

Beyond Boom and Bust: Causes of Banking Crises, 1870–2016

Matthew Baron* Daniel Dieckelmann†
Cornell University *European Central Bank*

March 18, 2022

Abstract

We systematically reassess the economic historiography of banking crises for 46 countries over the past 150 years to document how their main causes have developed over time. Banking systems have become more resilient against shocks to the real economy with economic development, making financial shocks the prevalent cause of crises today. However, only about 40% of all banking crises with widespread bank failures are credit booms gone bust, making an increasing share of banking crises the result of international contagion. Prior to the 1970s, bank equity returns proxying for banking stability are sensitive to trade, commodity, and domestic GDP shocks, but less so to past real estate returns and credit booms—whereas the reverse is true afterwards.

JEL classification: E50, E60, G01, G21, N1, N2.

Keywords: Banking crises, panics, bank failures, real causes of banking crises, contagion.

*Johnson Graduate School of Management. E-mail: baron@cornell.edu

†Corresponding author. E-mail: daniel.dieckelmann@ecb.europa.eu. Lu Li provided excellent research assistance. We are grateful for comments and suggestions received from Moritz Schularick and Eugene White. Financial support from the Institute for New Economic Thinking (INET) is gratefully acknowledged. The views expressed in this paper are those of the authors alone and do not necessarily reflect those of the European Central Bank.

I. INTRODUCTION

Banking crises are credit booms gone bust (Schularick & Taylor, 2012). While this proposition would have been vigorously contested among economists and economic historians before 2008, it has developed into a widely accepted truism in the profession ever since. In this study, we set out to challenge this perspective once again. It is, of course, not our intention to object to the finding *per se*, but rather to adopt a somewhat more nuanced view of the long history of banking crises around the globe. Indeed, *many* banking crises are credit booms gone bust, but at the same time, a strikingly high number are not. We revisit the full economic historiography of banking crises for 46 countries over the past 150 years to investigate the causes of banking crises and their development over time. To the best of our knowledge, we are the first to attempt such a full country-by-country literature review to derive a universal statement about the causes of banking crises and their changing nature over time. We describe our project and discuss the limitations of existing crises database in greater detail in Baron & Dieckelmann (2022).¹

From our qualitative revision, we find that the share of banking crises caused by shocks to the real sector like natural disasters, wars, and recessions has declined significantly over time, making the financial sector the main origin of banking crises today. However, only 35% of all banking crises—and 40% of those with widespread bank failures—are domestic credit booms gone bust, making a large and increasing share of banking crises the result of international contagion. This finding fits well with our observation that banking crisis incidence tends to cluster regionally and globally. We augment our narrative results with quantitative analyses and find that real factors—such as global commodity prices, domestic GDP, and exports—are tightly linked to bank equity declines and, thus, to future bank distress prior to the 1970s, but not afterwards. Reversely, we show that financial factors—such as past credit or housing price growth—have become increasingly negatively correlated with bank equity returns, making them a primary precursor to banking crises today. We further discover an increasing association between net financial flows and bank equity declines, which supports our finding that international contagion as a source of domestic bank distress has become more important in recent decades. Overall, our quantitative analysis distinctly reaffirms our narrative findings.

While the literature on the history of banking crises is vast and several comprehensive works on banking crises *incidence* exist (Demirgüç-Kunt & Detragiache, 1998; Bordo et al., 2001; Caprio & Klingebiel, 2003; Reinhart & Rogoff, 2009; Schularick & Taylor, 2012; Lo Duca et al., 2017; Romer & Romer, 2017; Laeven & Valencia, 2020), only few studies have attempted to systematically aggregate information on their *causes* over a similarly

¹ Our banking crises database can be accessed online at <https://www.quantfinhistory.org/banking-crises-database>.

