinflation in the Historiography

The Polish hyperinflation of 1918-1924/27 has been overshadowed in the anglophone economic history literature by the contemporaneous hyperinflations in Germany, Austria and Hungary. Just why this is so is not entirely clear, though language barriers in accessing sources, the limited engagement of Polish scholars behind the Iron Curtain, for political and ideological reasons, with the rational-expectations revolution in macroeconomics, and a general lack of awareness of Eastern European economic— and to a lesser extent political— history among Western researchers, must all have played a part.

Broadly speaking, the existing literature on the hyperinflation in Poland can be categorised under two headings. On the one hand are the works, usually by Polish authors and for a Polish audience (though the work of von Thadden (1994) also falls within this category), that draw almost exclusively on Polish primary and secondary sources and make little attempt to engage with the international literature on money and finance in the interwar period; and on the other comparative works by scholars outside Poland, who tend to interpret the Polish experience as a straightforward case-study that confirms the broader explanation of monetary instability in the wake of World War I that they put forward. The two most influential recent contributions in the latter category are Thomas Sargent's work on 'The Ends of Four Big Inflations', which stresses the importance of rational expectations, determined primarily by the monetary and fiscal policy of the four hyperinflation's countries' governments, in driving and ultimately halting the explosion in prices; and Barry Eichengreen's view[186], which draws heavily on the work of Alesina and Drazen (1991)[187] in arguing that the timing of stabilisation was determined by the absence of strong majority government and the inability of ideologically opposed partners in the governing coalition to decide who should bear the burden of stabilisation.

2.3.1 The Polish Hyperinflation Seen from Poland

As seems to be the trend in the monetary and financial history of interwar Poland, the inflation of 1918-1927, though marked at the time by a lively debate between the leading figures of the major schools of economic thought in the country— important contributions were made, for instance, by Edward Taylor[188] and Adam Krzyżanowski[189]— has since 1945 suffered from relative neglect. The state of the art in the Polish historiography thus largely remains defined work of Landau and Tomaszewski, the chief Polish economic historians of the postwar era. These authors take a syncretic view of the causes of the hyperinflation of the Polish Mark, an approach which is not necessarily internally inconsistent, but whose loose engagement with macroeconomic theory contrasts sharply with the sharp-edged hypotheses advanced by Sargent in his *Ends of Four Big Inflations*. Unavoidably, since the authors' main work on the subject dates from 1967 and 1971, Landau and Tomaszewski do not engage with Sargent's rational-expectations view, nor does any of their three approaches bear a close resemblance to it, though their arguments on the political economy of the hyperinflation do bear a family resemblance to those of Alesina and Drazen.

As a first explanation for the catastrophic decline in the Mark's value, the authors clearly identify the monetisation of budget deficits and the granting of large credits and advances to private industry, financed by seignorage, as a major driving force of, and pace-setter for, the hyperinflation. They argue, for instance (in an argument reminiscent of Cagan (1956) on the role of the velocity of circulation in driving hyperinflations), that the ever-growing reliance on

[186] Eichengreen (1995), pp. 100-153
[187] Alberto Alesina and Allan Drazen. "Why are Stabilisations Delayed?," *The American Economic Review* 81, no. 5 (1991).
[188] Edward Taylor. *Inflacja Polska* (1926).
[189] Adam Krzyżanowski. *Pauperyzacja Polski Współczesnej* (1925).

increases in the monetary issue over the course of 1923 "was the direct cause of the transition from the phase of inflation to its higher stage— hyperinflation".[190]

Complementary to this view, Landau and Tomaszewski propose a causal channel from the state of the balance of payments to the budget deficit. This is a version of the balance-of-payments hypothesis described, though not endorsed, by Sargent (1982); namely, that due to the damage that the Polish economy had suffered in the war and the requirements of the reconstruction, "Poland imported more than it could have exported". Lacking hard currency, importers in Poland were forced to pay their foreign suppliers in Polish marks, yet due to the deficit in the balance of payments, "foreign traders would agree [to this means of payment] only at an exchange rate substantially below the going rate".[191] In this way, the authors argue, the value of the zloty on the foreign exchange market was driven downwards, which in turn fed back into money creation by increasing the required size of the state budget for imports directed at reconstruction and the required subsidy to enable private firms to cover the cost of raw materials. According to Landau and Tomaszewski, this dynamic was compounded by the flight from the Polish mark as a store of value and means of exchange by domestic actors, who tended to exchange their marks for gold, valuables, and stable foreign currencies; this, they claim, "had an analogous effect on the exchange rate of the Polish mark as purchases of foreign currency to cover imports".[192]

Commenting on the failure of successive governments to bring inflation under control, Landau and Tomaszewski postulate a third root cause of the inflationary process, this time drawing on Marxian theory: reform to stabilise the currency was impossible before January 1924 they say, because "its way was barred by the egotism of the property-owning classes. To wit, reform required large material sacrifices, which they were inclined to make only when the rising activism of the labouring masses threatened their political dominance".[193] On this theory, capitalists benefitted from hyperinflation because, so long as the rate at which the exchange rate fell exceeded the rate at which domestic prices rose, there existed an 'inflationary export premium' that artificially increased the competitiveness of Polish goods on international markets.

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[190] Landau and Tomaszewski (1967), p. 279
[191] Ibid., p. 282
[192] Landau and Tomaszewski (1967), p. 282
[193] Ibid., p. 287. The extent to which this argument reflects the sincere convictions of the authors on the one hand, versus the pressure of censorship by the Communist regime on the other, is debatable. In favour of the former, the authors began their careers at a time when Stalinism was at its height, and Tomaszewski at least was at the time of writing a member of the Polish United Workers' Party. In favour of the latter, there is a sense that certain topics touched on in Landau and Tomaszewski's manuscript were too politically sensitive for open discussion. For instance, the Polish-Soviet War, despite its overriding importance in the new-born nation's economic policy, receives only a brief mention (pp. 18-21), in which the Polish Army is portrayed as an instigator of looting and massacres of civilians, whereas the Red Army is just as unequivocally portrayed as liberators and bringers of self-determination to the workers and ethnic minorities.

Only when this premium became eroded by the increasing indexation of prices, wages and taxes to the exchange rate, and when the ongoing economic instability boiled over into "a major intensification throughout 1923 of the revolutionary movement", did the ruling classes become convinced that "further maintenance of inflation could lead not only to the economic ruin of the country, but, more importantly, to the erosion of their profits, and even the loss of their power".[194]

In the decades since Landau and Tomaszewski made their contribution to the literature on the Polish hyperinflation, the subject has lain largely dormant in the Polish literature, although contemporary economic commentators and policymakers have occasionally found the period from 1918 to 1927 a useful comparison case to Poland's most recent case of extreme inflation in the late 1980s and early 1990s.[195] The one major exception to this state of affairs is the doctoral dissertation of Götz Henning von Thadden, submitted in 1994 but never published.[196] Though von Thadden was writing from England, his work is a work of 'traditional' narrative economic history that is perhaps best seen as a continuation and updating of the earlier analysis in the Polish literature. Von Thadden delves deeply into the government papers held in the Central Archive of Modern Records (Archiwum Akt Nowych, AAN) in Warsaw to produce an account of the political economy of hyperinflation.

The main contribution of von Thadden's dissertation is twofold. First, whereas Landau and Tomaszewski, in their insistence (whether sincere or otherwise) on the common class interests of the governments of Second Republic Poland, tended to treat the monetary policies of the pre-Grabski governments as essentially very similar, von Thadden meticulously reconstructs the differing policy agendas of the succeeding finance ministers, and demonstrates that several of them— Michalski in 1922-23 and Grabski in 1923—made substantial progress toward stabilisation well before the industrial unrest that, in Landau and Tomaszewski's account, forced the bourgeois elite to put an end to the hyperinflation through which they had hitherto profited. No less important, von Thadden articulates an argument which had perhaps been taken for granted by the earlier Polish literature, but which barely figures in the Western literature: that the Polish hyperinflation was not simply a political failure, but in large part a response to urgent reconstruction and development needs by a state that lacked the administrative and fiscal capacity to meet those needs in any other way. "[T]he state resorted to the printing press", von Thadden writes, "as the only possible alternative of mobilising the necessary funds in an emergency situation… Until the end of the border wars, there was neither politically nor

[194] Ibid., p. 292
[195] For one recent account in this vein, see Zbigniew Polański. "Stabilization Policies and Structural Developments: Poland and the Crises of 1929 and 2008" (2018).
[196] von Thadden (1994)

economically an alternative to inflationary finances".[197] While one might question whether certain of the conflicts the reborn Poland was embroiled in were entirely "exogenous to the government" and thus simply "the price for Polish statehood"[198]— Żeligowski's seizure of Vilnius on Piłsudski's orders comes to mind— the overall point, that postwar Poland faced pressing needs with an acute dearth of resources, leaving successive governments grasping for desperate measures to square the circle somehow, is difficult to dispute.

Though von Thadden's dissertation is an archetype of diligent archival research, it fails in a number of ways to get beyond the limitations of its Polish forbears. Like its predecessors, its approach is narrative, and whilst von Thadden does include a table of financial data in an appendix, he makes no attempt to test the plausibility of his narrative by confronting it with quantitative evidence in a rigorous way. While von Thadden does more than did Landau and Tomaszewski to argue for the consistency of his narrative with economic theory, he does so with reference neither to Sargent (1981) and Eichengreen (1991)'s (respectively) rational-expectations and political-economy models of the interwar hyperinflations, but instead bases the theoretical portions of his analysis entirely on the theoretical work of Dornbusch, Sturzenegger and Wolf (1990), which surely represents a missed opportunity to bring the preceding Western and Polish explanations for Poland's hyperinflation into dialogue.[199]

Von Thadden's conclusions resemble those of his Polish forebears in that he stresses non-monetary factors in the propagation of the hyperinflation, and, in particular, the role of the balance of trade in imparting a destabilising momentum to prices. In von Thadden's account, the transition from 'merely' high inflation to a self-sustaining hyperinflation occurred as Poland's negative balance of payments caused the exchange rate between the Polish Mark and stable currencies to grow faster than the growth rate of the money supply. Since economic actors, in von Thadden's view, indexed their price and wage decisions to the value of the exchange rate, once the exchange rate became 'dominant' over the money supply, the rise in prices acquired a momentum of its own. Past this tipping point, a credible policy announcement of monetary tightening could not have stopped the Polish hyperinflation. Instead, "strong exchange restrictions [were] vital to combat inflation"[200], as they provided a breathing space in which the permanent solution to the hyperinflation, the establishment of the gold-backed Zloty currency, could be put in place. In essence, then, the theory undergirding von Thadden's analysis is an extreme version of the momentum view forcefully argued against by Sargent (as discussed

[197] Ibid., p. 175
[198] Ibid.
[199] Rudiger Dornbusch, Federico Sturzenegger and Holger C. Wolf. "Extreme Inflation: Dynamics and Stabilisation," *Brookings Papers on Economic Activity* No. 2 (1990).
[200] von Thadden (1994), p. 180

below), and it is puzzling that von Thadden does so little to defend his interpretation of the Polish hyperinflation against Sargent's highly influential pre-emptive critique.

2.3.2 The Polish Hyperinflation Seen from the West

In contrast to the Polish authors and their 'spiritual successor' von Thadden, who engage deeply with the historical fabric of the 1920s hyperinflation, the remainder of the Western literature has tended to treat the episode elliptically, presenting it as a straightforward instance of one of several broader narratives of monetary instability in the interwar period. Perhaps the best-known of these approaches is Sargent (1982)'s use of the four European hyperinflations—Poland, Germany, Austria and Hungary— as a historical case-study (my use of the singular here is deliberate) of how economic actors in the real world form expectations of future changes in prices.

Sargent's basic objective is to test the validity of two views of inflation. The first view, which predominated in the macroeconomic literature until the early 1970s, and which explicitly or implicitly undergirds the Communist-era analyses of Polish monetary history, is the 'momentum', or adaptive expectations, theory. On this analysis, economic actors form expectations of future price changes based on the behaviour of prices in the past, basing their choice of prices to set and wages to bargain for in the present period on lagged changes in the general price level. As a result, the rate of inflation adjusts sluggishly to changes in the money supply, and inflation can be reduced only through large changes in output and employment (a high 'sacrifice ratio'), sustained over an extensive period.

However, economic actors need not form their expectations of inflation on the basis of past changes in prices: instead, they may adjust their price- and wage-setting behaviour on the basis of what effect *current* developments, and in particular the fiscal and monetary policy regime currently in effect, are likely to have on the *future* development of prices. If expectations are rational, in the sense that actors use all of the information available to them at time t to *anticipate* price changes at $t+1$, then a credible commitment by the government to a less inflationary fiscal policy should lead to an immediate revision of inflationary expectations downwards by price- and wage-setters. In this way, expectations become self-fulfilling: the rate of inflation immediately falls to its anticipated lower level, and no sacrifice of output and employment is needed to achieve this decrease. The key is credibility: for expectations to adjust, a one-off tightening of monetary policy is not sufficient. Rather, the entire policy regime must shift: "there must be an abrupt change in the continuing government *policy*, or *strategy*, for setting deficits now and in the future that is sufficiently binding as to be widely believed."[201] If such a commitment can be achieved, however, a 'painless' disinflation becomes possible.

The question of whether inflationary expectations are adaptive or rational is thus fundamental to the choice of a monetary policy, and it is in this connection that Sargent examines the historical record. He notes that the rational-expectations view of inflation has a number of observable implications that are inconsistent, or at least "difficult to reconcile", with the 'momentum' view.[202] If the stabilisation of the price level occurs abruptly, rather than over a protracted transition period, and particularly if this abrupt halt in the rise in prices coincides with a credible reorientation of the policy regime toward the institutions that place strong limits on the government's ability to expand the money supply, it is reasonable to infer that economic actors are forming their expectations of future price growth in a forward-looking, rational way. This impression would be strengthened if the stabilisation in prices were accompanied by a "rapid rise in the "high-powered" money supply in the months and years after the rapid inflation had ended": if expectations are adaptive, then, all else the same, price changes should always lag, and be of the same sign as, changes in the money supply.[203]

Sargent's results are stark: in all four countries that had experienced a hyperinflation during the interwar period, he finds that, despite the "differences in the details" of the countries' experiences, a common pattern emerges. All four countries ran "enormous budget deficits on current account" during the post-war period, which could be met only by monetisation. The result was an explosive rise in prices, aggravated by a widespread 'flight' into more stable currencies and non-money assets. The growth of prices continued unchecked until a credible set of monetary and fiscal policies that eliminated the government's ability to cover its deficits through the issue of new money. Finally, it was the *announcement* of the monetary and fiscal regime change, not its implementation (which followed with a lag of at least several months) that caused prices to stabilise. In the interim, the governments in question continued to cover their deficits by expanding the monetary base, yet prices remained stable.[204]

Sargent's presentation of the Polish case follows this schema precisely. On his account, the pressures of border wars and reconstruction induced the government to run heavy deficits, funded by increasing the state's indebtedness at the State Loan Bank, through the end of 1923. In January 1924, "a dramatic move toward a balanced government budget and the establishment of an independent central bank that was prohibited from making additional unsecured loans to the government" signalled a credible commitment to ending the monetisation of state deficits. Even

[201] Sargent (1982), p. 42
[202] Ibid.
[203] Ibid., p. 43
[204] Ibid.

though, over the course of 1924, "the note circulation of the central bank increased by a factor of 3.2", there was virtually no growth in the price level and the exchange rate after January of 1924.[205] While unemployment did rise from c. 100,000 to c.150,000 following the stabilisation, Sargent notes that this rise was much less than an adaptive-expectations model would have predicted. As a final piece of supporting evidence in favour of a rational-expectations, credibility-based interpretation of the Polish hyperinflation, Sargent points to the Sejm's grant of emergency powers to Finance Minister Grabski in January 1924 as a major turning point in Poland's experience, though the data at his disposal do not allow him to make a causal argument for the importance of this event.

Sargent's treatment of the Polish hyperinflation remains the definitive account of the period in the published English-language literature. Its limitations, however, are many. At seven *paragraphs* in length, it gives only a basic account of the (second!) Grabski stabilisation, and makes no mention of the earlier efforts to stabilise the currency in 1921/22 and 1923. His analysis takes the large deficits of the Polish state before 1924 as given, and gives no account of their political economy. Perhaps understandably, given the language barrier, Sargent makes no reference to the Polish literature and Polish archival sources, instead relying exclusively on monthly-frequency data on monetary variables taken from the report of a 1925 US Senate commission of inquiry. This low data frequency prevents Sargent from opening the black box of the Grabski 'regime change' and drawing fine-grained conclusions as to which elements, or which combination of elements, was decisive to the success of the Grabski stabilisation— a question with obvious relevance to macroeconomic policy. In sum, while Sargent's contribution to the study of the Polish hyperinflation is valuable, there is much that can be done to extend his analysis with higher-frequency data and deeper use of primary sources.

This is because Sargent's rational-expectations approach to understanding monetary instability in post-World War I Europe focuses on the shifts in policy regime that were instrumental in altering the self-fulfilling inflationary expectations of economic actors by demonstrating a credible commitment to ending the use of seignorage as an instrument of monetary and fiscal policy. Within Sargent's framework, the nature and timing of this 'regime change' are treated as exogenous: Sargent provides no answer as to *why* Grabski in 1924 (but not Grabski in 1923, Michalski in 1922, and all of the preceding heads of the Finance Ministry) was able to carry his programme of reforms to fruition; nor, indeed, why the governments of Austria, Hungary and Germany took as long as they did to balance their budgets and come to terms with their reparations creditors. Indeed, from an economic point of view, the hyperinflations of post-World War I Europe appear thoroughly *ir*rational: the longer a hyperinflation goes on, the higher

[205] Ibid., p. 65-73

the costs (in terms of resource misallocation, disruption to financial markets, and sheer inconvenience) to individuals and firms.

Alesina and Drazen (1991) attempt to resolve this paradox by appealing to political economy. As they point out, if one conceptualises the state as a unitary actor, a benevolent "social planner maximising the welfare of a representative individual" (and, implicitly, assumes that the sacrifice in terms of higher taxes and lower expenditure needed to bring inflation under control is at least as high with prolonged inflation as without it), one would expect stabilisation to occur at the earliest possible moment.[206] Alesina and Drazen propose, then, that the key to understanding why stabilisations, as an empirical matter, are often delayed lies in the fact that governments are often not unitary actors, but coalitions of heterogeneous actors with divergent preferences over the form that stabilisation is to take. (The authors give the example of interwar France, where the firm preference of the parties of the left was to balance the budget via a capital levy, whereas the right postulated a stabilisation based on indirect taxation.) Unless one interest group is able to force its preferred stabilisation plan on the others, there ensues a "war of attrition" characterised by political stalemate and an inability to pass the needed monetary and fiscal reforms.[207] The distributional conflict lasts until the costs of continued inflation to one side come to exceed the costs that they would incur under their opponents' preferred stabilisation plan and they 'concede', allowing their opponents to enact their preferred stabilisation programme.[208] The greater the degree of fragmentation of the political system, Alesina and Drazen predict, the longer it takes for stabilisation to occur.

Though Alesina and Drazen evidently formulated their war-of-attrition model of stabilisation with historical examples in mind, it was Eichengreen, in his 1991 book *Golden Fetters* and several companion papers[209], who most fully exploited its potential as a parsimonious explanation for why so many European countries (including the hyperinflation economies, but also the Nordic countries, the Netherlands, Belgium, France and Italy), having left the gold standard during the war, faced a multi-year struggle to return to it, in many cases even at a parity several times lower than the pre-war one. Eichengreen's key insight is that the political pressures generated by the First World War led, in many western European countries as well as the defeated Central Powers, to far-reaching changes to political institutions, and that these

[206] Alesina and Drazen (1991), pp. 1170-1174. The bracketed assumption may appear self-evident, but, as will be shown below, von Thadden (1994) questions whether it is appropriate to Poland in the immediate postwar period.
[207] Ibid.
[208] For simplicity, this presentation (and Alesina and Drazen's model, as presented in their paper) considers the case of two opposing parties, which, in empirical terms, is strictly speaking a simplification.
[209] For companion papers, see: Barry Eichengreen. "The Capital Levy in Theory and Practice." In *Public Debt Management: Theory and History*, eds. Rudiger Dornbusch and Mario Draghi (1991), pp. 191–220; Barry Eichengreen. *Elusive Stability: Essays in the History of International Finance, 1919-1939* (1990), pp. 23-56.

changes, taken together, can naturally be interpreted as a real-life analogue of a destabilising shift in the abstract 'political fragmentation' parameter that is the key explanatory variable in Alesina and Drazen's model.

Specifically, Eichengreen argues that the promises that belligerent governments made to the working classes exchange for their support and sacrifices in what had rapidly become a total war, as well as the spectre of revolutionary movements from the extreme left and the extreme right in the immediate post-war period, motivated a widespread opening up of the political process to guarantee a stake in government to parties and groups that had hitherto been politically marginalised. The most common way western and central European governments sought to insure themselves against the currents the Great War had unleashed was thus by adopting "proportional representation electoral systems, in which to win parliamentary seats it was unnecessary for a group to receive a plurality in any one constituency".[210]

As Maurice Duverger recognised in his seminal 1954 study, changing the structure of an electoral system tends to have profound consequences for the size and number of political parties with parliamentary representation. Whereas the mathematical logic of single-member plurality (colloquially but inaccurately known as "first-past-the-post") voting systems tends to allocate seats among a small number of parties, and thus promotes single-party majority governments, proportional representation tends to result in numerous parties represented in parliament, with governments most often taking the form of coalitions between multiple parties of heterogeneous interests. (The latter is particularly likely to be true when, as was typical in the 1920s, before the lessons of Nazism had made themselves felt, there is no vote-share threshold a party must meet to obtain seats in parliament.)[211]

This increased fragmentation in the ten European countries (Belgium, Czechoslovakia, Estonia, Finland, France, Germany, Italy, Latvia, Norway and Poland)[212] that moved towards proportional representation after World War I, Eichengreen argues, had consequences in line with the predictions of Alesina and Drazen's war-of-attrition model. The passage of the reforms ushered in coalition governments of diverse and frequently opposing ideologies and interests. When it came to settling on a strategy for closing the budget deficits that had emerged during and after the War, "neither the beneficiaries of government programs nor the prospective victims of the taxes required to finance them were willing to give an inch. The deadlock left government budgets in deficit and central bank printing presses operating at full speed. Only when inflation

[210] Eichengreen (1995), p. 93.
[211] Maurice Duverger. *Political Parties, Their Organisation and Activity in the Modern State* (1954).
[212] Eichengreen (1995), p. 93.

reached intolerable levels would the compromises needed to resolve the crisis finally be reached."[213]

Does the 'war-of-attrition' hypothesis explain the difficulties Poland faced in stabilising its currency in the years after it regained its independence in 1918? Perhaps surprisingly, this is a question on which the existing literature is virtually silent. In advancing his argument about the relationship between delayed stabilisation in the 1920s and delayed exit from the gold standard during the Great Depression, Eichengreen focuses on the well-studied cases of the major Western European economies. Whereas Eichengreen's treatment of the hyperinflation and stabilisation in Germany, for instance, spans an entire chapter, and considerable space is devoted to the contrasting cases of France and Great Britain, Poland, the second-most-acute hyperinflation of the interwar decades, receives only a few very brief mentions. It is clear, however, that Eichengreen considers the Polish case a straightforward instance of his general thesis. "Belgium, Germany, Italy, France and Poland", he writes, "all labouring under various forms of proportional representation, consequently found it difficult to form stable governments and complete the process of fiscal stabilisation required to restore the gold standard… In Poland the period of governmental and financial instability was brought to an end in 1926 when General Piłsudski's coup d'état imposed a regime that effectively usurped the powers of parliament."[214] Apart from this coincidence in timing of the coup and the stabilisation (which, as shown below, is hardly exact, with the stabilisation preceding the coup by at least a month), Eichengreen's account is too sparse to allow more than a very tentative answer to whether Poland's hyperinflation was the result of a parliamentary 'war of attrition' over the incidence of the costs of stabilisation.

Table 2: Governments of the Polish Second Republic, 1918-1927			
Date	**Prime Minister**	**Finance Minister**	**Ideological Orientation**
17/11/1918 - 16/1/1919	J. Moraczewski	W. Byrka	Left (Socialist)
16/1/1919 - 13/12/1919	I. Paderewski	J. Englich (until 4/4/1919); S. Karpiński (until 31/7/1919); L. Biliński.	Centre (Grand Coalition, Socialist Party in Opposition)
13/12/1919 - 9/6/1920	L. Skulski	W. Grabski	Centre-Right Coalition
24/6/1920 - 3/7/1920	W. Grabski	W. Grabski	Centre (Non-Party Caretaker Government)

[213] Ibid., p. 106
[214] Ibid., p. 95

Table 2: Governments of the Polish Second Republic, 1918-1927			
Date	**Prime Minister**	**Finance Minister**	**Ideological Orientation**
4/7/1920 - 24/7/1920	W. Grabski	W. Grabski	National Unity Government
24/7/1920 - 20/11/1920	W. Witos	W. Grabski	National Unity Government
20/11/1920 - 6/1/1921	W. Witos	J. Steczkowski (from 23/11/1920)	Centre-Left Coalition
6/1/1921 - 29/5/1921	W. Witos	J. Steczkowski	Centre Coalition
11/6/1921 - 10/9/1921	W. Witos	J. Steczkowski (Resigns 3/9/1921)	Centre Minority Government
17/9/1921 - 4/3/1922	A. Ponikowski	B. Markowski (interim, until 26/9/1921); J. Michalski	Non-Party (Centre-Left) Minority Government
10/3/1922 - 7/6/1922	A. Ponikowski	J. Michalski	Non-Party (Centre-Left) Minority Government
28/6/1922 - 8/7/1922	A. Śliwiński	K. Zaczek (interim, until 3/7/1921); Z. Jastrzębski	Left (Socialist-Agrarian Radical)
31/7/1922 - 11/12/1922	J. Nowak	Z. Jastrzębski	Centre Coalition
11/12/1922 - 28/5/1923	W. Sikorski	Z. Jastrzębski (until 4/1/1923); B. Markowski (interim, until 13/1/1923); W. Grabski	Centre Minority Government
29/5/1923 - 16/12/1923	W. Witos	W. Grabski (until 1/7/1923); H. Linde (until 2/9/1923); W. Kucharski	Centre-Right Coalition
18/12/1923 - 13/11/1925	W. Grabski	W. Grabski	Non-Party (Centre) Minority Government
20/11/1925 - 10/5/1926	A. Skrzyński	J. Zdziechowski	Grand Coalition
12/5/1926		**May Coup**	
17/5/1926 - 1/10/1926	K. Bartel	G. Czechowicz (until 8/6/1926); C. Klarner	Piłsudski Bloc
2/10/1926 - 27/6/1928	J. Piłsudski	C. Klarner	Piłsudski Bloc

Table 2: Governments of the Polish Second Republic, 1918-1927			
Date	**Prime Minister**	**Finance Minister**	**Ideological Orientation**
15/10/1927	**Poland Adopts Gold Standard**		

The thesis is certainly plausible: the class system inherited from the semi-feudal institutions of the Polish-Lithuanian Commonwealth, the legacy of partition, the presence of Europe's largest Jewish population, and the new state's reclamation in 1919-1920 of areas with Belarusian and Ukrainian ethnic majorities, all of these factors confronted the framers of the Second Republic's constitution with a need to ensure adequate political representation across a great diversity of social cleavages. The result was a 'five-adjective' (secret, direct, equal, universal and proportional) electoral law that, though intended by its creator, the Socialist leader Jędrzej Moraczewski, to "ensure that political competition will be taken up only by the major parties, which will compete on the plane of ideas", in practice had the opposite result of creating a polity with many small parties, none of which held an overall majority.[215] As Table 2 shows, the period between 1918 and the Piłsudski coup in 1927 was marked by some seventeen distinct cabinets, which with the exception of the unelected transitional government of Moraczewski in 1918 consisted of broad-based coalitions or extra-parliamentary minority governments.[216]

Yet it would be premature to conclude from the coincidence of a fragmented party system and monetary instability that the former was the cause of the latter. Indeed, in presenting his version of the war-of-attrition thesis, Eichengreen glosses over several important points. First, as Table 2 shows, while governments in the pre-coup Second Republic succeeded each other with great rapidity, the Finance Ministry changed hands much less frequently. Second, as the historical narrative given above has made clear, there was very little left for the Piłsudski regime to do in the realm of monetary stabilisation than to declare *de jure* convertibility: the essential work had already been accomplished by the parliamentary governments of Grabski and Skrzyński. Finally, whereas the war-of-attrition thesis implicitly assumes that all the tools needed to achieve a balanced budget exist, and only the willingness to use them is lacking, an essential feature of the Polish experience after World War I, as we have seen, was the need to develop state fiscal, legal and administrative capacity from a very low level.

To what extent war-of-attrition dynamics explain the delayed Polish stabilisation is thus an open question, and the core focus of the present study, which goes well beyond von Thadden's contribution by putting the competing hypotheses about the Polish hyperinflation—whether

[215] Czesław Brzoza and Andrzej Leon Sowa. *Historia Polski 1918-1945* (2006), p. 258.
[216] Data for the table was compiled from Von Thadden (1994), p. 122; Brzoza and Sowa (2006), pp. 232-275; and the *Times Digital Archive* (GaleCengage, 2012).

expectations were rational or adaptive, and whether the worsening of the Polish currency's position can be traced to an impasse in parliamentary decision-making—to a formal quantitative test. Its conclusions, too, differ greatly from those of von Thadden's in that the high-frequency evidence presented here strongly supports the hypothesis that the expectations of holders of Polish currency were rational rather than adaptive, and responded in particular to shocks to the expected future path of the military budget, the largest item in Polish state expenditure.

2.4 Data Sources and Methodology

2.4.1 The Data

As discussed above, the existing literature on the Polish hyperinflation provides several, in part mutually inconsistent, narratives as to which factors drove— and ultimately halted— the upward movement of prices. Where the literature has fallen short is in presenting evidence that would allow one to distinguish clearly between these competing explanations. Even Sargent, whose model of the Polish hyperinflation is in many ways the simplest and most clear-cut, is hardly explicit about which factors added up to the 'regime change' that he sees as crucial in halting the hyperinflation, stating only that "the minister of finance [Grabski] was granted broad powers to effect monetary and fiscal reform", and that the stabilisation involved a balancing of the budget and the creation of a new bank of issue.[217]

To a large extent, the failure of these studies to probe deeper into the causes of the hyperinflation is due to the limited amount of data that they had access to, or, indeed, believed was available to bring to bear on the problem. Von Thadden in particular takes a very fatalistic view of the data situation and defends the qualitative cast of his study by claiming that "[t]he basic data could not be much worse for a thesis in modern economic history. The period under discussion offers a whole variety of different sources, but, unfortunately, most of them are of little use to allow quantitative results. The statistics are extremely poor".[218] Indeed, Poland in the years immediately after its independence was hampered by the need to establish a national statistical office and a system for collecting data about the national economy from scratch, under straitened and unstable circumstances. Thus, the data published by the Central Statistical Office (Główny Urząd Statystyczny, GUS) on employment, industrial output, trade flows and other economic matters must, for the period of the hyperinflation, be taken as 'best guesses', and often indicative of conditions only in certain regions of the country. (Upper Silesia is a major omission from the statistical base until mid-1922, for instance.) With regard to monetary variables, the published statistics are somewhat better: as we have seen, the PKKP provided monthly (and,

[217] Sargent (1982), p. 72
[218] von Thadden (1994), p. 19

beginning in 1923, thrice-monthly) returns of note circulation and state indebtedness at the bank of issue, whilst the pioneering GUS statistician Tadeusz Szturm de Sztrem worked to develop a range of monthly (and intermittently weekly) wholesale and retail price indices for Warsaw and Kraków beginning in early 1920. In time, these data were re-published by the League of Nations[219], becoming the state of the art in research on the economic history of post-independence Poland up to the present.

The main dataset used in this paper consists of 2367 quotations of the exchange rate between Sterling and the Polish currency on the London foreign-exchange market. The series begins on 20 July 1919, and consists of sporadic quotations until 13 February 1920, when the quotations begin to be given daily (or, more precisely, every day except Sundays and Bank holidays, when the London exchanges were closed). I collect the data through 18 October 1927, the day the Bank of Poland institutes full convertibility between the Złoty and gold currencies. As all studies have hitherto looked only at monthly data, this is a dramatic improvement in the data quality and allows the application of sophisticated time-series analysis.

The logic for using the exchange rate between the Polish Mark/Zloty and a (relatively) stable currency, the British Pound, as a proxy for expectations of Polish price inflation is straightforward. In an efficient capital market, arbitrage between assets by investors seeking to maximise their expected returns should lead to assets being priced such that their returns, in expectation terms, are equalised. As currencies derive their value from their ability to be exchanged for goods and services, which varies according to the level of prices of the goods that may be purchased with a particular currency, efficient arbitrage implies that the exchange rate between Sterling and the Polish currency should rise or fall in proportion with the expected difference between the rate of growth of prices in the United Kingdom and Poland:

$$(E^e_{£/PL} - E_{£/PL})/E_{£/PL} = \pi^e_{UK} - \pi^e_{PL}.$$

While this relation, which is based on relative purchasing-power parity, is unlikely to hold exactly for the actually-existing, less-than-perfectly-efficient capital markets of the early- to mid-1920s, the out-of-sample evidence given by Christodoulaki et al. (2012)[220] and Christodoulakis (2013)[221] for Greek bonds and the Greek drachma between 1914 and 1929 suggests that asset prices on the 1920s London market reflected expectations to a reassuringly high degree.

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[219] See, for instance, League of Nations. *The Course and Control of Inflation* (1946); *Memorandum on Currency and Central Banks, 1913-1925* (1926).

[220] Olga Christodoulaki, Haeran Cho and Piotr Fryzlewicz. "A Reflection of History: Fluctuations in Greek Sovereign Risk Between 1914 and 1929," *European Review of Economic History* 16, no. 4 (2012).

[221] Nicos Christodoulakis. "Currency Crisis and Collapse in Interwar Greece: Predicament or Policy Failure?," *European Review of Economic History* 17, No. 3 (2013).

The choice of the London market, as opposed to New York or Warsaw, as a source of the data for this study was motivated by several considerations. First, Britain was a major trading partner of Poland's as well as a 'thick' financial market with a strong record of efficient arbitrage dating as far back as the 18th century.[222] While the same conditions (a well-developed financial market, and a large absolute volume of trade with Poland) hold true for New York, the US government, unlike that of Britain, made extensive relief and reconstruction loans to Poland, and there is a risk that the shifting prospects of these loans' repayment, as well as direct financial intervention by the US government in the defence of creditors' interests, may have led to a bias in the dollar-mark/zloty rate. The second major consideration is that, while daily exchange-rate quotations of the Polish currency against the British Pound and US dollar are available from several Polish markets (Warsaw and Kraków), and traders on Polish markets might be expected to be better-informed about the likely evolution of prices in Poland than traders in London, my comparison of Polish exchange-rate figures with the UK series reveals a definite bias to the Polish figures. These discrepancies are most likely caused by the Polish Treasury's persistent attempts to check hyperinflation by means of exchange controls. Indeed, for substantial parts of the period (particularly in July-August 1923, when the hyperinflation was at its height) the Polish government banned all trading in foreign currency on the Polish market. Because these restrictions did not apply to the large quantity of Polish currency that was available on the London market due to the UK's status as a major provider of imports for the Polish market, the present series is likely to reflect expectations of Polish inflation more accurately than the Warsaw exchange rates cited (at monthly frequency) by earlier research, especially the work of von Thadden (1994).

What can this fine-grained dataset tell us about the drivers of Poland's struggle with, and eventually victory over, extreme inflation? Figure 6 plots the logarithm of the exchange rate between pounds Sterling and Polish Marks/Zlotys[223] on the London market. Examination of the data suggests that the increase in the Polish Mark exchange rate in London before the Grabski reforms of 1924 was not monotonic, and that, in contrast to the existing narratives of the Polish hyperinflation which outline a single critical juncture at which hyperinflation could be halted, there existed several plateaux of up to eight months in duration where the value of the currency, as denominated in Sterling, showed little change. These plateaux can be seen most clearly in the three panels of Figure 7, which present the data series at high resolution, along with the structural

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[222] Larry Neal. "The Integration and Efficiency of the London and Amsterdam Stock Markets in the Eighteenth Century," *The Journal of Economic History* 47, No. 1 (1987); Eric Schubert, "Arbitrage in the Foreign Exchange Markets of London and Amsterdam during the 18th Century," *Explorations in Economic History* 26, No. 1 (1989).

[223] Exchange rates given in Zlotys, as from 2 May 1924, have been converted to MP at the official conversion rate of 1 PLZ = 1,800,000 MP.

breaks identified through the generalised Quandt-Andrews approach of Bai and Perron (1997) in the quantitative analysis.

Figure 6: Log of the London Exchange Rate on Warsaw (MP/GBP), July 1919 - October 1927

How might these plateaux in the data series be interpreted? One possibility is to look into the contemporary press and examine whether the timing of the stops and starts in the series coincides with significant events in Poland's internal politics, international relations, and economic development. To this end, I draw on the archive of newspaper clippings I have collected from the London 'Times' and the 'Economist', comprising every news item dealing with Polish politics and the Polish economy. For the period of this study, this amounted to 1229 news articles from the 'Times' and 1498 from the 'Economist'. This archive is particularly useful as it gives a solid indication of the set of information that participants on the London market were likely to have possessed.[224]

2.4.2 Methodological Approach

As has long been recognised in the historical events-study literature, the use of contemporary news sources to furnish a causal explanation for movements in a time series comes

224 Full methodological details on how this database was put together may be found in Chapter 1, Section 4 of this thesis.

with caveats. Charles Calomiris' criticism, though penned in 1988, remains trenchant: "*Ex ante*, news is virtually impossible to identify. In deciding what constitutes news the informed researcher and the contemporaneous press on which he draws will look for news where there is much to be explained, much the same way as the *Wall Street Journal* seems to explain all market events *ex post* with an R^2 of unity."[225] The coincidence of an event reported in the newspapers and a movement in the time series may be just that— a coincidence; conversely, if market participants correctly anticipate an event before it occurs and adjust their behaviour accordingly, the lack of a significant movement in the series *at the time the event occurs* should not be taken to mean that the event has had no effect on the series. To gain assurance that the narrative one is telling is a probable causal explanation rather than a 'just-so story', a more rigorous procedure is needed.

Since the mid-1990s, several papers in monetary and financial history have attempted to overcome the temptation to interpret the data in an event study in accordance with the researcher's preconceived priors by using econometric techniques to test for structural breaks in the statistical behaviour of the data series. This approach was first applied by Willard, et al. (1995) to identify which events in the American Civil War were seen by investors in 'greenbacks' (US paper currency) on the New York market as reflecting turning points in the Union's probability of winning the war (after which, it was hoped, the US government would redeem the greenbacks).[226] In subsequent years, the development by Bai and Perron (1998, 2003)[227] of sophisticated econometric algorithms to test for the presence of multiple structural breaks in a time series has laid the foundation for an extensive literature examining the effect of historical events on expectations of financial returns, as reflected in financial asset prices. Notable papers applying this methodology to the economic history of the first half of the 20th Century include Frey and Kucher (2000)[228] and Waldenström and Frey (2007)[229], on the probability of the outbreak of, and German victory in, World War II, implied by the prices of German sovereign bonds on neutral markets; Mitchener et al (2015), which uses sovereign bond prices to assess

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[225] Charles Calomiris. "Price and Exchange Rate Determination During the Greenback Suspension," *Oxford Economic* Papers 40, no. 4 (1988).
[226] Kristen Willard, Timothy Guinnane and Harvey Rosen. "Turning Points in the Civil War: Views from the Greenback Market," *The American Economic Review* 86, no. 4 (1996).
[227] Jushan Bai and Pierre Perron. "Estimating and Testing Linear Models with Multiple Structural Changes," *Econometrica* 66, no. 1 (1998); "Computation and Analysis of Multiple Structural Change Models," *Journal of Applied Econometrics* 18, no. 1 (2003).
[228] Bruno Frey and Marcel Kucher, "World War II as Reflected on Capital Markets," *Economics Letters* 69, no. 2 (2000).
[229] Daniel Waldenström and Bruno Frey. "Did Nordic Countries Recognize the Gathering Storm of World War II? Evidence from the Bond Markets," *Explorations in Economic History* 45, no. 2 (2008).

turning points in civil wars[230]; and Christodoulaki et al. (2012), which also uses bond prices to examine international perceptions of Greek creditworthiness between 1914 and 1929.

The review of the chronology and of Poland's political and economic situation in Section II is a useful beginning to the task of understanding the forces underlying the pattern of structural breaks identified below. More must be done, however, to obtain reassurance that the quantitative framing amounts to more than window dressing on a 'just-so' story, which, to paraphrase Calomiris, explains the past *ex post* with an R^2 of unity. To assuage these concerns, I collect additional, direct evidence on Polish monetary and fiscal policy, and the decisions and rationales underlying Poland's policy stance. Some of this evidence is quantitative, consisting of data on government budgets (at up to monthly frequency) and the balance-sheet returns of the Polish State Loan Bank and Bank of Poland (initially published monthly, and from March 1922 once every ten days). Another part is qualitative, drawing on the papers of the Polish Cabinet (particularly the Economic Committee), the Treasury, and the two successive banks of issue to provide direct evidence on why monetary and fiscal decisions were made, and, conversely, why it proved so difficult for stabilisation to take hold.

2.5 Results

2.5.1 Headline Results

In the main quantitative exercise of this paper, I use the Bai-Perron method for identifying structural breaks to test for the presence of turning points in the series. I then rely on qualitative and archival evidence, as well as lower-frequency quantitative data on fiscal revenues and expenditures to attempt to explain the break points identified by the series and propose a narrative interpretation of the results. My choice of test parameters follows the standard conventions of the quantitative events-study literature: I use 10% trimming (i.e. I require the interval between two structural breaks to be at least 10% of the series in length), and allow the distribution of errors to differ across breaks.[231] As can be seen from Figure 7 and Table 3, the Bai and Perron method identifies seven structural breaks in the exchange-rate data. Figure 7 is split into three panels in order to show the data at high resolution, with the splits corresponding to the several critical junctures (at the second and fifth structural breaks), identified through research in the Polish archives and international financial press, which form the scaffolding for the detailed presentation of the results in Sections 2.5.2-2.5.5.

[230] Kris Mitchener, Kim Oosterlinck, Marc Weidenmier and Stephen Haber. "Victory or Repudiation? Predicting Winners in Civil Wars Using International Financial Markets," *Journal of Banking & Finance* 60 (2015).

[231] Waldenström and Frey (2007), p.114 justify their choice of these parameters by citing the preceding literature.

Reassuringly, using different parameters does not alter the essential results: while moving to 15% trimming mechanically reduces the number of breaks identified (as 15% trimming allows for no more than five structural breaks to be identified), reducing the trimming to 5% reveals no additional breaks. All of the breaks identified are significant at well above the 1% level, with the most prominent break, at 8 January 1924, having a test statistic of 12623.72, as against a 5% critical value of 9.1.

As will be discussed at length below, all of the structural breaks identified are associated with Polish events that provide a plausible explanation for them. The concern might be raised, however, that the algorithm may be picking up the effect of developments in the British economy on the exchange rate series, given that it was not until 1925, a year after the end of Poland's hyperinflation, that Britain re-joined the gold standard after having left it during the First World War. To exclude this eventuality, in my survey of the financial press I examined the period around each structural break not only for Polish events, but for British ones as well, finding no plausible British events that could serve as an alternative explanation. In one case, that of April 1923, there was relevant British financial news in that the British budget showed a greater-than-expected surplus[232], but as the characteristic of the series to be explained in that case is a strengthening, not a weakening, of the Polish Mark against Sterling, this occurrence introduces no difficulty for the analysis. Reassuringly, major British political events, notably the 1922, 1923, and 1924 general elections, have no discernible influence on the exchange-rate series, strengthening the conclusion that it is overwhelmingly Poland-specific factors that are being picked up by the algorithm.

As regards the possibility that the timing of the end of the Polish hyperinflation was determined by the successful stabilization of the German currency, rather than the vote of emergency powers to Grabski that constitutes this paper's explanation, while a psychological link between investors' perceptions of the two currencies is certainly plausible, the timing strongly suggests that a *direct* link is unlikely. The crucial portion of the stabilization in Germany was accomplished with the adoption of the *Rentenmark* as a temporary unit of account on 16 November 1923 and the promotion of Hjalmar Schacht to head the Reichsbank on 20 November. In Poland, however, November and December of 1923 mark the worst point of the hyperinflation, with explosive growth in prices and the exchange rate, as shown by Table 1. Thus, while the German success in taming the hyperinflation of the Mark may have emboldened Polish policymakers to make their own effort at financial reform, it was only at the moment of the grant

[232] "The Budget Outlook". *Times* (London), 4 April 1923.

of powers to Grabski that this effort, virtually overnight, bore fruit in stabilizing prices and the exchange rate.

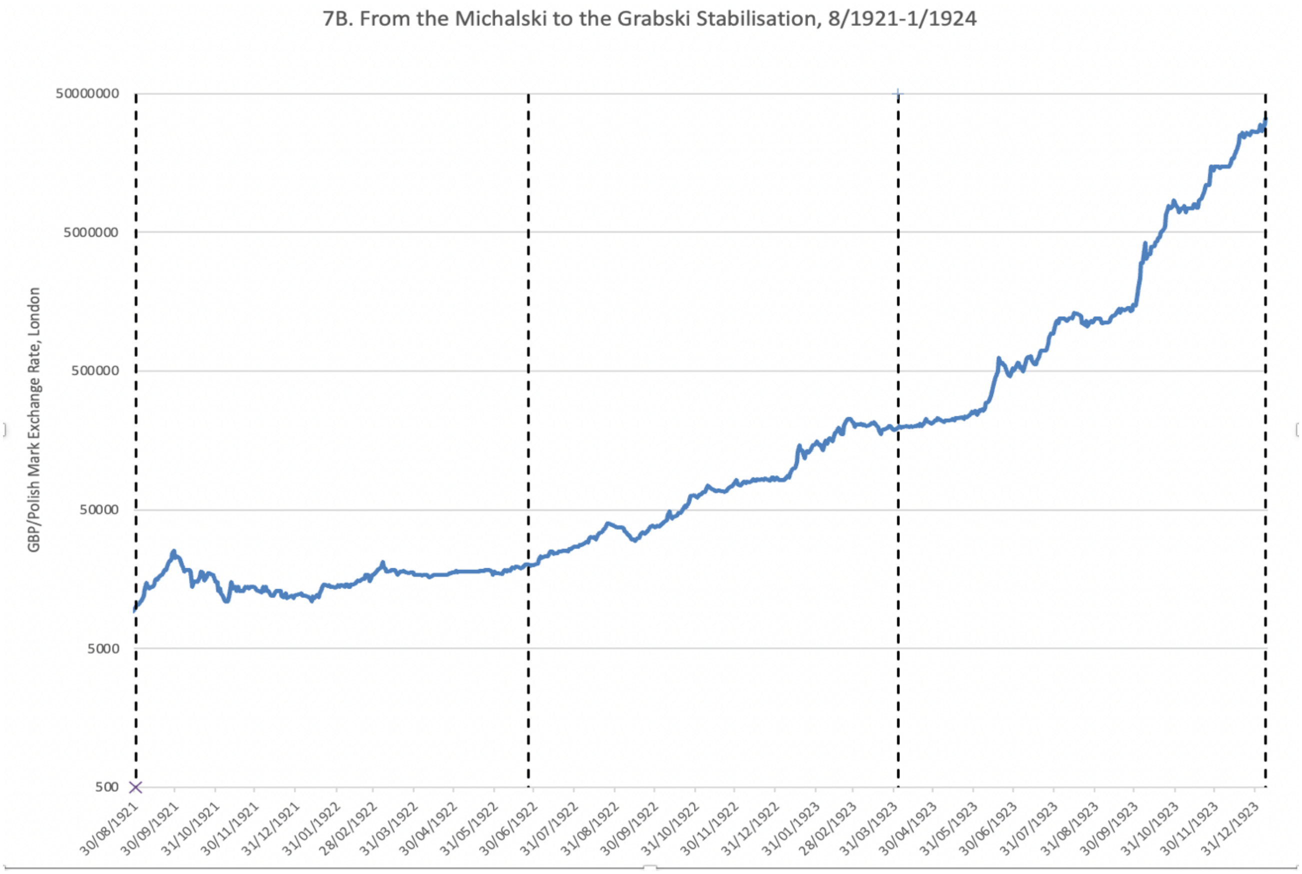
Several strong findings emerge from the analysis. First, the presence of multiple breaks before 1924 confirms the result suggested by optical examination of the data series; namely, that there were at least two periods of relative stability during the hyperinflation years at which inflationary expectations were temporarily stabilised, before inflation resumed. Von Thadden's argument that the Polish hyperinflation possessed an inexorable momentum which fiscal and monetary policy measures (apart from exchange controls) were powerless against thus appears wide of the mark. Furthermore, the timing of the collapse of the tentative stabilisations of 1921 and 1922 does not coincide with the breakdown of unity in governing coalitions due to a failure to agree on a programme of monetary and fiscal reform, as a war-of-attrition interpretation of the Polish hyperinflation would predict. Rather, it is clearly associated with foreign-policy shocks arising out of Poland's embroilment in the ongoing border conflict with Germany over the Upper Silesian industrial region. Finally, the necessary and sufficient measure (singular) to halt inflation in its tracks was the grant by the Sejm of emergency powers to Grabski to enact economic legislation by decree for a period of six months, in effect giving him *carte blanche* to do anything necessary to achieve currency stability. While Sargent (1981) did not distinguish between the various components of Grabski's stabilisation plan in his analysis, this core result is highly consistent with the spirit of his rational-expectations view of the end of Poland's big inflation: hyperinflation ended the day parliament gave Grabski the means to remove all question of the credibility of his programme of reform.

2.1.1 The First Critical Juncture: Armistice at Riga and the Silesian Crisis

A closer look at the structural breaks found by the Bai-Perron test reveals the outlines of a plausible narrative of Poland's struggle to contain inflation and bring the state's revenues up to a level that could sustain its expenditures. Because of the sixteen-month gap between Polish independence and the first regular quotations of the Polish Mark on the London currency market, the story begins *in medias res*. Much of the detail of the immediate post-war period, encompassing the early border wars and plebiscites and the turbulent emergence of Polish politics is thus lost: the first data point, from 20 July 1919, shows the Polish Mark already at 89.75 to the pound (as against a par value of 25.22[233]), with a steady rise thereafter. Daily data becomes available from

[233] Poland's adoption of the par of the pre-war Latin Union as the intended par value of its currency is not a coincidence, but is closely connected to the great strategic importance to Poland of the alliance with France, and reflects the same desire to keep in step with French policy even in monetary affairs that Wolf (2007), Don-Siemion (2016), and the present thesis all argue played a central part in the Polish decision to remain on the gold standard throughout the Great Depression.

Figure 7: Structural Breaks in the MP/GBP Exchange Rate Series



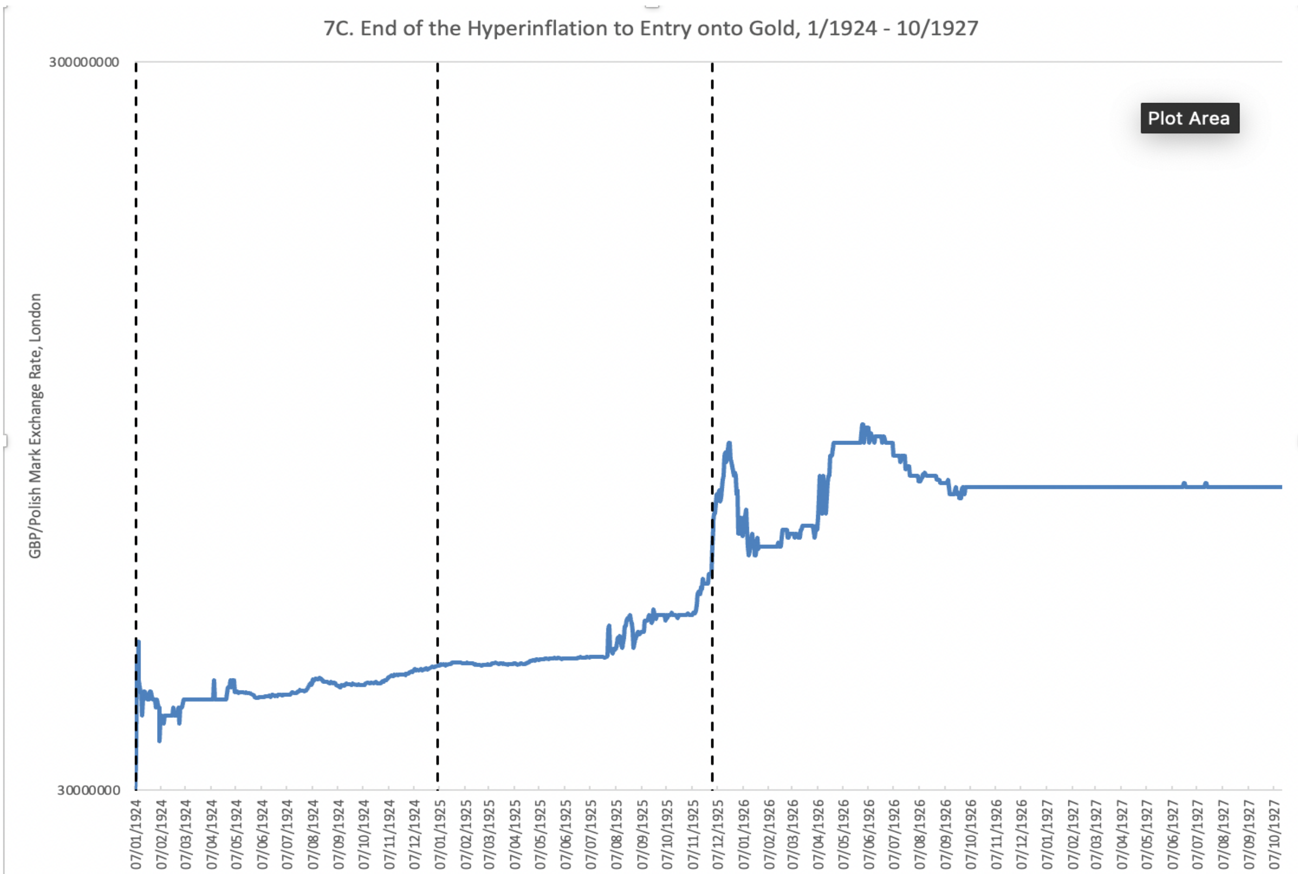


Table 3: Correlation of Structural Breaks in Exchange-Rate Series With Events

Date of Break	F-Statistic (5% Critical Value)	Major Event
13/11/1920	684.11 (13.88)	Armistice between Poland and USSR signed and ratified by Polish Sejm, with provisions made for a gold indemnity to Poland.
31/8/1921	4117.15 (13.45)	Economic unification of Poland (less Upper Silesia) and subsumption of former Prussian territories' revenues into central budget (1 September). Michalski appointed Finance Minister (17 September).
26/6/1922	369.05 (12.97)	Piłsudski uses powers of chief of state to remove Michalski's government over Lower Silesian stance (15 June). Negotiations to form a new government break down (24 June).
3/4/1923	96.47 (12.35)	Grabski, as Finance Minister, introduces financial reforms, beginning with indexation of new taxes to gold and a new internal loan (2 March). Success of internal loan allows note issue to be paused (10 April). (7 April: Midpoint of Grabski's tenure as Finance Minister)

Date of Break	**F-Statistic (5% Critical Value)**	**Major Event**
8/1/1924	12623.72 (9.10)	Sejm passes Special Powers Bill granting Prime Minister Grabski powers to govern by decree in economic matters until 30 June 1924. Treasury announces end of paper money issue by 31 January 1924.
5/1/1925	692.84 (11.36)	Not positively identified; transition from slow depreciation to complete stability of the exchange rate, possibly related to release of final, better-than-expected budget figures for 1924 (reported 13 January).
1/12/1925	11407.2 (10.55)	Zdziechowski becomes Finance Minister (20 November). Bank of Poland and Union of Banks intervene in support of the Zloty (1 December). Signature of the Treaty of Locarno (1 December).

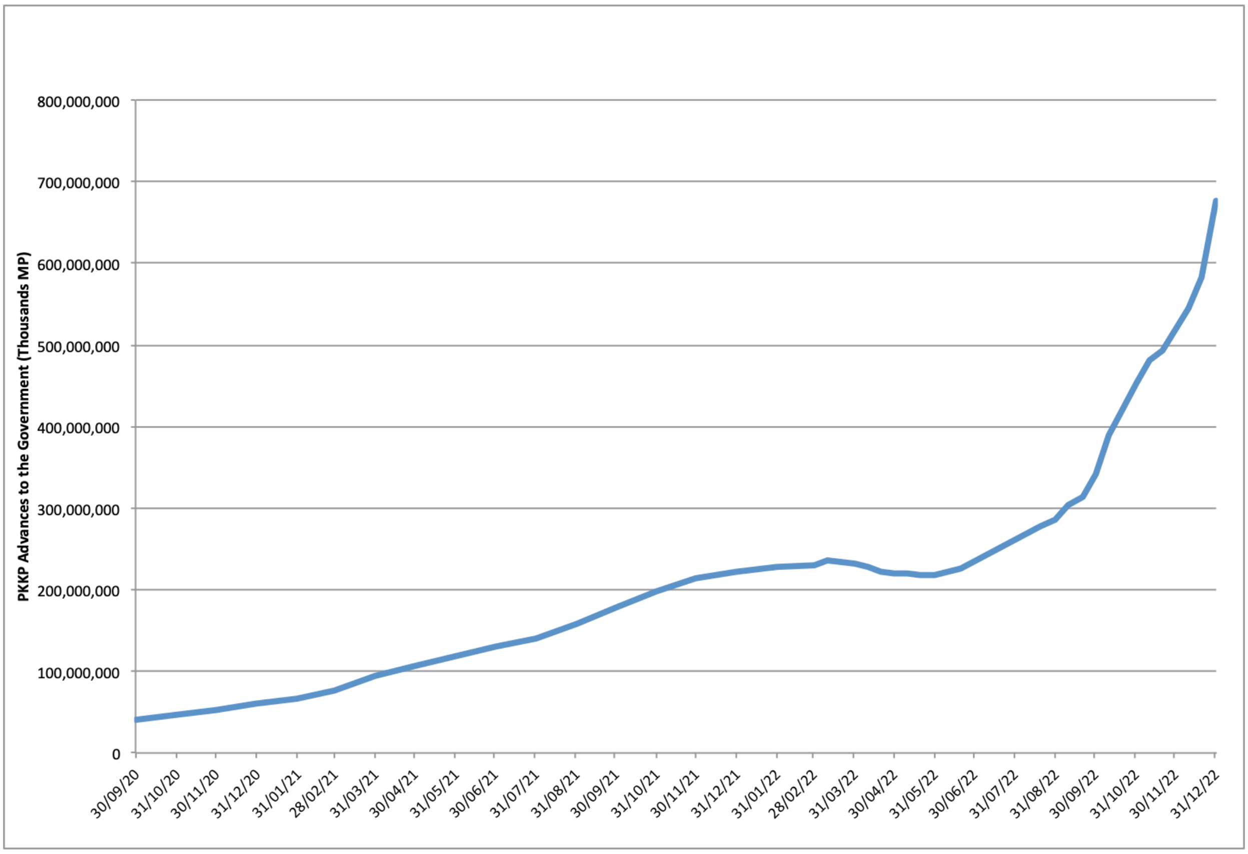
mid-February 1920, with the Polish Mark quoted at 520 to the pound and Poland already deeply embroiled in the war with the Bolsheviks in the east.

The Bai-Perron algorithm identifies the first structural break in the series at 13 November 1920. By itself, this is a date of little significance, though it comes not long after the conclusion of an armistice between the Polish and Bolshevik armies on 22 October 1920 and the commencement of peace negotiations between Poland and the Soviet government. A plausible explanation of the odd timing is suggested by Figure 1, which places the date identified by the algorithm at the midpoint of a segment of rapid depreciation too short to be captured by the trimming. This first spate of sharply negative expectations begins in early July 1920, when Poland's fortunes on the battlefield took a dramatic turn for the worse and Poland's army was thrown toward the Vistula, and ends in the second half of January, 1921, when the series plateaus out at roughly 3000 MP to the pound (a level reached on 16 January).

An examination of the progress of the Riga peace talks reveals a likely explanation for the timing of this shift from accelerating to stable prices. Whereas the negotiations were initially conducted under cover of standing armies maintaining their positions at the armistice lines, and occasionally skirmishing beyond them, by the new year negotiations had progressed to the point where "on 7 January 1921, the Polish army was put on peacetime footing for the first time in its existence."[234] Norman Davies, the pre-eminent historian of the Polish-Soviet War, is surely correct in his assessment that this "was the first moment when one can safely say that a renewal of hostilities between Poland and Soviet Russia was not substantially likely."[235] Given that, as of

[234] Norman Davies. *White Eagle, Red Star: The Polish-Soviet War 1919-1920* (1972), p. 259.
[235] Ibid.

Figure 8: Central Bank Advances to the Government, thousands MP, 9/1920 - 12/1922



14 December 1920, the Polish government's extraordinary budget (mainly on the war) stood at a deficit of 53 billion MP, as against 7.5 billion MP on ordinary expenditures[236], it is not difficult to see why news of the armistice becoming effective is likely to have had an immediate effect on investors' expectations of future inflation. The slight lag between the Polish decision to stand down the troops and the London market's reaction is probably explained by the slow spread of news: two days from the front to Warsaw, then three from Warsaw to London.[237] A further reason for optimism about a 'peace dividend' to price stability came three weeks later, when the Soviet peace delegation settled on a concrete figure of 30 million gold roubles, to be used as backing for the Polish currency, for the indemnity that Poland had demanded as a precondition for the talks.[238]

A striking characteristic of this first plateau in the data is that whereas the timing of the stabilisation of the Polish Mark against Sterling is exactly coincident with the arrival of good news

[236] "Poland's Finances," *Times (London)*, 17 December 1920.
[237] Figures obtained from comparison of date-lines of articles from Riga and the eastern front for the *Ilustrowany Kuryer Codzienny,* a leading Polish daily newspaper, and thence from Warsaw for the London *Times,* with the articles' publication dates, January 1921.
[238] Davies (1972), 257-58.

from the peace conference, it is neither preceded nor followed by a substantial improvement in the fiscal position of the government. Figure 8, which shows the Polish government's cumulative indebtedness at the State Loan Bank (PKKP), as recorded in the PKKP's balance-sheet returns (published at monthly frequency until the beginning of April 1922 and every ten days thereafter), reveals that state indebtedness continued to rise at the same pace, or even a slightly faster one, after demobilisation as before it. Whence, then, the stability of the Polish Mark? A natural interpretation is the one proposed by Sargent (1981), who suggests that a rising money supply can be consistent with price and exchange-rate stability if expectations are forward-looking and economic actors are convinced that an end to the government's use of seignorage to finance its expenditures is at hand.

This explanation, though plausible, presents something of a puzzle: if actors formed expectations rationally, in response to a credible change in the monetary regime chosen by the government, why did the plateau in inflationary expectations of January 1921 not persist? For a rational expectations view of this first plateau to hold, one would need to argue that the pause in expectations ended as the result of an unanticipated, exogenous shock which undermined the credibility of the government's promises to restore a sound currency as soon as possible.

In fact, the timing of the first period of stability's end points to precisely such an explanation. As Figure 7 shows, the exchange-rate series, virtually flat at approximately 3100 MP to the pound between mid-January and the end of April 1921, begins rising again in the first week of May, reaching 3500 by May 8, 3900 by the end of the month, and 25,500 by the time stability is restored in late September. It is precisely at this time— in the night from May 2 to May 3— that the Third Silesian Uprising, the most severe outbreak of violence on Poland's western frontier since the end of the Great War, began.

The origins of the conflict in Upper Silesia are complex, and a full presentation would range beyond the scope of this article. Briefly, the facts of the case are as follows. Upper Silesia before the Great War was eastern Germany's major industrial region, second in importance in the German Empire only to the Ruhr basin. The region was ethnically heterogeneous, with urban centres inhabited by both Germans and Poles, but with a German majority, surrounded by tracts of countryside inhabited mostly by Poles. The industrial development of the region during the Wilhelmine period had bound the region together into a series of tightly linked supply chains that cut across ethnographic divisions. A partition of the territory according to the principle of national self-determination endorsed by the victorious powers at Versailles was thus doomed to require heavy compromises on two accounts. Not only would any conceivable border leave hundreds of thousands of Poles and Germans on the 'wrong' side of the frontier, and subject to rule by a foreign power whose commitment to minority rights could not be perfectly certain; it would also necessarily result in the severance of vital supply chains, causing severe disruption to the industry which was the region's lifeblood. Worse still, the ethnographic and economic desiderata of the final settlement were in tension: short of awarding the entire region to one party or the other, any ethnographically fairer settlement was likely to be more economically irrational, placing the cut between Poland and Germany closer to the heart of the industrial area.

The architects of the Treaty of Versailles sought to resolve the Upper Silesian dilemma by submitting the question to the population of the contested area via a plebiscite. The vote, delayed until March 1921 due to the political instability of the area, including two uprisings by the local Polish population against the local German administration's unequal treatment of the Polish population in the plebiscite area, created no obvious way forward. While most of the major industrial towns voted, in many cases with large majorities, to remain in Germany, the surrounding countryside— including a swathe of territory to the west separating the German-speaking parts of the coal basin from the bulk of Germany— declared themselves in favour of union with Poland. In the face of this unclear outcome, the Inter-Allied Commission overseeing the plebiscite, made up of representatives of the United Kingdom, France, and Italy, failed to reach a consensus on the division of the territory. After a month's deliberation, the Commission published two radically divergent plans for the region's future. One, representing the vision of the French representatives on the Commission, sought to place virtually the entire industrial area and surrounding countryside in Polish hands; the other, preferred by the United Kingdom and Italy, offered the Poles only a fragment of the agricultural area, and none of the industrial district.

Fearing that the Inter-Allied Commission would eventually reject the French proposal in favour of the British one, the Polish nationalist politician Wojciech Korfanty, a Silesian native and the leader of the pre-war Polish grouping in the German Reichstag, called on the Polish population of Upper Silesia to rise up and create facts on the ground which would force the Entente powers to adopt the French scheme for the Polish-German border. The uprising broke out in the night of May 3, and proceeded swiftly: within a week, the insurgents had gained control of virtually the entire area up to the ethnographic frontier, and placed the eight urban centres which they failed to capture outright under blockade. Hamstrung by the Treaty of Versailles' limitation of the size of the Reichswehr to 100,000 combat troops for the entire territory of Germany, the Weimar government was initially caught off-guard by the scale and ferocity of the outbreak. Rather than see the region pass out of their hands without a fight, the German authorities called in the right-wing *Freikorps* paramilitaries, consisting of demobilised elements of the wartime German Army, to contest the Polish advance.

While the German decision to suppress the uprising by relying once more on paramilitaries with pronounced anti-system leanings would eventually contribute to the corrosion of the structures and legitimacy of the Weimar Republic in the face of the Nazi challenge, its immediate onus was on Poland. Faced with an escalating conflict over a strategically vital region, whose manufacturing capacity eclipsed that within Poland's existing borders, and no longer tied up in the Polish-Soviet War, which had obviated Polish efforts to lend support to the previous risings in Upper Silesia, the Polish government felt compelled to furnish Korfanty's insurgents with supplies, matériel, and military advisors. In the face of this pressure, the strenuous efforts which Finance Minister Steczkowski had been making since demobilisation in the east to slash government payrolls and balance the budget went by the wayside. As open war with Germany moved from probability to likelihood, the centrepiece of the government's austerity efforts— the demobilisation of "sixty per cent. of the soldiers, 25 per cent. of officers, and 50,000 of horses" planned for the spring— had to be called off.[239] As Figure 8 shows, the late spring and summer of 1921 saw the government redoubling, not tapering off, its use of the State Loan Bank's credit facilities. While an armistice between the Polish and German combatants came into effect on 5 July, the situation remained tense into August, the participants having drawn lessons from the collapse of the previous effort at a truce in May.

2.1.2 The Michalski Stabilisation and Piłsudski's 'Crime' of 1922

The Third Silesian Uprising upended the Polish government's efforts to move the state budget into balance and adopt a stable currency. The outbreak of violence did not, however, directly lead to hyperinflation. Though inflationary expectations, as captured by the exchange-rate series, rose sharply throughout the summer months of 1921, by September they had stabilised, giving way to a remarkable nine-month plateau in the value of the Zloty lasting until June of the following year. The second and third structural breaks in the series, which date to 31 August 1921 and 26 June 1922, capture the end points of this tentative stabilisation.

As with the demobilisation of January 1921, the timing of the structural breaks points to a plausible explanation. The structural break marking the beginning of the plateau comes within a day of the abolition, on 1 September, of the internal customs barrier between the former German partition (less Upper Silesia, which remained disputed) and the rest of Poland's territory, and the fiscal union of the territories formerly under German rule (again, less Upper Silesia) with the Treasury in Warsaw. This development marked an important turning point for the state budget, as the former Prussian territories possessed a far deeper tax base than the remainder of the country. Not only did they avoid fighting, and thus devastation, during the Great War and Polish-Bolshevik War; they were also the most economically developed areas of the new Polish state, with living standards closer to those in Germany than in the remainder of Poland. Though the region was largely agrarian, the agriculture of the former West Prussia was based on larger landholdings than elsewhere in Poland and was more heavily marketised, providing a larger surplus for the state to extract. All of these factors meant that the region, while still under

[239] "Overseas Correspondence - Poland." *The Economist*, 19 February 1921.

separate fiscal administration, was the only part of Poland to enjoy a budget surplus, and its integration into the fiscal structures of the central government— against the wishes of large swathes of the population of the region, who feared that their prosperity would be used to subsidise an insolvent Treasury in Warsaw indefinitely— provided much-needed relief for the state's coffers.

The move to integrate West Prussia fully into the Polish state was fortuitously timed, for it coincided with steps by the Entente to achieve a final settlement in Upper Silesia and end the military standoff between Poland and Germany. On 12 August, the Council of Ambassadors of the Entente powers began deliberations to arrive at a final settlement of the Upper Silesian dispute. Over the following weeks, the representatives of the British-Italian and French factions arrived at a compromise settlement between the two original proposals, which split the industrial area roughly in half, and roughly along ethnographic lines. (Although the area awarded to Poland contained a substantial minority of Germans, which would prove a perennial sore point in Polish-German international relations, 55% of the inhabitants of what would become Polish Upper Silesia had declared for Poland in the plebiscite.) By a resolution on 12 October, this division was made official and final.

The hope of a favourable settlement in Upper Silesia came too late to save the government of Wincenty Witos, which by the summer of 1921 had lost its parliamentary majority through the defection of the Socialists. The final straw in the beginning of September, with Finance Minister Steczkowski's resignation following the failure of his efforts to acquire a stabilisation loan in London and Geneva. On 10 September, the Cabinet resigned in solidarity with Steczkowski, leaving no clear majority which could succeed it. It is tempting to explain the fall of the Witos government through the prism of the war-of-attrition model: here was a minority government which, upon exhausting the possibilities of a painless stabilisation on the basis of a foreign loan, resigned rather than face the hard choices needed to push through a reform agenda. Yet subsequent events belie this interpretation. The major parties in Parliament resolved the lack of a consensus not by taking a hard ideological line and letting inflation spiral out of control rather than have the opposing parties get their way, but by agreeing to refer their differences to an extra-parliamentary Cabinet appointed by the Marshal of the Sejm and relying on the votes of the Chamber as a whole for support.

The new Cabinet's initial reception in the political press of the day was not cordial, eliciting "a good deal of surprise and not much encouraging comment" in Warsaw. The commentary of the London *Times* is dismissive, its correspondent judging the new government an "unimpressive combination" whose political inexperience betokened rule by "debating society methods rather than the strong and resolute measures such as Polish finances need today if they are to be saved from wreck".[240] Defying the low expectations, the new government moved quickly to establish its credibility in economic management, through a combination of astute diplomacy and domestic reform. Its first major foreign policy move, upon taking office, was to threaten the Soviet government with the withdrawal of diplomatic relations, should the Bolshevik government fail to transfer to Poland the gold indemnity imposed by the Treaty of Riga.[241] Concurrently, the new finance minister, Jerzy Michalski, announced a wide-ranging fiscal reform aimed at restoring the budget to equilibrium as quickly as possible, including by carrying through the demobilisation of the armed forces which the Silesian outbreak had deferred. Aided by the windfalls of the incorporation of wealthy Upper Silesia and West Prussia into the Polish state's fiscal structures, as well as by the gradual extension of the government's capabilities in levying taxes, Michalski's efforts to end the government's reliance on inflationary finance produced rapid results. Within a week of the government taking office, it had managed to convince the markets of the credibility of its fiscal agenda. From 29 September, the Polish Mark can be seen to appreciate against sterling, rising from 25,500 MP to the Pound at the end of September to 15,000 at the end of October, and it remained at roughly this level for roughly eight months, until June 1922. By the beginning of the new year, the markets' hope that stabilisation was at hand began to be borne out by the actual fiscal results of the Polish state. As Figure 8 shows, from the autumn of 1921 government borrowing at the Bank of Poland slows, and, from February 1922, goes into reverse, with the government repaying its loans and the Bank using the proceeds to retire currency from circulation.

Did the Michalski stabilisation contain the seeds of its own undoing, as Landau and Tomaszewski (1967) and von Thadden (1994) have claimed, and was its failure precipitated by a loss of control over the economy or an inability to agree on a continued course of fiscal reform? If such were the case, one would expect adverse movements in the government's fiscal position and the exchange rate to precede, or at the latest coincide with, the fall of the Ponikowski-Michalski government on 7 June 1922. The fine-grained quantitative evidence reveals a rather different story, and situate the transition from stability to hyperinflation several weeks *after* the government's resignation. The structural-break analysis of the exchange rate series identifies the end of the 1921-22 plateau in the exchange rate as 26 June: not the date of the collapse of the Ponikowski-Michalski government, but two days after the failure of negotiations to form a new Cabinet, which ushered in a seven-month period of extreme Parliamentary instability. (The implications of this protracted impasse for the war-of-attrition hypothesis are discussed below.) Further evidence that the Michalski stabilisation unravelled only after the Michalski government fell is provided by another relatively high-frequency indicator of the government's fiscal position:

[240] "New Polish Cabinet." *Times* (London), 22 September 1921
[241] "To-day's News." *Times* (London), 23 September 1921

its indebtedness to the State Loan Bank, as recorded in that institution's thrice-monthly returns. These show advances to the government declining steadily, from 236 billion MP on 10 March to 217 billion upon the government's fall. This is followed by an increase to 225 billion MP on 20 June, and a drastic rise to 278 billion two months later, which continues unabated until January 1924.

At this point, another argument might be made in defence of the war-of-attrition interpretation of the Michalski stabilisation's end. Even if the Ponikowski government was managing to pay back its liabilities to the PKKP until the moment it fell, it is conceivable, given the context of the recession into which the Polish economy had fallen, that further sacrifices lay ahead if the balanced-budget course was to be maintained. If the government resigned because it foresaw the trouble ahead and balked at the pain which would be required, or, lacking a guaranteed Parliamentary majority, anticipated that the Sejm would reject any further deflationary legislation presented to it, then a version of the war-of-attrition view would continue to be defensible.

Yet the Ponikowski-Michalski government collapsed not due to argument from within over economic policy, but due to an overt and extraordinary intervention by Marshal Józef Piłsudski framing further austerity as a national-security threat, which due to the Marshal's position as interim Head of State with the power to demand the government's dismissal slammed shut the window of opportunity to complete the Ponikowski-Michalski government's efforts at financial regime change toward balanced budgets and a gold-backed currency.

At the critical juncture of June 1922, with Poland's borders still lacking international guarantees, fiscal stabilisation and foreign policy remained inextricably linked. Upon the Ponikowski-Michalski government's arrival in office, combined expenditure on the military and the strategically important railways stood at 49.3% of the total Budget.[242] No programme of financial reform could be credible which did not involve severe reductions in expenditure on the armed forces. In order to be time-consistent as a means of fiscal stabilisation, however, demobilisation required a more restrained foreign policy. This was a fact well-understood by the Ponikowski government, which under the direction of foreign minister Konstanty Skirmunt took a peaceful turn, over the opposition of the Nationalist Right and elements of Piłsudski's old guard. To cite just one illustrative example, in early March 1922, the question of the status of Vilnius, an ancient capital of the Polish-Lithuanian Commonwealth, one of the cradles of the Polish national independence movement, and the birth city of Marshal Piłsudski, came before the Sejm. Despite the strong pressures to give legal form to the facts on the ground and annex the city, the government made its opposition to outright annexation a matter of confidence, and tendered

[242] "Overseas Correspondence - Poland." *The Economist,* 17 September 1921

their resignation (which was rejected by the Sejm) after attempts to find a compromise short of annexation had failed.

Skirmunt's conciliatory course in foreign affairs was tolerable to Piłsudski so long as the Entente, and in particular Poland's ally France, held mastery over the international landscape in Europe. Germany and the Soviet Union's conclusion in April 1922 of the Treaty of Rapallo, which brought Poland's two bitter enemies together in military cooperation to revise the post-Versailles status quo, changed the calculation for the Marshal. On 2 June, Marshal Piłsudski pointedly demanded from the Cabinet an assessment of the implications of the Rapallo pact on Poland's national security and the government's foreign policy. In a secret session that day, the Cabinet resolved, "upon listening to the report of the Minister of Foreign Affairs, that [Poland's] foreign policy must remain absolutely pacific and that, complementary to this requirement, the organisation and system of state administration must remain unchanged. It is necessary to oppose any alarming reports of an immediate danger and to maintain an atmosphere of calm and stability among the public."[243] Piłsudski responded with hostility, and after several days of negotiations in which the government attempted without success to persuade the chief of state to weigh his opposition to Skirmunt's softer line against his own stated desire to avoid a change of cabinet, he forced government to tender its resignation.

2.1.3 'War of Attrition' or Politics by Other Means?

Throughout June, there followed a series of negotiations between the Sejm and Piłsudski, aimed at forming an alternative government which would be acceptable to both sets of actors. Quickly, however, it became apparent that the gap between the Socialist sympathies and pro-military views of the Marshal on the one hand, and the centre-right majority in Parliament whose opposition to Piłsudski's expansive conception of Poland's international role pre-dated independence, was too wide to be bridged. Direct negotiations broke down on 24 June, coincident with the third structural break with the exchange-rate series, and the crisis became intractable after Piłsudski rejected the Prime Ministerial candidate proposed by the Sejm, the Silesian Nationalist firebrand Wojciech Korfanty. Eventually, a government which both Piłsudski and the Sejm could stomach emerged under Julian Nowak, but its position, lacking the enthusiastic support of either party, was tenuous. Accordingly, its proposals for financial reform contained no mention of budget cuts to the military; rather, the new government pinned all of its hopes on a foreign loan.[244]

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[243] "Minutes (Secret) of the Cabinet of Ministers, 2 June 1922". Akta Prezydium Rady Ministrów, Archiwum Akt Nowych.
[244] "Polish Finance Reform - Government Proposals". *Times* (London), 24 September 1922.

The tepid economic programme of the politically rudderless Nowak government set the tone for the political and economic crisis which followed. New Parliamentary elections at the end of 1922 did not bring an end to the deadlock. One of the Sejm's first duties upon its inauguration in December was to elect a new President to take over the functions hitherto held by Piłsudski. The chosen candidate, Gabriel Narutowicz, was elected in a spirit of optimism that the Polish political system had turned the corner into normalcy. The tensions stirred up by the hostile political atmosphere of the preceding six months could not simply be dismissed, however, and within days of his election Narutowicz was assassinated by a disaffected Nationalist supporter. Elected under the shadow of a gun, Narutowicz's successor Stanisław Wojciechowski lacked the legitimacy to bring about the hoped-for return to stability, and though Piłsudski went into uneasy semi-retirement from the political scene following the 1922 elections, his moral weight as the deliverer of the reborn Poland, and the implicit threat of the military's overwhelming loyalty to him, continued to loom over Poland's politics in four years of parliamentary government which followed.

The dynamics of the Polish hyperinflation between the fall of the Ponikowski-Michalski government in June 1922 and the beginning of the second Grabski ministry in December 1923 do bear some resemblance to the war-of-attrition scenario envisioned by Alesina and Drazen (1991) and Eichengreen (1995). The governments of this period, unlike the Ponikowski-Michalski ministry which preceded them, continued to shy away from the comprehensive reductions in military and rail expenditure, which continue to figure in E. Hilton Young's February 1924 report to the Polish government as the major outstanding challenges of financial consolidation. Instead, the emphasis on policy during this period was on piecemeal, technical fixes— the 'theoretical' zloty, the gradual indexation of the tax system— and the elusive quest for a stabilisation loan in hard currency. The deadlock is reflected in the continuous upward movement of the Polish Mark-Sterling exchange-rate series. Even the most comprehensive push for financial reform, under Grabski between March and May 1923, figures only as a single structural break in the data (the fourth, dated to 3 April 1923). Though Grabski's efforts succeeded briefly at persuading the markets to give his plan a chance, as shown by the small plateau on either side of the structural break, Figure 7 and Table 3 reveal that the effort brought about no fundamental change, even temporarily, in the upward movement of the note issue and state borrowing at the PKKP, and as soon as the plan ran into difficulty in the Sejm, confidence unravelled. Ultimately, as we shall see, a grant of emergency powers to Grabski by the Sejm, authorising him to take any steps needed to resolve the crisis, was necessary for hyperinflation to be brought under control.

Yet despite the superficial similarities, it is difficult to situate Poland's hyperinflation within the right-left model of Alesina and Drazen (1991) and Eichengreen (1995). The fundamental barrier to stabilisation from June 1922 onward was the disagreement between the Sejm and Piłsudski, not about the distributional incidence of the stabilisation burden between workers and capital, but about the implications of the fact that any credible stabilisation programme would require large cuts in expenditure on Poland's army and military infrastructure. To the extent that the Polish hyperinflation had the cast of a war of attrition, it was a war between two conceptions of Poland's foreign policy. On the one hand was the conception traced by Skirmunt, which accepted a reduced capacity to project power externally as a necessary cost of economic stabilisation; on the other, Piłsudski's vision of a Poland whose security against its German and Russian adversaries depended on its ability to promote its political interests—if necessary through the 'other means' of military action, to use Clausewitz's formulation— throughout the 'Intermarum' (*Międzymorze*) between the Baltic and the Black Sea.

After the elections of December 1922 and the assassination of Narutowicz, the struggle became latent: Piłsudski no longer held the tiller of the Chief of State, but his presence in the background as the *de facto* head of the armed forces exerted a chilling effect— ultimately well-justified, as his periodic outbursts against the Sejm culminated in the coup of 1926— on the scope of fiscal reform, until rampant hyperinflation persuaded the Sejm to grant emergency powers to Grabski regardless. In any event, the distribution of forces within the Sejm did not make the hyperinflation inevitable. Had the Witos government of early 1921, which possessed a Parliamentary majority with which it could have resisted Piłsudski's demands for a more activist course, resisted the siren call of intervention in Upper Silesia, or had the Ponikowski-Michalski government not been undermined in June 1922 by Piłsudski's fears over the Treaty of Rapallo, Poland would have stood an excellent chance to draw down its military and stabilise its currency.

2.1.4 Credible Commitment and the End of Two Polish Inflations

Ultimately, it was Grabski's reforms that brought the Polish hyperinflation to a close. The structural-break analysis provides robust confirmation of this conventional wisdom: the fifth structural break in the series, corresponding to the Grabski stabilisation, marks a sharp transition between the punctuated hyperinflation of 1919-1923 and the at most moderate inflation of 1924-1927. The break occurs on 5 January 1924 and is extremely statistically significant, with an F-statistic of 12623.72 against a 5% critical value of 9.10. In a broad sense, what this break reveals about the Polish hyperinflation is not new: as Sargent argued, the decisive factor in banishing the spectre of exploding prices was the package of monetary and fiscal reforms introduced in the early months of 1924 by Władysław Grabski, which amounted to a definite financial regime change that placed credible constraints on the government's ability to finance its deficits through money creation. With daily-frequency data, however, it becomes possible to identify precisely which of the components of Grabski's reform package were critical for stabilisation. The detailed results provide strong evidence that Sargent (1982) was correct over von Thadden (1994) in viewing the Polish hyperinflation as a process of rational expectations, in which the emergence of a credible commitment to systemic and monetary policy change was both necessary and sufficient for curbing inflation, rather than a process with substantial 'momentum', in which adaptive expectations entailed that concrete intervention on the foreign-exchange market had to precede stabilisation.

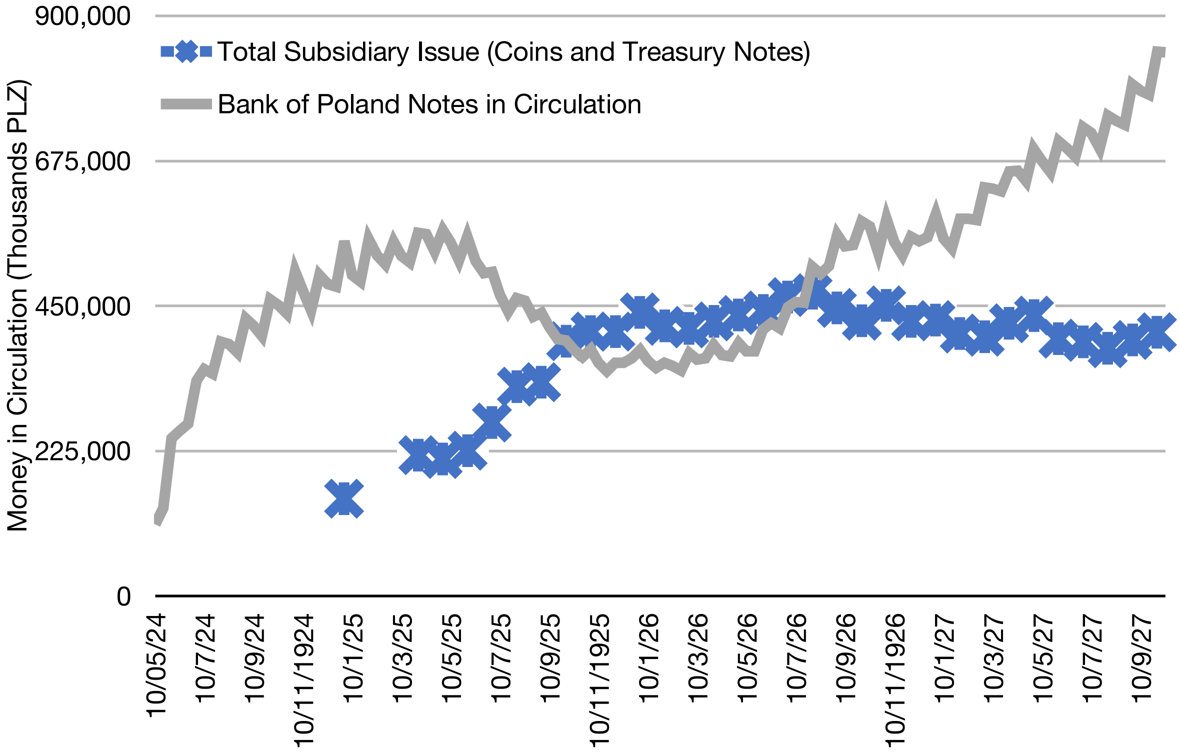
Both Sargent (1982) and von Thadden (1994) point to the establishment by statute of the independent Bank of Poland, in mid-December 1923, as a precondition for the stabilisation of Poland's currency. The data, however, show that news of the establishment of the new Bank of Issue was not sufficient for stabilisation. Neither the announcement by the government on 10 November that currency reform could not be delayed any further and that, therefore, it was the government's priority to replace the PKKP with the permanent Bank of Poland; nor the passage of legislation on 28 November placing all taxes on a gold basis; nor the approval of the Bank of Poland's statutes by the Financial Committee of the Cabinet on 3 December; nor for that matter Grabski's speech on 20 December setting out his programme of reform on 20 December was sufficient to arrest the slide of the 'Polmark'. Its value against Sterling declined from 7,000,000 MP to the pound on 10 November, to 15,000,000 on 28 November, to 25,000,000 on 20 December, to a low of 48,000,000 in early January.

Instead, the structural break marking the transition between the high-inflation and low-inflation regimes during the Grabski stabilisation occurs on January 5, 1924, the trading day after the Polish Parliament voted to give Prime Minister Grabski powers of decree in eleven areas of economic policy, giving him *carte blanche* to take whatever reforms he deemed necessary to ensure the stabilisation of the exchange rate. Far from being a runaway process that only the actual establishment of a gold-backed currency (at the end of April 1924) could arrest, inflationary expectations came to a complete standstill as soon as the government's commitment to balancing the budget was made credible by being placed into the hands of a single, powerful actor. While Sargent's account is limited in that it has scarcely anything to say about the opportunities at which hyperinflation might have been halted before 1924, Sargent's central conclusion is strongly validated by the fine-grained evidence: rational expectations engendered by a credible commitment to a monetary and fiscal regime change were instrumental in restoring stability to the Polish Mark.

As the discussion in Section 2 has made clear, the end of the hyperinflation in 1924 did not mark the final stabilisation of the Polish currency. The story of the Polish experience with moderate inflation after May 1924 is worthy of a separate study, as it presents a fascinating cautionary tale of the chaos which can emerge, not only in the monetary but also in the political realm, from the existence of two competing monetary authorities with conflicting objectives.[245] On one side was the Bank of Poland, with a statutory monopoly on the issue of banknotes, was concerned with price stability and the maintenance of its gold reserves above the statutory minimum. On the other was the Treasury, which retained its mandate to mint small change and even to issue paper money, which circumvented the central bank's monopoly on note issue through the pretext that the Treasury notes would be redeemable for coins at an indefinite point in the future.[246] As Figure 9 shows, the Treasury abused this power: until December 1925 the circulation of Treasury money increased rapidly, and by November of that year the Treasury issue came to exceed the volume of the Bank of Poland's notes in circulation. For reasons which remain unclear, the Bank of Poland was slow to recognise the threat to its mandate posed by the expansion of the Treasury issue, and was forced to abandon the convertibility of the Zloty to gold-backed currencies on 30 July 1925.

[245] A worthy prolegomenon to such a study is Leszczyńska (2013)'s treatment of the Bank of Poland's policy between 1924-1927, which is the most thorough and analytically original portion of her work.
[246] According to the published returns of the Bank of Poland, the last Treasury notes were retired from circulation in October 1932.

Figure 9: Bank Money and Treasury Money, May 1924 - October 1927[247]



What is interesting in the context of the present paper is the pattern of structural breaks in the exchange-rate series during the period of coinage inflation and what they reveal about the structural forces at work. The sixth structural break, dating to 5 February 1925, is somewhat mysterious, but some understanding of it can perhaps be gleaned from an examination of where it falls in Figure 7C, marking a transition from a very slow depreciation of the Polish Mark toward its par value to a position of stability just short of par, which lasts until the suspension of złoty convertibility by the Bank of Poland. While no news event is prominent enough to identify this structural break with full confidence, it is possible that the structural break is picking up on the publication of a set of budgetary figures on 13 January, which, although they showed a slight deficit, were treated by contemporaries as a vindication of Grabski's policy course— the associated article in the *Times*, for instance, notes that "[a]ctual results very greatly exceeded estimates, especially in the case of indirect taxes and monopolies.[248]

The period of stability that sets in at this time comes to an end with the Bank of Poland's suspension of convertibility in July 1925, with an immediate depreciation of the Zloty to 27.8 to the Pound (from a mid-market price of 25.4, very slightly above the par value of 25.22) the day

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[247] Source: Statistical appendices of *The Economist*, 1924-1927, published monthly and accessed via Gale Cengage, *The Economist Historical Archive.*
[248] "Polish Revenue in 1924," *Times* (London), 20 January 1925.

the suspension comes into effect. Remarkably, however, the data suggest that market participants maintained a degree of faith in Grabski's capacity to complete the stabilisation until the last days of his government, in November 1925. Whereas the wholesale price index of the Polish Institute for Economic Research (*Instytut Badania Koniunktur i Cen*) had increased by 72.6% between May 1924 and November 1925[249], the exchange rate upon the fall of the Grabski government on 13 November stood at 29.875, or just 18.5% above par.[250]

By November 1925, Grabski was caught between was caught between rising popular and parliamentary unrest against further austerity and the diminished fiscal possibilities which the post-stabilisation recession afforded. Though Grabski had freshly acquired a mandate from Parliament for staying the course of financial reform, the breakdown of talks with Germany to end the trade war which had been raging since June and the Bank of Poland's refusal to violate its statutes by extending any further credit to cover the government's deficits proved to be the final straw. The markets' reaction to the departure of the man who had proven his capacity to make systemic changes in favour of financial reform was swift. Over night, the exchange rate fell to 31 Zlotys to the pound, and the depreciation continued over the following weeks— to a low of 50 Zlotys against the pound— with the announcement of Jerzy Zdziechowski, a man who, in presenting the government's budget for 1925, had made his preference for an end to contractionary policy clear.

As we have seen, however, upon arrival in office, Zdziechowski adopted a stance against inflation which was, if anything, more hard-line than his predecessor's. The means by which he did so lend strong support to Sargent's argument that high inflation is defeated by credible signals of changes in the monetary and fiscal policy regime. The seventh structural break in the series, which marks the beginning of the turnaround in Poland's inflationary fortunes, occurs on 1 December 1925. This is the day when the government, in concert with the Bank of Poland and the Union of Banks, announced a package of measures to restore budgetary stability and intervene in support of the Zloty.[251] (It is also possible, though this is difficult to substantiate, that the signature of the Treaty of Locarno that day, helped shore up the Polish currency by rsising hopes to an end to the trade war with Germany.) It appears to be the case that the policy announcement consisted in Zdziechowski committing the government to the same difficult fiscal choices which Grabski had chosen resignation over. On 16 December, the government gave

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[249] Data reported in *The Economist's* monthly supplements.
[250] To some extent this discrepancy is accounted for by the Bank of Poland's attempts to prop up the value of the Złoty using its remaining reserves, as argued by Leszczyńska (2013), pp. 149-170. However, the mere fact that this intervention could even be sustained for so long by the feeble force of the Bank of Poland's critically depleted store of foreign exchange, rather than suddenly coming to ruin through a speculative attack of the sort described by Krugman (1979), does imply some degree of residual market confidence.
[251] "Polish Currency," *Times* (London), 4 December 1925.

further substance to its commitments by introducing a sharply deflationary budget for the 1926 fiscal year, including a cut to government expenditure of 25%, with sharp reductions in expenditure on the Army and payroll.[252] From this date, the recovery in the Zloty's value begins in earnest, with the currency rising to 43 Zlotys to the pound by the beginning of January. In spite of some gradual fluctuation thereafter, neither the May coup nor the fall of the Skrzyński(/Zdziechowski) government which preceded it in early May show up as movements in the series, and the parity at which Poland enters the gold standard in October 1927— 43.38 Zlotys to the pound— is effectively the same as that which followed in the wake of Zdziechowski's fiscal announcement. All that was left for the Piłsudski regime to do was to claim credit.

2.2 Conclusion

In this paper, I have used a new, high-frequency dataset to shed new light on the causes of the Polish hyperinflation, interwar Europe's second-most-severe case of monetary instability. Several conclusions emerge from this new look at the episode.

First, and perhaps most importantly, the pattern of structural breaks in the series strongly suggests that the Polish hyperinflation was not monotonic in nature, as virtually all of the previous literature on the subject has claimed. Rather, there were multiple 'plateaux' in economic actors' expectations of further inflation, persisting for up to six months, moments in time when a permanent stabilisation was—or at least appeared to be— possible. This finding is in direct contrast to the narratives conveyed by Sargent (1982) and Landau and Tomaszewski (1967,1971)— and to some extent also the 'war of attrition' view of Alesina and Drazen (1991) and Eichengreen (1995)— all of whom conceive of a single critical juncture at which the necessary and sufficient conditions for stabilisation were met— either the point at which the distributional consequences of hyperinflation became untenable for one social class or another, or the point at which policymakers instituted a sweeping monetary and fiscal regime change that moved the Polish economy from an inflationary to a non-inflationary equilibrium.

If these views, however, are too simplistic, the impression that remains is one of multiple junctures at which, but for a missed opportunity, some degree of progress toward stabilisation could have been achieved. Most tantalisingly, a strong argument can be made that the Witos government following the Peace of Riga, and to an even larger degree the governments of 1921-22 in which Michalski held the Finance portfolio, could have succeeded in stabilising the Polish currency at an early date, had not the decision to intervene in the Upper Silesian crisis in the former case, and Piłsudski's mutiny over the government's handling of foreign policy in the latter, thwarted their efforts.

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[252] "City Notes - Polish Finance," *Times* (London), 17 December 1925

The questions raised by these counterfactual possibilities have potentially profound implications for how Poland's economic record during the interwar period as a whole ought to be judged. In a recent paper, the National Bank of Poland economist Zbigniew Polański argues that the fact that Poland was so badly affected by the Great Depression, but emerged from the global financial crisis of 2008 unscathed, has much to do with the differing lessons and institutions drawn from the hyperinflation of the early 1920s and the early 1990s, respectively.[253] The Polish hyperinflation of the 1920s was allowed to persist for long enough that it eroded the fragile support for a democratic political system; conversely, when Józef Piłsudski seized power in the military coup of May 1926, his regime drew much of its legitimacy from its claim to a "cleansing of the body politic" (*Sanacja*), the tangible symbol of which was the adoption of the gold-exchange standard, the maintenance of which had strongly negative consequences for the Polish economy in the Depression[254], and conceivably, for Poland's chances of resisting German aggression in 1939. The long-standing argument among political historians of interwar Poland over whether the strategic value of the Teschen/Cieszyn industrial region outweighed the damage that Poland's 1938 annexation of it did to Polish-Allied relations in the critical months before the outbreak of World War II thus has an under-appreciated parallel: if the price for Poland's annexation of the coalfields and heavy industry of Upper Silesia in 1922 was a shorter period of prosperity before 1929 and a deeper Depression, would a more cautious foreign policy in the early 1920s have made a difference to the tragic end of the Polish Second Republic?

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[253] Zbigniew Polański. "Stabilization Policies and Structural Developments: The Crises of 1929 and 2008". CASE Working Paper (2017).

[254] Zenobia Knakiewicz, *Deflacja Polska 1930-1935* (1967), has hitherto been the pre-eminent work on this subject, which is, of course, the guiding question of the remaining two substantive chapters of this thesis.

Chapter 3: Sovereign Debt and the Great Depression in Central and Eastern Europe: Evidence from Transatlantic Bond Markets

3.1 Introduction

On many planes—diplomatic, military, and political foremost among them—the history of Poland during the interwar period is inseparable from that of Germany. The question taken up in this chapter of the present thesis is to what extent these commonalities extend to the financial sphere as well during the period of the Great Depression, and if so, what it was that linked Poland's economic position with that of Germany: whether bilateral pressures stemming from the two countries' adversarial political relationship (such as had contributed to the unravelling of the Grabski stabilisation in 1925, as shown in the previous chapter), broader multilateral forces stemming from the structural dynamics of the world economy and affecting both countries equally (such as the rapid outpouring, and subsequent rapid curtailment, of American foreign lending in the latter half of the 1920s), or some combination of the two. This paper makes the novel argument that Poland's experience on sovereign debt markets furnishes a viable counterfactual to the well-studied case of Germany, which has long captivated scholars both for the connections between financial distress, which culminated in the banking crisis and debt default of 1931, and the rise of Hitler in 1933[255], as well as the economic and political issues raised by its unusually large stock of foreign debt, the result of the war reparations levied under the Versailles peace settlement.

I develop the paper's argument in two stages. The first consists in substantiating that there is a case to be answered where the structural similarities between the macroeconomic positions of Poland and Germany in the early 1930s are concerned. I do this by using contemporary statistical sources to reconstruct the key components of Poland's national accounts during the second half of the 1920s Great Depression, particularly its balance of payments and aggregate output, and comparing these results with the best available figures for Germany.

A key prerequisite for the analysis was the establishment of a basis for comparing the debt burdens of Poland and Germany, and to accomplish this aim I have had to wrestle with methodological issues with regard to both the numerator—the stock of Polish and German public debt—and the denominator—the level of real per-capita GDP, which, while estimated quite

[255] Straumann (2019) is a recent work whose central research question is framed in these terms.

precisely for Germany by Ritschl (2002)[256], is in the Polish case quite problematic owing to the lack of contemporaneous figures and the middling quality and methodological consistency of later estimates. The discussion of these points, however, is of general interest even to scholars working outside the interwar period, because the exercise reveals further evidence of data problems in the well-known Reinhart and Rogoff (2010) database[257]: in the case of Poland, a spreadsheet error similar to those already identified by Herndon et al. (2014)[258], and with regard to Germany, a decision to omit war reparations from the definition of debt, which while internally consistent is, given Germany's size and significance (economic and historical) as a debtor and defaulter, a potential threat to the validity of panel studies that rely on the database to gain causal insight into the economic effects of public liabilities.

When Poland and Germany's external positions in the depths of the Depression (as well as their respective fundamentals in the sphere of political economy) are compared head to head, the results are strikingly similar. While the German experience of crippling debt overhangs leading to default has often been held as *sui generis* in the literature[259], Section 1.2.1 of the General Introduction to this thesis has already shown that Poland by the early 1930s had indebted itself heavily on the foreign market, and the data presented in this chapter shows quantitatively that not only was the Polish foreign debt stock in the depths of the Depression large enough to give cause for concern when assessed against modern-day sustainability guidelines for developed economies; it was, I demonstrate, one of roughly the same order of magnitude as the German foreign debt burden of the time *inclusive of the World War I reparations* once the Polish economy began its headlong contraction in the spring of 1929.

This characteristic, together with striking evidence from the balance of payments accounts of Poland and Germany that the two countries spent the period from 1925 to 1930 locked in an almost identical credit cycle, raises a tantalising question: if the basic position in which Germany and Poland found themselves going into the crisis of 1931 was so similar, why did Germany default on its debt payments and suspend the convertibility of the Reichsmark into gold while the Polish government continued to honour its debts and its commitment to maintain the par value of the Złoty in terms of *złoto* (gold) until April 1936? Furthermore, there is also a

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[256] Albrecht Ritschl, *Deutschlands Krise Und Konjunktur 1924-1934: Binnenkonjunktur, Auslandsverschuldung Und Reparationsproblem Zwischen Dawes-Plan Und Transfersperre*, Jahrbuch Für Wirtschaftsgeschichte. Beihefte 2 (Berlin: Akademie Verlag, 2002).

[257] Carmen M. Reinhart and Kenneth S. Rogoff, *This Time Is Different: Eight Centuries of Financial Folly*, (Princeton, NJ: Princeton Univ. Press, 2011). The data that they present in this book and use in their subsequent papers is available at https://scholar.harvard.edu/rogoff/time-different%E2%80%94data-files.

[258] T. Herndon, M. Ash, and R. Pollin, 'Does High Public Debt Consistently Stifle Economic Growth? A Critique of Reinhart and Rogoff', *Cambridge Journal of Economics* 38, no. 2 (1 March 2014).

[259] For instance, in Eichengreen and Sachs' (1985) seminal discussion of the link between exchange-rate policies and economic performance in the Depression.

subsidiary question, raised by the finding of Eichengreen (1991) that prior experience of high inflation in the 1920s played a crucial role in inducing countries to do what they could to avoid devaluing their currencies during the Depression, of the nature of the economic linkages, including the possible presence of financial contagion, between Poland, Germany, and the two other economies, Austria and Hungary, that had experienced a hyperinflation in the 1920s (and which during the century of partition had held close financial ties with a large swathe of the Polish lands.

To probe these issues, I make use of the 43,111 observations' worth of daily-frequency bond-price data for all the sovereign bonds of Poland, Germany, Austria, and Hungary collected from the *Economist* and London *Times*, augmented by archival records of the deliberations of the Polish Cabinet and its Economic Committee as well as the compilation of clippings for the London financial press, which serve as a valuable window onto investor sentiment.

The analysis of the performance of Poland and Germany on sovereign debt markets in 1931 follows the example of Chapter 2 in making use of structural break tests to seek out key turning points in the series, and evidence from newspaper and archival sources to attempt to identify the events that may be responsible for them. The findings of the analysis augment the conclusions of the first half of the chapter, in that the structural break in the Polish and German series occurs at a different time: for Polish bonds, in the immediate aftermath of the Danat crisis, and for the German Dawes Loan, only in September 1931.

I interpret these results as follows: there is indeed evidence of psychological contagion from the Central European financial crises to Poland, resulting in a sharp upward revision of international investors' expectations of a Polish default, but whereas the other Central European countries in the sample used the British exit from gold as a defensible excuse for repudiating their debts, the Polish government's commitment to gold in September 1931, demonstrated to the world through its clampdown on the Bank of Poland's independence (a process described at length in the next chapter), was successful in persuading foreign investors that Poland would remain current on its obligations. The other crucial finding from this pattern of structural breaks is that the narrative of Ferguson and Temin (2003) that the German government's foreign-policy brinkmanship in March 1931 set off a currency panic that fatally undermined the German economy is not supported by the sovereign-bond data.[260] It is possible, however, that a modified version of their hypothesis might explain the curious delay in the German bonds' slide toward default, which only becomes definitive in early September 1931.

[260] Thomas Ferguson and Peter Temin, 'Made In Germany: The German Currency Crisis of July, 1931', *Research in Economic History* 21 (2003).

The question of financial transmission of the Great Depression between Austria, Hungary, and Poland (as well as Czechoslovakia) is one that has been ably addressed in the largely unpublished and certainly under-appreciated PhD thesis of Wandschneider (2003), who finds that there was indeed financial contagion during the Great Depression between Austria, Hungary, and Czechoslovakia. She finds that Poland, by contrast, was affected "to a much lesser extent" by the financial crises in the former Habsburg economies during the years 1929-1933, though her regression coefficients for Poland, while small, are statistically significant in five cases out of seven.[261] If there is a difficulty with Wandschneider's analysis, it is in her analysis of the Polish political context and its influence on the bond spreads, which is rather uneven. On the one hand, she shows using GARCH techniques that cabinet changes in Poland had a notable influence on the performance of Polish bonds[262], a finding that finds support in the archival evidence I present later in this chapter and in the subsequent one.

On the other, however, she overstates the continuities in Polish monetary and financial policy, presenting Poland as a country whose economic policy was dysfunctional from the outset, marked by "no institutional provisions for economic stability… extreme political uncertainty and central bank dependence": in other words, "a basket case".[263] As I have shown in Chapter 1, above, and substantiate further in the remainder of the thesis, this is not an accurate description of Polish *domestic* politics in the (exactly) ten years between Piłsudski's seizure of power on May 12, 1926 and his death on the same day in 1935. Rather, to the extent that the dominant line in Polish monetary policy changed during this period, it was through a change in policy *instruments* (the transformation of the Bank of Poland from a central bank with substantial policy independence to one very largely subservient to the government), done with the intention of maintaining the overriding political *objective* of remaining on the same monetary system as France, and, what went with it, an economic policy whose core aim of preserving the central bank's gold reserves remained consistent throughout the Piłsudski period, despite occasional changes in the details of its implementation and the identities of those implementing it.

While Wandschneider's work has certainly helped greatly in tightening the focus of this chapter on the question of why Poland and Germany's fortunes diverged so radically in 1929-1931 despite the presence of a common external shock, there are several reasons why this chapter nevertheless retains the Austrian and Hungarian cases in the background of the analysis, with the empirical results for these countries presented here as a preliminary for future work on the full four-country sample using a battery of advanced time-series analysis techniques. The

[261] Kirsten Wandschneider, 'Central Bank Independence and Policy Performance: Central-East Europe 1919-1939' (PhD Thesis, Urbana and Champaign, Illinois, University of Illinois at Urbana-Champaign, 2003), pp. 138-144.
[262] Ibid., pp. 85-94.
[263] Ibid., p. 3

first and most important relates to the different historiographical preoccupations of this study and Wandschneider's, which drives her decision, in contrast with the present research, to include Czechoslovakia in her sample and omit Germany from it. Whereas Wandschneider's primary motivation in selecting her sample is to redress the imbalance in the attention placed by scholars on the countries at the core of the global economic system in favour of those on the periphery, with particular emphasis on the challenges of "transition from non-democratic economic and political regimes to credible independent nation states"[264], the research agenda for which the present chapter lays the groundwork takes its cue from the hypothesis of Eichengreen that the experience of hyperinflation (which Czechoslovakia avoided) was critical to the subsequent financial history in the 1930s.

Necessarily, this difference in motivation entails differences in the data collected, with Wandschneider interested primarily in the reconstruction of the region's financial institutions in the early 1920s and their renewed collapse in 1933, whereas the present chapter takes the stabilisation as given and traces its arc from the moment the final country in the sample, Poland joined the gold standard, to the moment of its departure and debt default in mid-1936. Four years after the others had left. The longer time-span of Wandschneider's study furthermore constrains the frequency of her sample and the bonds she chooses, with only one Polish bond, on one market (New York), as compared to the two bonds and two markets studied here. Finally, while Wandschneider's focus on interactions between countries in the periphery is admirable, one would also like to know about the interactions of these peripheral economies with the country of the core which dominated their immediate vicinity: Germany. While an analysis of the interdependence between Polish, Austrian, and Hungarian bond spreads with those of Germany using GARCH methods akin to those in Wandschneider's Chapter 5 and factor-analysis techniques could not be fit into this chapter, it is nevertheless in preparation, making it apropos to present the full high-frequency bond dataset already at this stage.

3.2 A Novel High-Frequency Bond Price Dataset

Comparative quantitative research on bond markets during the Great Depression is not a novelty. Existing studies, however, have tended to use data at relatively low frequencies—typically annual, as in Papadia (2017)[265], or monthly, as in Accominotti (2012)[266], and in the very best case weekly, in the case of Wandschneider (2003), with limited and strategic use of daily-frequency data at critical points in her analysis. While the lower-frequency approach has its

[264] Ibid., p. 1
[265] Andrea Papadia, 'Sovereign Defaults During the Great Depression: The Role of Fiscal Fragility', Economic History Working Papers (London School of Economics, January 2017).
[266] Olivier Accominotti, 'Asymmetric Propagation of Financial Crises during the Great Depression' (London: LSE Research Online, 2012).

advantages in terms of speed of data gathering and, consequently, the breadth of the sample, the implicit tradeoff is a loss of resolution and statistical power, particularly where the timing of events and the unique characteristics of particular debtors are concerned.

This paper, and the econometric companion papers that will follow in the sequel, makes its contribution by taking the opposite approach: gathering the most high-frequency data possible on the sovereign bond issues of a limited range of Central European countries (Poland, Germany, Austria and Hungary), on the two leading capital markets of the interwar period: the London and New York Stock Exchanges. My data source for both the London and New York bonds were the lists of quotations published every day in the *Times* of London, for a period spanning October 1927, when Poland formally entered the gold-exchange standard and floated its 7% Stabilisation Loan, through the end of May 1936, one month after Poland imposed exchange controls.[267] The result is a hand-collected set of 43,111 daily-frequency price quotations, including bid-ask spreads for the London market, for 16 Central European securities, plus a 'risk-free' reference bond for both markets that I use to construct yield spreads. This 'risk-free' bond is the 2.5% Consol for the London market and the 3.5% Liberty Loan of 1917 for the New York market.

The securities for which data was collected are outlined in Tables 4 and 5, below. As can be seen, the coverage of the data is quite comprehensive: with limited exceptions, at least one bond of the four Central European countries being studied is available for the entire period (October 1927 – May 1936). In four cases, the same security is listed on both markets simultaneously, which opens the possibility of assessing the efficiency of transatlantic capital markets during the Depression.[268] These four bonds are the German Dawes Loan of 1924 and Young Loan of 1930; the Hungarian 7.5% stabilization loan of 1924, and the Polish 7% stabilization loan of 1927. For the most part, there exists at least one bond per country in each market which is quoted for the entire period. There are, however, several exceptions to this rule. No US government bond is listed for the full duration of the sample. The bond which comes closest is the 2.75% Liberty Loan, which drops out of the sample in June 1935. Furthermore, there is no single Austrian bond in London and New York that spans the full period of the study. In London, the Austrian 6% guaranteed stabilization loan which is present in the sample from the start is superseded by a 4.5% conversion loan at the end of 1934; in New York, the 7% guaranteed

[267] Further data collection by the present author has since extended the Polish (but not the other) bond series through the end of 1936, though this expansion is only loosely incorporated into this chapter's analysis, given its focus on the events of 1931.