large time span and panel size. [Lindgren et al. \(1996\)](#) investigate banking crises in 34 countries between 1980 and 1996, focusing on preceding macroeconomic political factors—such as monetary, exchange rate, and fiscal policies—as well as structural weaknesses in the banking sectors as causes. The authors also refer to other aspects, such as natural catastrophes, capital flow reversals, and commodity price shocks, where applicable. [Bordo et al. \(2001\)](#) analyze banking crises in a panel of 21 countries from 1880–1997. They investigate whether inflation, capital controls, monetary expansion, the fiscal balance, and economic activity are predictive of banking crises. The authors find statistically significant evidence only for the lack of capital controls and for a decline in GDP per capita to precede banking crises. They are, however, cautious about interpreting these crisis determinants as causes. Further, [Bordo et al. \(2001\)](#) address the issue of direction of causality between crises and recessions. Using a simple two stage least squares logistic regression, they argue that crises cause more severe recessions rather than more severe recessions inducing crises.

[Reinhart & Rogoff \(2013\)](#) provide a bird’s-eye view on the incidence, clustering, and common macroeconomic features of banking crises from 1800, building on the data from their 2009 book ([Reinhart & Rogoff, 2009](#)).² They find that banking crises tend to be preceded either by periods of sustained above-average inflows of foreign capital, by domestic credit booms (which can be fueled by these inflows), and by rising asset prices. They further note that banking crises tend to bunch and pose the interesting question whether this is due to common fundamentals or contagion. Unfortunately, neither do the authors investigate the different causes of banking crises further, nor do they attempt to answer the question regarding the reason for the clustering of crises. [Grossman \(2010, chapter 3\)](#) adopts an approach similar to ours, and relies on assessing large parts of the historical literature to formulate three main hypotheses on the causes of banking crises, which he uses in the appendix for a categorical coding of causal factors over a sample of 16 industrialized economies from 1800–1933 (pp. 297-316). [Grossman \(2010, pp. 61-82\)](#) distinguishes between boom-bust fluctuations,³ structural weaknesses—such as excessive competition among banks—and adverse confidence shocks like wars and other political events. [Kindleberger & Aliber \(2015\)](#) famously analyze a wide, yet incomplete, range of historical banking crises from the perspective of [Minsky’s \(1986\)](#) Financial Instability Hypothesis which views banking crises as credit-fueled and speculative asset booms gone bust. Notwithstanding the importance and well-deserved recognition of their contribution, their analysis remains limited in classifying all possible causes of banking crises, as the

² Note that [Baron et al. \(2021\)](#) and this study uncover several artifacts in [Reinhart & Rogoff’s \(2009\)](#) banking crisis dating methodology.

³ Although [Grossman \(2010\)](#) acknowledges the importance of the distinction between real and financial boom-bust dynamics, in the appendix, he often does not report in more detail whether a specific crisis was triggered rather by a contraction of the real economy or by a financial collapse which then resulted in a recession.

authors either constrain themselves to periods in which their framework works well, or try to fit banking crises to their angle, for which we, for example, find non-boom-bust causes.⁴

The remainder of this paper is structured as follows. Section II describes our systematic approach of revisiting the literature on banking crises and the rationale behind our classification scheme of crisis causes. In section III we present our main findings and analyze particular long-term trends in detail. We dive deeper into the distinction between real and financial causes of banking crises and discuss the relevance of our findings in light of the ongoing global COVID-19 pandemic. We complement our analysis of narrative sources with quantitative data in section IV and document how banking crises and their main causes have changed over time. We draw conclusions, discuss avenues for future research, and derive policy advice from our findings in section V. In the appendix, we provide our database of banking crisis causes and a comprehensive list of the sources used for its compilation. We refer to our website for curated summaries of all banking crises since 1870 in many countries. These summaries contain carefully compiled information on the macroeconomic background, the main causes, the course of the crisis, policy responses, and economic and regulatory consequences.