[268] Of course, there is a high bar to be met in ensuring that the bonds are truly identical in their terms of issue and repayment if such a comparison is to be empirically valid. This chapter skirts the question by treating the London and New York series mainly in isolation, but the interested reader is referred to Rui Esteves and Marc Flandreau, 'The Value of a Quote: Stock Market Listing for Sovereign Bonds, 1872-1911' (Paper presented at the Economic History Society 2021Annual Conference, Oxford, Forthcoming).

Austrian stabilization loan, the only Austrian security listed for that market, drops out of the sample altogether (with no replacement) in June 1935. Though these gaps in the data do place certain minor limitations on the analysis, in general the core series used in the analysis remain consistent throughout the period.

Table 4. Bond Price Series Collected, London Stock Exchange, 1927 – 1936 [269]

Security	Available From	Available Until
UK 2.5% Consol (Perpetuity)	19/10/1927	29/5/1936
Austrian 6% Gold Loan (Issued 1923, Maturity 1943)	19/10/1927	21/12/1934
Austrian 4.5% Guaranteed Conversion Loan (Issued 1934, Maturity 1959)	21/12/1934	29/5/1936
German 7% Dawes Loan (Issued 1924, Maturity 1949)	19/10/1927	29/5/1936
German 5.5% Young Loan (Issued 1930, Maturity 1965)	29/9/1930	29/5/1936
German 4% Funding Loan (Tranche A) (Issued 1935, Maturity 1945)	11/4/1935	2/1/1936
German 4% Funding Loan (Tranche B) (Issued 1935, Maturity 1945)	16/7/1935	29/5/1936
German 4% Funding Loan (Tranche C) (Issued 1936, Maturity 1946)	3/1/1936	29/5/1936
Hungarian 7.5% State Loan (Issued 1924, Maturity 1944)	19/10/1927	29/5/1936
Polish 7% Stabilisation Loan (Issued 1927, Maturity 1947)	19/10/1927	29/5/1936

Table 5. Bond Price Series Collected, New York Stock Exchange, 1927 – 1936 [270]

Security	Available From	Available Until
US 3.5% Liberty Loan (Issued 1917, Maturity 1947)	18/10/1927	16/6/1935
US 4.25% Liberty Loan (4th) (Issued 1918, Maturity 1938)	17/6/1935	17/10/1935
US 2.75% Treasury (Maturity 1945-47)	17/10/1935	29/5/1936

[269] All data on bond prices and maturities from the *Times Digital Archive*, 1927-1936. Bonds in *italics* are of secondary importance to the analysis.
[270] See preceding note.

Security	Available From	Available Until
Austrian 7% Gold Loan (Issued 1923, Maturity 1943)	18/10/1927	7/6/1935
German 7% Dawes Loan (Issued 1924, Maturity 1949)	18/10/1927	29/5/1936
German 5.5% Young Loan (Issued 1930, Maturity 1965)	21/3/1931	29/5/1936
Hungarian 7.5% State Loan (Issued 1924, Maturity 1944)	18/10/1927	29/5/1936
Polish 6% Reconstruction Loan (Issued 1920, Maturity 1940)	18/10/1927	16/5/1928
Polish 7% Stabilisation Loan (Issued 1927, Maturity 1947)	17/5/1928	29/5/1936
Polish 8% Sinking Fund Dollar Loan (Issued 1925, Maturity 1950)	18/10/1927	29/5/1936

The analysis in this chapter is based on three sets of figures: the bond price data just described, as well as yields and spreads constructed on the basis of these prices. Several comments about the construction of each of these series are in order.

Figures 10 and 11 show the full daily price series for all bonds between 1927 and 1936 for the New York and the London markets, respectively. While both sets of prices are reported in the same source, the London *Times*, the conventions that underpin them are not identical. A first difference is that, for the New York market, a single daily price is quoted; for the London market, by contrast, both buyers' and sellers' prices are given. Though both the buyers' and sellers' prices were recorded during data collection, and the changing spread between them potentially contains useful information about market volatility, a comprehensive volatility analysis is beyond the scope of this paper, and so in what follows I use a 'mid-market' price constructed as the simple mean of the London bid and ask prices on a given day.

A second, more significant, difference between the London and New York prices is the treatment of dividends in each. The New York prices are quoted 'clean' of accrued interest, whereas the London prices include the coupons (generally paid out semi-annually), which generates the familiar sawtooth pattern when the prices are graphed. While the resulting discrepancy between the London and New York series is not large (the highest-interest bond in the series pays out an interest rate of 7.5% in semi-annual instalments, such that the fluctuation is limited to around 3.75% of par over a six-month period), out of an abundance of caution I avoid using the London and New York bonds together in the same statistical analysis: for instance, I do not run a 'kitchen sink' principal-components analysis of all the major bond series in my dataset.

An intriguing but, it must be stressed, ambiguous and highly preliminary finding from the present dataset is that the difference in yields between the issues of the German Dawes and Young loans, the Hungarian 7.5% loan, and the Polish 7% loan on the London market and their counterparts on the New York market, which is virtually zero before September 1931, expands dramatically thereafter (up to a difference of 25 percentage points between the London and New York tranches of the Hungarian 7.5% bond at the beginning of 1933).[271] Further work beyond the scope of this paper is needed, however, to determine whether these large divergences are not simply the result of currency fluctuations, as per the caveat of Esteves and Flandreau.

Accominotti, Kessler and Oosterlinck (2018)[272] make a start on this research agenda by focusing on the case of the Dawes bonds, which is analytically relatively straightforward, given that both the London and New York issues contained a gold option for repayment; they find that much of the divergence in yields between New York and London is explained by the German government making differential offers for the resumption of service on the bonds to the American and British creditors conditioned on the amount of trade concessions their respective governments were willing to grant. The tentative hypothesis that can be drawn from the present dataset is that the Dawes bonds may be neither the only nor even the most dramatic case of dis-integration of transatlantic capital markets during the Great Depression. The reasons why arbitrage in the sample used in this chapter appears to be in full effect before 1931, but is much weakened afterward, remain, however, to be discovered, especially where the non-German bonds are concerned. The fact that the Polish 7% issue is one of the ones affected, despite not being in default, suggests that the linkage between debt resumption and trade highlighted by Accominotti et al. may not be the only relevant factor in play.

3.2.1: The Question of Market Liquidity

For the bond price series to provide meaningful insights into the economic situation of the four countries in the sample, it is necessary that the bonds be traded at sufficient volumes in markets which function with reasonable efficiency. During the period of the 1920s boom in foreign lending, the London and New York Stock Exchanges, being the largest institutions of their kind in the world, with histories reaching back more than a century, can reasonably be expected to have met these criteria. (The exclusion of the Paris market from this study, despite the close geopolitical ties between Poland and France, is primarily driven by its low volume of traded Polish debt. While France was a major creditor to Poland during the interwar period, most of the French credit came in the form of direct intergovernmental financial or material transfers, rather

[271] Preliminary results not shown here, but available on request.
[272] Olivier Accominotti, Philipp Kessler, and Kim Oosterlinck, 'The Dawes Bonds: Selective Default and International Trade' (2017).

Figure 10: Prices of Four European Countries' Bonds, London Stock Exchange [273]

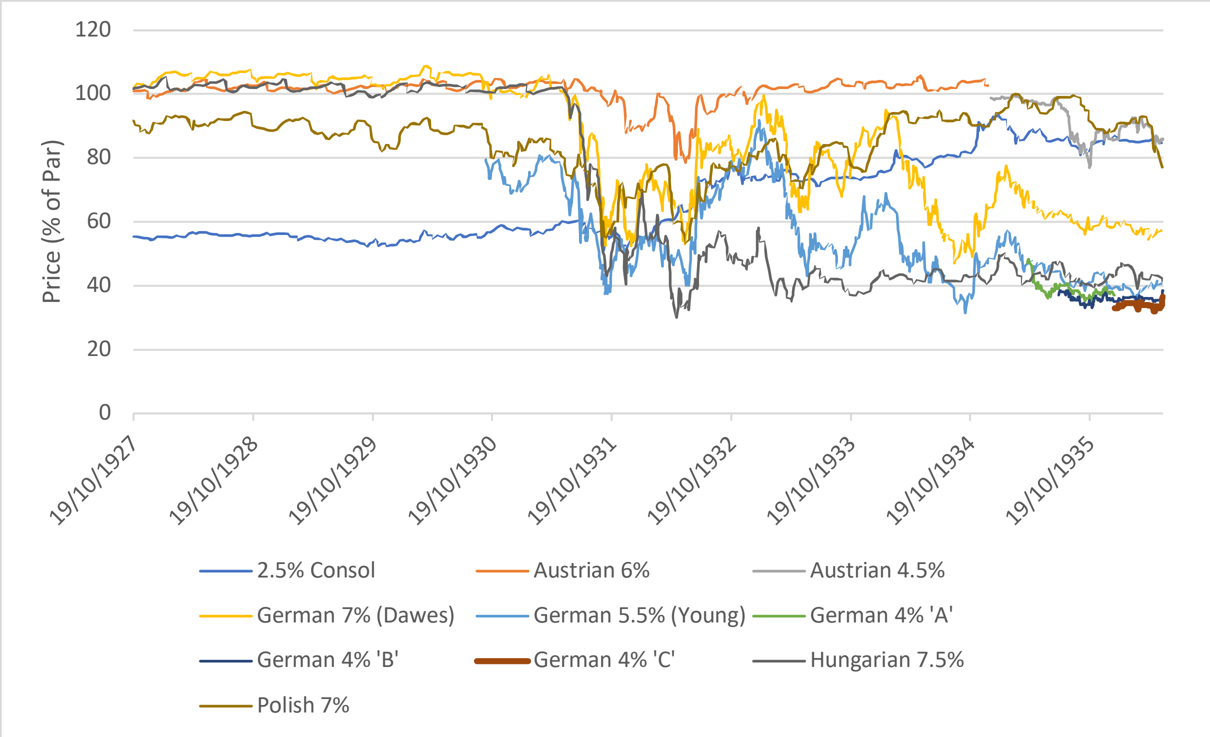
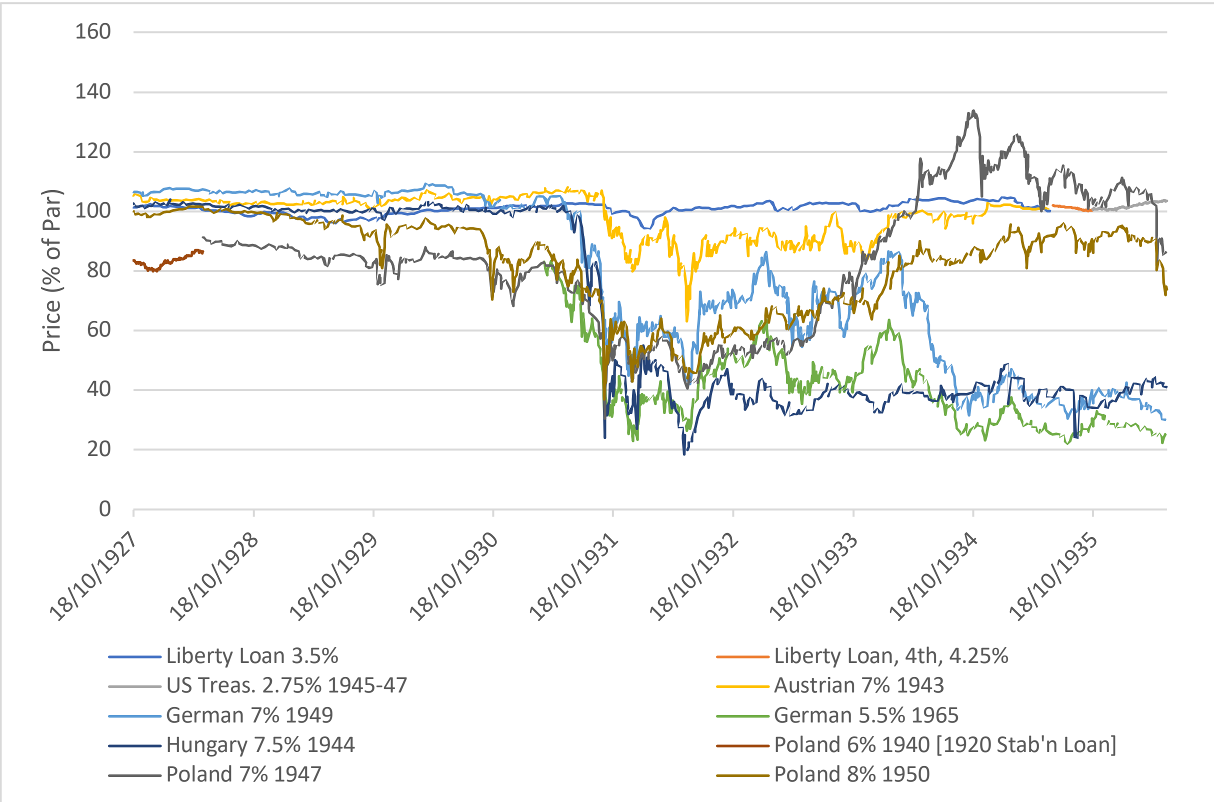


Figure 11: Prices of Four European Countries' Bonds, New York Stock Exchange[274]



[273] Source: As for Table 4, above.
[274] Source: As for Table 5, above.

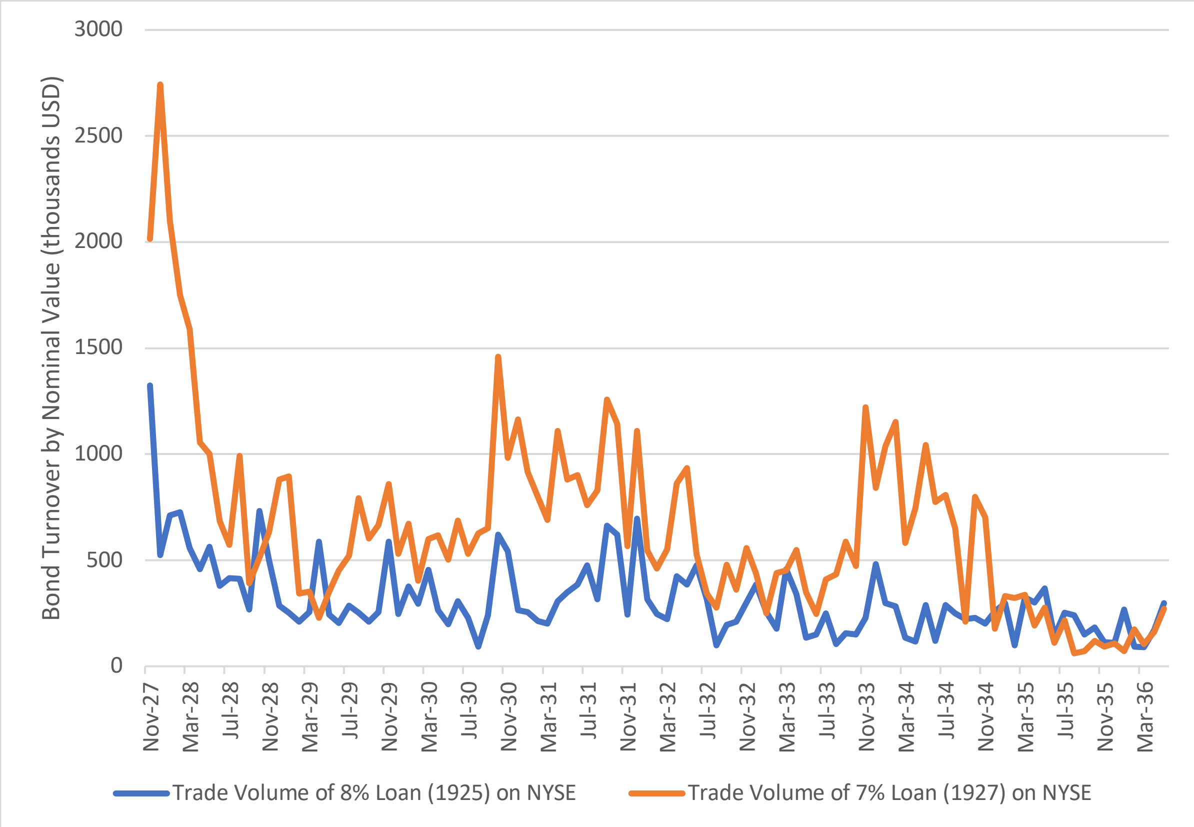
than publicly traded bonds.) Where the matter is not so clear, however, is during the Depression, given the drastic slowdown in activity on financial markets as well as the default of many countries on their foreign debts.

To address the concern that the bonds in the sample may have been too thinly or infrequently traded, I draw on several strands of supplementary evidence. In the case of the London market, I made use of two sources published alongside the bond quotations: the *Times'* summary bulletins of the day's trading, and the London Stock Exchange's *Official Record of Dealings*, published alongside the bond quotations, which gives a comprehensive enumeration of the number of transactions in the listed securities and the prices at which those transactions were conducted. For the New York market, no equivalent of the *Official Record of Dealings* was printed in the *Times*; however, the price listings did indicate whether a given bond was traded (at least one transaction) on a given day. What these records show is that, with one exception—Hungarian bonds after that country's default in the aftermath of the 1931 crisis—the sovereign bonds in the sample were reassuringly liquid even during the depths of the Depression, and, in Germany's case, even after the country's suspension of payments.

For Poland, I was able to exploit an additional source: detailed weekly and monthly statistics on the volume of transactions in Polish bonds (by nominal value of the securities traded) on the New York capital market.[275] What this series shows is that, while trading did indeed suffer a considerable slowdown during the Depression, it remained ongoing for all Polish issues, even the minor ones such as the 6% dollar loan of 1920. Figure 12 presents monthly data on the trading volume of main Polish bonds in this paper's sample, the 8% Dillon loan of 1925 and the 7% stabilization bond of 1927 (in terms of the nominal value of all bonds traded in a given month). Surprisingly, trading in both bonds continued at close to pre-Depression levels throughout most of the period, though the quantity traded of the 7% bonds suffered two pronounced periods of decline: between July 1932 and October 1933, and after December 1934. The data is also available at weekly frequency: while I did not collect this finer-grained data, given that the monthly series is sufficient to show that the Polish bonds in the sample remained liquid even during the most severe part of the Depression, consulting it gives the further reassuring result that there was no single week in the sample in which either the 7% or the 8% bond was not traded, and few weeks where trading in either was markedly slow. In sum, therefore, there is good reason to believe that these Polish bond price series correspond to market conditions in an accurate and timely manner, despite the country's lack of seasoned status as a borrower and the difficult position of the New York financial market following the 1929 crash.

[275] This data is reported monthly for the period covered in this paper in Section VI of *Wiadomości Statystyczne GUS.* Unfortunately, no corresponding statistics appear to be reported in the GUS sources for the London market.

Figure 12: Trading Volumes of Polish 7% and 8% Bonds, New York Stock Exchange[276]



3.2.2: Which Yields, Which Spreads?

Gathering raw bond price data is a necessary and useful first step of the analysis, but it is only a first step. To be able to compare the performance of bonds with differing rates of interest in a meaningful way, I compute yields and yield spreads over a 'risk-free' bond local to the country in which the bonds are traded. For most of the period, these reference bonds are the 2.5% Consol for the London market and the 3.5% Liberty Loan for New York. Unfortunately, data for the latter bond is only available in my source through June 1935. Therefore, when I use the bond data presented in this paper in Chapter 4 of this thesis in support of the that Poland's exit from gold in 1936 represented a voluntary policy reorientation rather than a forced collapse, the yields and spreads I construct for the New York market are those against a different bond, the US 2.75% Treasury bond maturing 1945-47.

At the current stage of research, I have performed these calculations in terms of the current yield,

$$Current\ Yield = \frac{Coupon\ Rate\ on\ Bond}{Price\ of\ Bond},$$

[276] Source: See preceding footnote.

rather than the yield to maturity. The reasons for this decision were several. A first and minor reason why current yield was used was technical, to do with the complexity of computing the yield to maturity for daily-frequency prices with irregular trading days. A more important consideration, however, was that the yield-to-maturity calculation assumes that interest and principal payments are made on schedule, and that the bond is redeemed at par at the stated maturity date. These assumptions are violated by most of the bonds in the sample. In particular, most of the countries being studied (Poland and the two reference bonds being the exceptions) go into default during the period of the study. Even when payment was resumed following a default, as in the case of the Dawes bonds issued on the London (but not the New York) market, the resumption was partial and subject to various complex conditions, including the option for bondholders to convert the German bonds in default for new "Funding" bonds (also in the sample, albeit not the focus of the main analysis) at a lower rate of interest and a shorter maturity on a rolling basis, with new "Funding" bonds being issued to willing creditors semi-annually.

Compounding the difficulty, the maturities of certain bonds, notably the 2.75% US Treasury which serves as the New York reference bond for 1935-36 but also the German "Funding" bonds, were either not specified or not reported precisely in the original data. (For instance, at times, the prices of two consecutive semi-annual tranches of the "Funding" bonds were aggregated into a single listing in the *Official Record of Dealings,* despite the maturity difference).

A final violation of the assumption that payments were made on schedule and in full consists in the fact that, for a few bonds, redemption occurred prematurely. This was particularly the case with the Liberty Loan issue, which contained a clause stipulating the possibility of redemption in full after 15 years instead of the full 30-year maturity, and was partially retired on an even faster schedule. In addition, much the same was true for the Polish bonds: the Polish government took advantage of the real debt reduction afforded by the fall of the dollar and Sterling following the British and US exit from gold to pursue a concerted policy of repatriating as much of its foreign-denominated debt as possible. It is possible that this policy accounts for the surge in trading in Polish 7% bonds (accompanied by higher prices) visible in Figure 3 in 1933-34, and the much smaller volume of trades thereafter. In sum, therefore, while yield to maturity probably represents a more accurate method of valuation prior to the wave of Central European defaults in 1931-32, the case for it thereafter is much more uncertain. As a final justification for the use of the current yield, Tables 4 and 5 show that none of the major bonds in the sample are more than eight years away from maturity by the time they leave the sample, and the vast majority are well over ten years from their maturity date. Thus, to the extent that using current yield instead of yield to maturity introduces a bias, this bias is unlikely to be very large in practice.

3.2.3: Qualitative Sources Used to Interpret the Results

While the core elements of this study are quantitative, neither the raw price, yield and spread data nor the two main econometric tools used in this paper to analyze it—principal-component and structural-break analysis—are in themselves sufficient to arrive at historical conclusions. Without further context, these methods can only suggest that common trends and turning points exist in the data, and what these trends and turning points can reveal about the disparate performance of national economies in the Great Depression is a question to which only extensive qualitative research can suggest answers.

Therefore, to bridge the gap between quantitative findings and historical understanding, I draw on a range of contemporary archival and newspaper sources. As the primary focus of the present thesis is on the experience of Poland, I have made heavy use documents from the Polish state archives, particularly the papers of the Polish Cabinet, including the Cabinet Economic Committee (*Komitet Ekonomiczny Ministrów*), as well as the archive of the Bank of Poland. I have also referred to the writings of important political figures, particularly those of Vice-Marshal of the Sejm (lower house of Parliament) Kazimierz Świtalski, a prolific diarist and eyewitness to events at the highest echelons of government.[277] In addition, I have profited from the files on interwar Poland in the Bank of England archives graciously digitized and made publicly available by William A. Allen. Unfortunately, as of the submission deadline a planned visit to the archives of the Banque de France in Paris has had to be postponed due to the ongoing pandemic situation, but I hope to draw on those (to my knowledge) hitherto unexplored files as soon as events allow.

For understanding events in the other three Central European countries in the sample, as well as their changing relationships with the two capital markets under study, my main contemporary source has been the extensive file of newspaper clippings I have drawn from every issue of the London *Times* and *The Economist* published between October 1927 and June 1936. This archive is an extension forward in time of the news clippings which informed the analysis in the preceding chapter of this thesis, with additional attention (searching through entire issues of the newspapers, in addition to using keywords to seek out particular articles) paid to periods identified by structural-break analysis as important turning points in the data series. In total, the subset of clippings relevant to the period of this article numbers 2,749 for the *Times* and 1,955 for *The Economist*. The newspaper sources are of great value in the context of this study because they give a clear picture of the set of information which informed traders in the bond market could have been expected to have had—and, just as important, what information they did not

[277] Kazimierz Świtalski, *Diariusz, 1919-1935*, ed. Andrzej Garlicki and Ryszard Świętek, 1st ed. (Warsaw: Czytelnik, 1992).

have and what misconceptions they may have possessed. However, because there is, of course, much more to the political and economic history of Depression-era Germany, Austria and Hungary than was publicly reported at the time, I am additionally indebted to the work of my predecessors in the secondary literature. In particular, I have found the work of Schnabel (2004)[278] and Straumann (2019)[279] invaluable for understanding the development of events in Germany during the crisis of 1931, and owe a similar debt to Wandschneider (2003) and Macher (2017, 2019) as concerns Austria and Hungary.

3.3 Central European Debt Dynamics: An initial Overview

3.3.1 Poland and its Peers on the International Debt Market: Divergent Paths

A natural place to begin the task of distilling the raw dataset of 43,111 observed bond prices into insights about why the Great Depression affected adjacent countries in Central Europe with a common recent history of hyperinflation so differently is simply by examining the data series with the naked eye for evident trends. Figures 10 and 11 show the price series for all the bonds in the sample on the New York and London markets, respectively; Figures 13 and 14 show the New York and London series for current yields of the same bonds; and Figures 15 and 16 show the yield spreads of the Polish, German, Austrian and Hungarian bonds in the sample over the 2.5% Consol in London and the 3.5% Liberty Loan in New York.

The broad strokes of the picture that emerges are consistent across both markets. In the pre-Great Depression years, the yields on the bonds in the samples display a clear and stable hierarchy. As can be expected, the yields on the reference bonds are consistently the lowest in the sample, which suggests that these bonds can indeed be considered as something close to risk-free. Next-lowest in yield are the Austrian League of Nations-guaranteed loan of 1923 and the German 7% Dawes bonds. In the London market, the yields on the Austrian bond are consistently lower than the Dawes loan yields, whereas in New York, the yields on the Austrian and German issues are almost identical. (It should be noted, though, that the Austrian bond traded in New York is not the same as that traded in London: the Austrian bond in London has a 6% coupon versus a 7% coupon in New York, and it is possible that there are also relevant differences in the fine details of the two issues.) In both markets, Hungarian bonds have the next-highest yield, whilst Polish bonds feature the highest yields in the sample. An interesting point is that in New York, where both the Polish 7% stabilisation loan and the earlier 8% Dillon loan are listed, the yield on the two Polish bonds in the pre-Depression period is practically identical, the higher

[278] Isabel Schnabel, 'The German Twin Crisis of 1931', *The Journal of Economic History* 64, no. 3 (2004).
[279] Tobias Straumann, *1931: Debt, Crisis, and the Rise of Hitler*, 1st ed. (Oxford: Oxford University Press, 2019).

interest rate on the Dillon loan effectively compensating investors for its more speculative origins (it was floated in a failed attempt to prevent the Złoty from being devalued in 1925) and less prestigious underwriter.[280]

Overall, it seems plausible to interpret the hierarchy in yields and yield spreads between the various bonds in the pre-Depression years as largely reflecting a risk premium. The low yield on the Austrian issue, which persists to a large extent even throughout the Depression, is most likely the result of the loan payments being guaranteed by several major League of Nations member-states, as well as the onerous supervision of the country's finances imposed by the League as a condition of granting the stabilisation loan. Nor is it surprising that Polish bonds were the ones with the highest yields: not only was the country a new borrower, having had no pre-war history as a sovereign debtor by dint of having had no sovereignty between 1795 and 1918; it had also recently experienced the collapse of the first attempt to stabilise its currency. Furthermore, unlike Austria and Hungary, the Polish governments of the 1920s treated the country's sovereignty in monetary and fiscal affairs as a red line in negotiations for sovereign credit, accepting foreign oversight (in the case of the 1927 loan, that of 'money doctor' Edwin Kemmerer and US businessman Charles S. Dewey) only on the condition that it remain strictly advisory in nature. Indeed, the fact that it took Poland until 1927 to obtain a large stabilization credit despite persistent efforts by its government from the immediate post-war period onward was in itself a result of the perceived riskiness of lending to the country.

What is puzzling, on the other hand, is why German yields should have been so low—particularly in New York, where the Dawes Loan was trading, if anything, at a lower yield than the guaranteed Austrian bond. As the difference in yields between the Dawes bonds in London and New York appears to have been negligible before the Wall Street crash[281], this last phenomenon appears to be driven by the yields of the League of Nations-backed Austrian bonds, the New York issue of which may have faced more uncertain prospects of repayment given America's non-membership in the League. All the same, it is unclear why the bonds of Germany, a country with a large reparations burden, fractious politics, and an especially turbulent recent macroeconomic history, had lower yields than those of Hungary, a country that had been granted substantial forgiveness of its reparations and whose public finances were being directed by the

[280] The 1925 loan was, as the name suggests, underwritten by Dillon, Reed & Co. whilst the 1927 loan was underwritten by a syndicate of over 40 New York banks headed by Bankers Trust and Chase Bank. As Allen (2019) highlights, Dillon was a newly established and "less-than-conservative" investment bank seeking to cash in on the post-war sovereign lending boom. Ritschl (2002) colourfully characterizes it as "eine nicht ganz erste Adresse". Despite its evident appetite for risk, Dillon weathered the Depression and was ultimately acquired by UBS in the 1990s.

[281] Preliminary result, not reported here and subject to the usual Esteves/Flandreau caveats. Please contact the author for details.

Figure 13: Current Yields of Four European Countries' Bonds, New York Market

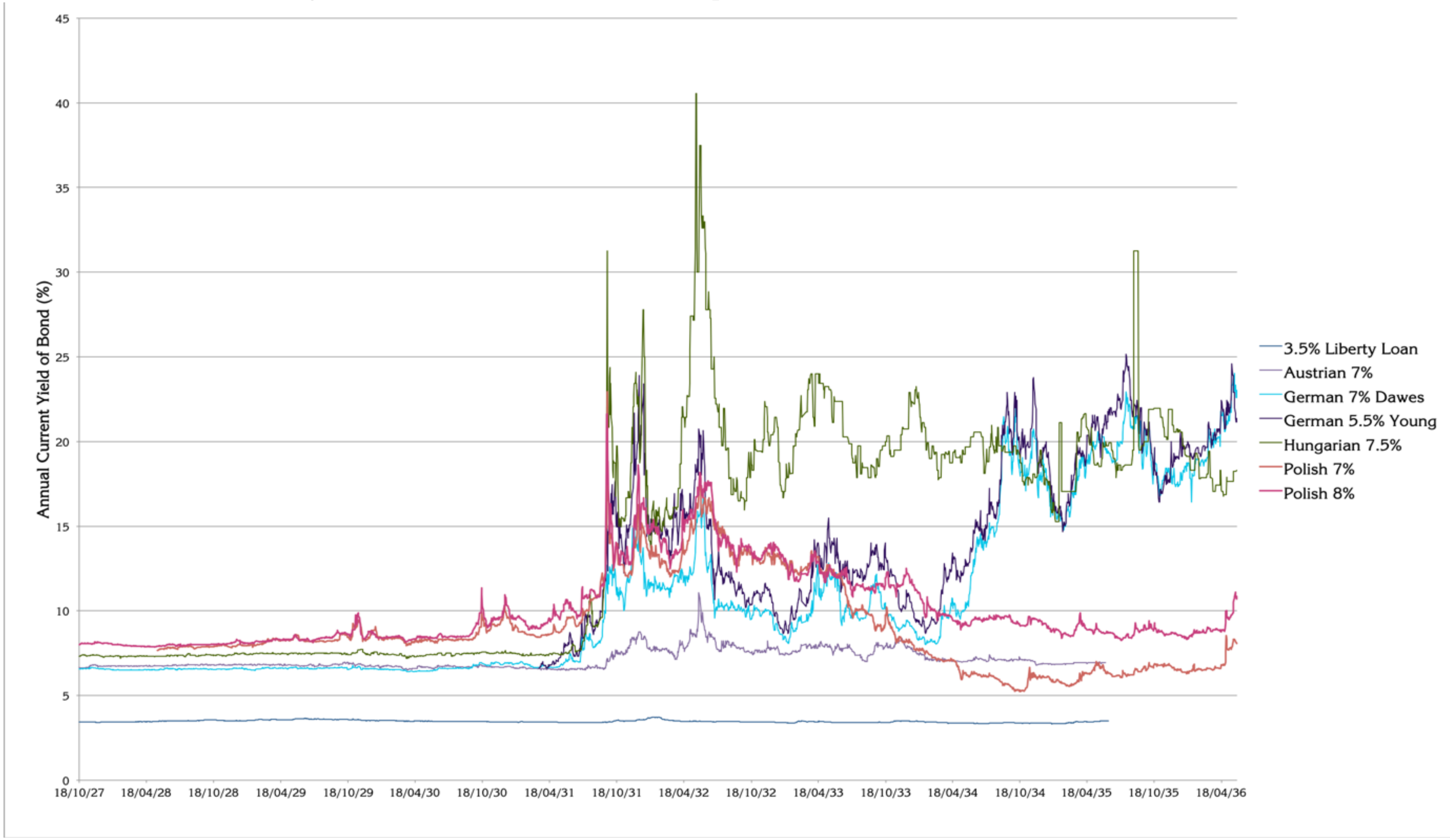


Figure 14: Current Yields of Four European Countries' Bonds, London Market

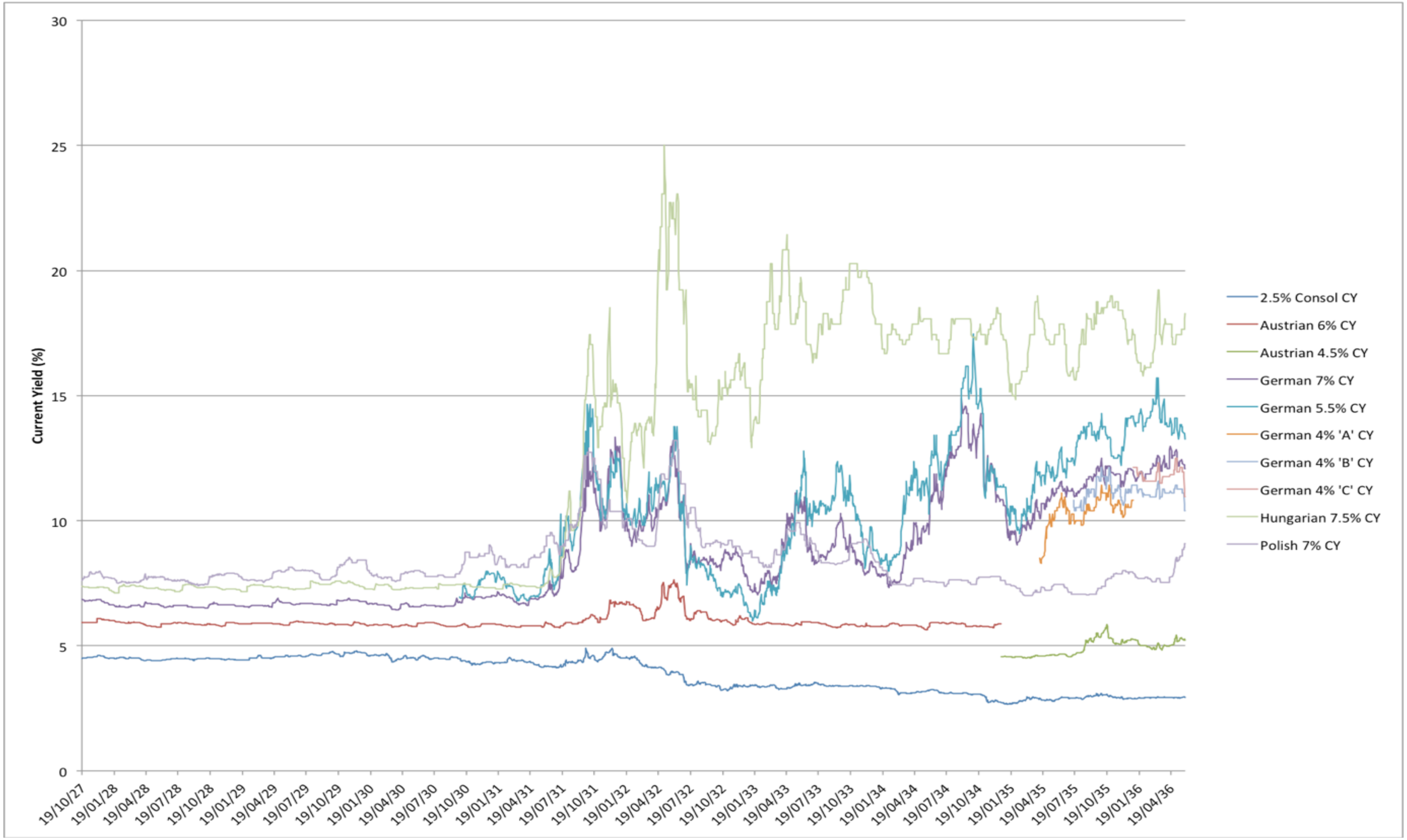


Figure 15: Spreads of New York-Listed Bonds over 3.5% Liberty Loan

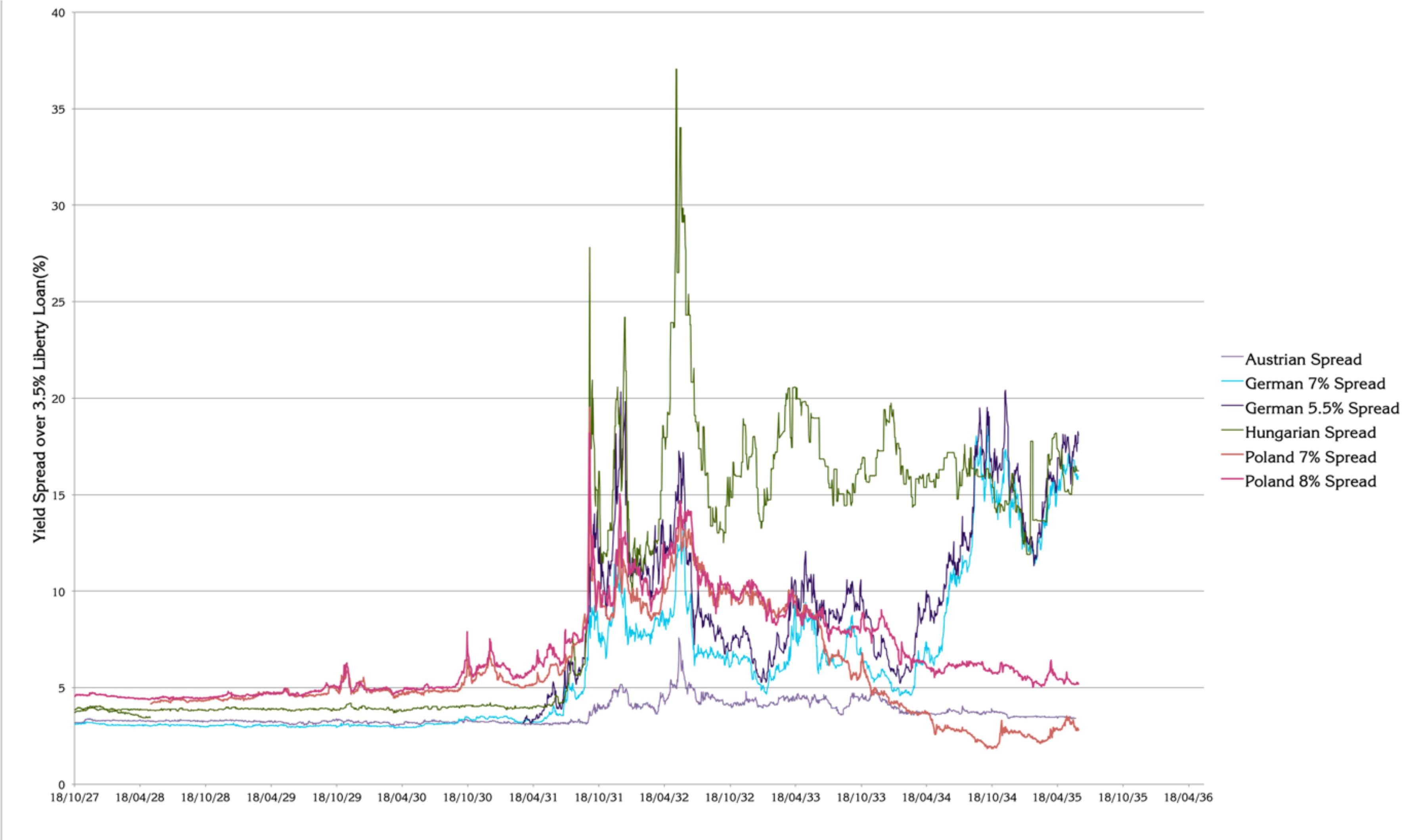
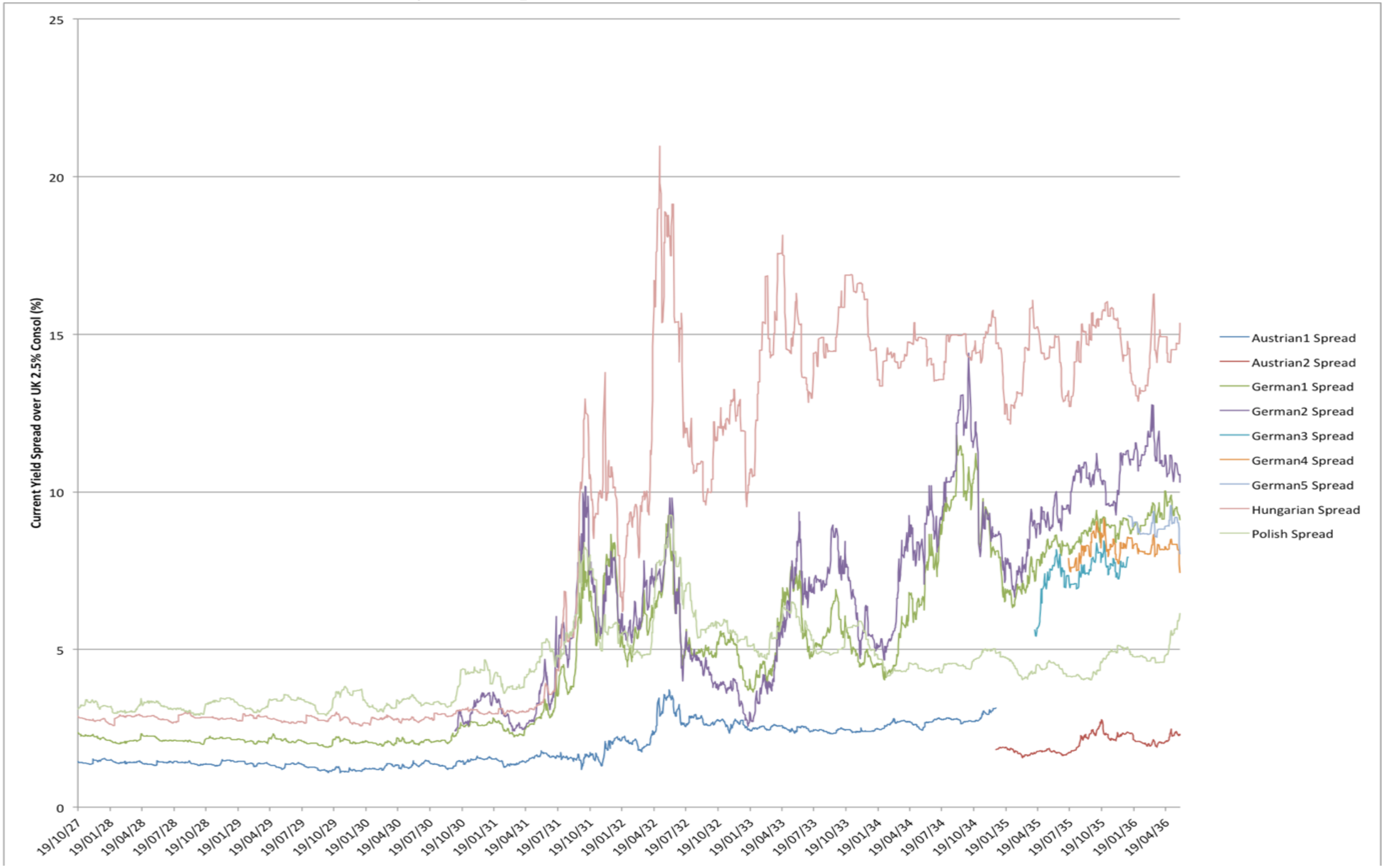


Figure 16: Spreads of London-Listed Bonds over 2.5% Consol



League. It is possible that investors had doubts about the long-term economic viability of Hungary within its new borders, or else considered Germany to be too important to the post-Versailles international order to be allowed to fail: a view that would have been partially justified *ex post* by the concessions given to Germany via the Young Plan and Hoover Moratorium. Still, the question of why it apparently took until the elections of 14 September 1930, when the Nazis and Communists made sweeping gains in the Reichstag, for foreign investors (in London but not in New York!) to show the slightest sign of concern that prospects of a German default had increased, and then until the summer of 1931 for a significant movement against German bonds to set in, suggests a productive avenue for deeper research.

Between 1929 and 1931, the hierarchy between the various bonds that prevailed before the Depression is preserved and even amplified, with the Polish bonds the worst-performing ones in the sample. Not only do their yields remain high, but they also suffer from increased volatility, particularly on the New York market. This greater turbulence sets in to some degree already in the early months of 1929, likely reflecting the early entry of the Polish economy (particularly the agricultural sector) into crisis from March 1929, as discussed in the General Introduction to this thesis, and/or the mounting pressure on the Bank of Poland's gold-exchange reserves, discussed at greater length in Chapter 4. The Wall Street collapse of October 1929 causes a sharp upward spike of around two percentage points in the yields of the Polish bonds in New York, which persists for roughly a month before the yields return to their previous level, albeit now with even more short-term turbulence. None of the other bonds in the sample, including the Polish bonds in London, show a similar reaction to the Wall Street collapse, which suggests that the adverse movement may possibly have been driven by a particular awareness by traders on the American market, where the Polish stabilisation loan of 1927 had been negotiated and where the financial rapporteur on the Polish issue, Charles Dewey, was based, of the severe vulnerability of the Polish economy to an interruption in the ongoing flow of American capital to finance the Polish current deficit.

3.3.2 The German Elections of 1930: A Case in Point

In late September 1930, the deterioration of Poland's yields and spreads relative to those of its peers enters a second phase, which is both a sustained shock—Polish yields remain 1-2 percentage points above their previous levels right until the 1931 crisis—and one that is equally in evidence on the London and New York markets. Thanks to the daily frequency of the bond series and with the help of the *Times* and *Economist* news database, it is possible to identify the onset of the decline with some confidence as an outcome of the German elections of 15 September 1930, in which the pro-democracy parties, already in a deep crisis after the breakdown of the "Weimar Coalition" of moderate parties and the formation of an extra-parliamentary cabinet headed by Heinrich Brüning in March of that year, suffered a major setback at the hands of the Communists and National Socialists. It is well-known that the election result, discussed in further detail below, put pressure on German financial markets and sparked an outflow of gold reserves from the Reichstag[282], and it is therefore not surprising to see this adverse movement reflected as a rise in the yields of German bonds, particularly on the London market.

What is noteworthy, however, is that the yields of Polish bonds rose as well, in tandem and to a relatively greater extent. Whereas the yield of the German Dawes bonds increased only slightly in 1930, by around half a percentage point, and recovered somewhat in following months, that of the Polish stabilisation bonds rose almost immediately after the German elections by more than one percentage point (a decline slightly more severe on the New York market than in London) and, as already stated, showed no signs of recovery before the crisis of 1931. Indeed, this rise in yields probably understates the extent to which the German elections undermined investor confidence in Poland's capacity to repay its debts, given that elections in Poland held shortly afterward, in November 1930, were widely seen as heralding an improvement in Poland's financial prospects. The contemporary financial press noted with satisfaction that the election result, whereby the Piłsudski regime gained a safe working majority in the Sejm for the first time since its rise to power, put an end to the previous situation of "deadlock in Parliament [which] prevented any important legislation, except the Budget, from becoming law".[283] (That this result was largely due to the arrest and show trial, on the eve of the elections, of eleven opposition leaders, as well as a campaign of state violence against the Ukrainian minority, was glossed over by the same newspapers. The Polish correspondent of *The Economist* is typical in noting the intimidation, but limiting his criticism to a statement that "it is perhaps unfortunate that the Government did not permit a 'free' election"-- though only because, had one been held, the regime would likely have won it-- and swiftly moving on to conclude that, "[n]ow that an appearance of political stability has been achieved, it is expected that foreign loans will be less difficult to obtain".[284])

It remains to be explained why investors in Polish bonds were apparently more concerned by a German government defeat in a German election than those who had directly exposed themselves to the risk of a German default by purchasing German bonds. To answer this question, it must be remembered that the German elections of 1930 were a referendum not only on the economic

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282 Straumann (1931), pp. 86-102.
283 *The Times* (London), "End of Polish Deadlock – Government and Parliament". 19 November 1930.
284 *The Economist*, "Poland". 29 November 1930.

policies of the Brüning government, and of the 'Weimar Coalition' that had preceded it, but on their foreign policies as well, and that the financial and foreign questions in German politics were inextricably linked.[285] Earlier in the year, General von Schleicher had obtained the opportunity to convince President Hindenburg to replace the ailing coalition government in the Reichstag with Brüning's extra-parliamentary cabinet not only because the coalition was temporarily split over the technical question of how the deficit in the unemployment pensions budget should be funded, but more importantly because it had just succeeded in passing through the Reichstag two controversial bills that stood at the intersection of Germany's debt position and its international relations, against the ardent opposition of a wide swath of the population as well as *Reichsbank* chairman Hjalmar Schlacht.

The first of these was the ratification of the Young Plan, which, though its essence was a reduction and rescheduling of German reparations payments, nevertheless entailed the Müller government reaffirming its consent to a reparations regime widely perceived by German public opinion as unjust, and this at a time of deepening economic crisis. The second measure, even more controversial and passed by an even tighter majority, was the ratification of a treaty with Poland agreeing a mutual renunciation of financial claims stemming from the World War and post-war peace settlement.[286] eThis treaty was especially galvanising to German nationalists because it opened the door to a more general *détente* in Polish-German relations under which the *status quo* of Polish territorial gains at the expense of Germany risked being affirmed by the German government. This possibility stood in stark contrast to the policy line of even the 'moderate' former Foreign Minister Stresemann, whose historic concessions to the Western Allies at Locarno were driven in large part by the hope that they could be leveraged to secure border revisions at Poland's expense in the East.[287]

It is through this tight link, psychological even more than actual, between the financial and foreign policies of the late Weimar Republic—a point to which I return below—that the stark influence of the 1930 German elections on the Polish bond yields can best be understood. The elections, by way of the surge in the anti-system and particularly National Socialist vote share, provided both a rebuke of the conciliatory policies of the coalition government and a warning shot across the bow of the Brüning Cabinet that further accommodation of the Versailles settlement risked

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[285] An early demonstration of this link, as it related to Poland, may be sought in the 1925 trade war discussed in Chapter 2, above, which began with German government's attempt to force the Polish government into border concessions by way of a commercial embargo.

[286] Straumann (2019), p. 40

[287] Zara Steiner, *The Lights That Failed: European International History 1919 - 1933*, Oxford History of Modern Europe (Oxford University Press, 2007), Ch. 7-8, gives an overview of German diplomacy in the era of Locarno and the German tactic of offering a border settlement in the west in exchange for a free hand beyond the Elbe.

engendering either an outright majority for anti-system nationalists at the next elections or direct action by Hindenburg to replace the government with one still more intransigent on the foreign scene. Either way, the election result definitively ended the chances for the foreseeable future of an end to the ongoing customs war between Poland and Germany.

Worse, it raised the possibility of outright war between the two countries. Tensions between them had already been inflamed by the German election campaign, during which a speech by the German Cabinet minister Gottfried Treviranus in which the latter referred to the Corridor as an "open wound in Germany's eastern flank" that could be salved only by force of arms was met with a public outcry in Poland and a fund-raising campaign by Polish citizens to construct a submarine, to be called *Answer to Treviranus*.[288] While the Piłsudski government took pains to de-escalate the situation, even going so far as to open a back-channel to Hitler following the German elections, the war scare was severe enough that it prompted serious consideration at the highest levels of the French military of the legalities and practicalities of coming to Poland's assistance under the 1921 alliance in advance of a formal declaration of aggression by the League of Nations.[289]

3.3.3 1931-1936: Reversal of the Yield Hierarchy

The crisis of 1931, detailed discussion of which I defer to the following section, changes the pattern of the bond series fundamentally. The shock caused by the failure of the German, Austrian and Hungarian banking systems and the collapse of the international gold standard is reflected in the bond series by a reversal in the hierarchy of yields and spreads. Whereas before the crisis Polish bonds had trailed the pack, in its wake they enjoyed among the lowest yields of the sample, showing particular strength in the period between early 1934 and Poland's exit from gold in April 1936. By contrast, the bonds of the other countries, particularly Germany and Hungary, veered deeply into default. Figures 15 and 16 show that the fundamental characteristics of the situation are essentially the same on both the London and New York markets. The events of September 1931 are reflected in a sharp upward movement in the spreads of all of the bonds in the series over the relevant risk-free bond, which is of roughly similar magnitude for all of the bonds in the series except those of Austria. (The latter experienced only a modest increase in yields thanks to their guarantee by the core member-states of the League of Nations.) Thereafter, the bonds of each country follow a separate trajectory. Those of Hungary were evidently perceived by investors as a lost cause, as by the

[288] Piotr S. Wandycz, *The Twilight of French Eastern Alliances, 1926-1936: French-Czechoslovak-Polish Relations from Locarno to the Remilitarization of the Rhineland* (Princeton, N.J: Princeton University Press, 1988), p. 179.
[289] Ibid., pp. 184-85

beginning of 1932 their spreads attain a steady level of around 17% that stays remarkably consistent over the remainder of the sample, with only short-term fluctuations. The same pattern holds for the Austrian bonds, once allowance is made for their guaranteed status: an increase in yields in the final quarter of 1931 followed by a long plateau until they drop out of the sample.

The paths taken by the Polish and German yields are substantially more dynamic. In Germany, the pattern is mixed, but with a long-term slouch toward default. German bond yields begin to rise sharply with the Danat crisis of July 1931 and reach a climax in September of that year; thereafter, the picture is one of wide fluctuations within bounds of 9-20 percentage points of yield that correspond to the shifting fortunes of negotiations for the resumption and rescheduling of German debt payments. This period of uncertainty persists until August 1934, ending with the imposition of strict exchange controls by the Reichsbank, a policy which was aimed at conserving Germany's foreign reserves in the context of an accelerating rearmament programme financed with the help of expansionary monetary policy, and which amounted to a total repudiation of Germany's foreign obligations.[290] The Polish bonds, for their part, are just as badly hit by the events of 1931 as those of Germany and Hungary. However, following this initial shock, and despite some co-movement of the Polish and German yields in 1932, the Polish bonds begin a slow recovery, which lasts until the Polish yields attain a new steady level by the beginning of 1934.

How total the recovery in Polish yields is depends on the market in question. In New York, the Polish 8% bonds recover very nearly all the ground lost in 1931, while Polish 'sevens' do even better, with yield spreads that are up to 2.8% *lower* than those prevailing before the 1931 shock, and thus even lower than the spread of the guaranteed Austrian bonds. It is likely that this exceptional performance is due to the fact that, by 1934, the Polish bonds were among the select few listed on the New York Stock Exchange that could still be redeemed in gold, resulting in a premium from investors seeking to hedge themselves against currency risk. The reason for the divergence between the yields of the Polish 7% and 8% bonds in the late part of the sample can be traced back via the news sources. The New York data series show that the Polish yields are virtually identical until June 16 1933, the next trading day after Poland, along with France, Belgium, and four other European countries, defaulted on the payment of the instalment of their war debts to the United States that came due on June 15.[291] (This default was, in Poland's case, preceded by the partial payment of the instalment that had been due six months earlier, on 15 December 1932.)

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[290] Albrecht Ritschl, 'Reparations, Deficits, and Debt Default: The Great Depression in Germany', in *The Great Depression of the 1930s*, ed. Nicholas Crafts and Peter Fearon (2013), pp. 112-118.
[291] *The Times* (London), "War Debts: France Not to Pay", June 16 1933. Note, as ever, the coordination of Poland and France on the decision to repudiate this debt.

Several conclusions may be drawn from this episode. The first is that even a complete suspension of payments on one of Poland's major outstanding credits was not, in June 1933, sufficient to compromise the fundamental belief of investors in either London or New York in the solvency of Poland's overall foreign debt position, despite the continued weakness of the Polish economy against a background of slow international revival. This perhaps surprising optimism was probably the result of several mitigating circumstances that marked out the US war loan to Poland as a special case and the default as an opportunistic one not truly representative of the Polish ability to repay. Most prominent among these was the fact that the default was pan-European (only Finland remained fully current on its payments as of 15 June 1933) and that the most prominent defaulters, particularly France, acknowledged the outstanding debt in principle and couched their non-payment in political terms; namely, that the principle of the link between war debts and war reparations undergirding the post-Versailles financial order had broken down, and thus that "the whole debt question" needed to be settled as soon as possible via an international conference.[292] The fact that Poland was not a significant recipient of reparations at any time and in any case had already signed a treaty with Germany renouncing mutual claims stemming from the war does not seem to have made much difference to this assessment: it would appear from the Polish bonds that, by mid-1933, the problem of war debts to the US had become politicised to such an extent that responsibility for their repayment had largely passed out the hands of individual countries and into the international arena.

With that said, it remains the case that Poland's partial default seems to have convinced foreign bondholders that all Polish foreign debt was not created equal, and that while Poland's overall repayment prospects remained high, the fact that one selective default had already happened made it *relatively* more likely that another would follow. Given that the Polish 8% loan of 1925 was owed to a lone, upstart investment bank while the 7% stabilisation loan of 1927 was contracted via a syndicate of leading Wall Street institutions with significant power to impede Poland's access to the New York loan market in the event of a default, it is not difficult to deduce why the loan that bondholders began to demand a (modestly) higher risk premium on after the June 1933 defaults was the 8% one. In this way, the foreign bondholders' assessment of the repayment prospects of the Polish debt began to mirror the stratification in yields that had already taken place on the Polish market since 1931.[293]

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[292] Ibid.

[293] See the data in the panel of headline variables from *Wiadomości Statystyczne GUS* (compiled at https://theadonsiemion.com/data-digitisation/), as well as the recurring Section VI of that publication.

The Polish selective default of June 1933 had one final important consequence for the course of Poland's financial policy during the latter years of the Depression. On April 13, 1934, the United States Congress passed the Foreign Securities Act (the Johnson Act of 1934), which barred states in default on their loans to the United States government from bringing new loan issues to market in the United States. Out of the major European countries, only Finland was in compliance with the letter of the Johnson Act at the moment of its passage, though the Roosevelt Administration did supplement the Act with *ad hoc* exemptions for several countries, including the United Kingdom and Belgium, that had made token payments on their war debts. While the Johnson Act did not directly affect bond issues already outstanding on the New York market, it necessarily prevented the Polish government from tapping further into the credit market that had hitherto been the most fruitful for Polish borrowing.

It may be hypothesised that this development at least partially explains several otherwise puzzling aspects on Polish economic diplomacy. On the one hand, the urgent need to court new sources of credit would explain the Polish efforts in the second half of 1934 to conclude a commercial agreement with Britain even at the cost of eroding (through acceptance of a quota) the cost advantage that Poland's dominant export, coal, had held since the British miners' strike of 1926, not only in Britain but also in the main export markets in Scandinavia.[294] On the other, the same need helps explain why the Polish willingness to follow the French lead in maintaining the gold standard—a willingness that remained a deciding factor in Polish monetary policy through the first months of 1936—remained steadfast even as successive French governments openly explored the prospect of replacing the French-Polish alliance with a French-Soviet one[295], whilst the Polish government permitted its nationalisation of the French-owned Żyrardów textile works over allegations of tax fraud to escalate to the point of a nationwide scandal, "[magnifying] to the point of national honour an incident that is trivial in the affairs of nations."[296] In the final account, the consternation and emotions evoked on both sides by French strategic vacillation and the Żyrardów case appear to have counted for less than the fact that, following the passage of the Johnson Act, direct credit from the French government and the Banque de France was the only avenue with a past record of success

[294] *The Economist*, "Polish Coal Accord", 15 December 1934.
[295] *The Economist*, "Differences with France", 8 September 1934. See also Wandycz (1988) for running commentary on the recurring Polish-French Żyrardów saga. A useful book-length treatment of the Żyrardów affair that complements Wandycz's by focussing on material from the Polish archives is Zbigniew Landau and Jerzy Tomaszewski, *Sprawa Żyrardowska: przyczynek do dziejów kapitalów obcych w Polsce miedzywojennej* (Warszawa: Ksiazka i Wiedza, 1983). For a collection of useful primary documents on the case, see also Zbigniew Landau and Jerzy Tomaszewski, *Kapitaly obce w Polsce, 1918-1939. Materialy i dokumenty.* (Warszawa, 1964).
[296] Ibid.

open to the Polish government for meeting short-term liquidity needs and modernising the armed forces.

3.4 The German Crisis and Polish Non-Crisis of 1931

It is clear from the foregoing that the paths of Poland and its central European peers diverge sharply in 1931, with Germany, Austria and Hungary repudiating much of their external debt and suspending the gold standard and Poland struggling on for five more years. The obvious question is why the crisis of 1931 affected Poland so differently: why Poland was able to pass through the turbulent events of that year without suffering a sovereign debt crisis or a catastrophic fall in the level of central bank reserves. The daily-frequency bond price series I have collected, in combination with qualitative evidence from the archives and the contemporary press, suggest some answers. A portion of these tentative findings, concerning the tightening connection between the Bank of Poland's monetary policy and the Polish government's foreign policy agenda, is the subject of Chapter 4, below, while another, concerning a possible 'long tail' in the timeline of the German crisis 1931, is sketched out here but must await further archival confirmation.

In brief, I find that the key factor stopping Poland from accompanying Germany into a sovereign debt meltdown was *not* a lower level of exposure. The Polish debt-to-GDP ratio, which, as this section will argue in detail, was roughly comparable to that of Germany at around 90-100% of national output. Furthermore, the capacity of the Polish state and financial sector to transfer the resources needed to make good on its debt service was almost certainly lower than in Germany. The critical factors in explaining Poland's resilience, then, are the absence of a general banking crisis that would have forced the country to crash out of the gold bloc, and perhaps of utmost importance in preventing a financial panic that would have led to such an outcome, the superior credibility of the Polish government's commitment to a deflationary policy course oriented toward maintaining the gold standard at all costs.

This commitment was a function of both the Piłsudski regime's *willingness* to maintain the gold standard, as a cornerstone of both its domestic legitimacy and the vitally important military alliance with France, and its *ability* to do so, as an autocratic regime whose economic agenda was not subject to parliamentary approval. As such, the Polish government was able to head off rumours of an impending currency devaluation by passing legislation to circumscribe the operational independence of the Bank of Poland, in effect bringing it under the Treasury's thumb.

In contrast, Chancellor Brüning's government in Germany, as an extra-parliamentary cabinet, was in the unenviable position of lacking a reliable parliamentary majority but needing to secure one in order to pass legislation. What the bond spreads reveal is that it was this weakness, piled on top of the Danat crisis in July, and not the earlier developments on the currency market highlighted by Ferguson and Temin (2003) and Temin (2008)[297]—that tipped Germany over the edge into sovereign default in the summer of 1931. A provocative finding from the daily-frequency bonds is that the Danat crisis does not appear to be the end of the story for the two main German sovereign debt issues.

The German bond series are indeed severely hit by the Danat collapse, but the implied risk premium on the German debt remains much closer to its pre-Danat than its late-1931 levels until the first week of September, a full six weeks after the German banking disaster but nearly three weeks before the partial collapse of the global gold standard. As is by now well-known from the work of, for instance, Accominotti (2009), the European financial environment was already deeply unsettled in the weeks before the Bank of England announced its departure from the gold standard, so it is difficult in the absence of a specific study into the question to determine *ex post* why Germany's creditors' expectations of their investment being repaid took a sharp plunge at the start of September 1931 (and why only then).

This chapter raises the possibility, less because the evidence for it is stronger than for any other (that remains to be clarified) but because the timing for it adds up and if true it would make for a captivating twist in the recently scholarly debate, that the September collapse in German yields is the result of collapse of the German-Austrian customs union at the hands of the Permanent Court of International Justice at the Hague. On this view, which if true would mean that Ferguson and Temin were basically correct in their diagnosis of the final throes of the Weimar economy but mistaken in the timing, the customs-union plan was an essential political *quid pro quo* without which the Brüning Cabinet had no hope of passing further austerity legislation through the Reichstag. If so, then with public opinion in France—the last plausible provider of a new external loan—concerned that the Hague ruling conceded *too much* to Germany, the possible avenues through which the Brüning government could remain current on its foreign obligations suddenly vanished, and default became inevitable in a way that it had not been even after the failure of the universal banks.

I have chosen to contrast the cases of Poland and Germany because Poland on the eve of the Depression shares many similarities with Germany at the same time. One facet of this similarity concerns the two countries' political institutions. Both Poland and Germany had begun the interwar period as semi-presidential, liberal democracies whose early years were marked by short-lived governments elected via proportional representation. Both were marked from their postwar rebirth by the uneasy compromises of the Treaty of Versailles: the Weimar Republic by the shame of a defeat

[297] Peter Temin, 'The German Crisis of 1931: Evidence and Tradition', *Cliometrica* 2, no. 1 (1 April 2008).

that many of its citizens refused to recognize as legitimate; the Polish Republic by the internal ethnic and external diplomatic conflicts that arose from its new borders. Both faced turbulent beginnings, having to reconstitute their statehood amid political violence, assassinations of leading government figures, insurrections and border conflicts, often fought, as in the case of the Silesian Uprisings, against one another. And both, by the time the Great Depression was beginning, had begun a slide into autocratic government in the face of the vulnerability, followed by the outright suppression, of their democratic institutions.

Poland ventured down the road of creeping autocracy first, with Marshal Piłsudski's coup of May 1926. Initially, the Piłsudski regime maintained the façade of parliamentary government, while strengthening the powers of the executive over Parliament via constitutional amendments (the August Novelisation of 1926, which forbade the Sejm from dissolving itself and gave the President the power to enact laws, including budgetary laws, by decree) and devising ever more intricate legal stratagems, such as tactical abrogation of parliamentary sessions, to prevent the Sejm from having a deciding influence of policy. By 1931, the government was turning to outright repression, with sweeping police campaigns to 'pacify' the Ukrainian minority and the decision by Piłsudski to imprison eleven prominent opposition figures, including Wincenty Witos, the leader of the Polish Peasants' Party (PSL) and most powerful parliamentary critic of the regime, in the fortress at Brześć (Brest-Litovsk) on overtly politicised charges.[298]

The much more widely studied collapse of democracy in Germany moved into its critical stage later, with the collapse of the last democratically elected coalition government, that of Social Democrat Hermann Müller, over a budgetary deadlock in March 1930, but afterward made haste down a similar path. The government of Heinrich Brüning which came into existence following Müller's resignation lacked parliamentary support and within months resorted to use of the emergency decree powers of Article 48 of the Weimar Republic's Constitution to attempt to pass key budgetary legislation. The lack of parliamentary control over policy, except in a negative sense via the exercise of a *post hoc* veto on the government's use of Article 48, that this tactic engendered became entrenched following the elections of September 1930, which saw sweeping gains for Hitler's National Socialists and the KPD, as well as the collapse of the centre ground. As the Depression deepened, widespread political violence made its return and the erosion of the Republic's remaining democratic institutions, notably the governments of the federal States, accelerated, culminating in

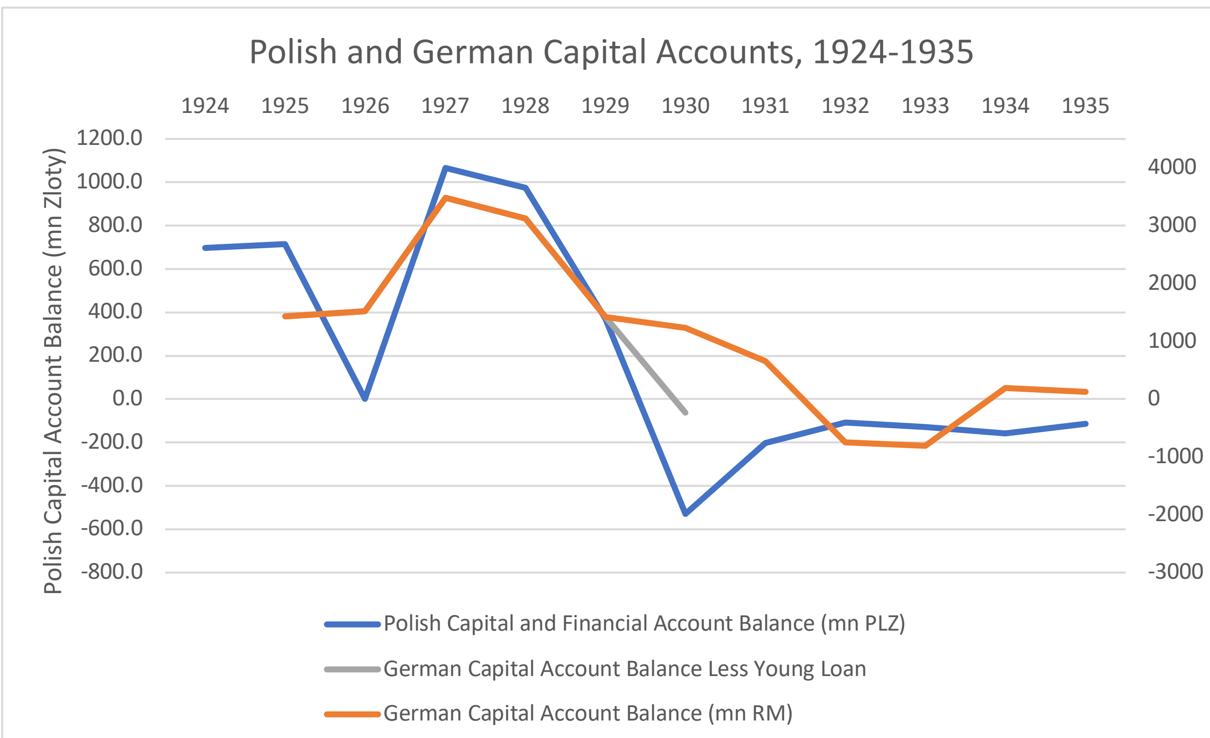
[298] Andrzej Ajnenkiel, *Polska Po Przewrocie Majowym: Zarys Dziejów Politycznych Polski 1926-1939*, (1980), is a detailed political history of this period, though marked by its Communist-era origins

Hitler's nomination as Chancellor on January 30, 1933, exactly two years and ten months from the day Brüning had taken that office.

3.4.1 Polish-German Parallels: The Balance of Payments

The economic parallels between Poland and Germany during the critical years of the Great Depression may not, at first sight, be obvious. After all, Germany at the close of the 1920s was one of the world's most advanced industrial economies; the Polish economy, by contrast, remained predominately agrarian, with industry largely limited to the country's western half. The stark differences between the level of human capital, technological adoption[299], and the maturity of the financial sector in Poland as compared to Germany are readily acknowledged in this analysis.

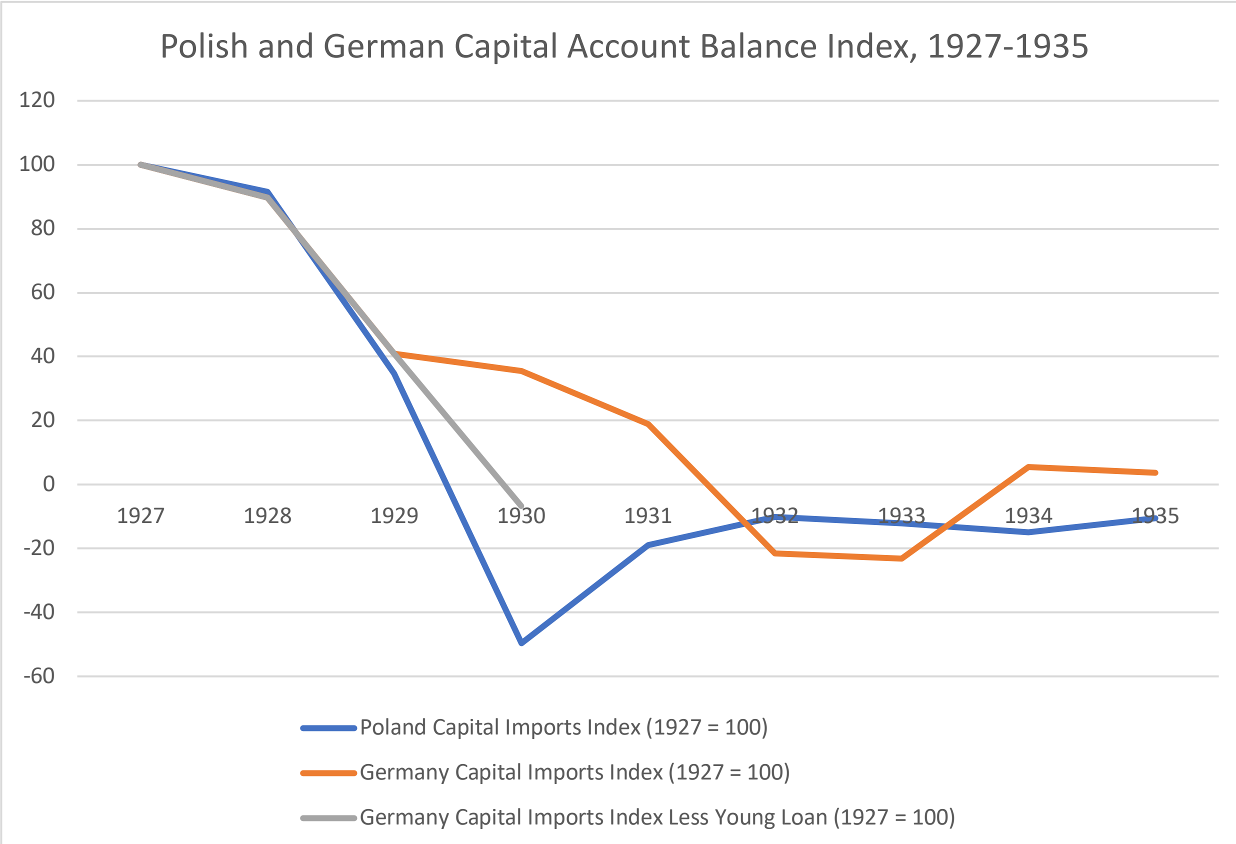
Figure 17A: Polish and German Capital Account Balance, 1925-1935[300]



[299] As an indication, the electrical power production capacity per capita in 1929 amounted to 2.64 megawatt-hours in Germany and just 97.2 kilowatt-hours in Poland. (Own calculations, based on population and electrical output figures in *Wiadomości Statystyczne GUS* (1933).)

[300] Figures for the German balance of payments are taken from Ritschl (2002); the Polish series is taken from Tables 22, 28, and 37 in Leszczyńska (2013).

Figure 17B: Polish and German Capital Account Balance Index (1927 = 100)



In one important aspect, however, the Polish and German economic outlook going into the Depression are strikingly similar: the state of their balance of payments, characterized by a combination of a large burden of foreign debt and a sudden stop in the inflow of foreign capital with the tightening of monetary policy in the United States. The close co-movement (which is almost exact if one examines the relative magnitude of the movements) between the Polish and German position on capital account in the latter half of the 1920s is shown in Figure 17. As can be seen, both countries experience a boom in foreign capital inflows in the latter half of the decade with a peak in 1927, followed by a small decline in 1928 and a dramatic drop-off in 1929-30. Thereafter, both Poland and face a binding external constraint on their ability to run trade deficits.

The consequences of the sudden stop of international capital flows for Germany, ending the Weimar Republic's capacity to "purchase" social peace with lavish social spending and to reconcile the adverse supply-side effects of generous labour legislation and lack of wage restraint with dynamic economic growth, have been well documented in the preceding literature.[301] What has not been emphasized is that these factors applied in like measure to the Polish economy. Figures 2 and 3 (Section 1.1.1, above) show the balance of Polish visible trade at monthly frequency between 1925 and 1936. What can be seen is that, from March 1927 to June 1929, Poland was able to run a persistently large trade deficit, averaging 63.2 million złoty a month; on an annual scale, the trade deficit for 1928 amounted to approximately 4.8% of national output.[302]

What is more, the supply-side implications of this capital inflow, and its sudden reversal, appear to have been very similar between Poland and Germany. Like Germany, Poland adopted comparatively generous social legislation in the first years following independence, notably an eight-hour workday, mandatory sickness insurance for workers, and unemployment insurance.[303] In large measure, the costs of these measures were specified by law to be borne by employers. (For instance, 60% of the cost of workers' health insurance was covered by employers, and only 40% by workers.) Furthermore, workers were guaranteed the right to unionize and undertake strike action, a right which was regularly exercised during the interwar period, with particularly intense strike activity in 1923, 1933, and 1936. Landau and Tomaszewski characterize the provisions of Polish labour law enacted following independence as "among the most progressive in the world", a status which stood in tension with the relative underdevelopment of the Polish economy.[304] In the Depression, this tension seems to have become acute. Figure 18 shows the development of real wages in industry between 1925 and 1933. At a time when Polish goods prices, particularly the prices of Poland's primary agricultural exports, were falling sharply, Polish wages failed to decline anywhere near in proportion, with the result that real wages show a continuous rise through 1932 and remain stagnant thereafter. While an empirical investigation of the precise quantitative effects of the rising real wage rates on Polish output, along the lines of that performed in Ritschl (2013), remains to be conducted, it is likely that the effects were large, and it would not be surprising if Ritschl's finding that "wages come out as the predominant channel of crisis propagation in Germany during the [D]epression" were to be borne out for Poland as well.[305]

The evidence presented above strongly suggests that the basic elements of the well-known Borchardt hypothesis as to the poor performance of the German economy during the Great

[301] For a critical discussion of the historiography on Weimar Germany's macroeconomic position, see Ritschl (2002, 2013), and Ritschl and Sarferaz (2014).
[302] A detailed discussion of interwar Polish national income statistics is given below.
[303] The history of social legislation up to the Great Depression is outlined in Landau and Tomaszewski (1967), pp. 134-39, and Landau and Tomaszewski (1971), pp. 105-113.
[304] Landau and Tomaszewski (1967), pp. 138-39
[305] Ritschl (2013), p. 134

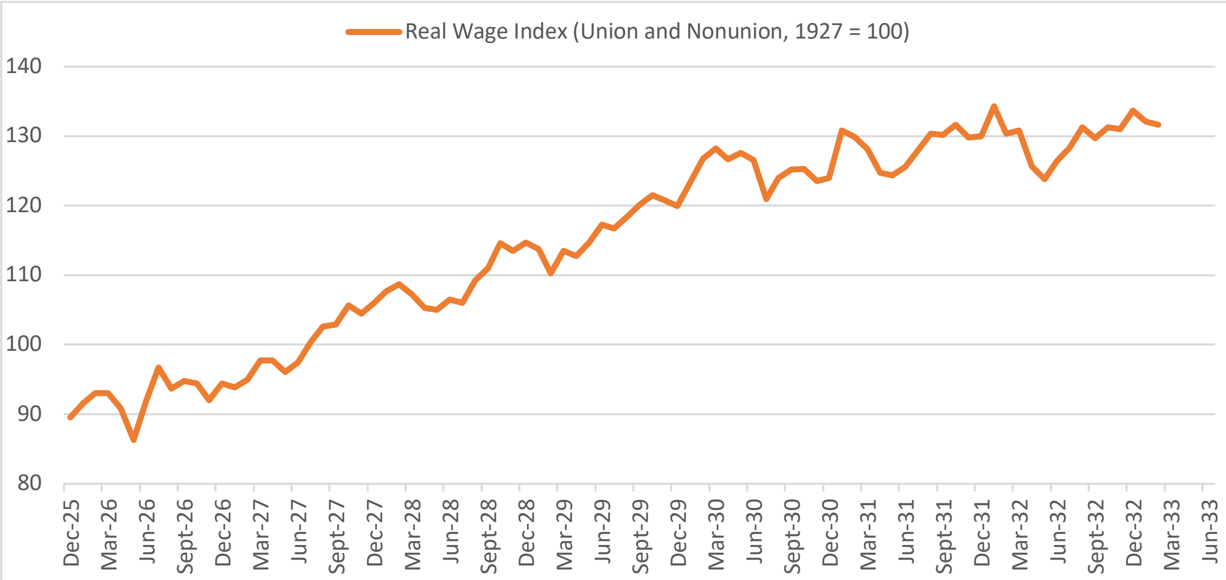
Depression—i.e. that "supply conditions such as abnormally high wages" were major causative factors in the slump, and that, during the Depression, "the… public budget hit a credit constraint which prevented less restrictive fiscal policies from being realized"[306], at least so long as continued membership of the gold standard stood in the way of monetizing the fiscal deficit—are just as accurate when applied to the Polish economy.

To be sure, the Polish and German cycles of boom and bust in foreign indebtedness differed in their particulars. Ritschl (1998), in his exegesis of the Borchardt hypothesis with regard to Germany, emphasizes the perverse incentive structures which German policymakers faced as a result of the transfer protection clause of the Dawes agreement on reparations, in effect (until the clause was reversed under the Young Plan of 1929) giving commercial debt a higher seniority relative to reparations transfers and incentivizing the German government to dilute its reparations obligations by encouraging a boom in foreign commercial lending significantly in excess of what the weak fundamentals of the Weimar economy would justify. Equally, the Polish governments beginning with the Zdziechowski cabinet of 1925-26 were less fiscally profligate than their German counterparts, and between 1926 and 1929 ran budgetary surpluses that provided a reserve fund which, while insufficient to allow for any ambitious program of fiscal stimulus, at least helped the government to avoid severe cutbacks to state expenditure until 1931.

Still, the closeness of the correspondence between the Polish and German movements on capital account in Figure 17, particularly in the second half of the 1920s, raises the question of whether the particular incentive problems highlighted by Ritschl are *necessary* for understanding the particular predicament in which the German economy found itself after the sudden stop of foreign credit in the summer of 1929. Indeed, Figure 17 shows that the sudden stop to the Polish capital account was *faster* than the German one, with net capital flows to Poland turning sharply negative in 1930 but Germany remaining a net capital recipient through 1931.

[306] Albrecht Ritschl, 'Reparation Transfers, the Borchardt Hypothesis and the Great Depression in Germany, 1929–32: A Guided Tour for Hard-Headed Keynesians', *European Review of Economic History* 2, no. 1 (April 1998), p. 50

Figure 18: Polish Real Wage Index, 1925-1933[307]



An important reason for the greater suddenness of the Polish sudden stop relative to the German appears to have been the Young Plan itself, which, whatever its long-term implications, brought in for Germany an immediate credit of 1470 million Reichsmarks with a long repayment maturity.[308] Figure 17 thus also shows a counterfactual German capital account balance for 1930 absent the Young credit: the magnitude of the decline in this counterfactual scenario is very close to that of the Polish series, though the latter remains slightly steeper.

An iconoclastic reading of these figures is that the German sudden stop was not the exclusive product of historically unique circumstances, but a more or less typical result of an international trend in foreign lending with its roots in credit conditions on the New York capital market. If that is the case, then the recent debate sparked by Hélène Rey's discovery of a global cycle in capital and financial flows in recent macroeconomic data and her argument that this cycle severely restricts the independence of monetary policy even in the absence of commitment to a fixed exchange rate[309] would seem very applicable to the interwar period as well. To spell out the implications: if Rey is correct in her argument, and if the late 1920s/early 1930s were subject to a global financial cycle akin to the present-day one, then Eichengreen's thesis that leaving the gold standard *per se* (without necessarily imposing capital controls) was sufficient for a country to recover from the Depression

[307] Data taken from the panel of headline economic series in *Wiadomości Statystyczne GUS.*
[308] The amount of the Young credit is given in Ritschl (2013), p. 115.
[309] Hélène Rey, 'Dilemma Not Trilemma: The Global Financial Cycle and Monetary Policy Independence', *National Bureau of Economic Research Working Paper Series* No. 21162 (2015).

might need to be re-examined, perhaps by testing for a difference between countries that were themselves major financial centres and those that were not.

3.4.2 Polish-German Parallels: Sovereign Debt Ratios

Pending further research on this question, let us compare Poland's and Germany's external positions during the critical years of the Great Depression on another metric: the ratio of the countries' foreign debt burdens to their levels of national output. The subject of sovereign debt overhangs, and, in particular, the question of whether there exists a particular threshold above which an excessive sovereign debt burden has nonlinear adverse effects on economic growth, has been the subject of a contentious recent debate sparked by the claim by Reinhart and Rogoff (2010) that sovereign-debt burdens above 90% of GDP were associated with drastically poorer, even negative, growth prospects.[310] While Reinhart and Rogoff's initial paper focused on evidence from the postwar period, in subsequent work, notably Reinhart, Reinhart and Rogoff (2012), the authors presented evidence from a longer-run dataset spanning the years since 1800 that the 90% debt-GDP threshold beyond which economic growth is stunted was in effect in earlier times as well.[311] Not least because of its high relevance to policy at a time of economic crisis, Reinhart and Rogoff's research, and particularly the 90% threshold claim, has attracted much scrutiny. In particular, Herndon, Ash and Pollin (2013) have pointed to coding errors and puzzling omissions of observations in the original paper which, when corrected, result in a revision of Reinhart and Rogoff's 3.5 percentage-point decline in annual growth rates as a country moves between a 60% and a 90% debt-GDP ratio to a much modest decline of one percentage point; and Egert (2015) shows that the existence of a GDP-growth threshold is sensitive to the choice of econometric methodology and that, if a threshold exists, it manifests at debt/GDP levels of 30-70%, much lower than Reinhart and Rogoff's claim, and in any case exerts much less of a catastrophic drag on growth than those authors' research would indicate.[312]

3.4.3 The Reinhart-Rogoff Debt Database in the Interwar Period: A Discussion

Whatever their disagreements, the debate between defenders and critics of Reinhart and Rogoff's findings in "Growth in a Time of Debt" has by and large focused on the correct methodology

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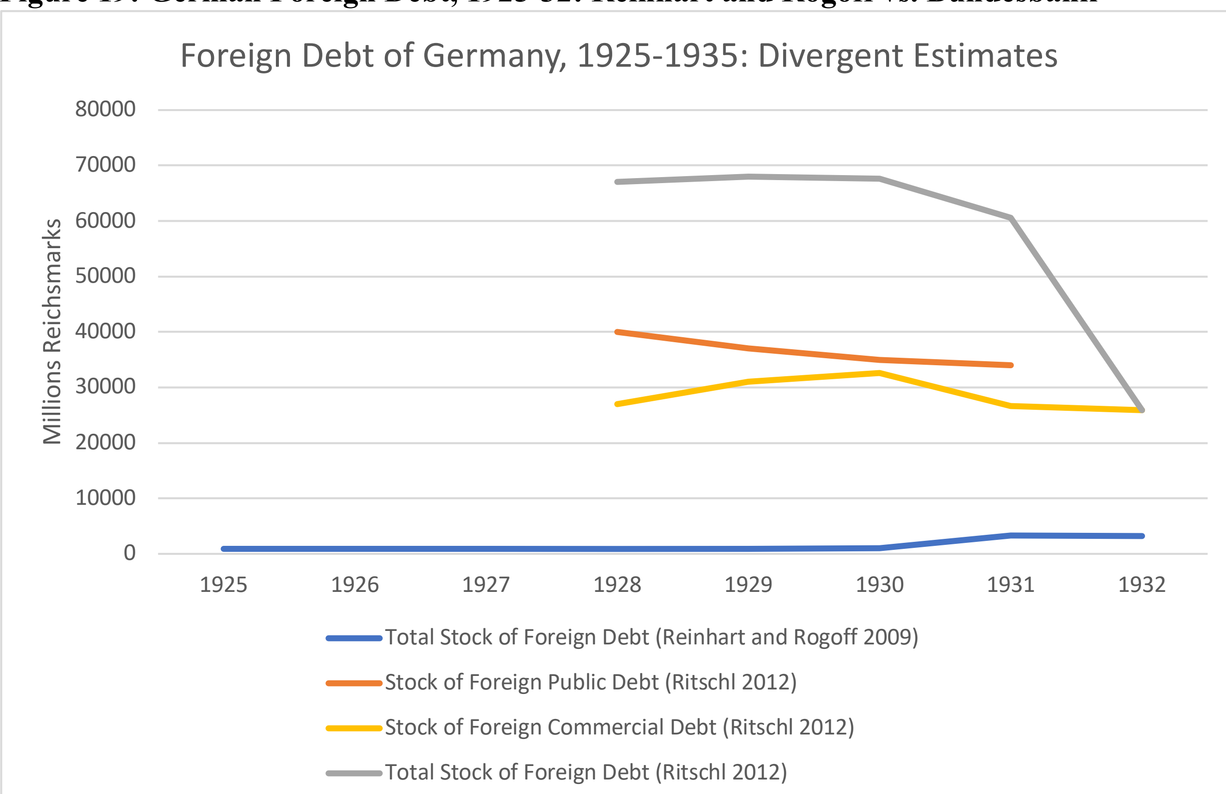
[310] Carmen M. Reinhart and Kenneth S. Rogoff, 'Growth in a Time of Debt', *American Economic Review* 100, no. 2 (May 2010).
[311] Carmen M Reinhart, Vincent R Reinhart, and Kenneth S Rogoff, 'Public Debt Overhangs: Advanced-Economy Episodes Since 1800', *Journal of Economic Perspectives* 26, no. 3 (1 August 2012).
[312] Balázs Égert, 'Public Debt, Economic Growth and Nonlinear Effects: Myth or Reality?', *Journal of Macroeconomics* 43 (March 2015).

for extracting results from a given set of data, not on the quality of the data itself. For the most part, participants in the controversy have relied on a common set of sovereign debt and national income figures: the ones compiled by Reinhart and Rogoff and made available to scholars alongside their 2009 book, *This Time is Different: Eight Centuries of Financial Folly*. The reason why the Reinhart and Rogoff (2009) data has set the terms of the debate is straightforward: as the authors themselves state, "[p]rior to this dataset, it was exceedingly difficult to get more than two or three decades of public debt data even for many rich countries, and virtually impossible for most emerging markets".[313] While the work that Reinhart and Rogoff have put into compiling their eight-century dataset was certainly immense and the authors' contribution to advancing the scholarly debate is difficult to over-emphasize, it is the argument of this paper that, for Poland and Germany during the interwar period, the Reinhart and Rogoff figures, transcribed from the statistical yearbooks of the League of Nations, are less useful and more problematic than the equivalent figures derived from these countries' indigenous national accounts statistics.

Figure 19: German Foreign Debt, 1925-32: Reinhart and Rogoff vs. Bundesbank



[313] Reinhart and Rogoff (2010), p. 573

The reasons why this study does not make use of the RR debt figures are in part country-specific, but it is worth beginning the discussion with the one limitation their figures both for Poland and for Germany share in common: the fact that, prior to 1970, the RR database records only public debt, not the total (public and private) external debt. There are good theoretical reasons—not least, those articulated by Carmen Reinhart herself in her prior work[314]—to believe that there are significant interactions between public and private sovereign debt that are relevant to a country's risk of sovereign default. Notably, a sudden withdrawal of foreign credit granted to the private sector can erode the balance-sheet position of domestic firms and especially domestic banks, and can force the government into a difficult choice between continuing to service its foreign obligations and providing stimulus to protect the economic base from which its debts can be serviced. There is also an expectations channel: given the foregoing, a high overhang of private foreign debt can trigger fears of public default and lead to a run on the state's foreign obligations. Indeed, the dilemma posed by foreign commercial debt was particularly acute in Germany, where governments following the Dawes Plan positively encouraged private credit inflows in the hopes of using foreign commercial creditors as hostages in a renegotiation of the reparations issue.[315] Fortunately, the lack of information about total (private plus public) debt in the RR database does not mean that the data does not exist, and in fact the national statistical sources allow me to present estimates of both private and public debt for Germany, giving a more complete picture of the risk environment faced by both countries.

Even taken on their own terms, however, the figures for public debt presented by Reinhart and Rogoff show symptoms of two further problems, which, though investigated in this study only insofar as they affect the RR figures of Germany and Poland, hint at more general issues with the RR database that deserve to be taken seriously by all scholars who wish to make use of it. With regard to Germany, the problem with the RR sovereign-debt figures is that, as Figure 19 shows, they differ fundamentally—by no less than two orders of magnitude—from the figures compiled by the (West) German Bundesbank (1976)[316] and reported by Ritschl (2013). Taking 1928 as an example, the RR figures show a German public debt for that year of 884 million Reichsmarks. The Bundesbank figures, by contrast, show a public debt of 40 *billion* Reichsmarks, plus a commercial debt of 27 billion Reichsmarks, for a total foreign obligation of 67 billion Reichsmarks. Even should one reject the argument that, given the priority accorded to it by the transfer protection clauses of the Dawes Plan

[314] See, for instance, Kaminsky and Reinhart (1998).
[315] Ritschl (1998)
[316] Deutsche Bundesbank, *Deutsches Geld- Und Bankewesen in Zahlen, 1876-1975* (Knapp, 1976).

(until their amendment by the 1929 Young Plan), Germany's commercial debt ought *de facto* to be considered a component of the country's sovereign debt, the magnitude of the discrepancy is striking.

Accounting for the difference is less than straightforward, given that Reinhart and Rogoff do not give a precise reference for the data series in the statistical appendix of *This Time is Different*: they state only that the figures come from a League of Nations source, presumably one of the four listed (for "various years") in the bibliography.[317] The most likely explanation, however, is that the RR data omit the sums owed by Germany on account of war reparations.[318] If this explanation is correct, then the RR debt figures for Austria and Hungary in the interwar period, being (presumably, in Austria's case) also derived from (presumably the same) League of Nations sources[319], may also be underestimates of the true debt burden faced by these countries. (It should be noted, however, that Austria and Hungary were granted forgiveness on their reparations following their hyperinflations, so the potential for bias in these countries' data may not be as large.) The same *may* be true of the RR figures on public debt for countries facing war reparations at other times, particularly in the 19th century, though whether this is so depends on the various methodologies of the diverse sources Reinhart and Rogoff bring together to cover the pre-1913 period.[320] A list of war reparations through history provided by Hinrichsen (forthcoming) indicates Greece and China as the two countries in the RR database that might be affected.[321]

The discrepancy between RR's figures for Germany and the ones presented in German statistical sources, whatever its causes, has implications for any econometric analysis which uses the RR data as an input. A striking example can be found in the data underlying Reinhart and Rogoff (2009)'s discussion of ratios of public debt to public revenue, an important empirical metric of sovereign debt sustainability. Figure 20 shows the ratio of public debt to revenue calculated by Reinhart and Rogoff for Germany in the analysis for their Figure 8.1, Reinhart and Rogoff (2009).[322] For the period of the Great Depression, the calculated ratio fluctuates between a minimum of 0.13 in

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317 The relevant entry for Germany is found in Table 2.3, Reinhart and Rogoff (2009), p. 336.

318 There is some precedent for this exclusion: the Paris Club, a contemporary sovereign creditors' organisation, does not consider war reparations debt as such, though sovereigns facing reparations payments often cover them by issuing debt. I argue below that this formal distinction has the potential to be highly misleading for purposes of macroeconomic analysis.

319 The bibliographic entry for Hungary is found in Table 2.3, Reinhart and Rogoff (2009), p. 336. Figures on the public debt of interwar Austria are included in the RR dataset but no reference for them is given in Table 2.3 or elsewhere. While Bulgaria also faced war reparations after the First World War, the country is not represented in the RR database.

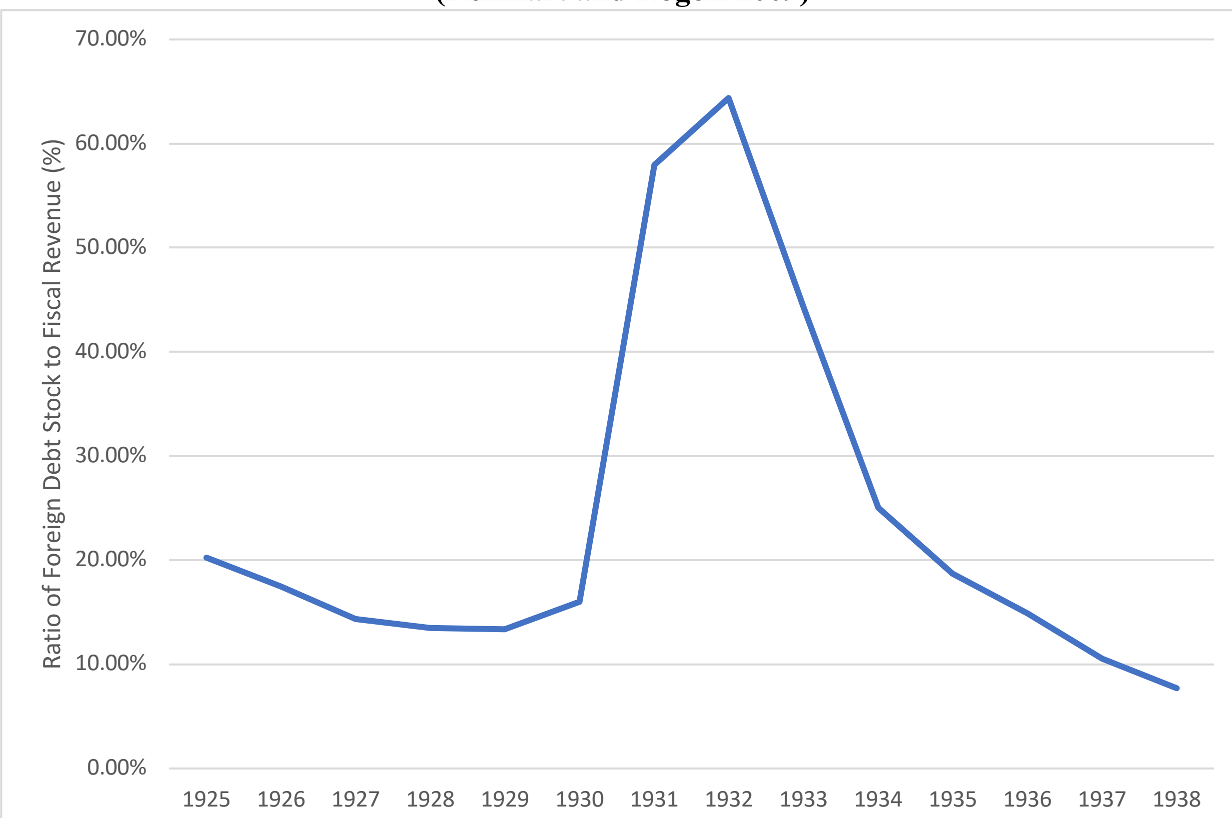
320 The most prominent case of war reparations before 1913, that of France following the war with Prussia, is not covered by the RR figures, which for France begin in 1913.

321 Simon Hinrichsen, 'Optimal Sovereign Debt Default under War Reparations', Working Paper (London School of Economics, Forthcoming)

322 All data taken from https://scholar.harvard.edu/rogoff/time-different%E2%80%94data-files.

1928-29 and a maximum of 0.64 in 1932. (By way of comparison, CBO figures for the United States in 2018 show a ratio of foreign-held sovereign debt to Federal revenue of 1.87.[323]) While, from a purely arithmetic standpoint and given what the League debt statistics do and do not include, the figure may well be correct, it is surely misleading as a representation of the true burden of sovereign liabilities on the German economy. Taken at face value, this figure implies that, had the German government managed to increase revenues by a modest 16.1% in 1928, it would have extinguished the full amount of the German government's liabilities toward abroad. To put the matter bluntly: if the situation were that simple, then Hitler's use of Germany's external obligations as one of the cornerstones of his political appeal would be difficult to comprehend.

Figure 20: German Ratio of Foreign Debt to Revenues, 1925-1938 (Reinhart and Rogoff 2009)

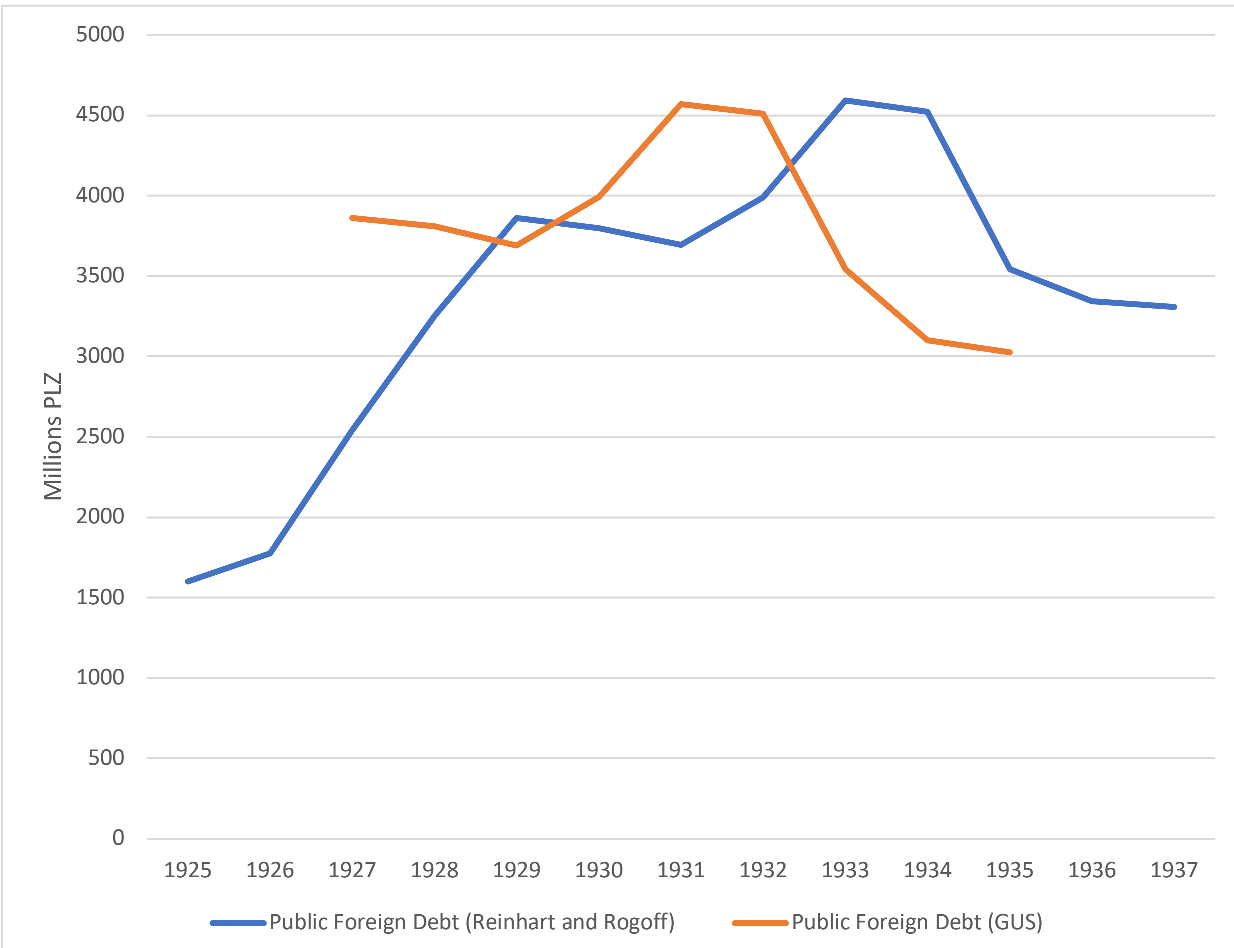


In the Polish case as well, the public debt figures presented by Reinhart and Rogoff differ from those gathered from the publications of Poland's Central Statistical Office (GUS). Figure 21 shows the difference between the two sets of estimates. The RR figures show a peak in foreign debt levels in

[323] Congressional Budget Office, 'The Budget and Economic Outlook: 2018 to 2028' (Washington, D.C.: Congress of the United States, 2018).

1933-34, which is implausibly late given the large effect of the devaluation of the dollar in 1933 on the złoty value of the Polish issues on the New York market. In this case, however, the reason for the divergence between the RR and GUS figures is obvious upon graphing thee data: the RR figures suffer from a transcription error such that their (nearly identical, once the error is corrected) underlying debt stock figures are reported with a two-year lag. Naturally, this error results in a bias to any regression coefficients estimated when interwar Poland is included in the sample.

Figure 21: Foreign Public Debt of Poland, 1927-1936: Reinhart and Rogoff vs. GUS[324]



To summarise: the intent of the foregoing discussion has been to justify the use in this study of debt figures drawn from Polish and German statistical sources over the ready-made ones contained in the RR database. It is beyond the scope of the present paper to provide a detailed audit of the RR debt series for the interwar period or to analyse whether the many empirical results

324 RR data: source as in footnote 315, above. GUS data: as compiled by Leszczyńska (2013), p. 302.

derived using the RR data as an input[325] are robust to the correction to the Polish series made here, and the alternative specification of reparations as tantamount to sovereign debt (if indeed this is the cause of the large gap between the RR and Bundesbank figures for Germany) suggested here. Nevertheless, given that transcription and coding errors were at the heart of Herndon, Ash and Pollin (2012)'s objection to the robustness of Reinhart and Rogoff's finding of a non-linearity in GDP growth at debt/GDP ratios above 90% in the post-World War II period, it is concerning that Reinhart and Rogoff's interwar data is not free from similar problems. The present author can only advise that the RR figures for the interwar years be thoroughly checked and the coding assumptions regarding reparations be made explicit; and, in the interim, that empirical results deriving from the RR database be interpreted with a dose of caution.

3.4.4 The Foreign Debt Burden of Poland and Germany, 1928-1935

In the preceding subsection, I have argued that a complete assessment of the sustainability of the Polish and German sovereign debt positions during the Great Depression requires one to examine not only the stock of foreign-denominated public debt, but commercial debt as well, and that reparations—in the German case, the lion's share of the state's foreign liabilities—ought to be classified as public debt.[326] With these definitions in mind, Tables 7 and 8 set out the stock of Polish and German foreign debt and its relationship to national output. Discussion of these figures may best be organised along two headings, the first methodological, and the second substantive.

With regard to the methodology of the German estimates, the present study takes them unamended from Ritschl (2012), who relies on Bundesbank compilations for the debt estimates and his own reconstruction of interwar Germany's national accounts, synthesised in Ritschl (2002), for the output figures. Interested readers may consult these sources for details and justifications of the methodological decisions made. The Polish debt/output figures are the work of the present author and require some explanation, particularly where national output is concerned. Let us first dispose of the easier question of the Polish foreign debt stock. The figures cited in this paper are drawn from the annual balance-of-payments reports of the Central Statistical Office, and cover both public and commercial debt. Some indication of their credibility is given by the fact, alluded to above in the

[325] As of 8 April 2020, *This Time is Different* has been cited 1176 times in the scholarly literature. Reinhart, Reinhart and Rogoff (2012), which specifically extends the analysis of "Growth in a Time of Debt" to the interwar data discussed here, has accrued 148 citations since publication.

[326] As discussed in Chapter 2 of this thesis, Poland was technically entitled to a small share of the post-war reparations from the Central Powers. However, this claim was offset against the value of the property of the governments of the foreign Central Powers which passed to Poland after the war, with the result that Poland received next to nothing by way of actual transfers.

discussion of the Reinhart and Rogoff (2010) database, that the Economic and Financial Section of the League of Nations reports very similar, though not identical, figures for Polish public debt. The differences between the League and GUS figures are minimal for most of the sample, and only become significant for 1934 (the League figures are higher by 242 million złotys) and 1935 (the League figures are higher by 283 złotys). The reasons for this divergence at the end of the sample are not clear, but it may be related to Poland's selective default on a portion of its war debt to the United States.

The question of Polish national output during the interwar period, the other necessary component for computing the debt/GDP ratio, is more fraught, for the reason that statisticians in interwar Poland only attempted its systematic calculation on two occasions: Michał Kalecki and Ludwik Landau in 1929 (from the consumption side), and Ludwik Landau in 1939 (from the output side). Between those dates, the only contemporary figures are rough estimates by economist and erstwhile Minister of the Treasury Czesław Klarner for 1929-1936 and by the Sejm Treasury and Budget Committee for 1933-1936.[327]

Table 6: Polish and German Foreign Debt Levels and GDP [328]

Year	Poland: State Foreign Debt (millions PLZ)	Poland: Total Foreign Debt (millions PLZ)	Poland: National Output (millions PLZ, current prices)	Germany: State Foreign Debt (billions Reichsmarks), Including Reparations	Germany: Total Foreign Debt (billions Reichsmarks)	Germany: National Output (billions Reichsmarks, quarterly annualised)
1928	3809.5	6870.6	18750	40	27	89.0
1929	3690.9	7957.8	16960	46/37	31	89.2
1930	3992.6	7588.1	12980	35	32.6	82.9
1931	4598.8	7502.3	9810	34	26.6	58.1
1932	4514.2/4840*	7069.4/7710*	7800	(Standstill)	25.9	56.4
1933	3544.4	5771.5	7420			
1934	3103	5122	7240			
1935	3026.1	4954	8420			

[327] Details on these attempts are given by Knakiewicz (1967), pp. 305-07.
[328] Polish figures as compiled by Leszczyńska (2013), p. 302; German figures from Bundesbank (1976). The variant figures for Poland in 1932 (denoted with an asterisk) are from Spigler, in Kaser and Radice (1987).

Table 7: Polish and German Foreign Debt/GDP Ratios [329]

Year	Poland: Government Debt/National Income Ratio (%)	Poland: Commercial Debt/National Income Ratio (%)	Poland: Total Debt/National Income Ratio (%)	Germany: Government Debt/National Income Ratio (%)	Germany: Commercial Debt/National Income Ratio (%)	Germany: Total Debt/National Income Ratio (%)
1928	20.32	16.33	36.64	44.9	30.3	75.2
1929	23.11	23.81	46.92	51.6/41.5	34.8	86.3/76.2
1930	32.47	25.99	58.46	42.2	39.3	81.5
1931	49.6	26.88	76.48	58.5	45.7	104.3
1932	61.22/62.1*	29.41/36.8*	90.63/98.8*	(Standstill)	45.9	45.9
1933	50.69	27.09	77.78			
1934	45.59	25.16	70.75			
1935	38.11	20.73	58.84			

The attempt by Knakiewicz (1967) to assemble a national output series for Poland remains in the author's judgment the best available estimate for the purposes of this study, though its limitations are numerous. The output figures reported by Knakiewicz do not follow a standard definition of GDP but are instead closer to the Net Material Product measures favoured by the statistical agencies of the Soviet bloc.[330] Knakiewicz's series thus contains two opposing biases relative to a standard GDP figure: an upward bias caused by the deduction of capital depreciation, and a downward bias caused by the exclusion of large parts of the service sector and other 'non-productive' sectors of the economy. The impact of the latter bias is probably not catastrophic, given that services played a minor role in what was still a heavily agrarian economy with large centres of heavy industry: the census of 1931 shows that 80.1% of the Polish population was employed in agriculture and industry, with a further 4% listed as "other".[331] Nevertheless, the downward bias likely exceeds the upward one, such that Knakiewicz's figures likely represent a modest underestimate of the true level of output. Indeed, of the five estimates of output per capita in 1929

[329] Calculations on the basis of the figures presented in Table 7. GDP figures for Poland are from Knakiewicz (1967), pp. 305-07; for Germany from Ritschl (2002, 2013).
[330] This characteristic of Knakiewicz's estimates is probably not the result of any particular ideological commitment on her part. Throughout her study—remarkably for a scholar behind the Iron Curtain-- she shows herself to be influenced heavily by the mainstream neo-Keynesian economics of the Bretton Woods era. Rather, the omission of much of the service sector is likely due to the limited availability of data on the services that could easily be adapted to national-output calculations at a time when access to computers for econometric analysis was nonexistent.
[331] Główny Urząd Statystyczny, *Drugi Powszechny Spis Ludności z Dn. 9.XII.1932 r. (Dane Skrócone)*, Statystyka Polski Seria C 62 (Warsaw, 1937), p. 53

presented in GUS (2012), hers are the second-lowest, though the lowest, an estimate by the Polish Academy of Sciences (PAN), does include services.[332] Interestingly, the output figures for Poland between 1929 and 1935 cited by the Maddison Project, though not directly commensurable with any of the Polish series because they are denominated in Geary-Khamis international dollars and not local currency units, follow a different trend from either the Knakiewicz figures (the alternative set constructed from the same data, but in constant prices) or the PAN ones, being closer to the PAN figures during the early Depression years and closer to the Knakiewicz ones after 1933. It would appear that the Maddison estimates are based on the contemporary figures by Klarner, which neither Knakiewicz nor the PAN team found to be satisfactory.[333]

The main advantage of the Knakiewicz figures is that, unlike the other estimates, they are computed in current (not constant) prices, which is the correct basis for comparison given that the value of Poland's foreign debts was fixed in nominal terms. Comparing nominal debts to real output greatly underestimates the burden of debt on the Polish economy during the Depression, when prices were contracting rapidly. It is a distinction that matters when interpreting the literature, particularly the claim by Leszczyńska (2013) that Poland during the Great Depression was a low-debt country, and indeed that "[t]he [Polish] state's foreign indebtedness… was among the lowest in Europe".[334] This observation is misleading for the following reason: it is drawn from a single data point (1930), which in turn is taken from the Klarner GDP series, which is both by some distance the highest of the national output estimates and, critically, is denominated in constant prices. As we shall see, it is the collapse in the price level in 1930-32 that is the key factor in pushing up the Polish debt-output burden to dangerous levels.

Thus, given the current state of research, the Knakiewicz figures may be the least-bad of several less-than-ideal options. As price indices differ dramatically for the interwar period (for instance, comparing two GUS price indices which both take 1928 as a base year, the Wholesale Price Index for June 1933 stands at 60 whilst the Cost of Living index for middle-class families is 78[335]) and no GDP deflator has, to my knowledge, been computed, it would be difficult to use the PAN figures (which are denominated in constant prices) without the potential for introducing an error of about the same magnitude as that caused by the omissions of the Knakiewicz figures. If the partial exclusion of services from the Knakiewicz series biases the Polish debt/output ratio upward relative to the one

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[332] Franciszek Kubiczek et al., eds., *Zarys Historii Polski w Liczbach: Społeczeństwo, Gospodarka* (Warszawa: Zakład Wydawnictw Statystycznych, 2012), p. 526
[333] Own calculations of indexed trend with 1929 as a base year, based on Kubiczek et al. (2012), p. 526.
[334] Leszczyńska (2013), p. 256
[335] *Wiadomości Statystyczne GUS* (1933), headline panel of variables.

reported for Germany, then it must be remembered that the Polish economy had much shallower financial markets than the German one, and that significant portions of the still-dominant Polish agricultural sector, particularly in the underdeveloped east of the country, were only tenuously integrated into the cash economy[336], such that the difficulty of mobilising the financial resources to service a given (true) debt/GDP ratio was correspondingly greater in Poland than in Germany. Thus, while it is probably wise not to read too much into the exact relationship between the Polish and German debt/GDP ratios reported below, the two sets of figures are at least broadly comparable.

With those caveats in mind, let us examine the calculations of the Polish and German foreign debt burdens presented in Tables 6 and 7. As can be seen, the trajectories two countries follow are slightly different, but the burden of external debt each faces at the peak of its crisis is similar. In contrast to Poland, Germany begins the period with a higher debt overhang: for 1929, its ratio of total (private plus commercial) foreign debt to output under the modified reparations schedule imposed by the Young Agreement stood at 76.2%, as compared with 46.92% for Poland. Examining public debt by itself yields a ratio of 23.11% for Poland and 41.5% (under the Young Plan) for Germany. By 1931, falling output in both countries outweighs the modest contraction in their absolute debt burden, pushing the debt/output ratio up to 76.48% in Poland and 104.3% in Germany (49.6% for Poland and 58.5% for Germany when only public debt is examined). At this level of debt, Germany experienced a devastating financial crisis that prompted its government to declare itself in default on its foreign obligations. Poland did not experience a financial collapse in 1931, but it continued to face both falling output and falling prices, such that its debt/output ratios for 1932 (90.63% for all foreign debt, 61.22% for state debt) approach, and in the case of state debt even exceed, the levels which attended the German crisis of 1931. An alternative tabulation by Spigler, in Kaser and Radice (1987), shows debt levels even higher than this, amounting to a debt/output ratio of 62.1% for public debt and 98.8% for all debt: nearly the same overall debt burden as in Germany the previous year.[337]

From 1933, the Polish debt/output ratio begins to fall once more, a movement driven not by a recovery in output (on the Knakiewicz figures, the Polish economy continues to contract through 1934) but by the fall in value of the US dollar, the currency in which most of Poland's debt was denominated, following the American exit from gold in 1933. Apart from a suspension of payments of principal (but not interest) on one minor war loan from the US upon the expiry of the Hoover

[336] Leszczyński (2019), pp. 458-59 gives vivid evidence of the overwhelming dominance of barter in rural retail trade in Western Galicia, which was a more developed region than the *Kresy* to the east.
[337] The Spigler tabulation for public debt differs from the GUS one in that it includes subnational debt along with the debt of the central state. I do not know the reason for the (larger) discrepancy between the Spigler and GUS figures for commercial debt.

Moratorium on 15 December 1932 (a move which, though driven by financial stringency, was part of a pan-European default and could at least be portrayed to creditors as a principled stand)[338], Poland remained current on its foreign obligations until a general suspension of payments in the summer of 1936.

3.5 Spreads and Breaks: Investigating Why Germany Defaulted and Poland Did Not

Why, then, given the similarity in the two countries' starting points as the world economy stood at the brink of a precipice following the Wall Street collapse, did the fates of Poland and Germany diverge over the course of 1931, with Germany crashing out of the gold standard and Poland resolutely fighting on? To answer this question, it is appropriate to look closely at the interplay between economic and political events on the one hand, and the movement of the bond price series on the other. The daily frequency of the bond price observations in the dataset allows for precise identification of shocks to the series: a necessity for understanding fast-moving events like the collapse of the reconstructed gold standard across much of the world in September 1931.

The data collected is sufficient to answer two fundamental questions about the dynamics of the Polish and Central European crisis of 1931. First, to what extent was there contagion on the debt markets between the Danubian economies, Germany, and Poland, and, second, what events mediated the dynamics of the crisis in Poland and Germany? In brief: serious trouble on the market for sovereign debt began, in Poland and in Germany, only after the failure of Danat-Bank on 13 July 1931—contrary to the claims of Ferguson and Temin (2003) and Temin (2008) that the crucial events in Germany happened earlier, in March and June of 1930. There is some limited evidence of a slight weakening in Polish and German bond spreads in May and June 1931, though this appears to have little connection with Brüning's pronouncements on either the Austro-German customs union or reparations, and in any case appears to have been quelled by President Hoover's announcement of a debt moratorium on June 20. The fall of Danat serves as a common shock to both the Polish and German bond series, but following this event the paths of the Polish and German bonds diverge. In the Polish series, Danat itself is a structural break, which reflects the fact that the shock to the Polish bond series following the British exit from gold is a transient one. Between September 1931 and 1932, Polish bonds face intense volatility, which, however, ends not in default but in a show of

[338] The excusable nature of this default did not prevent Poland from being blacklisted from marketing new loan issues in the United States under the Johnson Act of 1934.

government strength in taking over the Bank of Poland to prevent it from taking the Złoty outside the gold standard, with the ultimate result that the risk premium on the Polish bonds in the final three years of the Depression remains at pre-Depression levels. In the German bond series, however, the key structural break occurs in September 1931, which reflects that month's status as a point of no return in the German government's preparedness to give its creditors their due, with a 'temporary' suspension of debt payments under Hindenburg's standstill declaration that quickly became permanent the following year.

In contrast to the lack of attention paid by the literature to the Polish crisis of 1931—largely because, with the exception of a collapse of deposits in the private joint-stock banks, Poland weathered the storm, and, critically, was not forced to suspend its external currency and debt transfers– the events of 1931 in Germany have been the subject of a long-running and heated historiographic debate. This controversy in effect pits the view that crisis on the currency was the prime mover in the Great Depression against the rival perspectives stressing banking and/or sovereign debt. It turns on the key question of whether the crisis—and by extension, the worsening of the global economic situation, collapse of the reconstructed gold standard, and strengthening of extremist political tendencies in Germany and elsewhere— was a consequence of an acute failure of policy by the German government, one which could have been avoided had Chancellor Brüning and the Reichsbank acted differently, or of a chronic weakness of the German economic and financial system that, from the vantage point of 1931, it was too late to contain. In the modern incarnation of the debate, it is taken as given that the crisis played out in the first instance in the financial markets—as opposed to the earlier historiography, where, for instance, it was argued that the roots of the crisis lay in Brüning's deliberate mismanagement of the German fiscal policy to underscore to Germany's creditors the country's inability to pay[339]— and what is debated is which financial market led the crash.

The data in this paper provide strong evidence against one of the views in the literature: that of Ferguson and Temin (2003), whose account begins with the currency markets and presents a variant of the traditional narrative that the 1931 crisis in Germany was in the first instance an avoidable policy failure, the result of a contradiction between Brüning's foreign policy course and the expectations of the country's creditors. Ferguson and Temin's argument takes a more nuanced view of Brüning's actions than earlier work in the policy-failure tradition. The authors agree that the problems of the German economy preceded and did not originate with Brüning: indeed, that "[t]he Depression had begun in Germany in 1927 or 1928, before the collapse in the United States", well

[339] See the discussion of the historiography in Ritschl (1998).

before Brüning's tenure as Chancellor, which began in March 1930. In Ferguson and Temin's telling, it is not Brüning who is responsible for the fact that "at the beginning of 1931 [i.e. before the beginning of the financial crisis proper] the German economy was clearly in desperate shape"[340], but it is precisely this pre-existing fragility that gave Brüning's ill-starred pronouncements in the realm of foreign policy the power to touch off a currency crisis that caused the collapse of the German house of cards.

The crux of Ferguson and Temin's argument is that the fundamentals of the German economy at the beginning of 1931, though weak, were not in imminent danger of giving way, particularly because there still remained international creditors willing to lend to the German government. A key anchor of this potential lifeline was the French government led by André Tardieu that came into office in December 1930, with the conciliatory Aristide Briand reprising for the last time in his long career the post of Foreign Minister. The new Laval government, Ferguson and Temin argue, was making tangible efforts to orchestrate a package of credits to Germany, hoping thereby to stimulate French trade and head off a further worsening of the foreign outlook for France: a stance keenly observed by investors in France and internationally. That effort, unfortunately, was in the authors' view at cross-purposes with the pressures on Brüning—ironically stemming from a similar mix of economic and foreign-policy concerns on the part of President Hindenburg, to whom Brüning answered, and the cartels—to orient German economic and foreign policy toward seeking markets and influence in Cantral and Eastern Europe. In so doing, the German government spurned the opportunity that the French were extending toward them, "destroyed the basis for cooperative internationalist strategies" for settling the European powers' differences and pulling back from the brink of the Depression, and, indeed, swept away the last underpinnings of the Weimar economic and political system.[341]

Ferguson and Temin list several early symptoms of the confrontational turn in the German government's foreign policy in early 1931, including continued naval rearmament in defiance of the London and Versailles treaties and Brüning's pointed refusal to bring the Polish-German trade treaty to a vote—the very same moves stimulating Poland's turn toward France at this time. They key event for them, however, by which Brüning's creeping revisionism took on the character of not only an economic, but also a financial rupture, was the Chancellor's undertaking, put to a vote in the German Cabinet on 18 March and officially announced three days later, to work toward concluding a customs union with Austria, a decision that had clear undertones of a more fundamental intent to revise the post-war peace settlement. The Briand government, in tune with French public opinion, reacted with

[340] Ferguson and Temin (2003), p. 9
[341] Ibid., p. 27

intransigence, killing the chances of a French-led bailout of the German public finances. With this stroke, the German government forfeited its creditworthiness, particularly on the market for long-term credit, where potential creditors were hesitant to undertake any further lending unless the questions of debt seniority that had bedeviled the Young Loan negotiations were resolved to their satisfaction.[342]

With the late-March customs union plan as a fulcrum, Ferguson and Temin's narrative moves quickly toward its conclusion: the closure of the foreign market to German loans meant that Brüning was forced back on the acquiescence of a majority in the Reichstag—and the forbearance of the restive German populace itself—to pass a harshly deflationary budget. Caught between a rock and a hard place and needing desperately to shore up support in the domestic political arena, on 6 June Brüning announced that Germany would be suspending its payments of the domestically despised war reparations, an announcement they claim "was read everywhere as implying a broader German inability to make international payments".[343] In Ferguson and Temin's account it was this fear of a general default in the first weeks of June that gave the coup de grâce to the German financial system: the looming threat of a general payments suspension made holders of Reichsmarks withdraw their deposits from the universal banks and drain the gold reserves of the central bank. Critically weakened by this outflow, the banking system failed, beginning with the insolvency of Danat-Bank on 13 July, and the Reichsbank lacked the resources to mount a rescue.

What use is bond-market data in assessing an explanation of the German crisis of 1931 that, by the authors' own framing, emphasizes the currency markets as the disaster's point of origin? The answer is that the failure of the Reichsmark in their narrative did not happen of its own accord, but was being stoked at every stage, from the March announcement of the customs union onward, by fears that would have been intimately reflected by investors' expectations on the market for German public debt. The customs union between Germany and Austria is a critical juncture in Ferguson and Temin's narrative precisely because it ushers in a substantial hardening of the budget constraint facing the German government, and its direct and visible corollary is a swelling of the German budget deficit in the spring of 1931. While it is true that the ability to attract new credits is not necessarily correlated with willingness and ability to service existing ones, given Germany's by all accounts highly precarious financial position it would be surprising to find no movement in expectations of default on the outstanding issues as well, if the announcement of 'economic Anschluss' was the death-

[342] Ibid., p. 31
[343] Ibid., p. 36

knell that Ferguson and Temin describe. One would expect to see a reaction in the bond spreads during the entire period from March onwards, as the domestic political and budgetary crisis mounted, but especially during the second movement of the authors' narrative, the rapid slide into calamity after Brüning's rebuke of reparations on 6 June. Both of the German bonds in the sample collected for this paper—the 7% Dawes bond and the 5.5% Young bond—are reparations credits; thus, an explanation for the financial crisis of July 1931 that proposes expectations of a reparations default as the cause of a currency withdrawal that bled the German financial system dry should find clear reflection in a rise in the spreads on the reparations debt.

Figure 22: Structural Breaks in the German and Polish Bond Series (New York Stock Exchange, 1931)

Neither of these two predictions—a rise in spreads on the reparations bonds following the customs union announcement and a mounting panic after 6 June—is borne out by the high-frequency data. Figure 22 presents the relevant German bond spreads against the 2.75% Liberty Loan on the New York market (the results for the London market are essentially identical), and Table 9 gives the calculated yield spread between the Dawes Loan and relevant 'risk-free' bond at key dates in

Ferguson and Temin's narrative for both London and New York.[344] March 20 is a non-event in either the Dawes or the more volatile Young series, both of which show no upward trend in yields before the second week of May. Indeed, on the London market, the yields on the Young bonds, having risen by nearly one percentage point in September 1930 in the aftermath of the collapse of the pro-system 'Weimar Coalition' at the polls, exhibit a steady decline to their pre-election levels from the start of the year to the beginning of May. To the extent an adverse movement in the yields can be detected prior to Brüning's declaration on 6 June, it is modest (the spread of the worst-affected German bond, the London Young issue, widens by 1.15 percentage points over the course of May), almost entirely confined to the Young bonds, and its beginning coincides with the failure of Austria's Credit-Anstalt on 11 May, suggesting that the impulse for the initial deterioration of investors' perception of German credit risk in the spring of 1931 was not 'made in Germany' but, to all appearances, on the Danube.

Table 8: Key Events in Germany, 1931, and the Spread of the 7% Dawes Loan

Date	**Event**	**London Spread (%, over Consol)**	**New York Spread (%, over Liberty Loan)**
January 2	*Beginning of year.*	2.690	3.495
March 20	Brüning announces project for German-Austrian customs union	2.277	3.219
June 6	Brüning announces intent to repudiate further reparations	3.032	3.606
June 19	Day before Hoover moratorium announced	3.271	3.806
July 10	2 days before Danat-Bank's failure	3.151	3.553
July 15	2 days after Danat-Bank's failure	4.351	5.023
September 4	Day before Hague ruling on German-Austrian customs union	4.141	4.812
September 9	Day before Hindenburg announces standstill on German debt payments	4.537	5.312
September 19	Day before Britain leaves the gold standard	6.786	7.850
September 23	Three days after Britain leaves the gold standard	5.825	7.574
December 31	*End of year.*	7.874	7.714

[344] The New York figures, based on price quotations that exclude interests accrued between coupon payments, may be regarded as slightly more reliable for the purposes of this exercise. In qualitative terms, however, the two time series yield identical results.

As for the second movement of Ferguson and Temin's narrative— the announcement by Brüning on June 6 that Germany was not in a position to continue servicing its reparations debts— the evidence that bondholders took alarm at the announcement is only very slightly stronger. Figure 22 and Table 8 show that the Brüning announcement was associated with a rise in the yield spread of the 7% Dawes loan over the Liberty bond of some 0.2 percentage points over the following week: a discernible increase, but one in no way commensurable with the increase in yield spreads in September, or even in July in the wake of a Danat crisis. The performance of the Young loan shows a proportionally larger deterioration, but, again, this is a matter of degree, and a modest degree at that. Furthermore, even this slight increase in the German spreads goes into reverse in mid-June, and by July 10, the eve of the Danat collapse, the Dawes spreads in New York have completely reverted to their June 6 levels, with the London ones not far behind. What accounts for this recovery? The explanation that Ferguson and Temin propose is that Brüning's victory over the SPD in the Reichstag in the matter of forcing through further austerity on measures June 16 brought a short-term reprieve to the German balance of payments.

Keeping always in mind that the events of June 1931 appear from the perspective of the German bond series rather as a tempest in a teacup, the verdict of the bond-spread data on this proposed timing is equivocal at best. In the case of the New York bond series, the decline in spreads is indeed in full swing by the 16th, but its beginning is actually earlier, on the 13th, and the 16th brings only a continuation of the downward trend. In London, meanwhile, the spread of the Dawes bond over the consol continues to rise through the 19th, but then experiences a (relatively) dramatic fall of 31 basis points, from 3.27% to 2.95% the next trading day, the 22nd. Is there an event that could explain the rapid recovery of the London spread? A natural candidate suggests itself: the announcement by President Herbert Hoover of a short-term moratorium on war debts, which occurred precisely during the pause between the two observations: June 20. On the balance of the evidence, then, and contrary to Ferguson and Temin (2003), it would appear that it was the prospect opened by Hoover's announcement of a general solution to the lingering problem of war debts and reparations, more than Brüning's domestic political victory, that had the greater effect in calming investors in the German bonds.

In discussing the final stages of the 1931 debacle, it is useful to draw explicitly on time-series analysis to disentangle the different experiences that Poland and Germany had of the breaking storm—this time one whose effects, as seen from the bond markets, were all too severe. To a superficial examination, the short-run dynamics of the July-September crisis for the bonds of both countries are similar: both the Polish and German bond spread series are severely rattled by an event occurring on July 13, which almost certainly is the collapse that day of Danat-Bank. For the first time, the contagion from the German bond series to the Polish ones is associated not with a political event—the threat of war—but a strictly financial one. It is difficult to conclude, from this data alone, whether international investors were worried about the remaining direct financial links between Polish and German banks, about the signal that the fall of Danat, and the Vienna and Budapest universal banks before it sent regarding the soundness of banking practices in the 'new Europe' in general, or about the Polish government using the turmoil unfolding around it as an excuse to renege on its large outstanding obligations. What can be seen, however, is that whereas the German bond spreads show some tendency toward recovery in late July and August on both major capital markets (itself a surprising finding, given the cast of finality that the Danat crisis assumes in most narratives of the 1931 crisis, such as that of Straumann (2019)—but such is the conclusion that a comparison of the rows for July 15 and September 4 in Table 8), the direction of travel of the Polish spreads, seen in Figure 22, is only upward between July and September 1931.

That these surprising findings are, indeed, real, is suggested by the pattern of structural breaks in the data. Running the Bai-Perron algorithm, as in Chapter 2, on the Polish and German bond series yields results which are consistent between London and New York.[345] For all of the bonds being considered here, there is some kind of structural break in 1931. For the Polish bonds, as well as the London tranche of the German Young loan, this break occurs well before the yield spreads spike to their peak in September 1931: July 8 for the Polish 8% loan (New York); July 13 for the German Young loan (London), and August 6 and 7 for the Polish 7% loan in London and New York, respectively. By contrast, the structural break for the German Dawes loan on both markets does not occur until mid-September (10 September for the London tranche, 15 September for the New York one). The conclusion that suggests itself is that, far from crowding the exits in the wake of the Danat collapse, international investors in German debt took a measured approach, holding on to expectations that at least a portion of their claims on Germany would be honoured for a month or two longer than the historiographic consensus has tended to assume.

If the destruction of a critical part of the German banking system was not enough to make holders of the more senior portion of German reparation debt abandon all hope, then what was?

[345] The full pattern of structural breaks from 1927-1936 is not reproduced here because it is extraneous to the analysis of the 1931 crisis, but the regression results are available from the author on request. The 5.5% Young bond on the New York market is not considered here because it enters the sample too late to produce a meaningful result (or non-result) for 1931, given the standard trimming parameters. The parameters used are the same as in Chapter 2: the trimming parameter is set to 10% and the distribution of errors is allowed to be heterogeneous across breaks. The test statistic on all of the breaks greatly exceeds the 5% critical value: the lowest value of the F-statistic on the relevant structural break for a bond in the sample is 1711.189, against a critical value of 10.55. (The bond with the lowest F-statistic on its 1931 structural break is the German Young loan in London.)

Examination of the series in Figure 22 (only the New York bonds are shown here, but the results for London tell the same story) shows that the German bonds begin to decline a week or two before the structural break proper. In fact, examination of the daily data reveals that there is a sudden upward movement in the Dawes bond spreads on a specific date: September 3 for the London series and September 4 for the New York one, after which the trend is unambiguously negative.

While the pace of financial events at this juncture is so rapid that no cause of this decline can be identified with certainty, there is one intriguing possibility—though it must be stressed that at the current stage of research, it is only a possibility, not a working theory. Specifically, September 3 is the exact date when the final fate of the Austro-German customs union proposal, which following its unhappy birth had been referred to the Permanent Court of International Justice at The Hague for a ruling as to its compatibility with the Treaty of Versailles, became publicised. The decision had hung in the balance, with seven jurors ultimately voting in favour of allowing the proposal to succeed and eight against[346], but on September 2 the likely verdict was conveyed to German Foreign Minister Curtius, and on September 3 the story hit the news-stands.[347] Whether or not the timing is coincidental is not a question that the evidence here is capable of resolving. In light of Ferguson and Temin (2003)'s insistence that the customs union proposal was a *sine qua non* for Brüning's attempts to generate enough nationalist fervour in the Reichstag to persuade the legislature to hold their noses and acquiesce to austerity measures aimed at retaining the ability to service the odious reparations debt,, the possibility of a connection should at least be investigated. It is just possible that Ferguson and Temin were correct in their basic contention, but for the wrong time period.

Regardless of the ultimate fate of this German Hague hypothesis when put in confrontation with archival evidence, what the analysis thus far reveals by way of contrast is the more favourable *political* situation in Poland in connection with the 1931 crisis. Though both late Weimar Germany and Sanacja Poland were illiberal regimes existing uneasily alongside the vestiges of parliamentary governance, the process of democratic backsliding in Poland, which had its *coup d'état* in 1926, was more advanced as of 1931 than that in Germany, where the *Machtergreifung* of 1933 was still only dimly discernible on the horizon. The Piłsudski government, having sent the leaders of the opposition to the dungeons of the Brest-Litovsk fortress by the fall of 1931, was in a vastly stronger position to push austerity measures through a chastened Parliament. In addition, as the following chapter of this thesis argues at length, the Polish government had strong, intrinsic reasons for remaining on the gold standard, in that the steadily increasing drumbeat of irredentism across the

[346] *The Times* (London), "Austro-German Case – The Hague Court's Opinion", 7 September 1931
[347] *The Times* (London), "Customs Union – 'Temporary Relegation'", 3 September 1931

western border in Germany could only strengthen the case for hewing close to France, diplomatically, militarily, and financially. As Chapter 4 substantiates, it was out of this confluence of domestic-political ability and geo-political necessity that the major financial event of late 1931 in Poland, the government's strangling of the independence it had granted to the Bank of Poland in 1924, was born.

3.6 Poland's 1936 Exit from Gold: The View from Wall Street

Before leaving, for the time being, the study of Poland's experience on the international bond markets to further research, it is worth anticipating slightly the argument of the next chapter on the reasons for Poland's exit from the gold standard in April 1936 in the light of the rich, high-frequency database presented here. The basic question to be answered is whether, per the Polish literature, the imposition of exchange controls was a matter of necessity, the result of worsening economic fundamentals and perilously low gold reserves, or whether, as suggested but not proven by Wolf (2007), it was a conscious policy decision of the Polish government.

Table 9: Key Events in Poland, 1936, and the Spread of the 7% Stabilisation Loan

Date	Event	London Spread (%, over Consol)	New York Spread (%, over 2.75% Treasury Bill)
11 October 1935	Last trading day before Kwiatkowski enters government	4.329	-
15 November 1935	Kwiatkowski wins President Mościcki's assent to capital controls (but is overruled by Rydz-Śmigły and Beck)	5.032	4.0181
9 March 1936	First trading day after Hitler remilitarises Rhineland	4.747	3.843
30 March 1936	Slight fall in Bank of Poland reserves	4.581	3.945
15 April 1936	Creation of National Defence Fund; new wave of strikes begins	4.802	4.151
21 April 1936	Warsaw Castle conference; Koc tenders resignation from Bank of Poland	4.849	4.130
24 April 1936	Last trading day before suspension of gold	4.845	4.131
29 April 1936	2 days after Poland suspends convertibility	5.202	4.945
29 May 1936	*End of series*	6.143	5.410

Leaving aside for now the detailed narrative—the interested reader is invited to refer to this section in tandem with the analysis presented in Chapter 4—the conclusion that emerges from Table 10 and Figure 23 (in which the solid vertical line is not, as above, a formal structural break, but simply the date of Poland's imposition of exchange controls, 27 April 1936) is thoroughly consistent with the latter view and inconsistent with the former. From the beginning of 1936, there is no evidence of a reaction by participants in the market for Polish sovereign debt to the worsening of economic conditions that the Polish literature insists was taking place. Neither the fall in central bank reserves at the end of March argued by Landau and Tomaszewski (1989) to have been the first stage in a currency crisis, nor the strike activity of March and April claimed by the Communist-era historiography as having forced the government's hand, are reflected in the series. As soon as the decision of exchange controls was announced, however, the debt yields shot upward, anticipating, in an echo of the reasoning of Papadia (2017), the default to come in June. If the judgment of the interwar 'bond vigilantes' is to be trusted—and the foregoing analysis suggests that their ear was quite sharp—the reasons for Poland's departure from gold should be sought not in the economic fundamentals that were common knowledge, but behind the scenes.

Figure 23: Polish Bond Spreads over 2.75% US Treasury Bill, January-May 1936

3.7 Conclusion

In this chapter, I have used a hand-collected, high-frequency database of bond spreads spanning October 1927 and June 1936—the former the date of Poland's entry onto the gold standard, the latter the date of the country's debt default following the exit from gold one month previously—to answer the central question of why Poland, unlike Germany, managed to avoid a debt crisis in 1931 despite marked similarities in its fundamental political and economic position, notably, and surprisingly, the burden of (public and commercial) debt to GDP, as well as the two countries' nearly identical exposure to the global financial cycle whose symptom was the sudden reversal of the major inflow of American capital in the summer of 1929. Poland's survival on gold past 1932 is all the more surprising in that comparison of Polish bond spreads with those of Germany, Austria, and Hungary before 1931 shows Polish bonds to have had a substantially higher risk premium, as well as greater volatility in response to political shocks.

With the help of structural-break analysis and new evidence from the Polish archives, I find that there were two key differences that explain the greater resilience of the Polish financial system at the height of the Depression. The first of Poland's advantages was the greater ability of the Polish financial system, dominated since the end of the hyperinflation (as will be discussed further in the next chapter) by four large, state-owned banks implicitly guaranteed by the state, to avoid a catastrophic run on their deposits. The second, and crucial, advantage, however, was political: the Sanacja regime's ability to carry out its economic agenda without facing a binding parliamentary constraint on its ability to enact unpopular legislation, animated by the strategic imperative to maintain close ties with France in the face—perhaps ironically, in this context—of continued and indeed intensifying German dissatisfaction with the post-Versailles status quo.

Equally noteworthy and ripe for further research is the reflection of Germany that emerges in the Polish mirror. The high-frequency bond-spread data presented here raises fresh questions for the historiography of the German crisis of 1931. I have shown that the timing of the deterioration in German spreads grows to acute proportions only in the first days of September of that year, with investors in German sovereign debt seeming to have been only partially convinced of the imminency of a suspension of debt transfers even after the July 1931 banking crisis. which is at odds with the existing literature's focus on either the financial crisis of mid-July (Ritschl (2012), Schnabel (2004), Straumann (2019)) or the destabilizing foreign-policy actions of Chancellor Brüning in March-June of that year.

The explanation proposed here for the reasons of Germany's (belated) slide into default is that Ferguson and Temin were correct to stress the tensions between France and Germany over the

Austro-German customs union proposal as the final nail in Germany's financial coffin, but too early in their proposed timing. While this is—for the time being—merely a suggestion, requiring further corroboration from German archival sources3, it would not be surprising if, given that the fundamentals of the Polish national accounts circa 1931 and the erosion of the country's democratic institutions mirrored the situation in Germany, and that the security dilemma which drove the Polish government to sacrifice the country's economic prosperity by countermanding the central bank's request for an urgent departure from gold in 1931-32 were in large part a direct reaction to continuing German irredentist ambitions, the foreign factor were found critical as well to the final economic crisis of the Weimar Republic.

Chapter 4:
Interwar Poland's Late Exit from Gold: A Case of Government as 'Conservative Central Banker'?

4.1 Introduction

In the modern literature on the Great Depression, monetary policy stands out as the central transmission mechanism of the crisis, the sinews through which adverse conditions at vulnerable points in the newly reconstructed worldwide financial order to threaten the entire system with collapse. The degree of commitment that governments showed toward the maintenance of the gold standard, and the extent to which central banks were willing and able to act to maintain gold reserves above the statutory minimum consistent with gold standard membership, have been implicated in the literature as the single most important factor explaining why certain countries suffered so much more in the Great Depression than others.[348] As Eichengreen (1995) put the matter, the choice to channel monetary policy through the "golden fetters" of the reconstructed gold-exchange standard implied prioritising the level of reserves above the needs of the "real" economy: raising interest rates during episodes of financial panic to stem the flight of capital, for instance, and refraining from expansion of the money supply as a means of economic stimulus.

Instead, policymakers adhering to the "rules of the game" of the gold-standard regime were expected to respond to the crisis via deflationary measures: actively contracting the money supply in order to foster recovery by accelerating the adjustment of prices to the new, lower level of activity. As an additional complication, the form the international gold standard took in the wake of the Genoa Conference of 1922, with gold-backed foreign exchange typically being considered equivalent to gold bullion and specie in backing the currency, created a major risk of contagion, whereby one country's departure from the gold standard would put the reserve positions of foreign central banks that used its currency to back their own under urgent pressure. This increased fragility of the global monetary system demanded increased efforts on the part of governments to demonstrate a credible commitment to remaining on gold and greater cooperation between governments to prevent international payments imbalances from escalating to levels that posed a danger to the system's stability. Fatally for the interwar gold standard, both credibility and cooperation were in short supply in the interwar period, with its expanded political franchises and ongoing discord over the

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[348] The seminal papers in this literature are, most notably, Eichengreen and Sachs (1985) and Bernanke and James (1991).

burden of debts and reparations stemming from the First World War. The consequence of these trends was a strong association between the length of time a country remained tethered to the gold standard as it collapsed and the depth of the economic downturn that it suffered.

In the literature on the interwar gold-exchange standard, the case of Poland presents a puzzle. Poland maintained its commitment to free movement of capital under a fixed gold parity until almost the last days of the international gold standard, leaving the 'Gold Bloc' via the imposition of capital controls only late in April of 1936, later than Belgium and ahead of only Switzerland, the Netherlands and France. Poland's resilience is especially remarkable in the light of its external position. Uniquely among the countries that remained on gold after 1933, Poland was a net debtor, and a heavy one at that. As I have shown in Chapter 3, above, the Polish level of foreign debt (public and private) to national output stood at the end of 1932 on the order of 90% of GNP; when public debt alone is considered, the peak burden on the Polish economy was several percentage points higher than that faced by the German government in 1931 when it defaulted on its reparations and engaged in standstill negotiations with its creditors.[349]

What is more, Poland lacked the well-developed industrial base of the remaining countries of the Gold Bloc. The main items, by value, among the exports that provided the Polish economy with the foreign exchange needed to stay current on its external liabilities were (in this order) grains and coal, and revenues from the former especially were very hard-hit by the global collapse of agricultural prices that set in at the end of 1928. Under such circumstances, the extent of the sacrifices required for Poland to remain on the gold standard was proportionally even greater than in most other countries, and, indeed, the Polish economy suffered tremendously. According to official statistics, industrial production at the trough of the Depression stood at 43.9% of its 1928 level, industrial employment declined to just under 50% of its pre-Depression peak, and underemployment among those employed reached levels of 46.9%. Hardship in the rural sector where the majority of the population was employed was, as Chapter 1 has made clear, severe. Although the state of Polish output statistics in the interwar period remains suboptimal, the decline in real GDP was at least on the order of 25%[350], with no robust recovery before 1937.

Two questions thus present themselves: how did Polish policymakers manage the Herculean effort of keeping the Polish economy on gold for so long, and why did they continue to maintain the gold standard even as both the terrible cost of doing so and knowledge of successful alternatives in other countries became apparent? The literature on the matter is small in volume and at present

[349] *Wiadomości Statystyczne Głównego Urzędu Statystycznego (WS GUS),* 1924-1936.
[350] Kubiczek et al. (2012)

inconclusive. Western authors have largely missed the significance of the Polish case to understanding interwar monetary developments. Eichengreen (1992) devotes almost no attention to Poland during the Depression era (though he has a little more to say on the earlier Polish hyperinflation), despite the country's long and costly struggle to remain on gold providing one of the clearest illustrations of the potentially extreme costs of remaining bound by 'golden fetters'. More recent empirical studies, most notably Wandschneider (2008) and Wolf (2007, 2008), touch on the question of Poland's long adherence to the gold standard through the use of cross-country panel regression methods to gain a quantitative picture of the determinants of the timing of a country's exit from gold during the Depression. Wolf's findings on Poland are striking: he finds that the exit date predicted by covariates such as the (authoritarian) nature of the political system, trade ties with the Gold Bloc, and past history of inflation predict a Polish exit as early as the final quarter of 1934, leaving a large unexplained residual.[351]

To date, there have been few systematic attempts made to explain the exceptionally long tenure of Poland on the gold standard highlighted by Wolf. Wolf himself (2007, 2008) puts forward the hypothesis that geopolitical factors—Poland's dependence on France as an ally against Germany and the Soviet Union— make up the difference. In explaining the large residual for Poland in his statistical results, Wolf draws largely on a reading of the secondary literature on the Polish-French alliance, with a much lower emphasis on archival sources, Polish or otherwise. The Polish literature, by contrast, takes the opposite approach: it contains hardly any econometric analysis of Poland's exit from gold, but investigates the reasons for the policy decision through a survey of extant primary evidence from the Polish state archives.

Comparing the two sets of findings reveals a puzzle, which it is this article's primary purpose to resolve. In contrast to Wolf's foreign-policy explanation, the Polish works on interwar Poland's monetary policy, of which the most important are Leszczyńska (2013)'s history of the Bank of Poland between 1924 and 1936, and the four-volume economic history of the Polish Second Republic by Landau and Tomaszewski (1967, 1971, 1982, 1989), emphasise the argument that Poland's adherence to the gold standard was domestic in origin and primarily the result of the conservative tendencies of Polish economic circles. This conservatism found its champion in Polish dictator Marshal Józef Piłsudski, who was inexperienced in matters of economics, and thus unwilling to indulge in monetary 'experiments' that threatened to bring about a return to the inflation of the 1920s, against the backdrop of which he had risen to power. Poland's imposition of exchange controls in 1936, meanwhile, comes out in these authors' work as a sort of unhappy accident: the "unwanted

[351] Wolf (2008), pp. 396-398.

but necessary" result of the depletion of the Bank of Poland's gold reserves to the point where the Bank stood in imminent danger of crashing out of the gold bloc.

It is this conflict of views between Wolf and the Polish literature that I seek to adjudicate in this chapter, which focuses on one crucial piece of the puzzle: the actions taken by the Bank of Poland (*Bank Polski*), the country's central bank, to preserve the gold standard, and the incentives that drove it to pursue this course of action over the plausible alternatives: devaluation of the official parity or imposition of exchange controls. My approach is to marry several sources: from the quantitative side, never-before-used high-frequency quantitative data from the Bank of Poland's official balance sheets, plus the monthly series from Wiadomości Statystyczne GUS, and from the qualitative, new findings from a deeper exploration of the Bank of Poland archives than has been hitherto conducted in the Polish literature, supplemented by a thorough reading of the contemporary financial press (a systematic, day-by-day survey of the London *Times* and *The Economist*, as well as Polish newspapers on an *ad hoc* basis).[352]

My main finding is that the archival and quantitative evidence are consistent in providing robust evidence in favour of Wolf's hypothesis that Poland's adherence to gold was geopolitical at heart. The evidence adduced, furthermore, goes beyond Wolf's summary account by elaborating, for the first time, on the tensions within Poland's ruling elite on the proper course of monetary policy. I furthermore add detail to Wolf's account by producing concrete evidence on the nexus of economic and political interests conditioning the Polish decision to follow France's lead not only in the military, but also in the financial sphere. Whereas Wolf's account focuses on the years 1935-36, I trace the tensions between economic and political rationality in the Polish-French alliance back further, to an earlier critical juncture in 1931-32, when the Bank of Poland was making advanced preparations to abandon the gold standard but this plan was countermanded by the government on the grounds that no move could be contemplated without French support. The key outcome of this conflict was the government's tightening of its control over the nominally independent Bank through an increase in the presence and powers of political appointees on the Bank's governing bodies, which culminated in the government's rejection of a direct petition by the Bank's Board of Governors to impose exchange controls on the grounds that no action on the matter could be taken without French consent.

[352] The ideal would have been to pay at least as close attention to the Polish press as to the articles concerning Poland in the London papers. Unfortunately, the limited state of digitisation of newspaper sources from interwar Poland (as a general rule, the newspapers are available online, but in a cumbersome format and not searchable) has forced the distribution of emphasis adopted here.

The drive to remain in alignment with France remained the dominant factor in Polish monetary policy until March 1936, when the failure of negotiations for a military loan in Paris and Hitler's remilitarisation of the Rhineland abruptly forced a shift in the government's economic priorities toward immediate rearmament on a scale inconsistent with the gold standard, and the Bank was made, albeit reluctantly, to follow suit. In contrast to the earlier Polish literature on the subject[353], I find that the argument that Poland abandoned gold because the Bank's reserves had run out is at best overly simplistic and that the run on reserves that did occur in the final week of Poland's tenure on gold can only be made sense of through the prism of foreign events; and, furthermore, that labour unrest in April 1936, a staple of the Communist-era historiography on the Polish government's sudden shift from gold-standard orthodoxy to the Four-Year Plan of 1936-39, played only a subsidiary role in Poland's departure from the gold standard. The key decisions and political realignments had already been taken by the time of the strikes, and these policy developments were the direct catalyst for the currency panic, not its regrettable outcome.

4.2 A Gold Standard with Polish Characteristics

To understand the course Polish monetary policy took during the Depression, one must begin with an overview of the Bank of Poland as an institution, the economic context in which it operated, and the tools it had at its disposal to put its policies into effect, which differed considerably from those of central banks in the leading economies.

The Bank of Poland was established in April 1924 as Poland's second bank of issue during the interwar period, taking over the duties of the Polish State Loan Bank (*Polska Krajowa Kasa Pożyczkowa, PKKP*) that had managed Polish monetary affairs from the final years of the Central Powers' military occupation through the period of hyperinflation and state formation that had marked the early 1920s.[354] The Bank of Poland was intended as the capstone of Prime Minister Władysław Grabski's design to stabilise the Polish currency on a gold basis in line with the recommendations of the 1922 Genoa Conference and the recommendations of British financier E. Hilton Young.[355] Unlike the PKKP, which was in effect an arm of the Treasury that freely extended

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[353] For the view that the Polish exit from gold was caused by a collapse in the central bank's reserves, see Landau and Tomaszewski (1989) and Leszczyńska (2013). Labour-centric arguments are abundant in the older literature; for two examples, see Ajnenkiel (1980) and Drozdowski (1963).
[354] For an account of the PKKP and its role in Polish economic policy in the post-independence period, see Chapter 2 of this thesis, and also the unpublished doctoral dissertation of von Thadden (1993).
[355] It must be noted, however, that the establishment of the Bank of Poland did not proceed strictly according to Young's recommendations. Most notably, Young urged delaying the establishment of a new central bank

credit to the government on demand, the new Bank of Poland was conceived as an independent joint-stock institution, with the government retaining limited powers of supervision and a limited veto over personnel and policy decisions.

The majority of the shares of the bank, issued in the first months of 1924, were sold on the open market in Poland. Due to the psychological importance of ensuring that the share issue was fully subscribed during the fragile early months of the Grabski stabilisation, the government entered into an agreement with the representatives of big business, in effect guaranteeing particular commercial interests seats on the governing bodies of the Bank in exchange for their purchase of tranches of shares.[356] As we shall see, the dominant position of the so-called "commercial spheres" in the Bank's governance structures played an important role in shaping monetary policy up until the government's unilateral revision of the Bank's charter in October 1931.

Initially, relations between the government and the Bank were structured as follows. The key body in charge of monetary policy decisions at the Bank of Poland was the Bank Policy Council (*Rada Banku*), whose twelve members and three deputies were elected at the Annual General Meeting of shareholders. The Minister of Finance possessed the right to object to the election of a particular Council member within a three-day window following the AGM: this power was used by Grabski already in 1924 to redress what he saw as the excessive influence of agricultural interests on the Policy Council.[357] Whilst the Policy Council and its subsidiary Exchange (and Issue) and Credit Commissions (*Komisja Walutowa/Walutowo-Emisyjna; Komisja Kredytowa)* set the direction of policy, the finer details of policy implementation as well as the administrative trivialities of the Bank's functioning fell to the Bank's Directorate (*Dyrekcja*). The members of the Directorate were chosen by the Policy Council and confirmed by the Minister of Finance. The Bank's chief executive was the President (*Prezes*); he and his deputy the Vice-President (*Wiceprezes*) were appointed by the government for a five-year term. The President had a vote in the Council and in addition the power to veto the Council's resolutions if he judged them contrary to the Bank's statutes and the national interest.[358] While the government could exert indirect influence over the Bank through its appointments and by adjudicating disputes between the Bank's President and the Council, its direct intervention in the Bank's affairs was initially limited to the appointment of a government commissioner (*Komisarz*), with powers to liaise between the Bank and Government and to attend the

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until the government's fiscal consolidation was fully complete, a suggestion Grabski ignored at his peril. For an extended account of the Young mission and its pitfalls, see Allen (2020).

[356] Leszczyńska (2013), p. 121

[357] Ibid., p. 121

[358] Ibid., p. 122

meetings of the Council and Directorate in an advisory capacity, but not to initiate policy decisions himself.

With the end of the outbreak of high inflation in 1925-1926[359] and the formal implementation of convertibility of the Polish Złoty into gold on October 15, 1927, the Bank of Poland's monetary policy settled into a pattern that might be termed the 'gold-exchange standard with Polish characteristics'. Because Poland had regained its independence without inheriting substantial gold reserves from the three partitioning powers, and the subsequent years of hyper- or merely high inflation were not conducive to the accumulation of bullion, the only viable model for establishing a Polish currency convertible into gold was through the inclusion of gold-denominated foreign exchange into the definition of the gold cover.

Under the Bank's statutes as revised in 1927 under the guidance of a second "money doctor", Edwin Kemmerer[360] in preparation for the final stabilisation of the Polish currency, the Bank's note issue and deposit liabilities had to be covered up to 40% of their value in gold and gold-backed foreign bills, of which 30% (i.e. three-quarters of the minimum reserve level) needed to be held in actual gold.[361] This was not the arrangement preferred by the authorities at the Bank of Poland. Stanisław Karpiński, President of the Bank of Poland at the time the stabilisation loan was negotiated, later described the 1927 cover regulations as a "ridiculous and harmful fiction… imposed by foreigners" as their price for the loan.[362] The Bank's authorities got their chance to bring the institution's statutes into line with their own preferences from 1927 in 1933, after the US departure from gold and resultant exclusion of the Bank of Poland's remaining dollar reserves from the Złoty's gold cover made the gold-exchange standard in Poland a dead letter. The updated statutes of March 31, 1933 not only restored a gold-bullion standard, with foreign exchange henceforth excluded from the gold cover, but also implemented the 1927 Polish negotiating position that the minimum gold reserve ratio should be set at 30% of notes and demand liabilities, with the proviso that 30% was not

[359] I discuss the phenomenon of the so-called "coinage inflation" in the second chapter of this thesis. For a detailed and high-quality discussion in Polish, see Leszczyńska (2013), Ch. 4

[360] Kemmerer must be regarded as the type species of the genus of interwar money doctors. For a discussion of Kemmerer's career, particularly with regard to Latin America, see Drake (1989). His activity in connection with Poland was brief—his presence and recommendations primarily served the purpose of assembling the coalition of New York banking houses which underwrote the majority of the 1927 stabilization loan. Following Poland's entry onto gold, the duties of monitoring Poland's economic position on behalf of the stabilisation creditors were handed over to the US banker Charles S. Dewey.

[361] *The Economist*, "The Polish Loan", 22 October 1927.

[362] Archiwum Akt Nowych w Warszawie (AAN), Bank Polski, t.13

an absolute limit: rather, below a gold cover of 30% the Bank would be obligated to pay a tax to the Treasury on the missing reserves and raise the discount rate above 5%.[363]

Independent of these changes, there existed one peculiarity of both the old and the new statutes with regard to the gold cover that turns out to be critical in understanding the events of 1936. Namely, Złoty banknotes could not be freely exchanged for gold bullion at the Bank of Poland. Before 1933, the Bank was obligated to exchange Złoty notes on demand for gold-backed foreign exchange, typically US dollars. With the exclusion of foreign bills from the gold cover, this requirement lapsed into abeyance, in effect granting the Polish currency a layer of insulation against the sort of currency crises that had pushed many European central banks off gold in 1931, even as free capital movement and the freedom of private actors to transact in foreign currency was maintained.

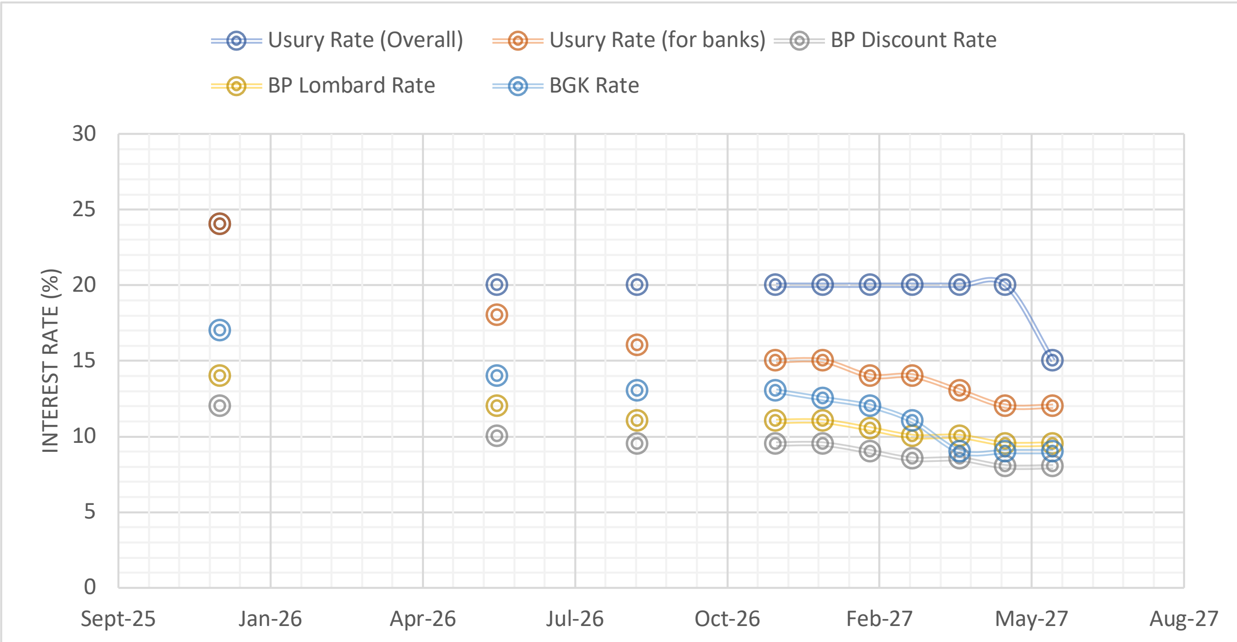
A few remarks deserve to be made on the technical means through which monetary policy was conducted, as these differed considerably from the policy methods typical of central banks in the developed West. The first of these differences, regarding the choice of policy instrument, is not essential to the argument of this paper, though it serves as a neat illustration that the canonical model of monetary policy to which today's economists are accustomed is not a universal description of how central banks work and have worked. Instead, it contains implicit assumptions about the completeness of financial markets and the structure of financial assets in common circulation. Specifically, the typical assumption in models of central bank behaviour is that the central bank's primary means of effecting its policy is by varying the interest rate at which it is prepared to extend credit to other economic actors, with open-market purchases and sales of financial assets used to make this policy rate the effective market rate.

This conventional playbook, however, was not one that could be applied in the circumstances of interwar Poland, for the simple reason that the country's financial markets were too poorly developed for a substantial open market in financial instruments to exist. The situation was further complicated by the government's prohibition of excessive usury on private loans: as of 1927, the maximum legal interest rate that could be charged in Poland was 15%, a ceiling too low to compensate most lenders. The maximum rate that could be charged by banks was set even lower, having been reduced in a series of steps to 12% by mid-1927. In general, this meant that only the largest banking institutions, with the greatest ability to select among potential creditors for good credit risks, could afford to lend at the official rates. Figure 1 shows data compiled by Leszczyńska

[363] Compare Leszczyńska (2013), pp. 234 and 314. The 1933 proposals went slightly further than the 1927 ones by excluding the first 100 million PLZ of demand liabilities from the gold cover requirement but were otherwise very nearly identical.

(2013), which, though it covers a slightly earlier period (1925-27) than that on which this paper focuses, gives a good illustration of the problem.[364]

Figure 24: Legal Usury Rates and State Bank Interest Rates, 1925-1927 [365]



The banks that could afford to lend at the legal rates were the largest commercial banks and the three major state-owned banks: the Postal Savings Bank – *Pocztowa Kasa Oszczędności (PKO)*, the Bank of National Economy – *Bank Gospodarstwa Krajowego (BGK)*, and the State Agricultural Bank – *Państwowy Bank Rolny (PBR)*. Institutions with lesser capacity to absorb losses, whether out of their own reserves or state aid, were forced to ration credit or shift their lending to the informal market. That this was not only a problem for the provinces or the more backward areas of the agricultural sector is shown by the grey-market rate for prime-grade commercial paper in the major textile manufacturing centre of Łódź: 51% at the height of the "coinage inflation" in December 1925 and still far above the legal limit— 33%—in July 1927, long after the inflation of 1925-26 ended.[366]

Under these circumstances, the supply of domestic commercial paper, particularly short-term bonds, was simply not sufficient for interventions in the open market to be a feasible means of conducting monetary policy. Further, given the large gap between the official interest rate being charged by the Bank of Poland, which in the entire period of the gold standard in Poland never exceeded 8.5%, and the (black) market rate on private loans, the scope for changes in the Bank's

[364] Leszczyńska (2013), p. 237
[365] Data from Leszczyńska (2013), p. 237
[366] Ibid.

discount rate to influence the money market as a whole was limited. Thus, the discount rate during the era of the Polish gold standard played a secondary role in monetary policy. Rather, the Bank's policy relied to a much greater extent on two other instruments. The first was direct credit to other banks: this was supplied at the Bank of Poland's discretion at a "Lombard" rate of interest that was generally slightly higher (by around one percentage point) than the discount rate on commercial paper. The second instrument, given that the Bank of Poland was largely unable to influence the money market on the price margin, was tight control of the quantity margin: the loosening and tightening of the rules as to which commercial bills of exchange would be accepted for discount at the Bank. This practice was referred to as the 'censorship' of bills and was the primary means through which the Bank could make its policy effective. Its importance comes out clearly in the minutes of the Bank's Policy Council, which throughout the gold standard period paid very close attention to the proportion of protested bills of exchange in circulation as a primary yardstick of the direction policy should take. Measures of the prevalence of protested bills of exchange also feature prominently in the monthly panel of "headline" economic variables put out by GUS.[367] The key role manipulation of credit quantity played in helping the Bank maintain the gold standard during the most difficult years of the Depression is discussed further below.

The second major distinguishing feature of Polish monetary policy in the Great Depression concerns the specific means through which the objective of maintaining gold reserves above the statutory minimum was achieved. The classical presentation of the "rules of the game" of the gold standard regime prescribes that the proper response to an outflow of gold is to increase the policy interest rate, and *vice versa* for an inflow. As we have seen, however, in the Polish context the usefulness of the discount rate as a monetary instrument was atypically low, and the lack of a legal requirement for the Bank of Poland to convert złoty bills into gold on demand further limited its importance as a means of preventing bullion from flowing out of the country. Because the scope for using interest-rate changes as an immediate means of stemming gold outflows was limited, the state of the balance of payments, and in particular the balance of trade, played an outsized role in determining the continued viability of the Polish gold standard.

An essential technical reason for why the gold standard endured for as long as it did in Poland was therefore the government's willingness to employ trade restrictions to keep the current account in surplus and thus to limit the flow of gold out of the central bank's vaults. Comparison of the Cabinet minutes from 1931 to those from 1935-36 reveals a vast growth of trade restrictions as the Depression progressed. Whereas in 1931 tariff policy was still mostly conducted along general lines,

[367] The panel appears monthly in *WS GUS*, 1926-1936.

with tariff schedules revised infrequently, by 1935 attention to and micromanagement of a panoply of tariffs, quotas and other restrictions becomes almost obsessive, with revisions to the list of trade restrictions forming part of nearly every Cabinet meeting and taking up perhaps more of the Cabinet's attention than any single other item of policy.

The extraordinary degree to which the Polish government was prepared to use trade restrictions to prevent outflows of gold from the Bank of Poland's reserves is notable for at least two reasons. First, the government's painstaking manipulation of tariff and quota schedules in support of the gold standard shows the length to which the government was willing to go to preserve the gold standard even after the Bank of Poland's own authorities deemed this course impossible to maintain, if not outright inadvisable. In using trade controls as an instrument of monetary policy, the government was thus able to preserve the essential, formal features of the gold standard—free movement of capital and the maintenance of reserves above the statutory threshold—much more easily than the Bank acting alone could have. Second, the extent to which trade was regimented, especially late in the Depression—the proportion of goods subject to non-tariff restrictions rose from around 30% in 1932 to almost 80% by 1934 (with the remaining 20% representing goods "without particular importance to domestic production and prices")[368]—would help explain the anomalous position of Poland in Albers (2018b)'s findings on trade multipliers in the Depression. Albers finds that the loss of trade opportunities due to contractions in output in other countries accounts for only 12% of the observed output contraction in Poland, by far the lowest proportion in his sample. (The country with the next-lowest incidence of the trade channel is Romania, with 26% of its output contraction accounted for by trade effects.)[369] Albers conjectures (on the basis of pre-Depression trade share data) that his results for Poland may stem from Poland's status as a "relatively closed economy". In this he is entirely correct, with the addendum that the Polish economy went from 'relatively' to extremely closed as the Depression went on, and that this tightening was an integral part of Polish monetary policy, broadly understood, after the government's takeover of the Bank of Poland in 1931-32.

Putting the two above points together, it follows that the Polish government's use of tariff and non-tariff barriers to trade as a primary instrument of monetary policy permitted the existence of a system that was a gold standard according to (most) formal criteria, but did not follow contemporary schemas of how a gold standard was 'supposed' to function. The use of trade restrictions, not only to keep gold in the country but actually to attempt to influence the level of domestic prices, represented

[368] Leszczyńska (2013), p. 306
[369] Albers (2018b), p. 205

not just a departure from but an outright reversal of the price-specie flow mechanism that until the early 20th Century had served as the main theoretical model of how commodity-money standards operated.[370] Furthermore, the use of trade restrictions to prevent gold outflows had, in addition to the obvious efficiency implications, important consequences for how the remaining segments of Poland's monetary policy could be structured. Put in the simplest terms, rigorous trade restrictions could *substitute* for the conventional "rules of the game" of the gold standard. Coccooned by controls on current account, the Bank of Poland was no longer compelled to raise interest rates and contract the money supply in response to outflows of gold, as it could count on the government to impose targeted trade measures against the 'culprits' of the outflow instead. In this way, the constraints faced by the Bank of Poland in the late period of government control resembled nothing so much as the conditions under which central banks operated in the early years of Bretton Woods, before the multilateral move to current-account convertibility in the late 1950s.

It is instructive to compare this finding to those of the comparative study of Eichengreen and Irwin (2010) on the connection between tariff policy and fixed exchange rates during the Great Depression. The authors argue that the uncoordinated anture of the devaluations as increasign numbers of countries left the gold standard during the 1930s put the competitiveness of the exports of those which remained under acute pressure. As a result, they argue, those countries wishing to remain on the gold standard in the face of these pressures had little choice but to impose far-reaching trade restrictions or pursue internal devaluation via deflationary policies. In practice, because deflation carried unacceptable economic and political costs, the choice was a dilemma: "maintaining fixed exchange rates or maintaining open trade".[371] Indeed, their empirical results, consisting of a regression of a measure of the change in average tariff rates between 1928 and 1935 on the ratio of the 1935 to the 1928 value of the exchange rate for a sample of 40 countries, show a positive and statistically significant association between the tariff ratio and the exchange rate index across a range of specifications. Thus, the existence of an association between high levels of protectionism in Poland and the maintenance of the gold standard is not in itself surprising—though the findings presented here do correct the mistaken impression given by Eichengreen and Irwin's results that Poland was a country with an unusually liberal trade policy. (The fact that Poland appears as a major outlier in their reults is most likely a consequence of their use of average tariff rates, which fell in Poland during

[370] Eichengreen (2019), ch. 2

[371] Eichengreen, Barry, and Douglas A. Irwin. 'The Slide to Protectionism in the Great Depression: Who Succumbed and Why?' *The Journal of Economic History* 70, no. 4 (2010): 871–97.

the Depression, as their measure of protectionism, whereas Polish trade policy in the 1930s was primarily marked by restrictions on the *quantity* of imports.)[372]

What *is* novel, however, is the finding that the Bank of Poland, once under government control, seems to have used its trade policy not just to survive the economic storm but to secure for itself a degree of policy indepenence (of course not from the government, but from the logic of the monetary trilemma) unusual for a country formally on the gold standard. A formal test using time-series methods of whether, as Colvin and Fliers (2020) argue for the Netherlands, the Bank of Poland did possess policy independence in the Mundell-Fleming sense but squandered it by failing to do more to promote economic recovery, proved to be beyond the scope of this already lengthy chapter; however, the descriptive findings of the next section strongly suggest that this was the case. Another implication, which matters for the overarching argument that the Polish government's motives in maintaining the gold standard were not economically doctrinaire but political and especially geopolitical, is that it is evident that the Polish government was much less attached to the procedural aspects of maintaining a gold standard than it was to the substantive existence of *a* standard, whatever it may have looked like in its details. As Władysław Wróblewski, President of the Bank of Poland put it, "it is understood that the policy of the Bank of Poland cannot be based on any form of doctrine, but must be based on a broad understanding of Poland's economic needs, on an adaptation of the Bank's policy to the evolving economic and financial situation."[373]

4.3 Polish Monetary Policy During the Depression: First Quantitative Impressions

What were the key decisions that governed Poland's continued membership of, and then exit from, the gold standard? This chapter's contribution toward answering this question is to present the first ever overview of interwar Polish monetary policy trends that is based on an examination of high-frequency economic data. All previous studies have based their assessments of the Bank of Poland's policies on low frequency (annual, quarterly, or, seldom, monthly) data. I move beyond this earlier work by tapping into a previously unused source: the balance-sheet returns published by the Bank on the 10th, 20th, and final day of every month. For present purposes, the source of the data has been *The Economist*, which published similar data (in local currency units) for the great majority of central banks during the interwar period. The underlying data, however, is not sensitive to the choice

[372] Ibid,, p. 883.
[373] AAN, Bank Polski t. 16 k. 3

of source: the tri-monthly returns published by *The Economist* differ from those produced by Central Accounting at the Bank of Poland for the Bank's internal purposes (and found at the Bank's archival files in Warsaw) only in that they suppress several items that were subject either to very infrequent changes (e.g. the Bank's share capital, the government's direct line of credit at the Bank), or were slow-moving and unrelated to the Bank's core activities (e.g. the Bank's real-estate assets).

While the lack of a discrepancy between the published returns and the internal ones is encouraging, one important caveat must be addressed from the outset: the returns being presented do not represent the sum total of the Bank of Poland's activities. The documents of the Bank's Policy Council and its subsidiary committees make clear the existence of off-balance-sheet items. These are helpfully enumerated in the Bank's internal end-of-year reports and do not seem to have been large relative to the Bank's officially declared activities, but a full analysis of what was and was not regularly disclosed, and why, could not form part of this paper due to the closing of the archives by the coronavirus pandemic. Section 5, below, looks at one particular instance of a divergence between the figures declared by the Bank in its balance sheets and the Bank's actual net financial position—the relationship between the Bank's declared gold cover and its gold cover net of stabilisation loans—but more needs to be done in this regard. Nevertheless, as a general indication of the course of policy, the published returns seem to both be a good bellwether and have been treated as such by authorities at the time.

The first broad heading of items covered by the returns concerns the Bank of Poland's holdings of gold (presented in chart form in Figure 25) and of foreign exchange (Figure 26). As can be seen, the stabilisation credit negotiated by Poland in October 1927 on the occasion of the establishment of full convertibility of the Polish Złoty as a gold-backed currency represented a substantial inflow of gold and especially of foreign exchange into the Bank's reserves. Over the succeeding years, particularly during the short-lived economic boom of 1927-28, marked by a considerable deficit on current account, and the peak years of the

Figure 25: Bank of Poland Gold Holdings (Thousands PLZ), 1927-1936[374]

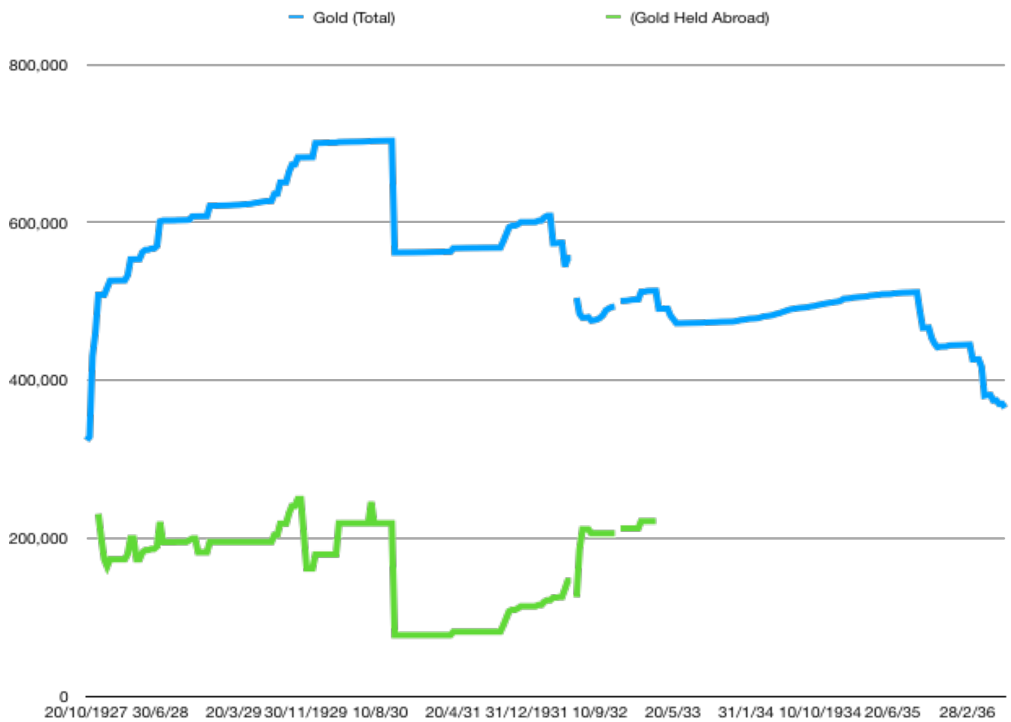
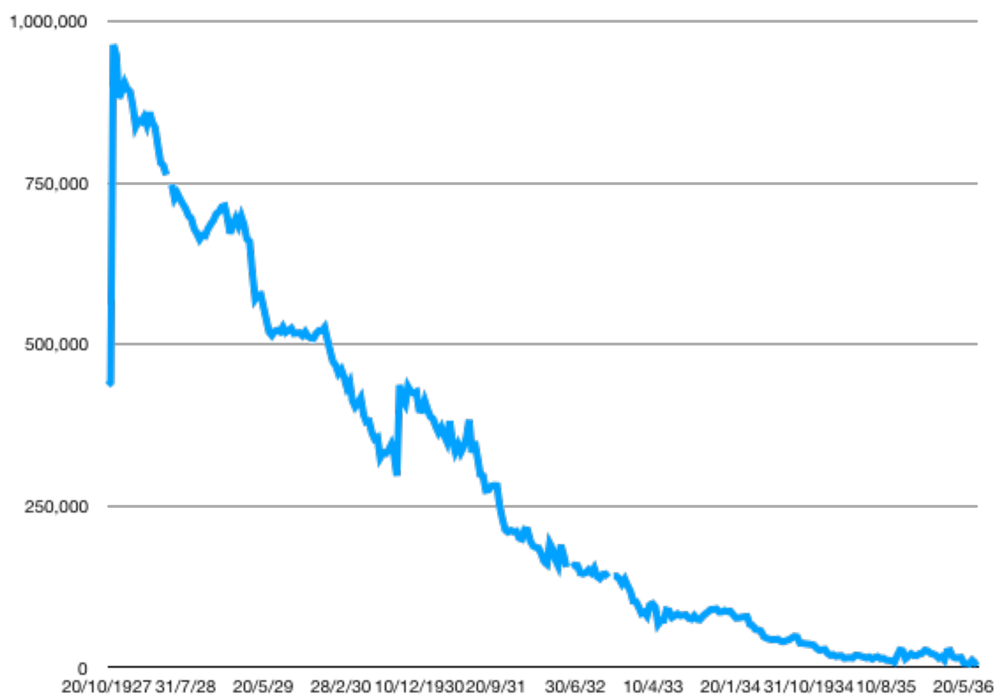


Figure 26: Bank of Poland Foreign Exchange Holdings (Thousands PLZ), 1927-36[375]



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[374] Source: Bank of Poland balance-sheet returns, *The Economist*, 1927-1936.
[375] Source: *The Economist*, 1927-1936

Depression through 1932, the Bank's large initial reserves were gradually run down. By 1933-34, the foreign-exchange reserves show a decline to very low levels, though holdings of gold remain robust until the currency difficulties of late 1935, discussed further in Section 5. An interesting observation is that the Bank, throughout the entire period and even after the revision of the Bank's statutes to replace the gold-exchange standard with a gold-bullion one, showed a clear preference for carrying out its day-to-day transactions in foreign exchange and avoiding outflows of gold unless absolutely necessary. The precise reasons for this revealed preference, besides the already mentioned lack of a requirement to convert Złoty banknotes into gold, are not fully clear, but its influence on policy decisions is touched on further below.

Figures 27, 28, and 29 showcase three facets of the Bank of Poland's lending activity. In this domain, particularly in the discounting of bills of exchange, the Bank was highly active: as discussed above, the reason for this was in part a need to substitute for underdeveloped money-market institutions. Comparing the Bank's bill-discounting activities in Figure 27 with the steady drain of its reserves shown in Figures 25 and 26 brings out starkly the at best very loose character of the Bank's adherence to the 'rules of the game' of the gold standard. While the boom period, through mid-1929, shows a steady increase in the discounted bill portfolio, the nominal value of bills discounted remains steady at almost the high 1929 level throughout the entire Depression, despite short-lived oscillations.

When measured against the almost 50% decline in prices between 1928 and 1936, the Bank of Poland's stable discount portfolio signifies a dramatic *expansion* of credit provision by the central bank as the Depression goes on. This trend may be a consequence of the collapse in private banking activity during the early years of the Depression, discussed in the next section; it certainly is not the response expected from an 'orthodox' central bank following the 'rules of the game'. Figure 28, which showcases the Bank's loans against securities throughout the entire period, and Figure 29, showing the discounting of Polish Treasury bonds from mid-1935 onward, invite similar conclusions. While these balance-sheet items show clear policy phases, these do not, particularly in the case of loans against securities, evolve in the way expected from an orthodox central bank. Loans against securities hit their peak, in nominal terms, in 1931-32, just when reserve losses (as discussed in the following section) reach such proportions as to put Poland's membership in the gold standard in question; their sharp decline in 1934-35 coincides with a period where the Bank's reserve position is stable and even improves slightly. Finally, both Treasury bond discounts and loans against securities rise sharply in the second half of 1935, even as the Bank's gold reserves once again begin to decline.

Figure 27: Bank of Poland Discounted Bill Portfolio (Thousands PLZ), 1927-1936[376]

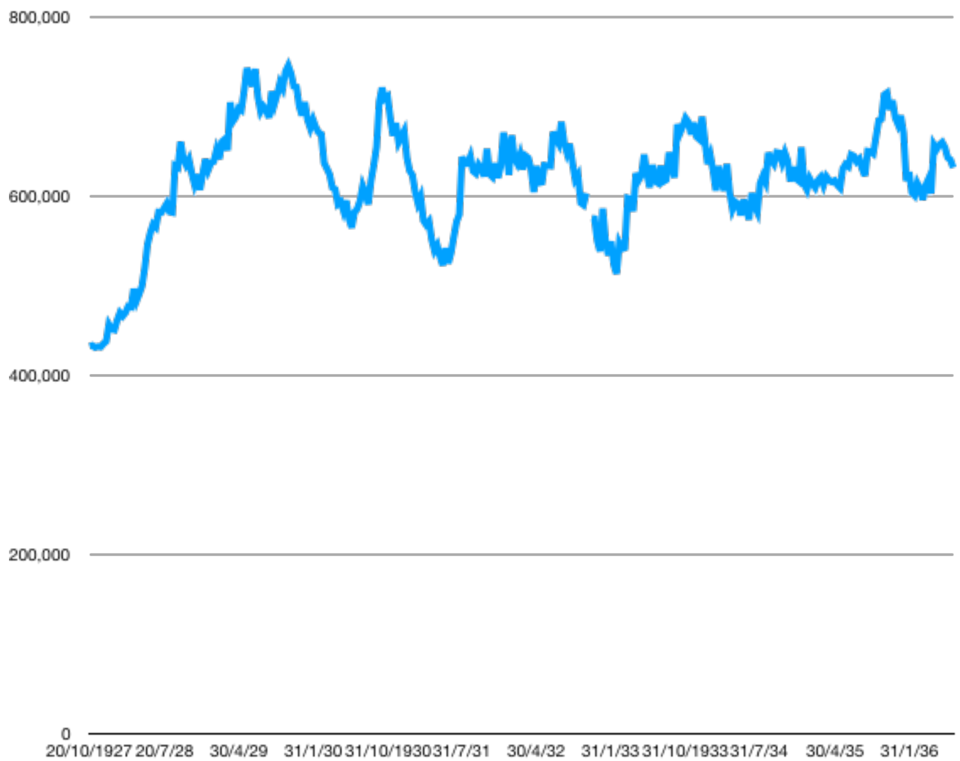
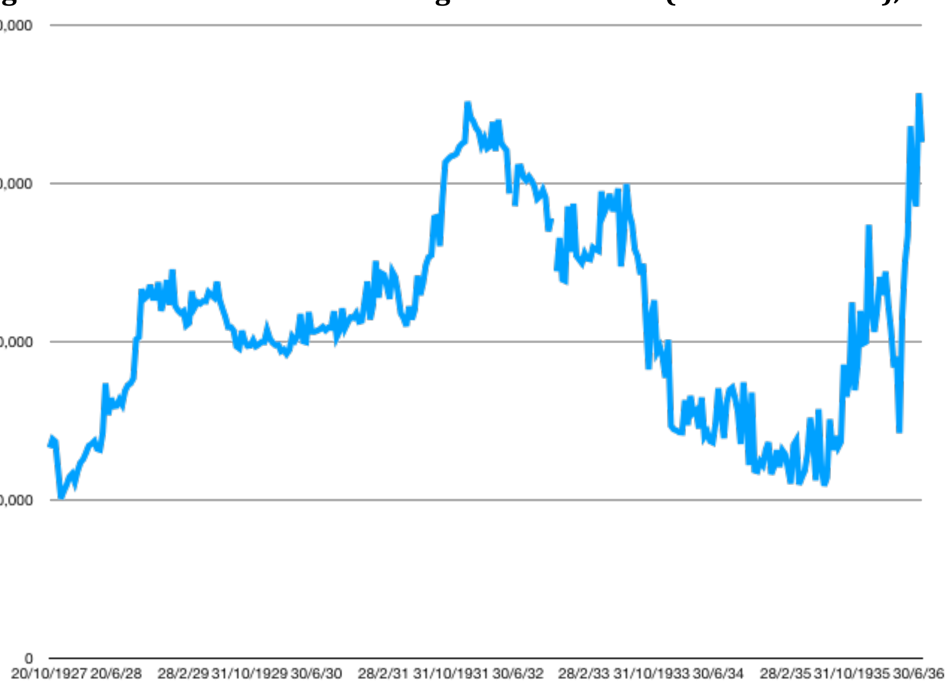


Figure 28: Bank of Poland Loans Against Securities (Thousands PLZ), 1927-1936[377]



[376] Source: Bank of Poland balance-sheet returns, *The Economist*, 1927-1936.
[377] Source: Bank of Poland balance-sheet returns, *The Economist*, 1927-1936.

Data on discount rates (Figure 30) show the same signs of an unorthodox attitude by the Bank of Poland to the conventional means and methods of monetary policy, even as it maintained the formal commitment to the gold standard. While establishing this point rigorously using time-series techniques must await further research, what can be stated at present is that there are few instances of the Bank of Poland increasing its discount rate in response to an outflow of reserves. The most clear-cut instance when this did occur is in October 1930, in response to the market anxiety caused by the German elections of the previous month, during which the moderate parties open to conciliation with Poland suffered a major defeat at the hand of Hitler's National Socialists. By contrast, there was no movement to increase rates in 1932, when (as we shall see) the reserve position becomes critical in the eyes of the Bank's leadership; nor was there one during the major outflows of late 1935 and the events of the spring of 1936.

The one exception to this far from orthodox picture is in the Bank's monetary issue (Figure 31), though even here the movement to tighten policy is attenuated. Strictly speaking, the figures on the Polish supply of base money combine two sets of data: that on the issue of banknotes, which was the responsibility of the Bank of Poland and thus recorded in the Bank's decadal returns, and that on the subsidiary issue of coinage and unbacked notes, which, in a quirk of Polish monetary policy, remained in the hands of the Treasury even after the establishment of the independent Bank of Poland in 1924.[378]

The evolution of Poland's M0 money supply is thus the product of two separate trends. On the one hand, there is the Bank's issue of bills, which reached a peak in late 1928, remained at a plateau even as both the Bank's reserves and economic output contracted sharply during the early Depression, and only underwent a gentle decline between the final quarter of 1931 and the beginning of 1933, after which point it remains stable for the remainder of the period of interest. On the other, there is the government provision of coins and unbacked Treasury notes, which remained stable until mid-1932 and then gradually rose to reach almost double the 1928-32 level by early 1936, thus driving an increase in the total circulation.

Neither the increase nor its timing (discussed in the next section) is coincidental. Rather, it is the result of a conscious government policy, following the government's takeover of the Bank, to increase the money supply in circulation in a way that was both less likely to be noticed by foreign observers and to not pose a direct threat to the Bank of Poland's gold cover, which was calculated using not the monetary base as a whole, but only the Bank's own note issue. This policy was initially

[378] The data presented here on the subsidiary circulation was also taken from *The Economist* (and checked against the GUS monthly bulletins), though it was only available monthly frequency.

Figure 29: Treasury Bonds Discounted by the Bank of Poland (thousands PLZ), 7/1935-7/1936[379]

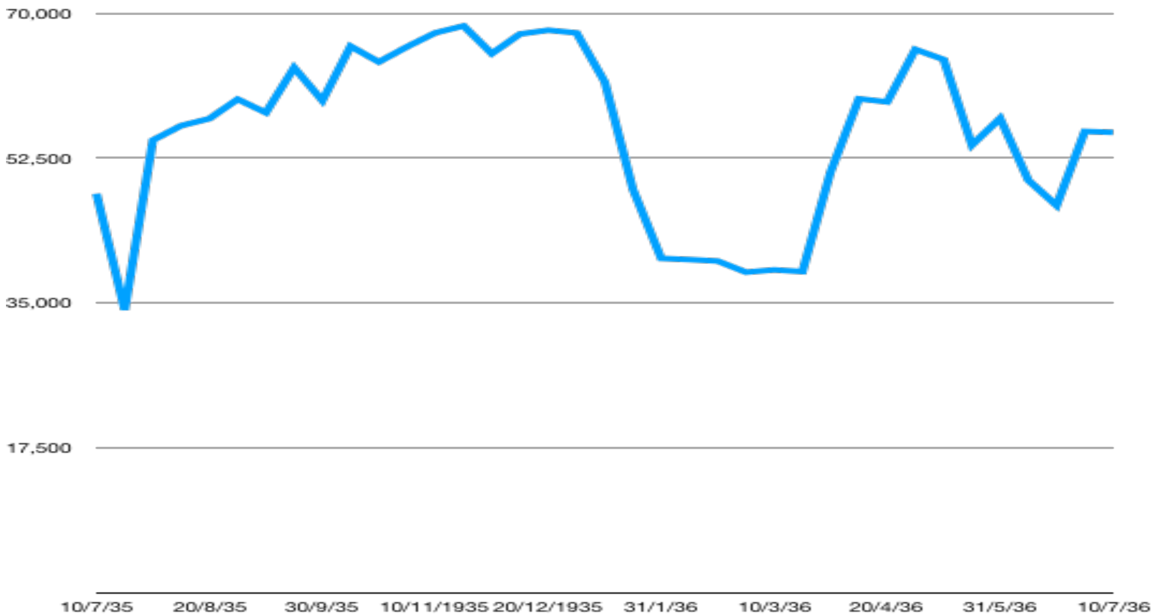
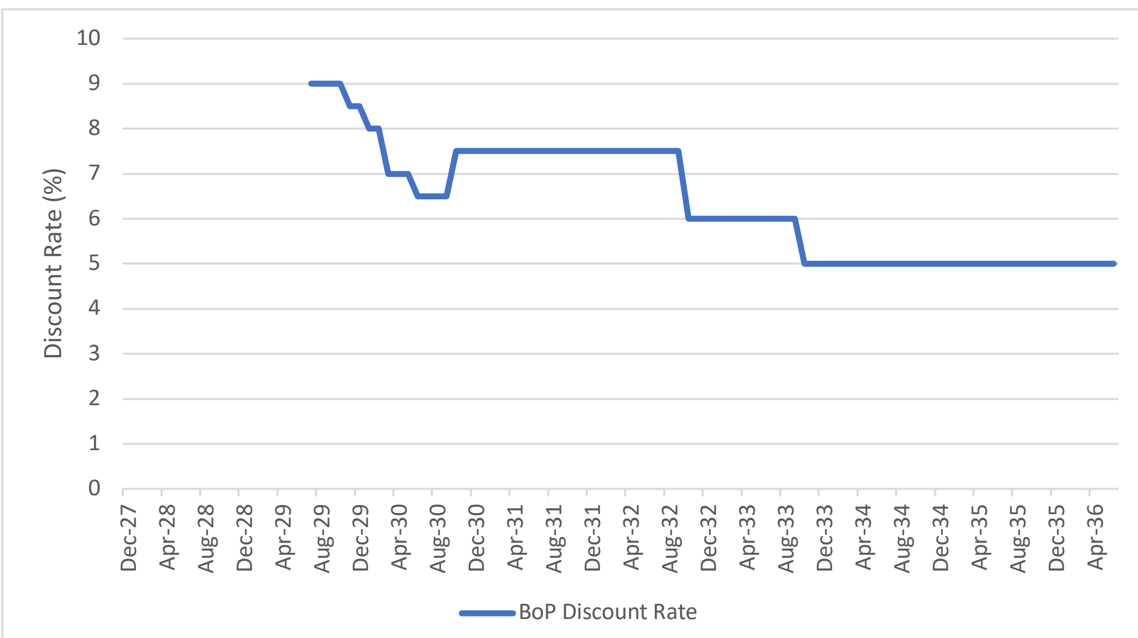


Figure 30: Bank of Poland Discount Rate, 1929-1936[380]



designed as a short-term expedient, an "ingenious action [by] the Ministry of Finance [to make] itself a present of about 100 million złotys just when the Budget so badly needed", but its usefulness and

[379] Source: Bank of Poland balance-sheet returns, *The Economist*, 1927-1936.
[380] Source: Statistical appendix, *The Economist*, 1927-1936. The same data is also given by Leszczyńska (2013), p. 322.

popularity among the business community caused it to be continued and extended over the following years.[381] It may be recalled that, during the recession following the 2008 financial crisis, proposals emerged for the White House to circumvent the Federal debt ceiling and augment the Federal Reserve's efforts at quantitative easing by minting a very large-denomination platinum coin. Had the US executive accepted this proposal, they would have been following in the interwar Polish Treasury's well-trodden footsteps.

Putting the various elements of the Bank of Poland's balance-sheet returns together, it is possible to reconstruct the Bank's gold cover for the entire period between 1924 and 1936 (and potentially beyond) under three possible definitions of it. The first definition is the statutory 'gold-exchange standard' one prior to the changes of 1933: the ratio of the Bank' gold bullion and gold-denominated foreign-exchange reserves to its notes in circulation plus deposits held at the Bank. The second definition represents a pure gold-bullion standard under the pre-1933 cover rules: it differs from the first definition only by the exclusion of foreign exchange from the reserves. The third and final definition is the 'gold-bullion standard' definition applicable to the 1933 statute: the cover of the Bank's notes in circulation by its gold reserves.[382]

The advantage of reconstructing all three definitions based on the balance-sheet data over using the Bank's official figures is twofold. First, it gives a picture of the soundness of the Bank of Poland's reserve position that remains consistent even as the rules for calculating the cover change over time. Second, the Bank's official cover calculations in its archives survive only from the very end of the gold-standard period (from 20 March 1936 onward), and while the official cover ratio was reported in other sources, reconstructing the complete time series would have required a significant time investment for little apparent gain, given that the correspondence between the official figures and the ones calculated here is, to a first examination, very close.

What can be seen from Figure 32 is that the reserve position of the Bank of Poland following the stabilisation of October 1927 was consistently more favourable than that which prevailed during the incomplete stabilisation of 1924 and modest inflation of 1925-26. Under the gold-exchange standard prevailing at the time of the 1927 stabilisation, the stabilisation credit contracted by the Polish government (mainly in the form of gold-based foreign exchange—United States dollars) gave the Bank of Poland considerable breathing space, with a gold cover ratio approaching 90%.

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381 *The Economist*, "Poland: Unemployment Relief – Finance – Bourse", 1 October 1932.

382 The calculations as shown in the graph are a slight underestimate of the true reserve ratio, as they include the first 100 million złotys in deposits in the denominator (which sum is excluded from the calculations under the 1933 statute). The calculations within the body of the text in Section 6, below, are fully consistent with the text of that statute.

Figure 31: M0 Monetary Issue (Thousands PLZ), 1927-1936[383]

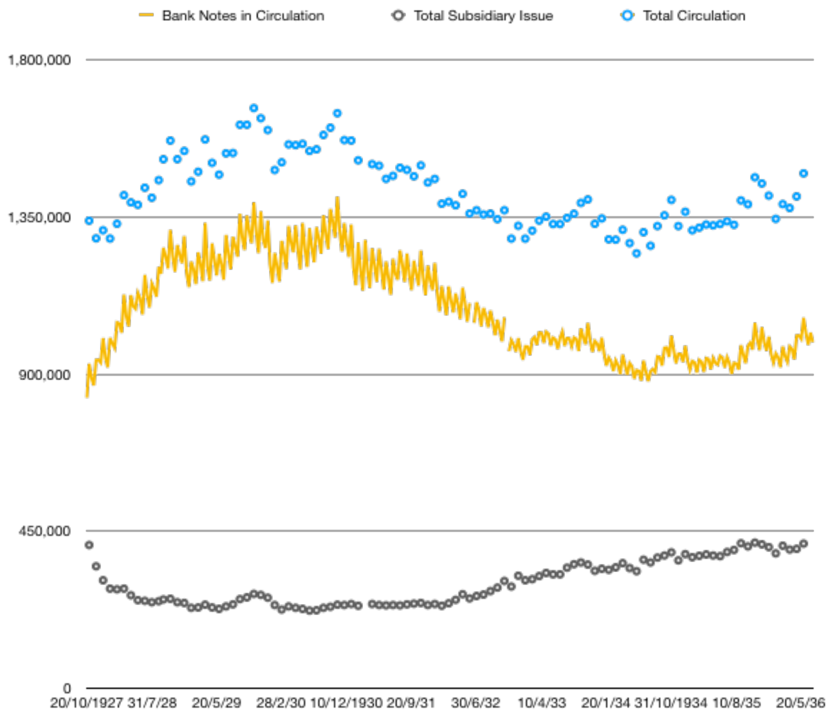
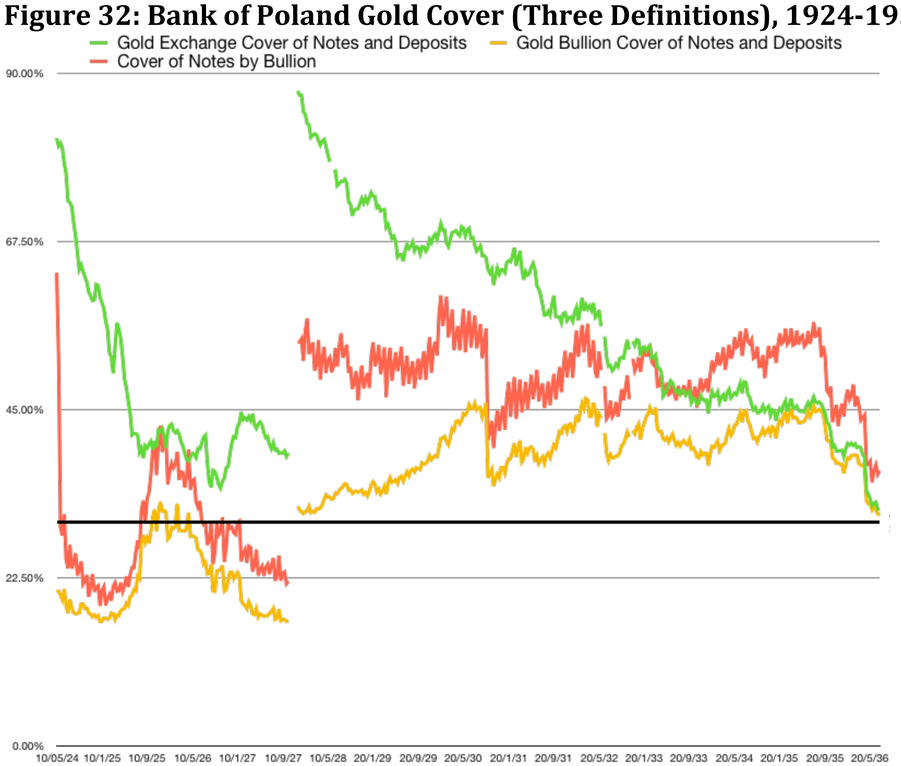


Figure 32: Bank of Poland Gold Cover (Three Definitions), 1924-1936[384]



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383 Source: Bank of Poland balance sheet returns (notes in circulation) and statistical appendix (subsidiary issue), *The Economist*, 1927-1936.

384 Own calculations based on data from *The Economist* (Bank of Poland balance sheet returns 1924-1936). Cf. the gold cover ratios given in *Wiadomości Statystyczne GUS,* front page of each issue.

This substantial reserve, while costly both for the Bank (in terms of forgone profit on the reserve holdings) and the Polish taxpayer (as the stabilisation credit needed to be repaid) appears to have been instrumental in insulating the Bank of Poland from the reserve outflows caused by the current deficits of the boom years and the sudden stop in American commercial lending in 1929-30; it also helps explain why the Bank did not feel compelled to begin tightening its policy stance until the final months of 1930. After 1931, the Bank of Poland's reserve position stabilised, and even (on the third definition of the cover ratio—the official one after March 1933) improved slightly. The outlook only began to deteriorate again in 1935, with large reserve losses in October of that year, which were followed by further losses and the establishment of exchange controls in April 1936.

The reasons for the losses of reserves in October 1935 and April 1936 go to the crux of the debate about why Poland stayed on, and then left, the gold standard, and are thus the main focus of Section 5. To make sense of the government's decision to leave gold in 1936, however, one must first turn to an earlier turning point: the Bank of Poland's attempt to abandon the gold standard in 1931-32 and the government's removal of the Bank's independence to prevent this plan from being realised.

4.4 The Government Takeover of the Bank of Poland, 1931-32

4.4.1 The Early Depression: The Banking System Under Threat

As we have seen, the reserve position of the Bank of Poland followed a steady decline virtually from the moment of Poland's formal entry onto the gold-exchange standard in 1927. With the coming of the Great Depression, the Bank's capacity to remain on gold started to come into question, as it became apparent that, with US private lending drying up in the summer of 1929 and the Polish economy beginning to suffer under the effects of the worldwide collapse of agricultural prices which began in late 1928, there was no realistic prospect of Poland's payments difficulties coming to an end quickly. Chapter 4, above, has found that Poland's creditworthiness, as revealed by the yield spread of its sovereign bonds over a risk-free bond, fell into doubt earlier than that of its Central European neighbours, with the first signs of a divergence appearing already in April 1929 and major uncertainty about Poland's economic future being generated by the German elections of September 1930 (as discussed above). Figure 33, included for reference, summarises these developments by reproducing the movement in the current yield on Polish 7% bonds on the New York market. Yet it was the events of 1931, with the collapse of banking systems across Central Europe during the spring and summer and the cascading exit of Germany, followed by Britain, followed by much of Northern

Europe and the rest of the world, that first gave rise to serious expectations that Poland would be forced to abandon the gold standard.

One way that the growing concern over the Bank of Poland's future course can be seen is by examining the price of the Bank's shares as quoted on the Warsaw Stock Exchange, shown in Figure 34. This particular data series, which was hand-collected as part of the GUS monthly panel of headline economic variables, begins in June 1931, which is just in time to reveal a precipitous decline in valuation. Between June 1931 and June 1932, the Bank's share price fell to less than half of its original value: from 116.8% of the original issue price to just 50%. An important reason for shareholders' concern, besides worrying developments in the international arena and the ongoing decline of the Bank's reserves toward the statutory limit (at that point still 40% of notes and demand liabilities), was the increasingly dire situation of the Polish private banking sector.

The headline data on banking from the GUS panel is unfortunately not presented consistently, as the methodology for aggregating the data changes quite frequently. Nevertheless, the general trend can be clearly seen in Figure 35: deposits in private banks, which had been rising through the second half of 1930, undewent a sharp collapse in 1931, before levelling off in the second half of 1932. A complete analysis of the Polish banking crisis of 1931 would require a study in its own right, but a few salient points deserve mention.

The first and most important of these is that, unlike in Germany, Hungary, and Austria, few Polish banks actually failed, and of those that did, none were in the first rank as to size and importance. The most significant failure, alongside a number of banks in the formerly German western provinces that had retained ties to the Berlin capital market despite the Polish-German trade war that had been ongoing since 1925, was the Bank Handlowy of Łódź (not to be confused with the largest, and still extant, private bank, the Bank Handlowy of Warsaw), a mid-sized commercial bank specialising in credit to the hard-hit Łódź textile industry, whose position was exceptionally weak due to the loss with the Bolshevik revolution of the Russian markets on which it had formerly depended.[385] Thus, while private banking suffered in Poland in 1931, there was no Polish Credit-Anstalt or Danat-Bank: no single large institution whose failure would have submerged much of the rest of the banking sector. Had such an event occurred in the circumstances of 1931, with the Bank of Poland's reserves approaching their lower limit, Poland would in all probability have crashed out of the gold standard, possibly sparing the Polish economy much misery by taking the choice of whether to struggle on or devalue out of policymakers' hands.

[385] *The Times* (London), "Trying Times in Poland", 19 August 1931

Given the importance of the lack of a widespread banking crisis in Poland to Poland's survival on the gold standard, it is worth considering briefly the causes of this state of affairs. Based on a preliminary examination of the files of the Bank of Poland, Cabinet, and Treasury for 1931, it appears that Poland was spared in 1931 due to a combination of structural and policy factors, the precise interrelation of which remains to be determined.

Structurally, the role of the long period of hyperinflation (1919-1924) and the post-hyperinflation crisis (1925-26) appears to have been critical. The Polish experience is, in many ways, a photo-negative of the narrative reconstructed by Macher about the origins of the Austrian[386] and Hungarian[387] banking crises of 1931. Those countries, Macher argues, agreed to League of Nations-brokered stabilisation plans to end their hyperinflations as a last resort, to break the political impasse as to which interest groups get stuck with the fiscal burden of stabilisation which had impeded all previous efforts at curbing the excess creation of new money. The benefit of the plans was the immediate availability of a large, League-guaranteed stabilisation loan that could be quickly put to use to prevent the economic situation from deteriorating further. The cost was that the public finances of Austria and Hungary were placed under a strict regime of League supervision, which interfered with the Austrian and Hungarian governments' desire to maintain a fragile social peace by offering side payments of various sorts to key constituencies. The result was that the great pre-war universal banks not only retained their commanding role in the financial system, but were increasingly subject to moral hazard as the state exerted its influence to conduct through them a fiscal policy by other means, away from League scrutiny.

By contrast, as I show in Chapter 2, above, the Polish hyperinflation was not primarily driven by an insuperable conflict between Parliamentary representatives of particular social classes. Rather, it unfolded according to the beat of foreign-policy events and the exigencies of the Polish military during the war-torn early years of Poland's renewed existence as a sovereign state. Thus, the class divides that had impeded stabilisation in Austria and Hungary were less salient in Poland in the early 1920s, and the country's stabilisation in 1924 was accomplished out of the country's own resources and without incurring a stabilisation loan laden with conditionality. Indeed, Poland could have stabilised earlier—in 1922—and the main reason it did not was Marshal (not yet dictator) Piłsudski's removal of the governing coalition in June of that year in order to protect the interests, as he saw them, of the military, which at the time still commanded nearly half of the government's budget.

[386] Macher (2018)
[387] Macher (2019)

Figure 33: Yield Spread (%, over US Liberty Loan) of Polish 7% Bond, 1929-1935[388]

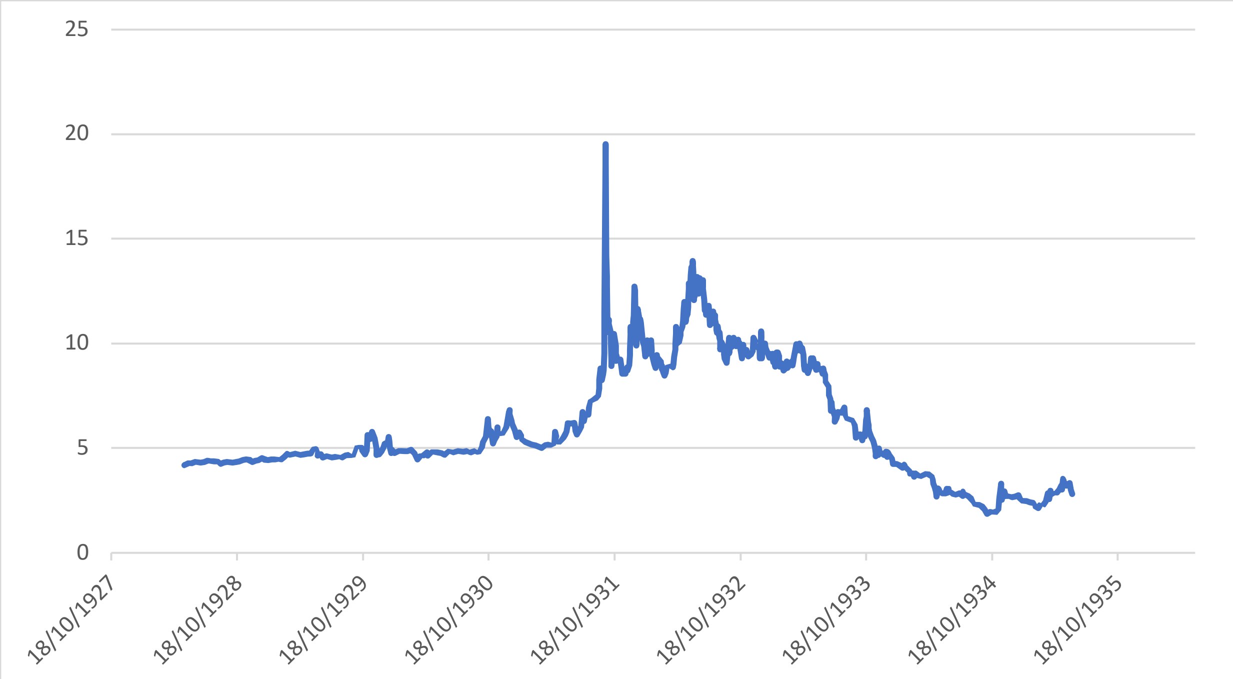


Figure 34: Bank of Poland Share Price (% of Par), 1931-1936[389]

[388] Source: *The Times* (London), 1927-1936. For a detailed discussion of this data, see Chapter 3, above.
[389] Source: *Wiadomości Statystyczne GUS*, monthly panel of headline variables, 1931-1936.

However, attempting to stabilise without a loan to create a sizable buffer of reserves was risky (and for that reason ardently advised against by Hilton Young, the main outside consultant to the 1924 stabilisation[390]), and the stabilisation came unstuck when Prime Minister and Finance Minister Grabski's loosening of austerity in 1925 in the hopes of relieving pressure on the balance of payments collided with the outbreak of the Polish-German trade war. The result was a second wave of inflation between August 1925 and April 1926, which, while reined in by the Polish Second Republic's last parliamentary governments, both provided political cover for Piłsudski's May 1926 coup and delayed the final stabilisation to October of 1927.

Poland's recreation as a state, society, and economy separate from those of Germany, Austria(-Hungary), and Russia after a century of partition; its nearly decade-long struggle with inflation; and the virtual freezing of Polish-German economic relations following the expiry of what in the lexicon of Brexit might be termed the 'customs backstop' provisions of the Treaty of Versailles—all of these facts weighed heavily on the shape of Poland's financial system going into the Great Depression. On the one hand, the fact that Poland had stopped its hyperinflation in 1924 without external financial support and had secured a stabilisation loan in 1927 that lacked the binding oversight clauses of the Austrian and Hungarian ones[391] meant that no strong incentive existed in Polish circumstances to use the banking system as a replacement tool of fiscal policy, with the attendant build-up of systemic risk. Equally significant, the fact of independence and the years of hyperinflation had resulted in both the virtual elimination of the branches of the Berlin, Vienna and St. Petersburg banks that had dominated the financial scene before the First World War, and the winnowing out of smaller and weaker Polish private banks.

This decimation of the Polish financial ecosystem compelled the governments of the first half of the 1920s to establish four large state banks: the "big three" (PKO, BGK, PBR) mentioned in Section 2, above, plus the Bank of Poland. As already discussed, these four institutions together accounted for more than 50% of deposits in the entire banking system already before the Depression, and the expectation that, should the worst happen, the government would not allow the state banks to fail resulted in their role growing even

[390] Allen (2020)

[391] Whilst the terms of the 1927 loan provided for the appointment of an American observer, Charles S. Dewey, to give quarterly reports on the Polish public finances and sit in on the Policy Council of the Bank of Poland, his role was an advisory one and he lacked veto power over the government's fiscal decisions.

Figure 35: Deposits in Private Banks (millions PLZ), 1925-1933[392]

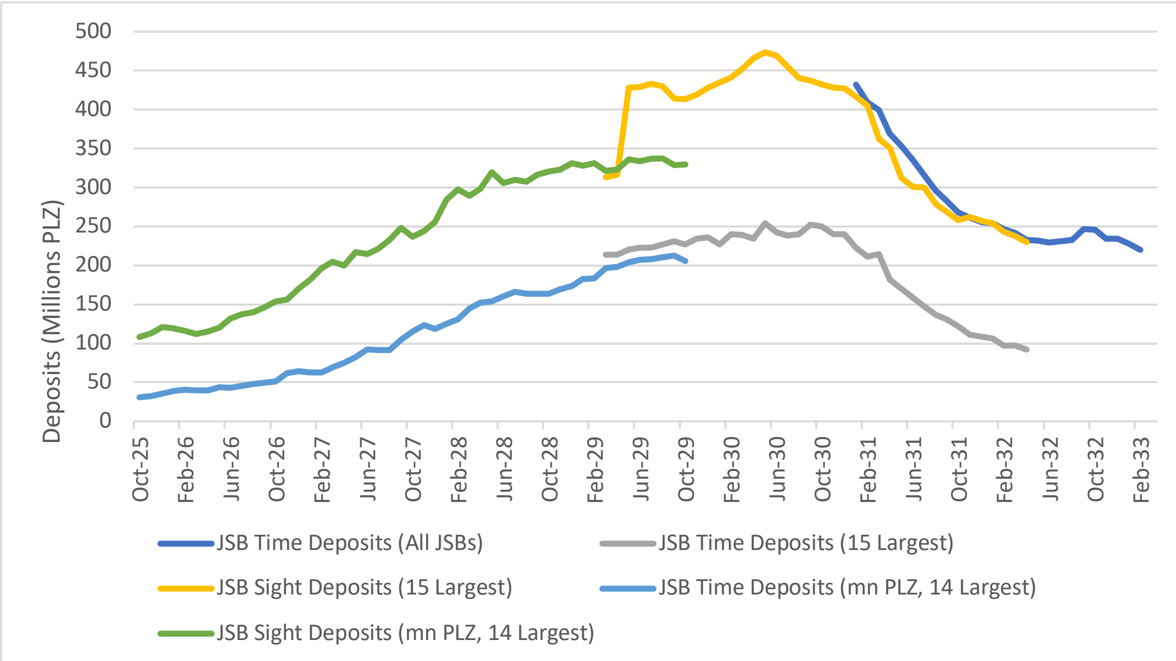
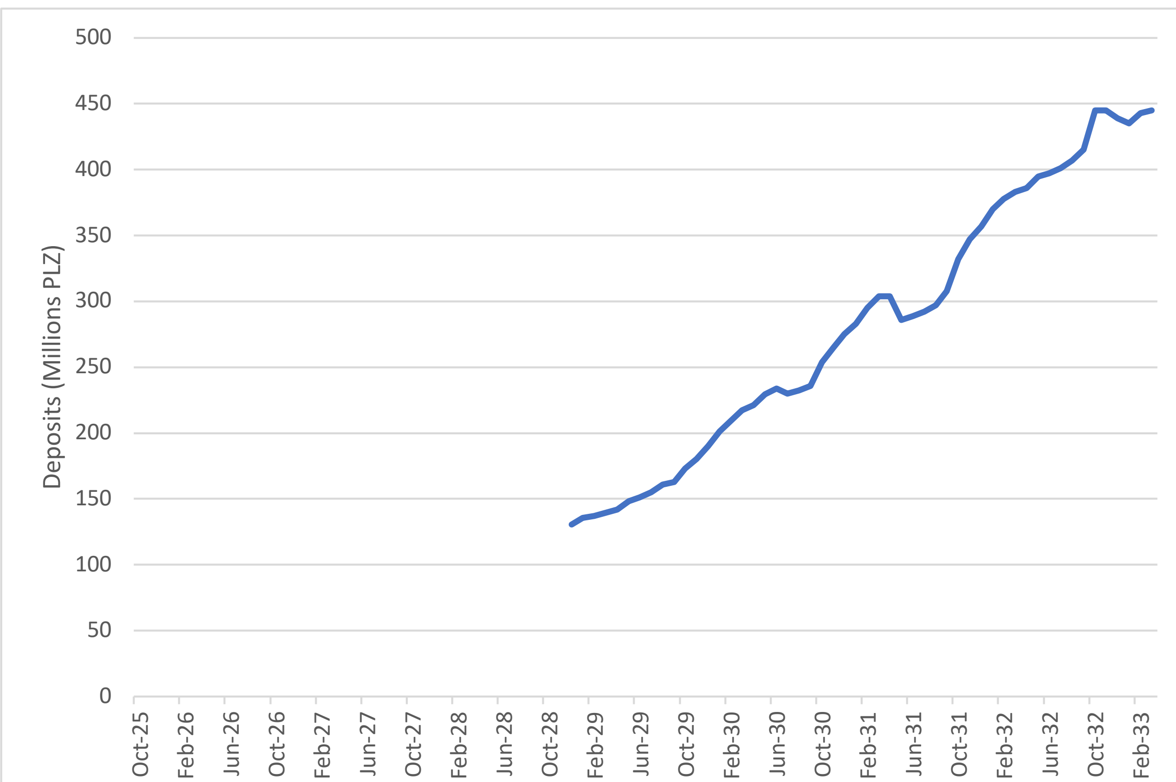


Figure 36: Deposits in Postal Savings Bank [PKO] (millions PLZ), 1929-1933[393]



392 Source: *Wiadomości Statystyczne GUS*, monthly panel of headline variables, 1925-1933.
393 Source: *Wiadomości Statystyczne GUS*, monthly panel of headline variables, 1929-1933.

further as the Depression went on. Figure 36 shows the deposits of one of these banks—the Postal Savings Bank (PKO)—during the early Depression. What can be seen from it is that, just as private bank deposits (Figure 35) were contracting violently, those of PKO continued their steady upward trajectory—clear evidence of a domestic 'flight to safety' effect. The result was that Poland's banking system during the Depression resembled neither that of the United States, with multiple small and vulnerable private banks, nor that of Germany, Austria, and Hungary, where large universal banks were both tightly enmeshed with the overall economic structure and badly overextended, but perhaps most closely that of Canada, with the dominant role played by a few large and geographically well-diversified branch banks. Thus, even as pressure within Poland's banking sector built up, it was not sufficient to cause a mass banking panic or outright collapse.

The role of the Bank of Poland as a policymaker in steering the Polish economy away from a banking sector-led meltdown in 1931 is an area to be expanded on in future research. What can be said at this stage is that the events of 1931 placed the central bank before uncomfortable decisions. Unlike in 1929 and 1930, its reserves were no longer high enough to be able to continue the even-keeled strategy of previous years, and contraction of the bill issue could no longer be avoided, at precisely the time when the banking system was coming under pressure. There was some breathing space provided by the fact that the Bank of Poland had no formal, statutory mandate to act as a lender of last resort to the private banking sector—indeed, supervision of banks was a prerogative of the Treasury throughout the entire period. However, it remained bound by statute to the core obligation of a central bank under the gold standard: the maintenance of sufficient reserves. Early indications on how the Bank accomplished this task are interesting, for they highlight an unorthodox approach based on restrictions on the quantity margin, without changes in the interest rate being used to prevent gold outflows. One expedient, established at the meeting of the Bank's Directorate on 7 September 1931, just before the collapse of the gold-exchange standard as a global currency regime, was a surcharge of 3 złoty on speculative transactions in dollar-denominated bills of exchange[394]: far from a firm capital control, but evidently intended to dissuade speculation against the złoty at this critical time. More generally, at a 1934 meeting of the heads of the Bank of Poland's branches, Władysław Wróblewski retrospectively characterised the Bank's policy during the most severe portion of the Depression as follows:

> "On this path [that of defending the currency], we had to seize upon methods that were unpleasant, unfortunate, inelegant, but, it must be said, relatively easy. The time came for credit restrictions. We're among our own here, so we can say it openly, that credit

[394] AAN – Bank Polski, t. 39 k. 53

> restrictions—not always, but very often—are a policy of blackmail… but the era of blackmail, we must tell ourselves, belongs to the past now. It is no longer permitted to withhold credit on the basis of blackmail."[395]

What remains to be determined in future work is against whom the blackmail was targeted, and how this tactic was perceived by the Polish government and other central banks.

4.4.2 The Change in the Bank of Poland's Governance, 1931-32

In a sense, however, the fact that we still know little of the detail of how the decision-making bodies of the independent Bank of Poland navigated the storm of 1931 is of secondary importance to our understanding of the Bank of Poland's policies during the Depression as a whole, because October 1931 marked the beginning of a new era in the Bank's history: one in which it would no longer be free to set policy according to its own lights, subject to a government veto in some areas, but would instead fall completely under the government's influence. The key decision in this regard was taken at a meeting of the Polish Cabinet on the 23rd of October. At that occasion, an amendment to the Bank of Poland's statutes was forced through which elevated the Government Commissioner to the rank of a voting member of the Bank Policy Council, in effect allowing him to set the tone of deliberations and directly shape the Bank's policy on behalf of the government. The official reason for the change, as presented at the meeting by Ignacy Matuszewski, the Treasury's Chief Secretary, was to "enable tighter coordination of work between the Bank of Poland and Ministry of the Treasury".[396]

On the surface, the change in statutes was a minor one—the conversion of a non-voting position on the Bank Council into a voting one—but it presaged a fundamental shift in the balance of power between the Bank and the Government. The first Commissioner appointed to the Bank under the new statute, in January 1932, was Colonel Adam Koc, a comrade-in-arms of Marshal Piłsudski from the independence movement and First World War, who as a staff officer played an important role in Piłsudski's coup in 1926 but who had no economic or financial experience save having been appointed Deputy Minister of the Treasury in December 1930, an appointment which had been dictated by Piłsudski's desire to have a trusted man at the helm of the Polish-French negotiations for a military loan that were then ongoing. The appointment of Koc to the Bank of Poland, to all appearances on account of his loyalty to Piłsudski, was greeted by the Warsaw business community with "a great deal of curiosity not unmixed with concern", and it was widely understood that Koc's remit would be far wider than his one vote on the Council would suggest. As reported in the semi-

[395] AAN – Bank Polski, t. 56 k. 5-6
[396] AAN – Prezydium Rady Ministrów w Warszawie, t. I 59, k. 541-543.

official newspaper *Gazeta Polska,* "Colonel Koc will act as a liaison officer between the Government and the bank of issue in all matters concerning financial policy", and his presence was seen by the financial community as a police mission, to "keep a close watch on foreign exchange transfers" in the light of government policy initiatives.[397] If this signal was not explicit enough, the government followed it up several months later by shifting Jan Piłsudski, the dictator's brother, a lawyer by training whose financial experience before assuming high office was limited to a stint as Comptroller of Vilna (Vilnius) before the War, from his short-lived post as Minister of Finance—during which time his main area of responsibility was the French loan agreement—to become Deputy President of the Bank of Poland.[398]

What lay behind the Polish government's move to bring the Bank of Poland firmly under its thumb in 1931-32? The timing of the decision to make the Government Commissioner a voting member of the Policy Council is highly suggestive, as it falls during a period of open speculation that the Bank of Poland was about to suspend the gold standard. The Warsaw correspondent of *The Economist* submitted the following report of the mood in Polish financial circles in the wake of the British departure from gold in September 1931:

> "While Government spokesmen and bankers are assuring the public that the determination and ability of Poland to remain on the gold standard must not even be questioned, astute business men who are not blinded by national pride appear to realise the desirability—if not inevitability within a few weeks—of the gold standard being abandoned… [F]or the time being [exporters] express a very firm determination to meet price competition in depreciated sterling and Scandinavian currencies… If, [however,] domestic sales cannot be maintained in adequate volume, the export trades will quickly set up a clamour for the abandonment of the gold standard".[399]

The lengthy quotation is appropriate because it aligns closely with the Bank Policy Council's own view on the matter. It must be remembered that the Council was elected by the shareholders, who as a result of the government's determination in 1924 to ensure that the Bank of Poland's share capital was fully subscribed so as to avoid giving rise to renewed expectations of inflation, was primarily made up of the same business interests that were increasingly starting to see an exit from gold as inevitable if not outright desirable. Furthermore, there was precedent for the interests of the members of the business community's majority position on the Policy Council colouring that body's

[397] *The Economist,* "The Bank of Poland", 23 January 1932.
[398] *The Economist*, "France and Poland", 17 September 1932.
[399] *The Economist*, "Poland and the Gold Standard", 10 October 1931.

monetary decisions: most notably in 1925, when the Bank was slow to tighten its note issue in response to Finance Minister Grabski's turn toward expansionary policy financed by new issues of coins and Treasury notes, but also on such occasions as the controversy between the Bank Council and the Government Commissioner on whether to adopt a more cautious credit policy in September 1928.[400] The Council itself couched its stance in November 1931 in terms of the health of the broader economy: "The stability of the currency protected the Polish financial market and the entire economic life of the country from major shocks and panic of the sort seen in countries much wealthier and financially better consolidated than Poland. Our strong currency will undoubtedly accelerate the revival of our body economic."[401]

As might be expected from the above discussion, the Bank of Poland's seemingly firm commitment to the principles of the gold standard evaporated once the next few months began to demonstrate that the stability of the currency by itself would not, in fact, lead to a speedy revival. In May 1932, just five months after its declaration of loyalty to gold, the Bank Council voted to submit to the government a proposal to impose exchange controls, motivating this decision by the lack of improvement in the economic outlook and suggesting that the imposition of controls be used to lower interest rates.[402] The government peremptorily refused to grant permission for this move.[403] It is worth comparing this refusal to the situation in September 1925, when in a similar moment of monetary crisis the Bank of Poland's refusal to countenance further intervention to stabilise the Złoty exchange rate left the Grabski government, the longest-lived and arguably strongest of the pre-coup cabinets, no choice but to tender its resignation. By the summer of 1932, however, the government held the Bank of Poland firmly in its control. From this point onward, it was the *Sanacja* regime which held responsibility for the direction of monetary policy, and for the four years to follow, this direction was a robust defence of the gold standard against all hazards.

The fact that a government would refuse a ready offer to loosen monetary policy with the ability to shift the blame to someone else, and, having refused to follow its central bankers' advice and leave the gold standard, to engage in four years of grinding austerity, runs counter to modern macroeconomic intuition. What explains this remarkable policy turn? One can offer several explanations. One possibility is the domestic political context. The Piłsudski regime built its political mythology—that it was called to impose order on an incompetent parliamentary regime whose most flagrant display of incompetence was its inability to put Poland's financial house in order—on its

[400] AAN – Bank Polski, t. 23.
[401] AAN – Bank Polski, t. 61. (Minutes of Credit Commission, 12 Nov 1931)
[402] AAN – Bank Polski t. 25 (Minutes of Bank Policy Council, 19 May 1932)
[403] AAN – Bank Polski t. 25 (Minutes of Bank Policy Council, 9 June 1932)

success in ensuring the final stabilisation of the currency, and this was an argument which found much favour in a nation exhausted from years of inflation. Clearly, this argument cannot be dismissed: even such a figure as Eugeniusz Kwiatkowski, the Finance Minister who took Poland out of the gold standard in 1936, was passionately convinced of the need of a stable currency in the face of the inflation-scarred "psyche" of the Polish people[404]—with the proviso, in his case, that a "stable" currency need not be a convertible one. Similarly, it has been proposed that Piłsudski, as someone with very little background in economic thought, was instinctually averse to economic experiments and preferred orthodox solutions where possible.[405] It is simplest, however, to take the government at its word and take as a starting point the rationale they themselves gave to the Bank of Poland when explaining their refusal to countenance exchange controls in June 1932.

As reported to the Bank Policy Council by President Wróblewski, the government motivated their refusal "on grounds of broader national policy… wishing before coming to a decision to await the results of the Lausanne Conference and explanations as to the financial policy of the new French government".[406] In addition, as already mentioned, the government's two most high-profile political appointees to the Bank of Poland had in common, besides their personal loyalty to Piłsudski, a recent history of having worked on Polish-French negotiations for a military loan. On the plain meaning of the government's statement, the government was agnostic about whether or not remaining on the gold standard was a wise decision. Its stance, whether to stay on or to leave gold, would be dependent on that taken by the French government, and its purpose in clamping down on the Bank of Poland's independence was to ensure that the 'broader national policy' of the Polish-French alliance was not undermined by the central bankers' parochial economic concerns.

The conclusion that Poland's long defence of the gold standard boils down an unwillingness to fall out of step with France in the realm of monetary policy is not difficult to understand in the context of the specific nature of the Polish-French military alliance. The defining characteristic of this alliance was that Poland, faced with two powerful neighbours—Germany and the Soviet Union—with whom war remained, at all points in the period, a distinct possibility, needed French support in the event of a military confrontation to a much greater extent than France, wealthier, larger, and able to choose from a larger pool of potential allies, needed Poland. To the French, the Polish alliance was a second-best, with Poland an *allié de remplacement* for the defunct Russian Empire; indeed, one of the enduring debates in French foreign policy throughout the 1930s concerned whether it would not

[404] Landau and Tomaszewski (1989), p. 334
[405] Garlicki (2017), p. 658
[406] AAN – Bank Polski t. 25 (Minutes of Bank Policy Council, 9 June 1932)

be preferable to replace Poland as an ally on Germany's eastern flank with the by then significantly greater might of the Soviet Union.[407]

Poland, however, had no such alternative. Its relations with the Soviet Union following the 1921 Treaty of Riga, which ended a war in which Stalin had suffered personal humiliation as Political Commissar to the defeated Red Army, might best be described as a 'cold peace'. British public opinion was generally unfavorable to the prospect of extending commitments to Poland—British Foreign Secretary Austen Chamberlain's remark that a guarantee of Poland's eastern frontiers was an aim for which "no British government ever will or ever can risk the bones of a British Grenadier" is just one example of the prevailing trend—and the prospect of a Czechoslovak alliance, while within the realm of possibility, was poisoned by outstanding territorial disputes, most notably over the heavily industrialized border region of Cieszyn/Teschen.[408]

That left France as the only plausible counterweight to German rearmament. The Polish dependence on French support against Germany was underscored by ongoing Polish-German tensions: at first open (though undeclared) war, with the Greater Poland and Silesian Uprisings of 1918-22, and then, from 1925, a near-embargo by Germany of Polish trade in the hope of securing Polish concessions on borders. The border issue was rendered pressing by the terms of the 1926 Treaty of Locarno, which in exchange for a German guarantee of the post-Versailles borders with France and Belgium left open the possibility of territorial revision in favor of Germany in the east.

In the absence of an actual multilateral guarantee of Poland's eastern borders, the strategy of the Polish government was to seek a *virtual* guarantee, to be obtained by attracting French private investment to the western border regions that would be subject to German revisionist efforts. The cornerstone of this effort was a rail line, built by French capital under very favourable conditions of exploitation for the French, between the coal fields of Upper Silesia and the newly built Polish port of Gdynia, on the Baltic coast, and it was precisely this loan that Koc and Jan Piłsudski had been assigned to negotiate, prior to their reassignment to the Bank of Poland following the conclusion of negotiations.[409]

The attraction, then, of remaining on gold so long as France did is clear. Not only was it highly imprudent to antagonise an ally on whom one was dependent in the event of a war by choosing a monetary system at cross purposes with their own, but one means of securing that ally's uncertain loyalty in the event of a war was to create 'skin in the game' by locating French capital—which,

[407] Wandycz (1988), p. 449
[408] Ibid., p. 478
[409] AAN – Prezydium Rady Ministrów w Warszawie, t. I 57, k. 30-103.

naturally, demanded a guarantee that profits could be easily repatriated as needed, without impediments from exchange controls.

It should be stressed that the Polish-French partnership was from the outset an unequal arrangement, sustained on the Polish side more by a lack of alternatives than by the realised benefits of cooperation with France. Though the military alliance began auspiciously, with French arms deliveries and technical assistance (including by the war hero Marshal Ferdinand Foch) during the Polish-Soviet war and a 1924 armaments convention that saw France committing to supplying the Poles with equipment on credit to a value of 400 million francs (though subsequent negotiations reduced this sum by a quarter), the efforts carried out with great vigour by the Polish side to convince the French government to supply further equipment and funds remained largely stalled throughout the period of Poland's membership in the gold standard.

Indeed, with the partial exception, in 1931, of central bank credits— the Bank of Poland secured a credit line amounting to some 500 million francs from the Banque de France against the security of gold held in Paris, as well as 150 million francs from a French consortium against the security of the grain crop—as well as a loan from the French government to the Polish treasury of 216 million francs[410], the Polish financial relationship with the French government was turbulent and grew even more so as evidence of French passivity in the face of German revisionism mounted after 1932.[411] Adam Koc was therefore no doubt sincere when he testified in October 1934, on the occasion of the Żyrardów scandal in which the Polish government accused a major French textile firm of tax fraud, that "Cooperation with French capital was the aim of our economic policy… up to the beginning of 1933. Thereafter the Poles lost entirely their illusions."[412] This disillusionment, however, evidently did not suffice to deter Polish efforts to pursue even the slim hope of extracting financial support from France, which continued and even intensified throughout 1935 and into the early months of 1936.[413]

4.5 The Strategic Imperative in Poland's Exit from Gold

[410] Allen (2020), pp. 87-93

[411] For details of the history of the Polish-French loan negotiations, see Wandycz (1988), as well as Wojciech Mazur, "Droga do Rambouillet : zabiegi o francuski kredyt zbrojeniowy na modernizację Wojska Polskiego (jesień 1935–jesień 1936)", *Przegląd Historyczno-Wojskowy* (2013).

[412] AAN – Bezpartyjny Blok Współpracy z Rządem, t. 115, k. 56.

[413] These efforts were finally vindicated by the Rambouillet agreement of September 1936, which resulted in a French loan of two billion francs, to be split between purchases of matériel (800 million francs), investment in military infrastructure in Poland by French firms (700 million francs), and a discretionary sum of 300 million francs to serve as the basis of a Polish bond issue.

Poland's exit from gold via the imposition of exchange controls on the 27th of April, 1936, is a controversial episode in Polish monetary history, though the parties to the controversy do not seem to have realised yet that their views on the matter are in opposition. The classic view, prevalent in the Polish historiography and especially the work of Leszczyńska (2013) and her erstwhile doctoral supervisors Landau and Tomaszewski (1989), is that Poland's exit from gold was involuntary, the mechanical outcome of a decrease in gold reserves to the point where the gold backing of the currency could no longer be sustained. The core claim of these authors is that "in March and April [of 1936] there occurred a flight of capital, strong internal hoarding resulting in an appreciation of foreign currencies relative to the Złoty, a fall in nearly all stock exchange quotations, and a withdrawal of deposits" from banks.[414] The authors in question state that these processes "accelerated in March and April[, and] the deterioration grew to assume avalanche proportions"[415]. The argument that exchange controls were imposed reluctantly by a government having no other means of pulling the Bank of Poland back from the brink of a precipice on which it found itself—what might be termed the 'explosive decompression' view—is first found in the retrospective 1936 annual report of the Bank of Poland to its shareholders, in which the decision to abandon the gold standard was explained thus:

> "Following a period of calm during the first two months [of the year], whose effect on the money market was a substantial increase in deposits in financial institutions, market sentiment shifted unfavourably in March, and especially in April, when there occurred withdrawals of deposits, capital flight, and hoarding of hitherto unprecedented intensity"[416]

Under such circumstances, it is argued, "there was no alternative" to the imposition of exchange controls.[417] The decision was essentially a technical and reactive one, forced by deteriorating fundamentals, and largely orthogonal to the overall policy course of the Polish government.

In his hypothesis as to why Poland left the gold standard when it did, Wolf (2007) implicitly rejects the 'explosive decompression' view in favour of an explanation stressing foreign policy. He argues that reserve losses did play a role in increasing the "economic pressure to finally release the 'golden fetters'", but that these losses came earlier, "from mid-1935 onward, mainly due to the imposition of new exchange restrictions in Germany and elsewhere". Furthermore, while he accepts the premise of the 'explosive decompression' proponents that by the beginning of 1936 the economic fundamentals sustaining the gold standard had deteriorated to the point where "Poland's

[414] Leszczyńska (2013), p. 339
[415] Landau and Tomaszewski (1989), p. 350
[416] AAN – Bank Polski, t. 17, k. 104
[417] Landau and Tomaszewski (1989), p. 335

membership in the gold bloc had become a façade without any economic foundations", he differs from the Polish authors by arguing that the Polish government acted intentionally to leave the gold standard when it did, and that the critical factor in determining the timing of Poland's exit was the ever more obvious inadequacy of the military alliance with France and the need to pursue rearmament. "The time to act", he claims, "finally came with the remilitarisation of the Rhineland, when Germany de facto cancelled the Treaty of Locarno… but France did not react". At the same time, "the changing political climate in France, with an expected success of Blum's Front Populaire questioned the future of the gold bloc altogether".[418] The response of the Polish government was to pass legislation, on April 9, to create a National Defence Fund of one billion Złotys, and, two weeks later, to leave the gold standard for good. It is interesting to note at this stage, though Wolf does not bring this point up himself, that Poland's exit from gold came the very next day (a Monday) after the Front Populaire won the French elections of April 26.

In the light of our earlier findings about the importance of the French alliance to the Polish government's decision to *stay* on gold in 1932, Wolf's argument is compelling. (It should be noted that his argument is not one that could unproblematically have been made during the communist period, when Landau and Tomaszewski, whose narrative as to Poland's exit from the gold standard Leszczyńska largely reiterates.[419]) Where it needs expansion, however, is in providing explicit archival support for its quantitative results, and in that it does not engage head-on the core contention of the major Polish literature that deteriorating fundamentals in March and April of 1936 are sufficient to explain Poland's exit from the gold standard, and that they, rather than a shift in the direction of foreign policy, provided the major impetus for Poland's exit..

4.5.1 The Failure of Fundamentals to Explain Poland's Exit

In what follows, I present quantitative and archival evidence showing that Wolf's hypothesis is a more accurate (though still incomplete) portrayal of events than the 'explosive decompression' view. I show that the key decision to leave the gold standard was taken by the government over the course of about a month between the Rhineland crisis and the economic summit on April 21 at which the government gave explicit orders to the Bank of Poland to prepare for an exit from gold, and that it was indeed the failure of the French alliance with the Rhineland crisis that changed the existing narrow consensus in favour of remaining on gold into an overwhelming one to leave (with only the leadership of the Bank of Poland 'on the outs', which explains well their protestations, picked up by

[418] Wolf (2007), p. 14
[419] Leszczyńska (2013), pp. 336-342

later historians, that the decision to impose exchange controls was foisted upon them by unwelcome events). With regard to fundamentals, I find that these were mostly firm and could likely have sustained a defence of the gold standard had the government chosen to mount one, and that even the industrial unrest hailed by certain communist-era authors, such as Drozdowski (1963), as *the* reason for the Polish government's exit from gold and adoption of a more interventionist policy course in 1936 looms less large in the quantitative evidence than in the historiography.

Crucially, I show that the fall in central bank reserves that was used as the public justification for the imposition of exchange controls occurred only *after* the final decision to leave gold had been taken and had leaked to the public. I do find evidence of difficulties in the banking sector starting late in March 1936, which might conceivably have sparked a 'twin' or 'third-generation' currency crisis (*not* the 'first-generation' currency crisis claimed by proponents of 'explosive decompression' as the reason for exit) had they been allowed to continue, but argue that these difficulties were sporadic in nature and *themselves* a result of the news from the Rhineland.

Was there a looming currency crisis in the spring of 1936? The natural place to begin is to examine the Bank of Poland's gold cover ratio, as defined by statute. Figure 37 shows this ratio, at 10-day frequency, from July 1935 onward. As Wolf suggests, the gold cover did shrink considerably, by around 10 percentage points, in the second half of 1935. This reduction was gradual at first, though there was a sudden downward movement in mid-October 1935. From late October to mid-April, the reserve ratio was stable. There was a dramatic change of reserves between 20 and 30 April, from 40.97% on the 20th (higher by more than one percentage point than the ratio on 31 December 1935, which stood at 39.78%) to 35.96% on the 30th, declining further, *after* exchange controls had already been imposed, to 33.73% on 30 June. *Prima facie*, there appears to be some limited evidence for the view that an 'explosive decompression' in reserves occurred suddenly in late April, but there is very little evidence of one beginning in March. Even so, the imposition of exchange controls was by no means inevitable at that juncture, and as of 30 April, reserves would still have needed to fall by a fifth before the statutory threshold was breached. (Neither should it be forgotten that, per the 1933 revisions to the Bank of Poland's statutes, the 30% threshold was a soft constraint and breaching it would have merely required the Bank of Poland to pay a surcharge on the 'missing' reserves and raise the discount rate from 5 to 6%.) Indeed, the Bank did not even try to 'stand its ground' in the face of this reserve loss by raising the discount rate. Thus, any claim that the Bank was forced off gold are at best exaggerated (or, as we shall see, true, but not in the way that the proponents of 'explosive decompression' would have it): there were still reserves and policy options available, had the Bank chosen to use them.

For their part, Landau and Tomaszewski (1989) and Leszczyńska (2013) accept the argument that the reserve position at the time of Poland's exit from gold did not mechanically require exit to occur. Instead, they argue that the Bank of Poland's reserve position as defined by statute does not capture the Bank's true position, because they consisted in large part, not of gold being the property of the Bank of Poland, but credits granted to the Bank of Poland by the Banque de France. The level of reserves net of this line of credit was calculated by the Exchange Committee of the Bank of Poland's Policy Council on an *ad hoc* basis. While a complete time series awaits the detailed study of available archival documents, Leszczyńska gives the level of net reserves as of 20 April 1936 as 193 million Złotys, and notes that they had declined slightly (from 226.7 million) since the beginning of the year.[420] This would correspond to a (net) reserve ratio on 20 April of just 18.95%, well below the statutory minimum.

There are, however, major problems with this argument. The first is that the net reserve figures were not just not public; they were not official even *intra muros*. The reserve calculations produced by the Bank of Poland's Central Accounting department for internal use all follow the statutory formula, whilst the "net" figures circulate only within the rarefied confines of the Policy Council's Exchange Committee.[421] It is possible even likely, that members of this group conducted policy with the net figures in mind—one might see traces of this influence, for instance, in committee member Wacław Fajans' statement at the Policy Council meeting on 25 April 1936 (the day before the imposition of exchange controls) that "the Polish economy is almost entirely without reserves"[422]. Yet there is an even more fundamental problem with the 'net reserves' argument, which is that it in no way explains the timing of Poland's exit from gold. The gold cover ratio calculated on the basis of net reserves shows barely any change between the end of 1935 and 20 April 1936. The net cover ratio on 31 December 1935, on the basis of Leszczyńska's figures, comes out to 20.30%, or only a percentage point higher than in mid-April *and already far below the statutory minimum*.

In fact, bearing in mind the change in legal definition of the gold cover in 1933, Lesczyńska's annual net reserve figures (she does not provide the data at any higher frequency, though it does exist and is a priority for further research), shown in Figure 38, show the Bank of Poland 'underwater' on this measure *already in December 1932*. To conclude: the fact that the Polish gold standard was on life support from the Banque de France during the last four years may be important, even crucial, in explaining the evident dependence of Polish monetary policy decisions on events in France. What

[420] Leszczyńska (2013), p. 339

[421] For the internal calculations of the gold cover, which survive only from 20 March 1936 to the end of 1938, see AAN – Bank Polski, t. 185

[422] Landau and Tomaszewski (1989), p. 350

it does not explain, however, is why (if the net reserve level was so crucial to the decision to impose exchange controls) Poland did not leave at a much earlier time.

If the level of reserves fails to explain the Polish departure from gold, what about other trends in the Polish economy with direct or indirect implications for the level of reserves? Let us begin with the balance of payments. Figure 39 shows Poland's visible trade balance at monthly frequency from the start of 1935 to mid-1936. With the exception of just one month (June 1935, well before any currency difficulties), this balance is positive; furthermore, the months from February 1936 show an increasing tendency. Unfortunately, the GUS data from which the figure is drawn is limited tells us nothing about invisible earnings, but it is highly likely that the trend in these in the early months of 1936 is also positive. The reason for this is that, after months of negotiations, Polish commercial envoys managed on 7 April to conclude an agreement with Germany settling fees owed by the German government for German rail transit through the Polish Corridor, unfreezing a sum of "about £3,000,000" that had languished unpaid due to Germany's tightening of external transfer restrictions the previous year.[423] Thus was addressed one of the major causes of the drain of reserves throughout 1935 noted by Wolf. Though the frozen funds were no doubt sorely missed in late 1935 and 1936, the future prospects, on that score at least, were optimistic.

What about other indicators? One factor that might have put the Polish gold standard in jeopardy was a deficit in the government budget. Given that the United States' Johnson Act of 1934 had cut the Polish government off from borrowing in the New York market, hitherto the source of most of Poland's credit, the Bank of Poland was finding itself under increased pressure to lend, overtly or covertly, to the government in 1935 (as Figure 28, showing the meteoric rise of 'loans against securities' in that year, implies). Continued deficits, therefore, could well have jeopardized the Polish currency either directly, through their monetization by the Bank of Poland, or indirectly through their effect on expectations. Here too, however, the early months of 1936 show an improvement (Figure 40), with the budgetary reforms of Finance Minister Kwiatkowski managing to achieve a balanced budget for the first time since the beginning of the Depression.[424]

[423] *The Times* (London), "German Debt on Traffic Across Corridor – Agreement with Poland", 8 April 1936
[424] An earlier period of budgetary stability in 1933-34 was more apparent than real, as it resulted from the government counting the proceeds of an internal loan as current revenue until the loan was exhausted.

Figure 37: Bank of Poland Gold Cover (%), September 1935 – June 1936[425]

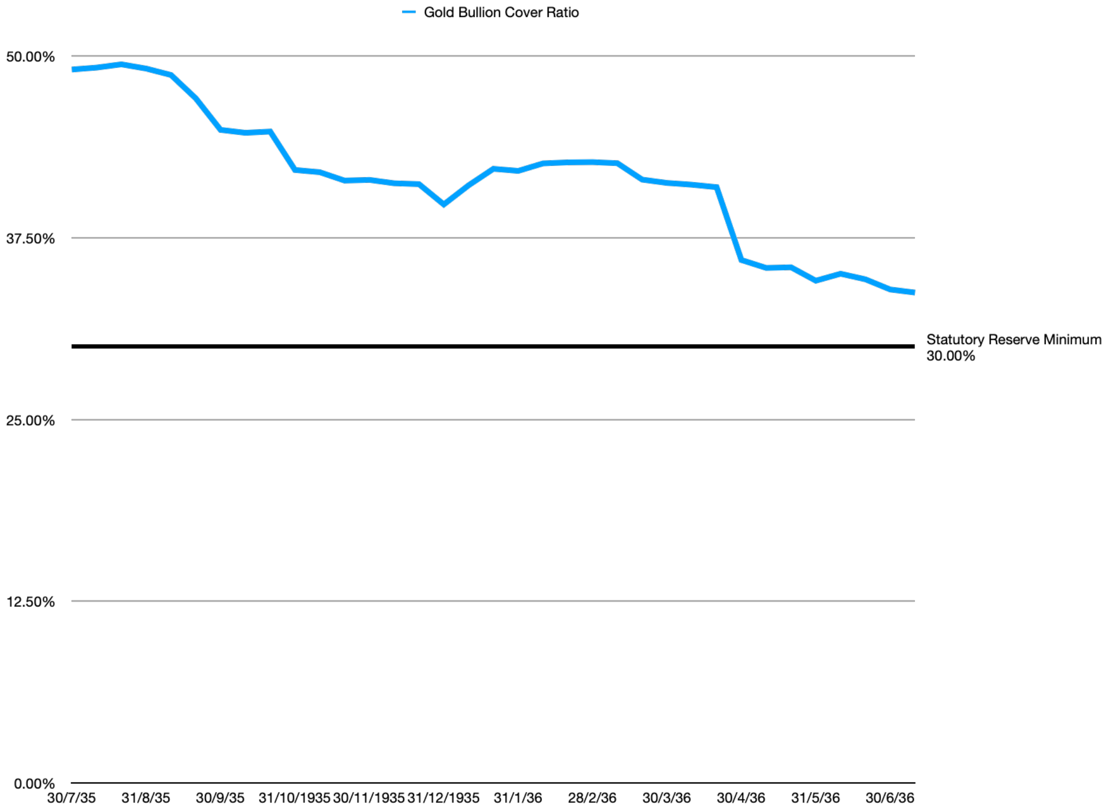
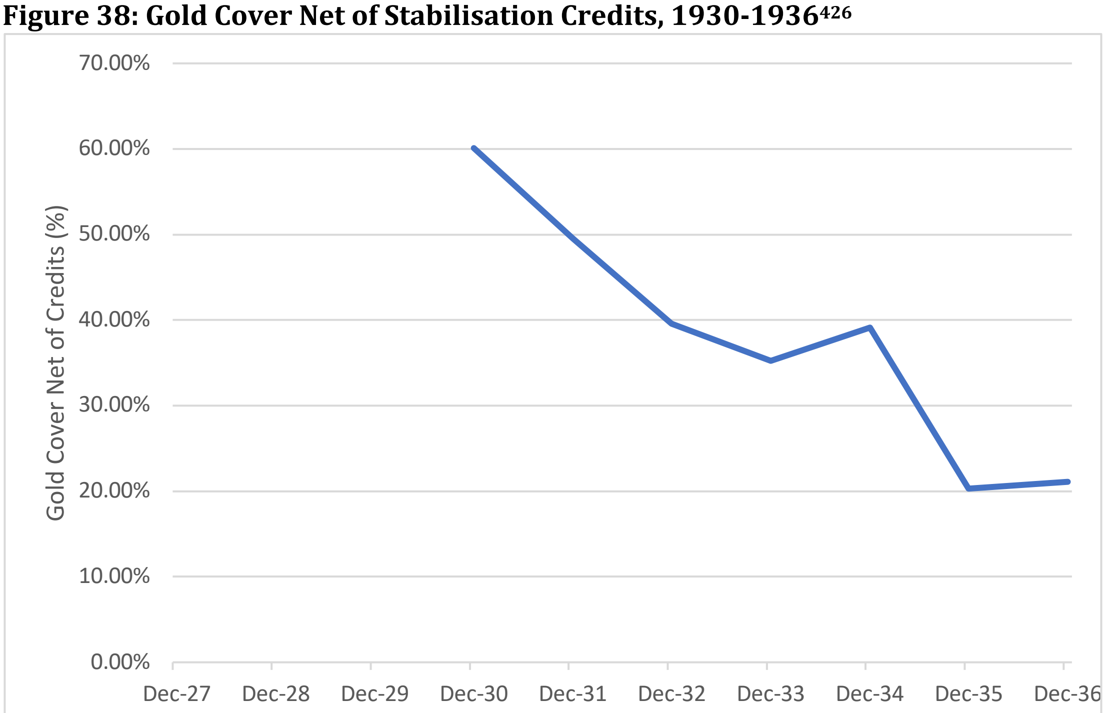


Figure 38: Gold Cover Net of Stabilisation Credits, 1930-1936[426]



[425] Source: Own calculations based on data from *The Economist* (Bank of Poland balance sheet returns).
[426] Source: Leszczyńska (2013), p.310

Was Kwiatkowski's austerity program, then, good news for the prospect of Poland staying in the gold bloc? The perhaps surprising answer from the communist-era historiography is "no", as the economic sacrifices imposed by the government to bring this feat about touched off a wave of strike activity in March and April 1936 that, Drozdowski (1963), Ajnenkiel (1980), and Landau and Tomaszewski (1989), argue, forced the government to rethink the viability of its commitment to deflationary policy. As Drozdowski puts the matter: "The year 1936 was a year of intensified strike activity, demonstrations by the unemployed, bloody clashes with the police on a scale unprecedented in the interwar period… their consequence was a sharp outflow of foreign exchange and gold from domestic banks, the rise of disinvestment tendencies, and thus an atmosphere of uncertainty and fears as to the durability of the existing political system in Poland".[427] Historians of this era have given particular causal significance to a set of clashes between 16 and 18 April 1936 in Kraków and Lwów (Lviv), during which more than 16 demonstrators were shot dead by police. Indeed, during the economic summit on 21 April at which the final decision to impose exchange controls was taken, the demonstrations were a recurring topic of conversation, and President Mościcki made explicit reference to them at the culmination of the meeting, whilst dismissing Adam Koc from his post as head of the Bank of Poland: "We must do everything to give the spark of life to our planned investments, so as to strengthen the government's authority"[428].

Yet the role of the labor unrest of March-April 1936, while clearly on decisionmakers' minds, should not be overstated. Figure 41 shows the GUS data on industrial action in terms of work hours lost (part of the monthly panel of headline variables). What the data shows is that the April demonstrations may have been the bloodiest during the entire tenure of the Sanacja regime, but they were far from the largest. March 1936 figures as a peak in the data, but it is far from the highest peak of the interwar period. This dubious honour falls to March 1933, with 2.45 million lost working hours as against 1.47 million in March 1936. April 1936, on the other hand, looks entirely unremarkable, dwarfed on this measure of strike intensity by five of the twelve months of 1935 (and even by May and June 1936). It might perhaps be argued that the strikes of 1936, occurring as they did after the death of Marshal Piłsudski and with the balance of power between various factions in the post-Piłsudski government still unsettled, took on a level of perceived threat disproportionate to their objective size. In the final account, however, Mościcki's words are telling. He speaks not of the need to create new investment plans in response to the unrest, but to advance ones that have already been

[427] Drozdowski (1963), p. 276
[428] Gruber (1968), pp. 338-40.

Figure 39: Trade Balance in Goods (millions PLZ), 1935-1936[429]

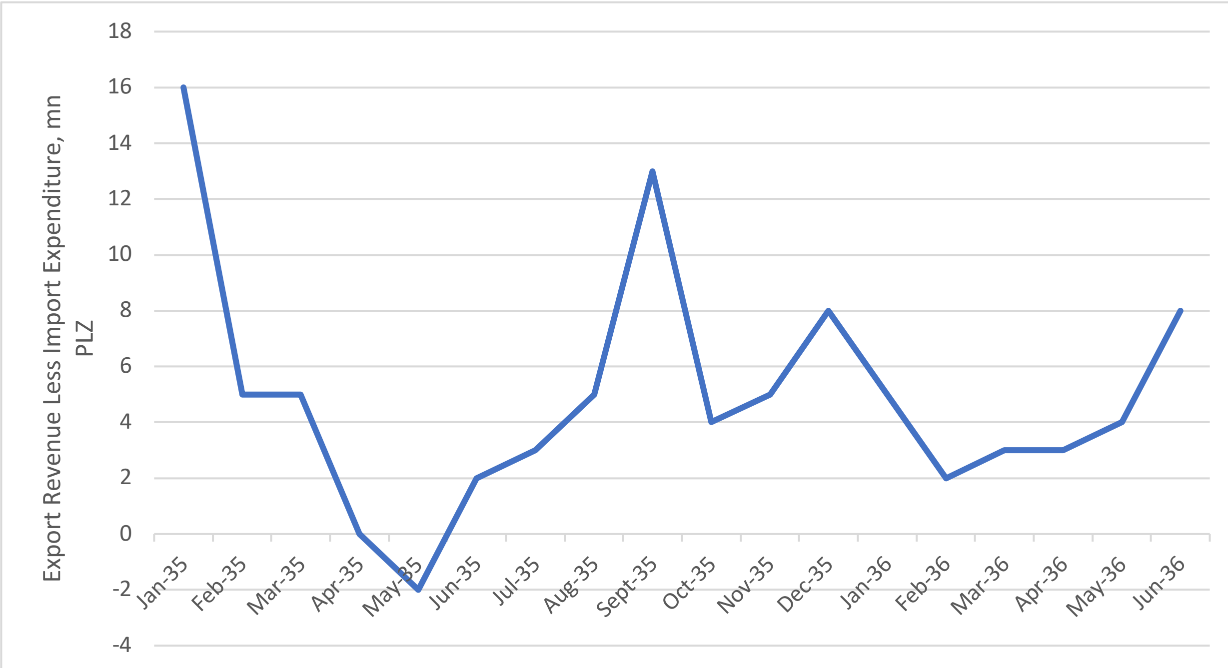
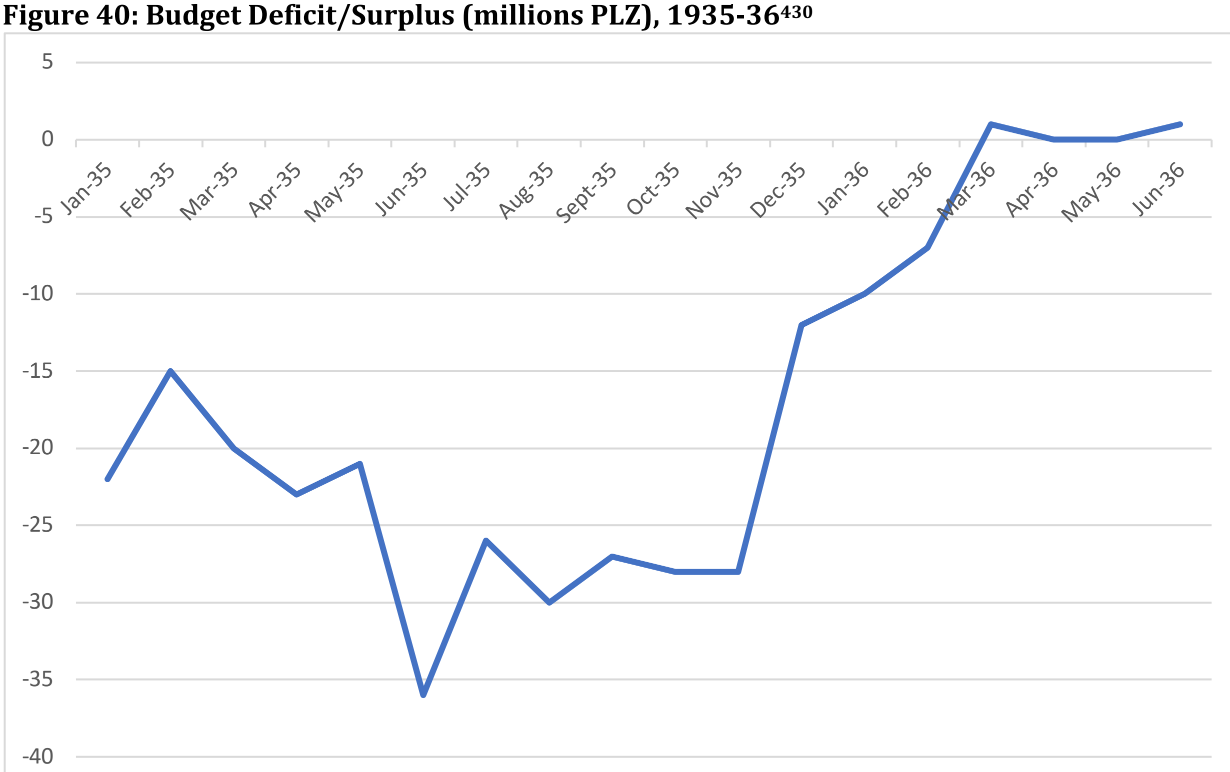


Figure 40: Budget Deficit/Surplus (millions PLZ), 1935-36[430]



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[429] Source: *Wiadomości Statystyczne GUS*, monthly panel of headline variables, 1935-36.
[430] Source: *Wiadomości Statystyczne GUS*, monthly panel of headline variables, 1935-1936.

set. These plans, as we shall see, were the direct result of German entry into the Rhineland the previous month.

Finally, what about financial markets? Were they, as Leszczyńska and Landau and Tomaszewski claim, in dire need of rescue on the eve of Poland's withdrawal from the gold standard? With the partial exception of banking, there is very little sign of this in the quantitative data. To begin with the stock market: no high-frequency stock price data series has yet been collected, but the GUS monthly panel of headline variables does contain monthly data that give some sense of the overall position. Figure 34 shows the already familiar stock price of the Bank of Poland, among the most likely stock to be affected by any financial-market panic. The early months of 1936 show no break in the slow rise in its price that began in 1933. The same lack of a panic is reflected in the price of the 8% debenture of the Warsaw Credit Society (Figure 42), whose sharp downward price movement starting in the second half of 1931 and subsequent recovery by the latter half of 1933 shows it to be a plausible barometer of market sentiment. There was some downward movement in this series in the second half of 1935, particularly in October, but the trend levels off with the new year and stays level. The foreign exchange market shows the same picture. Figure 43 presents the PLN/GBP exchange rate at daily frequency, as collected from *The Economist*. (One week of data was unfortunately missing from this source.) The British pound *did* appreciate against the złoty; however, this happened only after the Polish imposition of exchange controls, and the appreciation was slight compared to movements in the exchange rate in preceding years (not shown).

The same pattern emerges on the market for foreign debt. Figure 44, effectively an extension of Figure 33, though for the London and not the New York market[431], presents the spread in the yield of the 1927 Polish 7% stabilization loan on the London market between July 1935 and July 1936. Figure 33 showed this yield to have been roughly stable from mid-1934 through the end of the series in June 1935. Figure 44, by contrast, shows a rise in the yield from mid-September 1935 until the end of October, with a particular step-change on October 15. The yield then stabilizes and even declines somewhat, before rising again in two steps: a small rise on April 14 (just *after* the establishment of the Polish National Defense Fund but just *before* the workers' demonstrations of April 16-18 and well ahead of the fall in the Bank of Poland's reserves after 20 April), and a much larger one on April 27-28, coinciding with the imposition of exchange controls.

[431] The reason for the change in market is simply that no risk-free US bond was quoted in the London *Times* for the whole of the period between 1927 and 1936. The bond series which comes closest, the 3.5% Liberty Loan, ends on 13 June 1935, so no spreads consistent with those in Figure 10 could be constructed for the final year of the sample.

Figure 41: Workdays Lost to Industrial Action (1000s), 1932-1936[432]

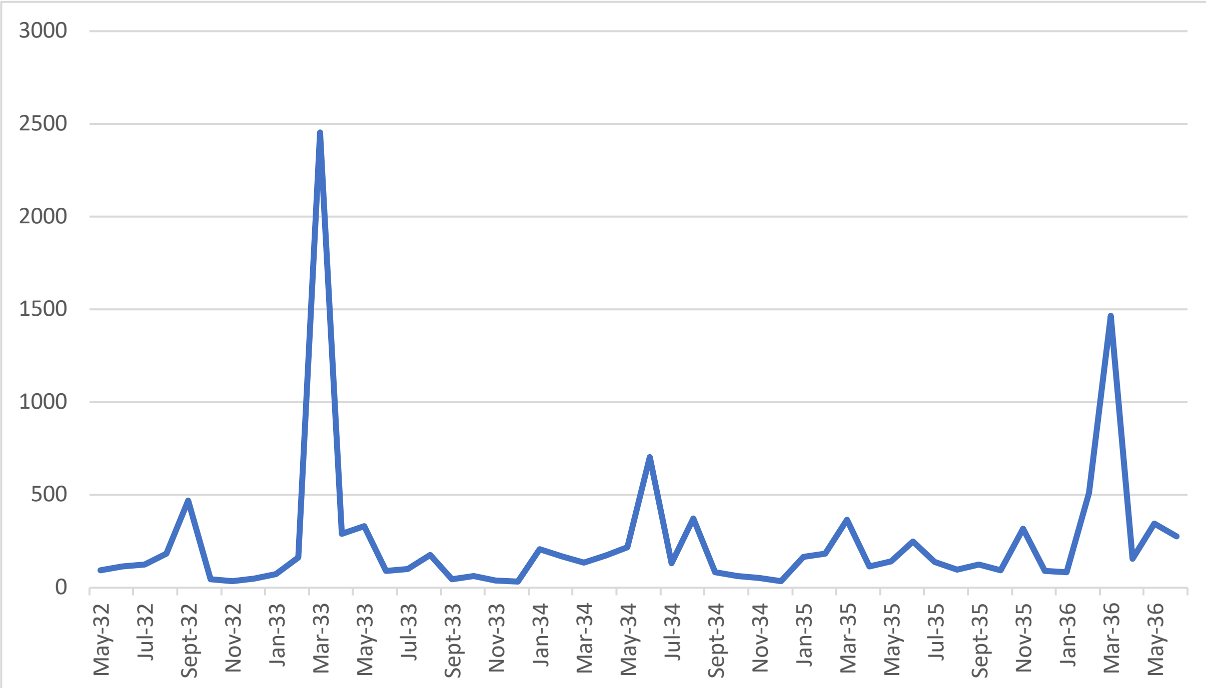
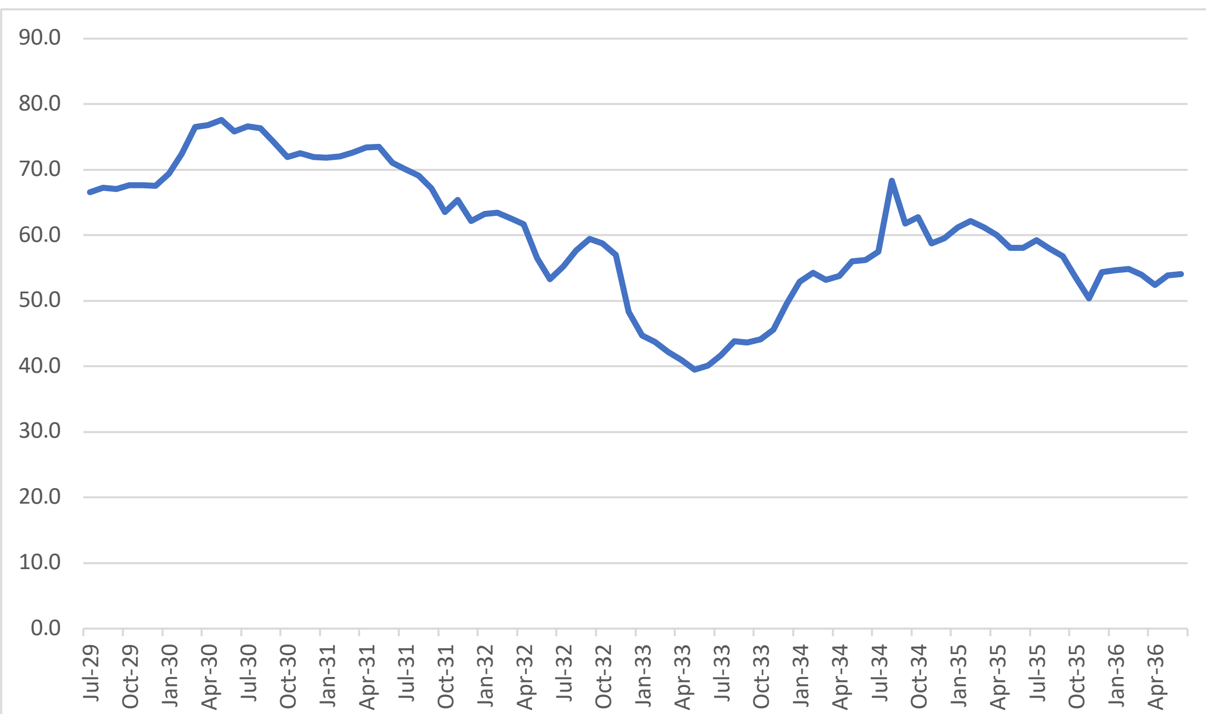


Figure 42: Price of Warsaw Credit Society 8% Debenture (% of Par)[433]



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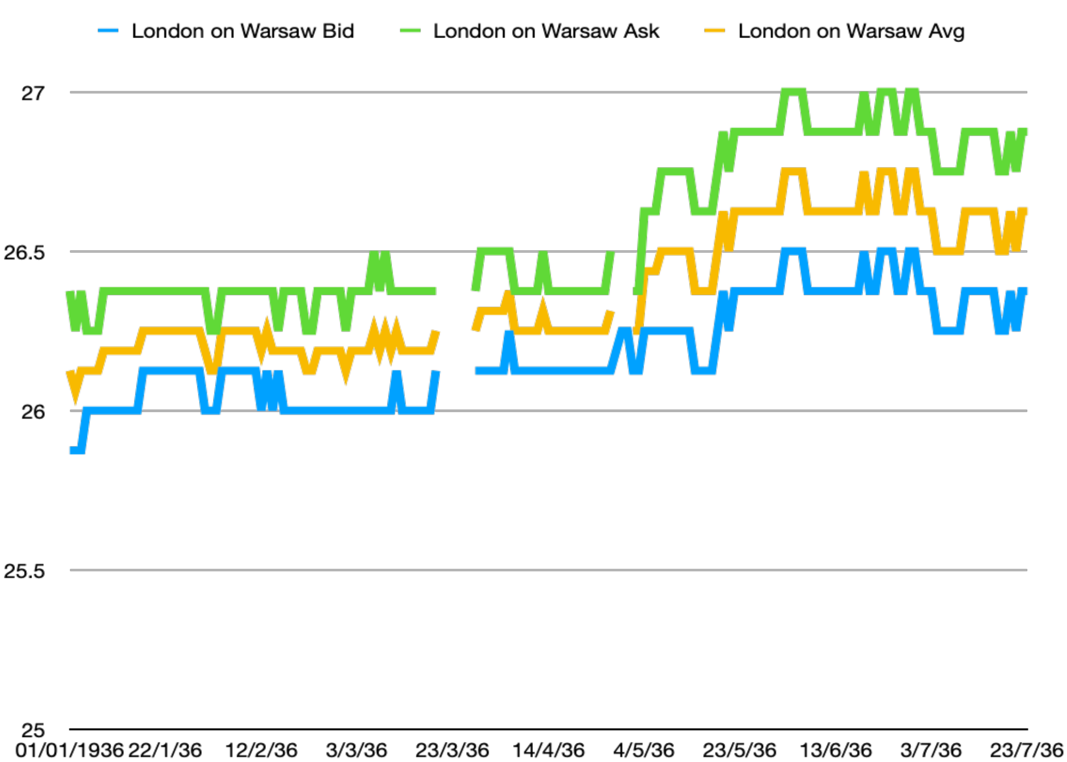
[432] Source: *Wiadomości Statystyczne GUS*, monthly panel of headline variables, 1932-1936.
[433] Source: *Wiadomości Statystyczne GUS*, monthly panel of headline variables, 1929-1936.

Somewhat surprisingly given the large role assigned to the withdrawal of deposits from the banking sector by the Bank of Poland's retrospective accounts of why exchange controls were imposed, the GUS data on banking deposits, both public and private (Figure 45), shows the first half of 1936 to have been a period of calm. There is some earlier movement, in the latter half of 1935, in the series for public bank deposits, with these reaching a trough in October 1935 and then rebounding, but hardly any in 1936. A comparison with the banking troubles of 1931 (Figure 35), in which private banks had lost deposits in great quantities, reveals a stark difference between the two events. Why, then, dos the Polish literature evoke a banking panic in April 1935? The minutes of the Credit Committee of the Bank of Poland for 23 April 1936 provide some hint of an answer. The Committee notes that:

> "The situation on the money market changed for the worse under the influence of international political events and the renewed crisis of the French Franc, the result of which was a certain disquiet on the [domestic] market and the intensification of hoarding tendencies. These attitudes have become apparent mainly in the central and southern provinces (*województwa*), whereas in the province of Poznań, in Pomerania and in the eastern provinces the month of March passed absolutely without incident".[434]

Figure 43: PLZ/GBP Exchange Rate, January-July 1936[435]



[434] AAN – Bank Polski, t. 67 k. 35
[435] Source: *The Economist* statistical appendix, 1936.

Figure 44: Spread of Polish 7% Bond over UK 2.5% Consol (London Stock Exchange)[436]

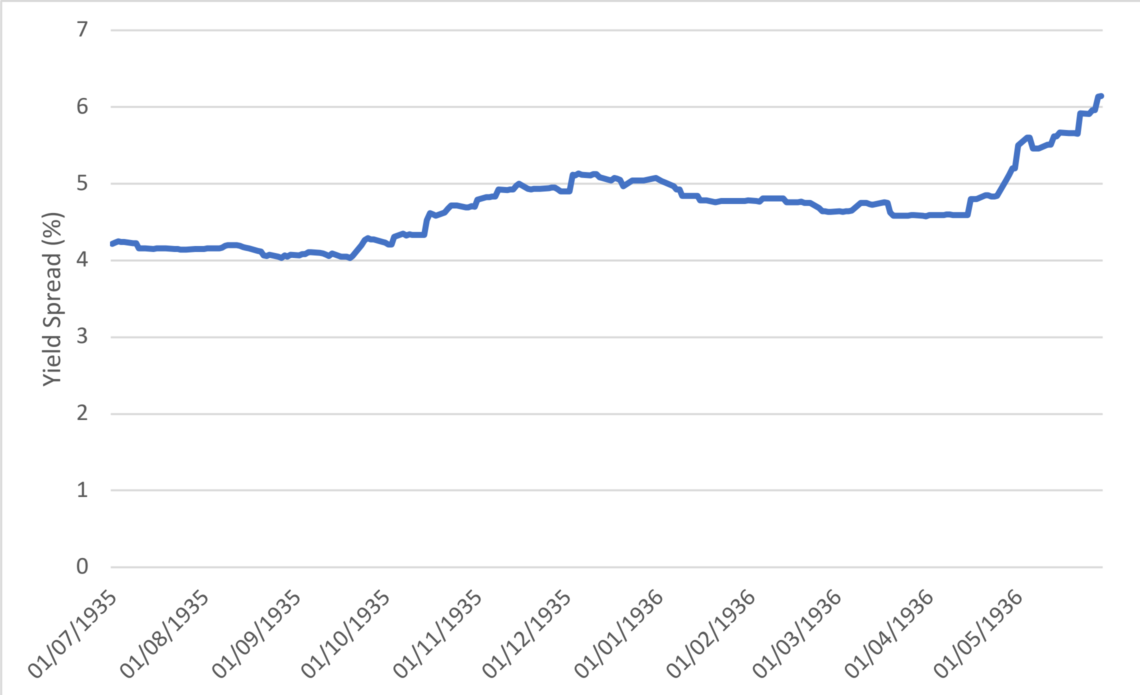
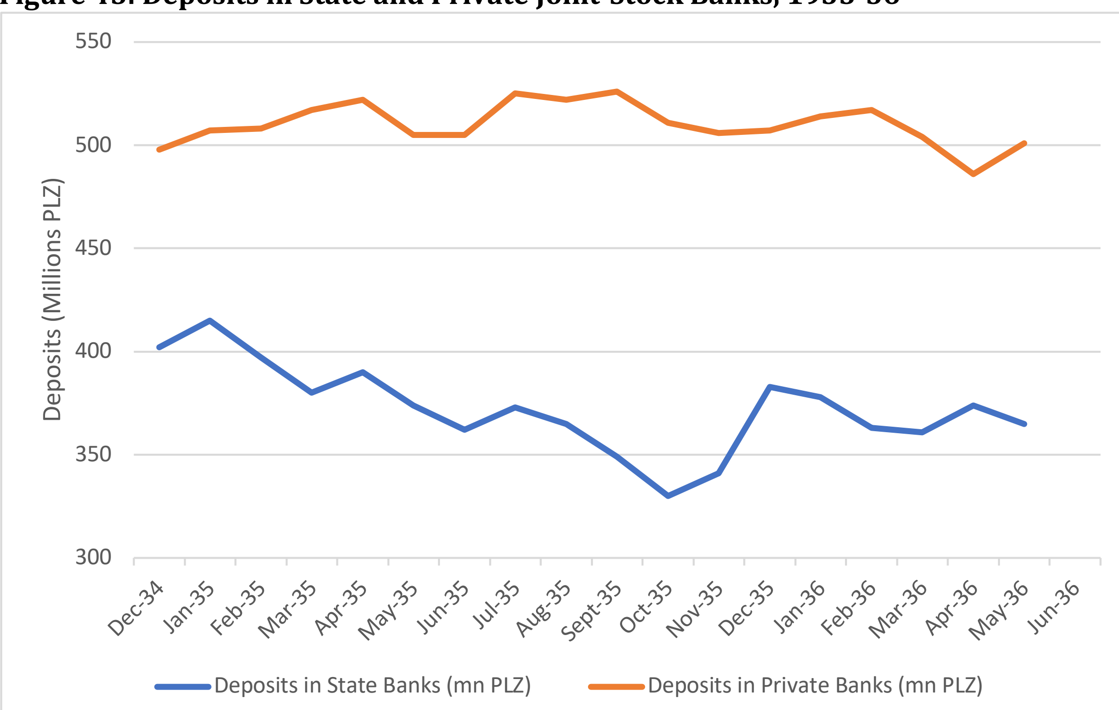


Figure 45: Deposits in State and Private Joint-Stock Banks, 1935-36[437]



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436 Source: *The Times* (London), 1935-1936.

437 Source: *Wiadomości Statystyczne GUS*, monthly panel of headline variables, 1935-1936.

What the Committee's remarks do not reveal, however, is anything like a general calamity in the banking sector. Rather, the remarks state that the situation has been "uneven", with "a small withdrawal of deposits… in the southern provinces and Silesia… which was more than compensated by increases in deposits in the remaining provinces".[438]

Thus, as of the day the Bank of Poland received its instructions to impose exchange controls (21 April), the situation in the banking sector as a whole, just as in the gold vault of the central bank, was generally calm, with no urgent pressures that would have justified the imposition of capital controls. The quantitative evidence from the full range of Polish financial markets is consistent: the run on the Złoty began only after the decision to abandon the gold standard had already been taken.

4.5.2 Why Poland Finally Left the Gold Standard

If the Polish exit from the gold standard was not compelled by a looming financial crisis, how did the Polish government reach the decision to impose exchange controls in April 1936 after steadfastly defending the gold standard for almost the entire preceding decade? To answer this question, it is necessary to trace the evolution of Polish economic policy following the death of Marshal Piłsudski in May 1935. While Piłsudski was alive, he delegated the management of the Ministry of Finance to a series of figures referred to in the historiography, aptly given their military past, personal loyalty to the Marshal, and relative lack of experience in the field of economics, as "Colonels". Two of them have already been mentioned: Adam Koc, the government commissioner at the Bank of Poland since 1932, and Ignacy Matuszewski, who held a series of posts at the Treasury including that of Minister of Finance. Another prominent member of this group was Colonel Tadeusz Lechnicki, head of the economic office of the Cabinet. Following the delegation of Koc to the Bank of Poland and Matuszewski to head the government's semi-official daily newspaper, the *Gazeta Polska,* in 1932[439], the post of Minister of Finance was given to Władysław Zawadzki. Unlike the "Colonels", Zawadzki was a professor of economics at the Warsaw Polytechnic and not a military man (his military experience was limited to service as a volunteer during the Polish-Bolshevik War). Until Piłsudski's death, however, the policy direction he pursued was closely aligned with that of the "Colonels".

This policy course has been described as "deflationary"[440], and while this label has its weaknesses in that, as Section 3 showed, the Bank of Poland was hardly doing everything in its power to force

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[438] AAN – Bank Polski, t. 67 k. 47

[439] For a sense of the role of the newspaper within the political ecosystem of the *Sanacja* regime, a close modern analogue would be the *Straits Times* of Singapore.

[440] Accounts that stress the deflationary tenor of policy during this time include Knakiewicz (1967)'s study of Polish economic policy during the Depression and the memoirs of Agriculture Minister Witold Staniewicz (2003). Both of these works are titled *Deflacja Polska*.

down prices using the tools of monetary policy, it certainly reflects the grinding austerity and steadily falling prices of the period. The chief aim of this policy was to maintain the solvency of the gold-standard regime. Its tools were multiple, including the tariff restrictions already discussed, the encouragement of manufacturing cartels that could charge domestic buyers a premium in order to subsidize dumping of Polish goods on foreign markets to bring in foreign exchange, and successive cuts to the central government budget that spared the military and fell disproportionately on social and education spending. While actions to alleviate the Depression could be, and were, conducted under this framework, including the creation of the Bank Akceptacyjny in 1933 to restructure the large and unpayable debts of the agricultural sector and the expansion of public works for unemployment relief in 1934, these were marginal efforts that had to accommodate themselves to the overall tenor of policy.

The death of Marshal Piłsudski in May 1935 changed the political landscape diametrically by severing the chains of command that had ordered Polish political life since 1926. Whilst the Marshal was alive, it was clear that the final authority on all aspects of the government's policy lay with him, and it was to him that his protégés—President Mościcki, Foreign Minister Beck, the "Colonels" responsible for economic policy—reported. The downside of this structure, based as heavily as it was on personal command and control by Piłsudski of his loyalists, is that in Piłsudski's absence there was no plausible successor with the authority and the resources to take his place. What ensued during the second half of 1935 was a power struggle for control of the Polish state between various factions laying claim to the Marshal's legacy. On one side were Piłsudski's men, who had owed their position to him directly and now lacked a patron: the colonels, Foreign Minister Beck, and a range of former comrades-in-arms such as Walery Sławek, the war-maimed head of the *Sanacja* regime's Parliamentary wing (named, in rather Orwellian fashion, the "Non-Party Bloc of Cooperation with the Government" [*Bezpartyjny Blok Współpracy z Rządem*, *BBWR*]).

In addition to this faction, however, there were two others, both with a strong claim to both the Marshal's legacy and to the sinews of state power. The first of these, known as the "Castle" (*Zamek*), after the official residence of the President, consisted of President Mościcki and his collaborators. What Mościcki lacked in political stature—neither a war hero nor a founding father of Polish independence, he began his career as a chemical engineer and founder of the Tarnów nitrogen industry, and as the Polish Presidency during the interwar years was never a directly elected office he also had no personal electoral mandate to draw on—he made up for in the dominant role over the legislature and civil administration given to his office by the 1935 Constitution. Of course, what the Constitution said and who would enforce its provisions were two different things, and here

Mościcki's claim to authority came to tension with that other component of Piłsudski's personal legacy, the military. Hitherto reporting directly to the Marshal as Commander-in-Chief, this arm of the state passed into the hands of his appointed successor, Chief Inspector of the Armed Forces General Edward Rydz-Śmigły. With all to play for in the new political landscape, the military under Rydz emerged as the third major contender for *de facto* control of the Polish state.

The first of the three factions to bow out of the struggle for power were the old guard of Piłsudski loyalists. In September 1935, Sławek made his bid for power by calling for new elections under the new, authoritarian "April Constitution" enacted just before the Marshal's death, in the process disbanding the BBWR on the grounds that it had become superfluous. The elections, held September 8, were a defeat for the regime. While the new constitution, which among other measures allowed the government to hand-select the candidates who would stand for office, ensured that the opposition would be frozen out of power whatever the result, and while none of the government's preferred candidates failed to secure a seat, the low turnout—just 46.5% on a newly restricted franchise as against 75% in the preceding, semi-free elections of 1930—was a clear rebuke to the sitting leadership.[441] Following the elections, Mościcki received the Cabinet's resignation and went about appointing a new one, in a wholesale changeover of the government that contrasted starkly with the incremental personnel changes of the Piłsudski years. Thereafter, the old guard was finished as a political force. Walery Sławek was shuffled off to a sinecure post as the official historian of the Marshal's legacy; he committed suicide three years later. Matuszewski and Koc, being outside the formal hierarchies of government, retained their positions, though their influence was on the wane. Only Beck remained in government, to maintain the continuity of the foreign policy at a time when international relations were becoming ever more turbulent.

With the previous government gone, Mościcki found himself before the task of having to appoint a new one. The task required weighing up the significance of the electoral defeat and deciding which areas of the government's activity needed to be redirected onto a different course. In the realm of economics, the choice of policy boiled down to a choice of personnel: whether to keep the Treasury in the hands of the group of 'Colonels' or to seek new blood. Mościcki opted for the latter, appointing as Finance Minister Eugeniusz Kwiatkowski: his personal friend and successor as head of the Tarnów works, who had held posts of responsibility in previous governments and a seat on the Bank of Poland's Policy Council, but whose relatively liberal political views had alienated him from the inner circles of Piłsudski's regime. Kwiatkowski was a reformist with a track record for delivering large investment projects and an appetite, expressed among other places in his 1932 economic manifesto

[441] *The Times* (London), "The Polish Elections". 10 September 1935.

Dysproporcje[442], for expanding the role of the state in the fight against economic backwardness and regional disparities. His greatest achievement to date, while Minister of Industry and Trade between 1926 and 1930, had been the transformation the port of Gdynia from a village of some 1000 souls into Poland's preeminent seaport, whose shipping tonnage by the time Kwiatkowski left his post exceeded that of the 800-year-old Free City of Danzig just to the south-east. Unmistakably, the appointment reflected an acknowledgement by Mościcki that economic policy needed to change drastically: not only did he make Kwiatkowski Finance Minister, but he created for him the unprecedented post of Deputy Prime Minister.

There has been a great deal of confusion in the literature on the views of Kwiatkowski with regard to monetary policy. Landau and Tomaszewski (1989) and Leszczyńska (2013) portray him as a monetary conservative with a deep conviction that the Polish people would react to any loosening of the monetary policy with panic, and that therefore it was imperative that the stability of the currency be maintained. Landau and Tomaszewski quote his former collaborator, Janusz Rakowski, who in his 1978 recollections stated the following about his erstwhile boss:

> "Being a spokesperson for creating a climate of surety, calm and equilibrium for the growth of the economy, Kwiatkowski (…) stubbornly defended the stability of the currency. He did not yield to President Mościcki, who—with good intentions but without a theoretical background or experience—advocated a monetary 'revolution', based on the maintenance of a gold-backed currency, but only for international trade."[443]

Contemporary evidence, however, paints an entirely different picture of Kwiatkowski's monetary designs. He was a proponent of the stability of the currency only in the sense that Mościcki was at the economic summit of 21 April 1936, when he branded Koc's proposal for remaining on the gold standard, albeit at a devalued parity, as a "misfortune" that boded catastrophically for the confidence of Polish savers and entrepreneurs, while almost in the same sentence ordering him to impose exchange controls and firing him from his post when he did not.[444] That is to say, he strongly preferred exchange controls to devaluation, but also to business as usual. His first actions as Finance Minister demonstrate the fact. Kazimierz Świtalski, the Marshal of the Sejm whose diaries provide an invaluable window into the inner workings of the Sanacja regime, records the following conversation that he had with President Mościcki on 15 October 1935, when Kwiatkowski's appointment became public knowledge:

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[442] Kwiatkowski (1932)
[443] Landau and Tomaszewski (1989), p. 334
[444] Gruber (1968), p. 340

> "The President, just like a woman in love, said that he had not been willing to accept Zawadzki's scheme [after Piłsudski's death, Finance Minister Zawadzki reversed some of his earlier views and presented for Mościcki's consideration a plan to implement foreign currency restrictions], but when Kwiatkowski presented to him the necessity of the matter, he went for it, as he is convinced that Kwiatkowski will make of it a foundation for schemes to rescue the economic life of the country, whilst Zawadzki is not capable of that."[445]

Kwiatkowski's willingness to impose exchange controls in October 1935 is corroborated by his own words in a radio exposé of his economic program on October 15. As reported by Drozdowski,

> "Speaking of the pauperization of millions of Poles, [Kwiatkowski] announced his intention to conduct a policy of expanding internal consumption following the achievement of a balanced budget. He proposed the introduction of exchange controls, the collection of the German debt for transit [of the Corridor, as discussed above], and the intensification of efforts to secure French and American capital inflows."[446]

Thus, exchange controls were not only consistent in Kwiatkowski's view with a balanced budget, stable currency, and state investment, they were one of the headline items of his economic agenda. Perhaps the most telling proof of his intentions in this regard, however, is the reaction of financial markets to his appointment in October. The fact that October 1935 saw declines in the Bank of Poland's gold reserves (amounting to an eight-percentage-point fall in the gold cover), Warsaw Credit Society bonds, deposits in state banks, and the yield on Polish sovereign bonds on foreign markets has already been noted. Furthermore, the bond yields, being of daily frequency, can pinpoint the timing of the decline: it began gradually with the government defeat in the September elections, then accelerated suddenly on October 15, the date of Kwiatkowski's speech. A similar rise in the yields is seen again only after the actual policy turn to impose exchange controls in April 1936. It would seem, then, that when Kwiatkowski declared his intention to impose exchange controls, the proverbial 'bond-market vigilantes' took the plain meaning of his words for granted.

If Kwiatkowski was so willing to impose exchange controls in October 1935, and he had convinced Mościcki that this was a good idea, why did Poland not leave the gold standard at that juncture? To understand this, the influence of the French alliance once again becomes critical. The person to torpedo the scheme was none other than Foreign Minister Beck, who claimed that Kwiatkowski's appointment would fatally undercut his own responsibilities. In his memoirs written

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[445] AAN – Akta K. Świtalskiego, t. 4 k. 341.
[446] Drozdowski (2002), p. 16

not long after the event (during his internment in Romania in 1939), Beck describes his role in the formation of the new Cabinet as follows:

> "Colonel Sławek… set [President Mościcki] the condition that Mr. Kwiatkowski can be either the Minister of Finance or the Deputy Prime Minister, but not both at once. Thus ended the candidacy of Colonel Sławek for Prime Minister. (…) Seriously reckoning with the possibility that it will be impossible to maintain the parameters of our foreign policy if the domestic policy deviated excessively from existing conceptions, and fearing also the insufficient resilience of the Kościałkowski-Kwiatkowski cabinet, I was very seriously disturbed by this arrangement."[447]

On or shortly after October 12, Beck visited Mościcki at the Royal Palace, telling him that Kwiatkowski's role in the Cabinet was unacceptable to him and that he feared that with Kwiatkowski in government "the divergence between my foreign policy and the domestic policy will accentuate himself, which must end badly".[448] The President was "very agitated. He told me right off the bat that he had always supported my foreign policy, both out of personal conviction and in memory of the Marshal's categorical opinions on the matter. Accordingly, he would need to make me responsible for blocking the formation of his Cabinet, if I persisted in my refusal".[449] Beck's response was to tender his resignation and propose a successor. Ultimately, though, Beck stayed on as Foreign Minister until 1939, serving alongside Kwiatkowski as Minister of Finance and Deputy Prime Minister. Why did Beck change his mind? His memoirs gloss over the point, but the Cabinet papers supply a likely answer. The legislation put forth on 18 October 1935 giving President Mościcki (in practice Kwiatkowski) powers of legislating by decree in economic matters begins as follows:

> "Article 1 – The President of the Republic is authorized to issue decrees until 15 January 1936 [this power was later extended several times] in economic and financial matters, with the exception of altering the Directive of the President of the Republic of 13 October 1927 on the stabilization of the Złoty".[450]

This amounted to an explicit bar to Kwiatkowski's ability to force an exit from the gold standard either by devaluing the currency or by imposing exchange controls. The associated justification paper comments on this exclusion as follows: "The planned authorization does not extend to a change

[447] Beck (1939/2015), p.147
[448] Ibid., p. 144
[449] Ibid.
[450] AAN – Prezydium Rady Ministrów t. I/79 k. 778

in the monetary system, the stability of the currency being an unalterable principle of the policy of the State".[451]

Beck's resignation threat was clearly driven by his opposition to Kwiatkowski's place in the Cabinet, but was the motivating factor Kwiatkowski's intention to abandon the Gold Bloc, leaving Beck holding the bag? The plain text of the memoirs is highly suggestive on this point, but not by itself decisive. An alternative reading of the text is that it was Kwiatkowski's liberal views on government and his willingness to work with members of the opposition that incurred his disapproval. Beck certainly took this line when attempting to convince Sławek to join with him in forcing Mościcki to call new elections, stating that "[t]he new Prime Minister and Deputy Prime Minister will no doubt seek cooperation with former political parties, mainly left-wing ones, which may also clear the way for domestic pressures to undermine the Marshal's foreign policy".[452]

Outside evidence, however, points clearly to the gold standard as the bone of contention. Throughout the winter of 1936, the Foreign Ministry kept a nervous eye on reports in the foreign financial press about Poland's monetary intentions (leaving behind a tremendous volume of clippings), and ordered Polish embassies abroad to publish démentis, through their own press offices as well as via covert payments to local newspapers, of any suggestion that Poland was about to depart from the gold standard.[453] Landau and Tomaszewski (1989)[454] and, through them, Leszczyńska, cite these démentis as evidence that the Polish government's policy was to maintain the gold standard indefinitely until a sudden currency panic forced them to abandon it. This argument, however, ignores the evidence that Beck and Kwiatkowski were hardly speaking with the same voice, as well as the rather obvious point that a country closing in on a decade of membership in the gold standard despite the worst economic crisis in history should not have to bribe foreign journalists to make them believe the gold standard was the unalterable law of the land, unless some change was in the offing.

Following Beck's demonstration, the future of the gold standard in Poland seemed momentarily secure, at least to outside investors. Kwiatkowski's first order of business as Deputy Prime Minister was a sweeping set of fiscal reforms whose severity brought the Polish state budget back into balance (net of internal loans) by March 1936, for the first time since 1929. Polish bond yields correspondingly recouped some of their October losses, and the pressure on the Bank of Poland's reserves, which had been acute while the political situation remained unsettled, grew less.

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451 AAN – Prezydium Rady Ministrów, t. I/79 k. 8
452 Beck (1939/2015), p. 143
453 AAN – Ministerstwo Spraw Zagranicznych, t. 7169
454 Landau and Tomaszewski (1989), p. 334

Given this backdrop of seemingly orthodox policy, the standpoint of much of the existing Polish literature that Poland's exit from gold was a move forced by economic circumstances beyond the government's control is not too difficult to understand. New archival evidence, however, shows that this period of apparent consensus on monetary policy was riven with tensions within the ruling camp between the President, who remained not only an advocate of taking Poland out of the gold bloc but actively trying to push policy in that direction by *fait accompli*, and the military, which was engaged in high-stakes negotiations for a French armaments loan in the face of a marked turn of French and Czechoslovak foreign policy away from alignment with Poland and toward the Soviet Union.

The clearest sign of this tension is the series of events that brought about the replacement of the long-standing President of the Bank of Poland, Wróblewski, by the Government Commissioner, Koc, between December 1935 and February 1936, a personnel change to which the Polish literature has paid scant attention, though which the contemporary press was at pains to rationalize.[455] The circumstances under which this change took place are revealed by a report in the Bank of England archive dated 26 February 1936 and written by C.A. Gunston, the deputy head of the Bank's Overseas Department with responsibility for Central Europe.[456] The Bank of England was well- informed on goings-on in the Polish financial community thanks to its contacts with the British Overseas Bank, which had played a very active role as one of the most prominent commercial banks of newly independent Poland. It is worth quoting the report at length, as it reveals clearly where the lines of division on monetary policy within the ruling bloc lay:

> "During Koc's last visit to London [early December 1935], Wroblewski took advantage of his absence to produce a set of Exchange Control Regulations which he sent up to his friend, President Moscicki, for approval. The President would have signed them; but Rydz-Smigly, who knows nothing about financial matters, fortunately realized that this was something important and telegraphed to Koc, who at once returned from London to Warsaw and sent in Wroblewski's resignation—which Koc had had ready signed in his pocket ever since Wroblewski was reappointed President of the Bank Polski two years ago. Moscicki, however, refused to accept Wroblewski's resignation; and he also refused to appoint either Zaleski or Matuscewski [sic], whose names Koc put forward for Wroblewski's post."[457]

There followed several weeks of negotiations between Koc and Mościcki, as the President was neither willing to allow Koc to fire Wróblewski nor to accept Koc's resignation. In the end, Mościcki

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455 *The Economist,* "Poland". 29 February 1936.
456 Bank of England Archive (BOE), OV110/27, pp. 70-71, "Poland". I am greatly indebted to William A. Allen for generously making available virtually all of the files on interwar Poland held by the Bank of England.
457 Ibid.

designated Koc Wróblewski's successor at the Bank of Poland, effective 9 February, while letting him retain his other government post as Under-Secretary of Finance, such that he would "continue to control all the matters which he previously controlled in that post—in particular, foreign credits".[458]

What the Koc-Wróblewski episode reveals, aside from the sheer level of leverage that Koc, as Government Commissioner, had held over his nominal superior at the Bank of Poland since at least 1934, is that abandoning gold remained a live item on President Mościcki's policy agenda, but that he could not accomplish it without the support of the other dominant factor of the post-Piłsudski political environment, the military, with Marshal Rydz-Śmigły at its head.

The alignment between Rydz-Śmigły's interests and those of Colonel Koc is readily understandable, given that, since early December 1935, Koc had, via his Treasury role as the Polish government's *de facto* chief negotiator in matters of foreign credit, been actively engaged in negotiations in Paris for a French military loan to Poland—indeed, it was while Koc was away negotiating for credit in Paris and the City of London that Mościcki made his move to attempt to force through exchange controls. (It is also significant that, of Koc's two suggestions for Wróblewski's successor at the Bank of Poland, Matuszewski was a military man and Zaleski a career diplomat and former minister of foreign affairs.). While the conflict between Mościcki and Koc was taking place, there were grounds for optimism that a military loan from France would be forthcoming. French public sentiment toward Poland had recovered somewhat from its low ebb following the Polish-German non-aggression pact and Żyrardów scandal of 1934, and the urgency of Poland's appeal for funds was being conveyed to Paris by the French military attaché Colonel d'Arbonneau, who wrote in a series of notes in January and early February 1936 that Poland would be "almost defenceless when faced with an attack of armoured vehicles" unless substantial aid were given "immediately while there is still time".[459]

The military's priorities, chief among them the hope that France could be relied upon to come to Poland's aid before a conflict with funds for badly needed modernization and in a conflict by honouring her commitments, suffered a series of harsh checks when confronted with events in the winter of 1936. The Polish-French loan negotiations began to stall in late January, when the Laval government collapsed and was replaced by the indecisive caretaker cabinet of Sarrault pending the April elections. The new French Cabinet pinned its hopes in the foreign policy arena on the conclusion of a long-delayed French rapprochement with the Soviet Union as the cornerstone of a new security

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[458] Ibid.
[459] Wandycz (1988), p. 410, quoting d'Arbonneau's reports, Archives of the Service Historique de l'Armée, Vincennes – État-Major de l'Armée de Terre/2, Pologne 13.

settlement in the east whereby the Soviets would join France in guaranteeing Czechoslovakia. For such a guarantee to be realistic, Soviet troops would need to be allowed to pass through Polish territory, something the Poles—understandably, given subsequent events—were very reluctant to countenance.[460]

As the ratification of the Franco-Soviet treaty progressed through the Chamber of Deputies, tensions between Paris and Warsaw flared and the prospect of an armaments loan for Poland receded into the distance. The link between the two subjects—the armaments loan and the Franco-Soviet-Czechoslovak alignment—comes out clearly in the dispatch from Polish Ambassador in Paris Alfred Chłapowski to Beck dated 21 February, in which he notes Flandin's growing exasperation with Warsaw's constructive ambiguity on the Franco-Soviet Pact and states that unless the Poles supplied the "exhaustive discussion of the respective stands vis-à-vis major international issues" the French Premier was demanding, no French credits to Poland could be expected.[461] It should be added that the difficulties faced by the Polish military in obtaining financial support from the French government did not imply comparable difficulties for the Bank of Poland in obtaining credits at the Banque de France. On the contrary, Koc's visits to Paris were modestly successful in bringing in liquidity to the Bank of Poland: in December he was able to secure an advance of 50 million złoty, against gold held by the Banque de France on behalf of the Bank of Poland in Paris, and in February the extension of this credit, which became, as the Bank of England noted, "a straight banking credit with no understanding as to repayment out of future borrowings of the Polish Government in Paris. Indeed, there appears to be no prospect at present of any such borrowings".[462] Though the extent of support the Banque de France could provide was no doubt much smaller than the sums the French government or the French capital market would have been capable of advancing, the point remains that the Bank of Poland, unlike the Polish army, did not find itself suddenly cut off.

It was in this atmosphere of deepening Franco-Polish mistrust that Hitler's move on 7 March to remilitarize the Rhineland took place. Hitler's coup had more than symbolic importance for the Franco-Polish military alliance. It was, of course, a flagrant breach of the Treaty of Versailles, and thus a point of principle that put directly to the test France's willingness to respond with force to a breach of the postwar settlement. Just as important, however, was the strategic significance of the move: with German troops free to fortify the easily defensible hills of the Saar basin, the French would lose the ability to deliver a crippling blow to the German war effort in the opening days of a war by

[460] Wandycz (1988), p. 428
[461] Szembek (1964), Vol. 2, pp. 392-396
[462] Cobbold, note of 17 February 1936, BOE OV110/27, quoted in Allen (2020), p. 109.

striking swiftly across the Rhine at the Ruhr basin. Indeed, with the Rhineland re-fortified, the scale of commitment that would be required for any French offensive in the west to relieve the Poles in the event of a German attack rose substantially, and the prospect of such an offensive became harder than ever to square with France's revealed preference for a defensive stance on the Maginot Line.

The seventh of March, then, marked a key turning point for Polish defence policy. If France could not be prevailed on to take action to restore the status quo, the basic assumptions of Polish defence policy as to whether and for how long Poland would need to fight alone against Germany would be forced to change. While Beck's own willingness to break off the German-Polish non-aggression pact if France had chosen to act remains a debated issue[463], the point is essentially moot given that the Flandin government had no desire to risk war over Hitler's provocation without British backing, which it did not have. Thus, with Hitler's entry into the Rhineland, the ground gave way beneath Rydz-Śmigły and Beck's hitherto successful campaign to veto a Polish exit from gold. Beck, whose refusal to endorse the Franco-Soviet Pact had "compromised him on French soil"[464], ceased for the time being to be a decisive factor in Polish-French affairs. Indeed, even after the Sarrault Cabinet was replaced by the left-wing government of Léon Blum following the 26 April elections, and negotiations for a French military loan to Poland, ultimately successful, resumed over the summer, the talks were carried out without Beck's involvement and indeed behind his back.

Rydz-Śmigly, for his part, was quick to realise that the new situation required a change of approach and that Poland would henceforth need to assume the major share of responsibility for her own defence. In the meeting of the Cabinet Council held immediately after Hitler's coup, he "emphasised the necessity for a radical increase in military expenditures".[465] His request was granted: preparatory work began shortly to formulate a plan of rearmament, and on 9 April, the Cabinet of Ministers authorised the establishment of the National Defence Fund to finance the effort. This account took precedence over the ordinary budget: it was established to "ensure the continuity of the fulfilment of the plan for the material provisioning of the Army" regardless of and "absolutely independent from the coverage of these expenses from the annual sums earmarked for this purpose in the budget".[466] Already at that point early in April, the government was thinking in terms of a multi-year investment programme, one which could not be accommodated by ordinary expenditures. The eventual sums approved by the Sejm over the following year are a testament to the scale of the

[463] Wandycz (1988), p. 439, summarizes the debate on the sincerity of the Polish intent to go to war in 1936. Beck claims in his memoirs that he informed the French Ambassador immediately after the news broke that Poland would be prepared to fulfil its duties as an ally if it came to war: cf. Beck (1939/2015), p. 154.
[464] Drozdowski (1963), p. 275
[465] Ibid.
[466] AAN—Prezydium Rady Ministrów, t. I/81 k. 390

enterprise: 2.4 billion złoty in July 1936 to fund the government's four-year investment plan through March 1939, plus a further one billion for the National Defence Fund approved in January 1937, versus state expenditures of 2.205 billion in the 1935-36 fiscal year. [467]

Such sums were clearly incompatible with the maintenance of the gold standard. As of April 10, the Bank of Poland, while not under immediate pressure to suspend convertibility if the fiscal status quo were maintained, held only some 130 million złoty worth of gold in excess of the statutory minimum. The fact that the bulk of the payments into the National Defence Fund was approved only after Poland had left the gold bloc and defaulted on its debts, and thus might not reflect precisely the scale of the government's ambitions as of early April, is thus beside the point. Even a much more modest rearmament scheme—which is to say, any rearmament scheme that would have made the slightest difference in the face of the massive rearmament then underway in Germany—would have entailed a departure from gold.

It is unsurprising, therefore, that the final preparations for Poland's exit for gold began to be laid immediately after the establishment of the National Defence Fund, but before the climax of the Lwów labour unrest on April 18. The first step was a purge of the hard-money 'Colonels' from their remaining positions of influence. The first blow fell late on 17 April, when Ignacy Matuszewski, editor of the semi-official *Gazeta Polska*, attempted to signal his opposition to the impending policy shift by publishing an editorial in defence of the monetary-fiscal status quo on the newspaper's front page. Somewhat belatedly, the government was alerted to this attempt and sent police to pull the article: as there was no time to arrange for its replacement with something more suitable, the newspaper appeared the following morning with a blank front page.[468] No panic ensued as yet, but neither was the significance of events lost on the public. The confiscation of the article came as a "major surprise" to public opinion, which prompted the government to delay a planned Cabinet reconstruction until after exchange controls had been imposed, to "avoid the impression that the *Gazeta Polska* had toppled the government".[469] Despite this concession to the 'optics' of public image, the government continued its purge of the 'Colonel' faction: on 21 April, by order of the Council of Ministers, Colonel Matuszewski was relieved of his position as president of the Financial Commission, while Kazimierz Świtalski, another prominent 'Colonel', was dismissed as Voivode of Kraków.[470]

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[467] Drozdowski (1963), pp. 73-92
[468] *The Times* (London), "Cabinet Differences in Poland – 'The Colonel's Group' Dissatisfied". 20 April 1936.
[469] Ajnenkiel (1980), p. 516
[470] *The Times* (London), "Dismissals in Poland – Coming Cabinet Changes – 'Colonels' and Reds". 22 April 1936.

The final decision to take Poland out of the gold standard through the imposition of exchange controls was taken on the evening of that same day, April 21, at a 'War Cabinet' called by President Mościcki at his residence in Warsaw's Royal Castle. The list of invitees gives a sense of the forces at play: the Prime Minister; General Rydz-Śmigły; Colonel Koc on behalf of the Bank of Poland; Eugeniusz Kwiatkowski; Foreign Minister Beck; and several other ministers and figures from the banking community.[471] The purpose of the meeting was not to decide whether Poland should remain committed to its current gold parity—as the purge of the Colonels suggests, that decision had already been taken. Rather, the purpose was to agree the terms of exit: specifically, whether to approve Koc's request, drafted in consultation with the Bank of Poland's Board of Directors, to devalue the Złoty. Koc's standpoint was essentially focused on salvaging the status quo, coupling a recognition of fiscal dominance with an appeal to pull back from the brink. He noted with foreboding the circulating "rumours that economic policy will change in the direction of so-called 'economic stimulus' based on inflation [which] have not been met with a sufficiently strong rebuttal on the part of the government"—a reference to the silencing and firing of Matuszewski, which was reported on domestic and even the London press immediately after it happened— and presented devaluation as a one-time sacrifice that would allow for a restoration of trust in the currency and a resumption of orthodox policy in due course.[472] Against this vision, Mościcki argued for the (comparatively) radical alternative of exchange controls, behind which it would be possible to fund the government's planned investment schemes.

The latter conception prevailed: the meeting ended with Koc outvoted and given peremptory orders "in categorical form" to inform the governing bodies of the Bank that the devaluation proposal had not been accepted.[473] Although this stopped just short of an order to impose exchange controls, the discussion, as relayed to us by Henryk Gruber, president of the Postal Savings Bank and one of the participants, makes it clear that exchange controls and a dramatic increase in state investment were indeed the alternative. If it were merely a question of business as usual, the broad coalition against devaluation that carried the meeting would not have materialized. In fact, however, most participants outside the Bank of Poland saw their own particular interest in the implied alternative. For the military, the advantage was rearmament. Kwiatkowski vocally advocated exchange controls and cited "the necessity of vigorously taking up the fight against unemployment".[474] Raczkiewicz, the minister of the interior, saw in the investment scheme a solution to "the masses becoming ever more

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[471] *The Times* (London), "Polish Finances – President's Conference with Leaders". 23 April 1936.
[472] AAN – Bank Polski, t.27, k. 88.
[473] Gruber (1968), pp. 339-40.
[474] Ajnenkiel (1980), p. 479

restless, all because of unemployment".[475] Mościcki, acutely aware that he lacked Piłsudski's status as father of the nation, spoke of the need "to strengthen the authority of the government".[476] The Bank of England's appraisal that Koc was "outvoted" is thus entirely accurate.[477] Now that the alternative was clearly defined, business as usual appealed only to its appointed guardian. With no prospect of salvaging Poland's position in the gold standard, Koc tendered his resignation, post-dated to 11 May out of consideration for public confidence while the Cabinet reshuffle was still ongoing.[478]

Yet, if the coalition that secured Poland's exit from gold through exchange controls at the President's 'War Cabinet' was a broad tent, it was the military's need for funds for rearmament, not the short-term exigencies of the strike situation, that constituted its centre-pole. The primordial importance of rearmament comes out clearly in the subsequent remarks of decision-makers. Leon Barański, the Chairman of the Bank of Poland's Board of Directors and the pre-eminent figure of the Bank's final years, eclipsing its new President, the political appointee Władysław Byrka, addressed this point unambiguously both at the time and years later. During a visit to the Bank of England in 1938, Barański stated explicitly that the Polish government's portrayal of the state investment programme in its official propaganda as a means of reducing regional inequalities and bringing up living standards was far from the truth. To the contrary, he was "very pessimistic about the effect which the defence programme will have upon the standard of living as Poland has no fat on which to live... the country may be condemned to indefinite poverty for the sake of rearmament, but at least the arms are good ones."[479] Many years later, in an interview for R.S. Sayers' official history of the Bank of England, Barański returned to this theme, stating that exchange controls in Poland were a response to rising international tensions, and, indeed, constituted "the real beginning of the war, in monetary policy".[480]

Kwiatkowski himself, though he presented the new investment plan to the Sejm and the country in June 1936 largely in civilian terms, likewise thought in terms of a connection between exchange controls and national defence. In a speech on 29 January to the Budget Committee of the Sejm, connected with the Sejm's deliberations on the grant of an additional one billion złoty to the National Defence Fund, Kwiatkowski opens with a defence of exchange controls and defends them thus: "Exchange controls have many negative and unfortunate features for citizens, but they have one positive element: they force reforms in the acquisition of raw materials, force a switch from foreign

[475] Gruber (1968), pp. 338-40
[476] Ibid.
[477] BOE -- OV110/3, p. 17. "Gossip from Mr. Siepmann". 29 April 1936.
[478] AAN – Bank Polski, t. 27, k. 95. Minutes of the Bank Council, 11 May 1936.
[479] BOE – OV110/4. "Conversation with Dr. Baranski". 31 March 1938.
[480] BOE – ADM33/25. "Dr. Leon Jozef Baranski". 10 April 1969.

to domestic resources... I am not able to promise a withdrawal from the use of the money market for the purposes of the state. It is required by the task of our investment, and above all the needs related to national defence, which has become today an imperative so important that in the hierarchy of needs I must place it unquestionably above the fulfilment of purely economic requirements."[481] This speech, too, was held in the context of a debate between two conflicting policy prescriptions: the issue of bonds to finance rearmament versus less orthodox means of finance, including seignorage. While hoping that the Polish bond market might in the long run come to be capable of the former, he urged in the meantime a resort to the latter. Indeed, it was the major increases in the money supply in 1938 and 1939, compatible with exchange controls but not with a devaluation, that ultimately allowed the pace of rearmament to intensify.[482]

Koc's prediction that, unless the government backed away from its investment programme and headed off the rumours of a policy shift by announcing the retention of the gold standard at a devalued parity, public opinion would turn rapidly against the złoty, almost immediately proved accurate. The economic summit at the Castle, coming at the heels of the purge of the 'Colonels' and the confiscation of the Matuszewski editorial, and ending as it did without an alternative decision that would have justified this flurry of activity to the public, sent a clear signal that, at the Warsaw correspondent of the London *Times* put it, "no matter what changes take place in the Cabinet important changes in financial economic policy are in prospect".[483] Once the news got out, the run on the Złoty began. The same correspondent notes, a week later, that there has been "an additional loss of about 20,000,000 złotys [from the Bank of Poland's reserves] last week, when the buying of foreign currencies for hoarding went beyond all reasonable limits".[484] The Bank of England's analysis of the situation, expressed in a 27 April memorandum by Gunson, likewise ascribes the break in the Polish currency not to an adverse movement in the balance of payments, but to "the Poles' highly developed inflation psychology which leads to a flight from the Zloty *whenever there is uncertainty over currency policy*".[485]

If the decision to impose exchange controls was communicated by Mościcki to Koc on the 21st of April, what accounts for the six-day delay before the ultimate publication of the exchange control regulations, a delay which left the door open to a large outflow of reserves from the Bank of Poland's

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481 Kwiatkowski's speech to the Budget Committee of the Sejm, 29 January 1936, reprinted in Drozdowski (2002), pp. 145-47.
482 Landau and Tomaszewski (1989), p. 360
483 *The Times* (London), "Polish Finance – President's Conference with Leaders." 24 April 1936.
484 *The Times* (London), "State Control in Poland – A Break in Deflation." 28 April 1936.
485 BOE – OV110/27, p. 74. "Poland." 27 April 1936. Emphasis added.

vaults? One reason is that Koc needed time to convince the decision-making bodies of the Bank of Poland that there was now no alternative to exchange controls. Two tense meetings of the Bank Council followed on the 23rd and 25th of April, the latter featuring a personal intervention by Kwiatkowski, who told the Bank Council that the government "will take upon itself the responsibility for the further management of the affairs of state, and the Minister [Kwiatkowski] counts on the cooperation of the Bank Council in this work".[486] The message was clear: the choice was not the Bank's to make, and the responsibility for it not the Bank Council's to assume. Even so, it took two further days for the decree announcing exchange controls to pass into law. In this delay might lie one final hint of the importance of relations with France to the Polish decision to defend, and then abandon, the gold standard. The French elections were held the following day, 26 April. The electoral victory of the Front Populaire would have sent a clear signal that a French desertion from the gold bloc was now only a question of time. When Mościcki signed the exchange control regulations into law on the cold, rainy morning of the 27th, he may have done so with a clear conscience as concerned the remnants of strategic cooperation between Poland and France.

4.6 Conclusion

The experience of the Bank of Poland during the Great Depression is much more important to economic history than the Bank's limited influence on the world stage would imply, because it brings into stark relief some conceptual questions about the means and ends of monetary policy that modern macroeconomic theory tends to gloss over. The title of the present chapter alludes to the well-known work of Rogoff (1985), one of several seminal works on the time-consistency problem of monetary policy. This strand of theory, with its origins in the work of Kydland and Prescott (1977) and Barro and Gordon (1983), examines the efficiency of monetary policy constrained by rules versus monetary policy subject only to the government's discretion. A core finding of these papers, perhaps taken for granted following the experiences of 'stop-go' policy in the 1960s and stagflation in the 1970s, was that discretionary monetary policy, such as that carried out by a central bank which is politically subordinate to the Treasury, results in strictly inferior outcomes than monetary policy constrained by rules, due to market participants rationally adjusting their behaviour to a government whose preference is to allow inflation in an attempt to depress unemployment below its 'natural' rate. The policy prescription, then, is to insulate monetary authorities from government pressure by

[486] AAN – Bank Polski, t. 27, k. 88-94. Minutes of the Bank Council, 23 and 25 April 1936.

granting them operational independence, as well as, in Rogoff's suggestion, to appoint an agent who "places 'too large' a weight on inflation-rate stabilization relative to employment stabilization" to head the central bank—in other words, to appoint a 'conservative central banker'.[487] The case of interwar Poland shows, however, that the assumption that the government will naturally prioritise employment over disinflation is not always appropriate. If a government perceives its continued existence as a political entity to depend on the maintenance of a fixed currency regime regardless of its high cost in terms of employment and output, it may well be that its behaviour can be modelled by an objective function in which disinflation takes a much higher weight than is commonly assumed.

Thus, superficially at least, monetary policy in Poland in the Great Depression turns the standard time-consistency argument on its head. From its takeover of the Bank of Poland in 1931-32 until Hitler's remilitarisation of the Rhineland in 1936, the government was the driving force in ensuring Poland's continued membership in the gold bloc and orchestrating the policy of price deflation and trade controls that preserved the central bank's reserves and thus made remaining on gold possible. Following the government's takeover, furthermore, the Bank's policy became increasingly discretionary, with growing departures from the 'rules of the game' of a classical gold-standard regime. Whilst the Bank's statutes were updated to include an explicit commitment to raising the discount rate once reserves had fallen beneath a certain threshold, this threshold, at a gold cover ratio of 30%, was so low as to not be binding. Instead, large outflows of reserves, as in the autumn of 1935, were met with no change in the interest rate, and even an expansion of the Bank's monetary issue. Discretionary though this policy was, it remained consistent with the basic reserve requirements of the gold standard and continued to deliver steadily falling prices up to the moment of its abandonment in the spring of 1936.

Was the government of Poland, then, a "conservative central banker"—indeed, more conservative than the Policy Council of the Bank of Poland during that institution's era of broad autonomy, with its strong roots in big business? Within the framework set out by Rogoff (1985), the answer may well be 'yes'. The disappointing (for the regime) results of the 1935 elections and the labour unrest of March-April 1936, even (or perhaps especially) if they were not decisive for Poland's exit from gold, seem to indicate that Polish monetary authorities in the era of government control of the Bank of Poland were indeed acting as though their "objective function [were] very different from the social welfare function".[488] To leave the matter there, however, would be to misunderstand the nature of the Polish government's desire to stay on gold, which was not the product of economic

[487] Rogoff (1985), p. 1169
[488] Ibid., p. 1187

doctrine but ultimately the result of incentives from beyond the economic sphere. To the extent that the government cared about the stability of the currency as a calling-card of its domestic policy—and it had good reason to, given how large the hyperinflation of the 1920s loomed in the dictatorship's self-conception—this aim did not depend, rhetorically at least, on the maintenance of a convertible gold-backed currency as such. After Hitler's entry into the Rhineland showed the Polish government and especially the Polish military that France was an unreliable ally and that rearmament could therefore no longer be delayed, figures who maintained that a 'stable' currency was not necessarily a *convertible* one (Kwiatkowski, Barański) could be given free rein to organise economic policy; those who held otherwise (Matuszewski, Koc) could be marginalised. If the *Sanacja* regime wore the clothes of Rogoff's 'conservative central banker' by defending the gold standard, it did so instrumentally, to signal its creditworthiness and its credibility as France's ally. What was missing was his soul.

Chapter 5: Concluding Remarks

5.1 The Task Unfinished: Agenda for the Future

The drafting of this thesis was an ambitious undertaking, made more difficult by the closures of international travel caused by the coronavirus pandemic and the associated uncertainties. As such, though the main argument stands complete, several extensions mooted at one point or another of the writing process remain part of the ongoing research agenda. In the preceding chapters, I have 'cut into' the historical record in three particularly promising places—the dynamics of hyperinflation, as well as the Great Depression as seen through the prism of sovereign debt and the Bank of Poland's monetary policy—leaving aside other approaches to the central questions of how Poland managed its long defence of gold and with what effects. The main items of 'unfinished business' involve strengthening and supplementing the narrative presented thus far with materials from further archives, as well as several addenda to the substantive chapters of this dissertation that could not be carried out for reasons of time and space.

The first item on the continuing research agenda draws on the GUS monthly series gathered during the latter stages of this project. It concerns the data on Polish real wages, which did not decline over the course of the Depression, and in the case of the cartelized industries even rose by some 30%. The question that invites itself is whether this pattern of high wages is itself (i) related to the gold standard, which could be the case if, as claimed by economic observers and political figures at the time[489], the government encouraged cartel agreements because they were a means of generating foreign exchange by exporting goods at below-market prices; and (ii) a transmission channel of the Depression in its own right. The latter hypothesis is an extension into new geographical territory of arguments made for several countries in Western Europe, including the United Kingdom[490] and—notably, in the light of the Polish-German parallels sketched out throughout this thesis—Knut Borchardt's hypothesis that unsustainably high real wages are a key to understanding the Great Depression in Germany.[491] Poland's case has the interesting difference from those already studied that the formal, industrial sector covered by collective bargaining, social

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[489] See for instance *The Times* (London), "The Mines Vote", 4 May 1932.

[490] See the summary of the literature in Ivan Luzardo-Luna, 'Essays on Labour Frictions in Interwar Britain' (Doctoral Dissertation London School of Economics, 2021), which is itself a valuable contribution to the British debate on the subject.

[491] For a summary of that debate (in German), see Albrecht Ritschl, 'Knut Borchardts Interpretation Der Weimarer Wirtschaft. Zur Geschichte Und Wirkung Einer Wirtschaftsgeschichtlichen Kontroverse' (Jahrestagung der Ranke-Gesellschaft, Essen, Germany, 2001).

legislation, and cartel agreements accounted for a minority share of economic activity. General-equilibrium logic would then suggest that the farm sector may have served as a 'safety valve' for workers displaced from industry and services, which might help to explain the often-mentioned but under-researched phenomenon of the 'price scissors' between industrial and agricultural wholesale prices, as well as the deep and deepening misery of the peasantry noted by social observers at the time. If this reasoning holds up to empirical scrutiny, it holds the potential to open a fresh look on the once-predominant but now neglected literature on the 'farm channel' of the Great Depression. Furthermore, if the real-wage hypothesis holds for countries as dissimilar as the UK and Poland, it would point toward the desirability of bringing the supply side more explicitly into the aggregate-demand and finance-centric interpretations of the Great Depression that currently predominate.

One limitation of the present study is that its archival base is, for reasons of the pandemic, skewed toward the Polish and Bank of England collections (with the scope of the latter restricted to documents of direct relevance to Polish-British economic relations). These materials in combination provide a relatively clear picture of the motives of Polish policy-makers but are largely silent on other questions raised in this thesis, including in particular the thorny issue of what, precisely, the timing of the final slide of the German bond series toward default in early September 1931 reflects. It is therefore a priority for further research to probe these questions by consulting the German state archives, those of the Bank for International Settlements, and perhaps also those of the League of Nations and Banque de France. A close study of the Banque de France documents would likewise be of great value as a direct source of information on the working relationship between it and the Polish central bank, especially since little of the correspondence of the Bank of Poland has survived in its own archives. Particularly interesting questions to explore involve the nature and terms of the credit facility that Leszczyńska (2013) identifies as a major component of the Bank of Poland's declared gold reserves from 1932 onward. Thus, a further visit to the Bank of Poland archives is in the plans for the coming year to track down and, if possible, retrieve at a higher-than-annual frequency the 'net reserve' figures cited by Leszczyńska. Together, these two archival investigations, French and Polish, would do much to clarify the extent of purely monetary (as opposed to the political questions that have been the focus here) dependency of the Bank of Poland on its French counterpart, and its possible reflection in the Bank of Poland's policymaking.[492]

[492] *Post scriptum*: These two strands of archival research will be at the core of the first substantive expansion of the research agenda beyond the scope of this dissertation, a monograph titled *Poland and the International Monetary System, 1918-1939*, which William A. Allen and I are preparing for the centenary, in 2024, of the Bank of Poland's establishment.

A separate question that is on the ongoing research agenda concerns the details of the banking situation in Poland in 1931, and why the country was able to avoid the sort of mass failures that proved so devastating to the German, Austrian, and Hungarian economies. The present thesis has presented some preliminary findings based on highly aggregated balance-sheet data: namely, that the domination of the banking sector by four large state-owned banks appears to have created a domestic safe haven for depositors withdrawing their funds from private institutions. What has thus far been addressed very indirectly, however, is why, despite the approximate halving of the aggregate deposits of the private joint-stock banks between 1930 and 1932, so few banks, and none which were systemically important, actually failed. In interwar Poland, the arm of government responsible for regulating the banking sector was the Treasury, and its files, including those on its relationship with the banks, were luckily among those spared destruction in 1944. In addition, the winding-down of most of the country's private banks by the Communist regime in the late 1940s has resulted in a windfall of archival documents on the private banking sector. To date, these documents, particularly the latter set, have been studied on their own merits[493], but as is standard with the Polish literature, the urgency of the comparative perspective—Poland as a potential counterfactual for Germany—has gone mostly unrecognized.

Perhaps the most necessary, but also most long-term, goal of future work is to improve the existing, highly imprecise estimates of Polish GDP for the interwar period. The data for this undertaking exists in abundance, both in the GUS statistical works that I have relied on extensively throughout this thesis, as well as in the archives of GUS itself and institutions such as the State Research Institute for Agriculture [Państwowy Instytut Naukowy Gospodarstwa Wiejskiego] and Institute for the Study of Business Cycles and Prices [Instytut Badania Konjunktur Gospodarczych i Cen]. Existing GDP estimates are sufficient to give an approximate sense of the relative magnitude of stocks of assets, money, and debt, as well as changes in the balance of payments. When supplemented by the monthly economic activity indexes published by GUS, sufficient data exists at present to use time-series techniques to study short-run questions such as the stance of Polish monetary policy in the face of external shocks. What the data in its current form is not well-suited for is comparison of living standards over time, particularly across the two World Wars. As an illustration of the sort of benefits a thorough re-calculation would provide, a very preliminary time-series analysis conducted by the author as a research assignment at an earlier stage of her training shows that, according to the Maddison Project's GDP data, Poland's economy in the 20th century has, remarkably given the sheer

[493] Wojciech Morawski, *Bankowość Prywatna w II Rzeczypospolitej*, Monografie i Opracowania 407 (Oficyna Wydawnicza Szkoły Głównej Handlowej, 1996).

number and magnitude of shocks it has experienced, grown at very nearly the average yearly rate of 1.95% identified by Barro and Sala-i-Martin (1997)[494] as the long-run average for advanced economies.[495] This finding, however, is highly sensitive to the point estimate for 1913, which at the time the exercise was performed was the only estimate pre-dating the First World War.[496] Work is currently being carried out to reconstruct GDP figures for interwar Lithuania using modern definitions and computational resources[497], and with the wealth of raw data that Poland possesses, it should be eminently possible, if very labor-intensive, to create a consistent, high-resolution Polish GDP series for at least 1924-1938.

5.2 The Task Completed: A Precarious Economy in the Heart of Europe

A common thread binds the monetary and financial history of Poland during the interwar period, across the country's many transformations: from battleground of empires, to parliamentary democracy, to quasi-military dictatorship under Piłsudski and his successors; from border wars, to trade wars, to the looming threat of world war; from hyperinflation, to a stabilized currency under independent central bank, to a dramatic exit from the gold standard by a government that had wrested back control of the bank of issue. In all of these periods, under all of these circumstances, the geopolitical environment into which Poland was reborn, and the overriding concern of the Polish state for preserving its hard-won independence from its two historic (and future) adversaries in the east and west, exerted a great and frequently decisive influence over the course of Polish financial policy.

It is the pattern of border conflict in the early years of the Polish state that explains the peculiar 'stop-go' character of inflationary expectations during the country's hyperinflation, and it is the Grabski government's insistence on stabilizing the currency out of the country's own, sovereign resources that provides much of the reason why the Polish banking system, culled by the post-stabilization crisis of 1925-26, was resilient enough, for better or for worse, to withstand the liquidity shock of 1931 without forcing the Bank of Poland to suspend the convertibility of the Polish Złoty.

[494] Robert J Barro and Xavier Sala-i-Martin, 'Technological Diffusion, Convergence, and Growth', *Journal of Economic Growth*, Journal of Economic Growth, 2, no. 1 (1997)
[495] Details of the exercise available from the author on request.
[496] The 2018 update to the Maddison Project Database has added one additional early 20th century estimate, for 1910, as well as a long series for the period before 1900. Still, the discussion in Chapter 3 raises doubts as to the provenance and methodology of these figures.
[497] Adomas Klimantas and Aras Zirgulis, 'A New Estimate of Lithuanian GDP for 1937: How Does Interwar Lithuania Compare?', *Cliometrica* 14, no. 2 (2020)

Likewise, it is France's position as at once Poland's only dependable ally (until its failure to respond to Hitler's remilitarization of the Rhineland threw its loyalty into doubt) and the *de facto* leader of the European bloc of gold-standard countries after Britain's devaluation in 1931, that turns out to be pivotal to understanding why the Polish government was willing not only to remain on the gold standard through 1936 but to repeatedly deny the Bank of Poland leadership's pleas for an exit despite sharply unfavorable economic fundamentals.

Is this a surprising conclusion? In one sense, it goes against the grain of the Great Depression literature, which has overwhelmingly looked to the realm of economics—financial contagion, misguided economic policies such as the re-establishment of the gold standard on shaky foundations, too-rigid bargains between labour and capital, and so forth—as a sufficient, or in works such as Thilo Albers' calculation of trade multipliers[498], even a more-than-sufficient explanation for the calamity. And there is much truth to this mode of answering the question: indeed, it is precisely because Poland (along with Japan) is consistently an *outlier* in many of these traditional narratives that supplementary explanations are needed.

Likewise, to theorize that the international *political* dimension of the gold standard was the *pivotal* one in determining Poland's refusal to abandon it in the period from early 1932 onward—pivotal in the sense that, so long as the French alliance maintained its strategic value, no attempt to bring Poland off gold could succeed; whereas as soon as Hitler's impunity in reoccupying the Rhineland revealed the alliance to consist more of pious wishes than sound guarantees, the military immediately pressed the government for rearmament under exchange controls[499]—is not to argue that the standard economic channels of the Depression have no explanatory power in the Polish case. Clearly, the fact that France was an important (though not leading) Polish trade partner; that Poland as a highly indebted country could gain a measure of relief on its foreign-denominated debts by maintaining the par value of its currency while the currencies in which Poles held credits were devalued; that the Polish labour market and industrial structure in the formal sector was institutionally rigid and provided limited scope for a downward adjustment of wages; and, most importantly, that whatever the precise reasons why Poland did not shed its 'golden fetters' earlier, it was the collateral damage of the policies – all of these facts mattered a great deal. One might even say that Eichengreen's elision of Poland's struggle to remain on gold in his seminal 1991/1995 work materially weakened his thesis by robbing it of its most vivid European example.

[498] Albers (2018b), Ch. 3

[499] In other words, I have borrowed the term from the mechanism-design literature.

In fact, not all of the economic lessons that the case of Poland in the Great Depression affords are familiar ones. For instance: the standard road-map to the literature on the interwar international macroeconomy—including in the introduction of this thesis—is the trilemma model of Mundell and Fleming, in which international capital mobility and a fixed exchange rate are presented as discrete policy choices, to be traded off as desired against the preferred degree of monetary policy independence. The evidence presented in Chapter 3 on the uncanny congruence of inflows of foreign capital into Poland and Germany in the latter 1920s despite the countries' evident differences in industrialization, political arrangements, and social and legal structure, not to mention the *sui generis* factor of the transfer-protection clause argued forcefully by Ritschl[500] to have been the main driver of the boom and bust on the German capital account—all this gives a tantalizing hint, which should urgently be investigated further, that Hélène Rey's thesis that the theoretical trilemma collapses in practice into a dilemma (open or closed) due to the globally correlated nature of financial flows may hold valid even for a much earlier period than the one she studies.

While the tendency of Rey's findings is to demonstrate that the choice of strategies open to macroeconomic policymakers may be smaller than theory would lead us to assume, it is another—and rather firmer—finding of this thesis that the range of feasible policies may in fact be *broader* than predicted by the conventional interpretation of the trilemma. The balance sheets of the Bank of Poland that are the analytic focus of Chapter 4 reveal that, especially in the period following the Sanacja regime's stealth takeover of the Bank in 1931-32, the Bank of Poland was playing by the rules of a different game than the one described in the canonical literature on the gold standard. Not only was the interest rate not the main instrument of monetary policy at any point during the interwar period (with the Bank of Poland instead conducting the bulk of its policy on the quantity margin, by manipulating the criteria by which bills of exchange were deemed acceptable for discount at the Bank's offices and, in the Depression, by a frankly averred policy of 'blackmail' toward domestic holders of sensitive assets)—from 1932 onward, the link between the money supply on the one hand and the asset side of the Bank's discretionary activities—lending and discounting—on the other, ceased to operate in the expected way. Rather than stanch reserve outflows, the Bank at times positively leant into them, acquiescing to the government's demands to extend funds for such purposes as agrarian credit conversion, public works, and covering the state's own fiscal deficits.

Seen from the Lombard Street of Bagehot's depiction, to maintain such a policy while preserving the gold cover of one's currency is more or less to demand the impossible. Yet the Bank of Poland was able to maintain just such a course for four years before overwhelming political

[500] See Ritschl (2002)

pressure, and not reserve depletion, caused its abandonment. That Poland was able to maintain this 'fourth choice' in the trilemma appears to have been the result of the government's increasingly thorough, and, by 1935, even obsessive manipulation of the tariff schedule to clamp down on imports, with some 80% of Poland's trade volume at the time subject to one or another form of control and discussion of tweaks to the regime crowding out the Cabinet's agenda.

The narrow point that can be made from this finding is that the game Poland was playing in 1932-1936 was something of an analogue to the *de facto* policy stance of many of the major Western European economies during the first decade of Bretton Woods, before the signing of the Treaty of Rome in 1957: squaring a defence of the par value of the currency with fundamental weaknesses in the current account with by way of trade restrictions—albeit with Poland facing an additional handicap in that the ability of Polish citizens to exchange złotys for foreign currency was enshrined in law.

The broad point is that this thesis is not the only work in the very recent literature to find that upholding the formal criteria of operating a gold-standard regime in principle has historically been consistent with a willingness, or at least an ability, to carry out heterodox policy in practice. This is the finding of Colvin and Fliers (2021)[501] in the case of the Depression-era Netherlands, whose central bank, they show, had the potential to pursue an independent monetary policy within the bounds of the gold standard by applying means of coercion against domestic capital holders similar to those employed by the Bank of Poland, but in practice employed these heterodox tools to orthodox ends. Avaro (2020), meanwhile, charts how the Bank of England in the post-World War II period likewise maintained not only the par value of the Pound Sterling but also its status as an international reserve currency through underhanded means.[502] Because these findings have come to light only within the past two years, the potential to bring together these cases into a common narrative of 'monetary heterodoxy by subterfuge' and determine what can be extrapolated from them remains unexploited, and is a promising direction for future study.

Let us return, though, to this survey's point of departure. Is the idea that Poland's Great Depression had roots that were as much military as they were monetary an extraordinary response to Poland's extraordinary propensity to turn up as an outlier in panel regressions attempting to explain the Depression, or can the thread traced here be extended to other contexts as well? One indication that it might is that the other country whose Depression-era experience is consistently an

[501] Christopher L. Colvin and Philip Fliers, 'Going Dutch: How the Netherlands Escaped Its Golden Fetters, 1925–1936', *SSRN Electronic Journal* (2021).
[502] Maylis Avaro, 'Zombie International Currency: The Pound Sterling 1945-1973', Working Paper (The Graduate Institute of International Studies, 2020).

outlier in the panel studies (albeit because it defied the slump rather than bore the worst of it) is Japan, where the link between economic and foreign policy reached one of its logical extremes in the early 1930s with the use of the Kwantung Army to usurp control over Manchuria and plunder its resources.[503]

One might also, however, look to commonalities with more recent experience. For instance: one of the most discussed, and, among a portion of commentators on the economic centre-left, most bewildering[504] features of the recent Eurozone crisis was the willingness of the governments of the Baltic countries, particularly Latvia and Estonia, to push through sweeping programs of austerity and subject their societies to deep unemployment and losses of income rather than seek debt relief at the European Central Bank and other Eurozone institutions. An important reason, albeit one whose intuitiveness is perhaps the greater, the further eastward is one's point of vantage, is that these countries were in an international position similar to the interwar Polish one. They had recently wrested their independence from a substantially more powerful neighbor, and the logic for them of joining and remaining in good standing with the European Union was in many respects the same as that governing the old Polish alliance with France: a means of gaining access to capital and overcoming economic underdevelopment, but most importantly a guarantee of independence in the face of outstanding irredentist claims.[505] Both guarantees carried a similar economic price: accession to the gold-exchange standard and its 'rules of the game'[506] on the one hand; accession to the European common currency and Stability and Growth Pact on the other; and in both cases adherence to their terms amounted to a costly signal of commitment.[507]

Eugeniusz Kwiatkowski, the last, and most capable, finance minister of Poland in the interwar years, reportedly wrestled with the thought that the Polish people would be more easily reconciled to exchange controls than to a devaluation, citing the old Roman maxim, 'We will give up our blood, but not our gold'.[508] Between 1927 and 1936, the regime he served gambled that by holding onto

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[503] For an overview, see Zara Steiner, *The Triumph of the Dark: European International History 1933 - 1939*, Oxford History of Modern Europe (2013), Ch. 9.
[504] See, for instance, Krugman in *The New York Times*, "Latvian Adventures", 19 September 2013, in which he highlights "just how odd, how inconsistent with orthodoxies of either side, the Latvian experience seems to be". It is a strangeness thoroughly familiar to the present author in her fifth year of studying interwar Polish macroeconomics.
[505] Such as the simmering conflict over the Russian-speaking inhabitants of the city of Narva in Estonia.
[506] Albeit honoured rather in the breach.
[507] The seminal paper in this literature is of course Michael Spence, 'Job Market Signaling', *The Quarterly Journal of Economics* 87, no. 3 (1973).
[508] Marian Drozdowski, *Eugeniusz Kwiatkowski: Człowiek i Dzieło* (Wydawnictwo Literackie, 1989), p. 98.

gold at any cost, the French alliance could be sustained, German aggression deterred, and bloodshed avoided. It was a fatal roll of the dice.

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