II. REVISITING 150 YEARS OF BANKING CRISES

Identifying banking crises is no easy matter, and several databases and methodologies exist (see introduction). The recent major contribution to this literature by [Baron et al. \(2021\)](#), in the following abbreviated as BVX) serves as the groundwork for our approach. The authors examine historical banking crises through the lens of bank equity declines and construct a new dataset on bank equity returns and rudimentary narrative information on banking panics for 46 countries over the period of 1870–2016. They find that bank equity declines are predictive of banking crises. Further, they distinguish between banking crises with and without panics and find that although panics are an important amplifying mechanism, they are not necessary for banking crises. Panics tend to appear rather as a result than a cause of banking crises.

In this study, we adopt the banking crisis dating methodology of BVX and massively extend their narrative information basis on both panic and non-panic banking crises. To do this, we systematically revisit the economic history literature—and at times primary

⁴ For a comprehensive overview of [Kindleberger & Aliber’s \(2015\)](#) coding of banking crises see their appendix (pp. 294-303). They identify—not unsimilar to our approach—for each period under review related political events, speculative assets, and the origin of a monetary expansion. Their framework, however, fails at explaining crisis incidence during the Great Depression for those countries which did not experience a credit-fueled asset boom or during the crises of the mid-1970s or mid-1980s, for which they inconspicuously change their classification scheme (p. 302).

sources—for the 46 countries and code the reported causes of the respective banking crisis periods along several different categories. In the process, we uncover artifacts in the existing historiography, discover new periods of bank distress, and take a stand on conflicting views on the causes of specific banking crises from the perspective of our framework. In the process of examining the literature, a set of categories of causes of banking crises emerges organically. Ultimately, we classify our crisis causes within their respective categories into binary schemes of (i) real or financial origin, (ii) of being exogenous or endogenous to the respective country’s economy, and (iii) of representing a sudden shock versus a structural phenomenon.

On our website <https://www.quantfinhistory.org/banking-crises-database>, we provide curated narrative summaries for every recorded bank distress event for a many of our 46 countries with full coverage. Where no narrative summaries are (yet) available, we provide the main sources for our coding of causes in the appendix. The country summaries represent the full set of information we gathered on each bank distress event curated in a condensed form. For each event, we provide information on the macroeconomic and political background at the time, the main causes of the crisis, the description of the crisis’ main events, a summary of the recorded bank failures, the responses and counter-measures taken by the banking system and policy makers, and the economic and regulatory consequences. We list our main sources, as well. The work on the summaries is still on-going and the website contains its current state. Our ultimate goal is to provide scholars with a complete encyclopedia of banking crises for all 46 countries over the past century-and-a-half. Next, we present and discuss our methodology and categories of causes in detail.

DATING BANKING CRISES

BVX create a pool of bank distress episodes for country-year observations for which they find a bank equity decline of at least -30% or narrative evidence of bank distress either in crisis databases or in the secondary literature. From this pool of observations, they classify periods as *bank equity crises* which feature both said decline of bank equity and widespread bank failures. In turn, they define widespread bank failures as either the failure of at least five banks or the failure of at least one the five largest banks. Second, they define observations from the pool as *panic banking crises* for which they find narrative evidence of “severe and sudden withdrawals of funding by bank creditors from a significant part of the banking system” (p. 1). Mirroring their dating methodology, we identify, for the purpose of this study, all periods as banking crises for which there is evidence either of a panic or of widespread bank failures.

Of the 46 countries featured in BVX, we are able to revisit the historiography over the

entire time horizon for 30 countries. This is mostly due to the availability of secondary literature but partly also due to the fact that several countries in the greater sample were not capitalist market economies for the entirety of the time horizon. For the remaining 16 countries, coverage begins with the availability of narrative information. Table A.1 in the appendix presents an overview of the countries covered, the beginning of their coverage, and the type of their economies.

CODING CAUSES OF BANKING CRISES

In this study, we take an organic approach to the causes of banking crises. Instead of trying to fit the historical observations to the vast theoretical literature, we are guided by the recurring types of causes that the historical literature ascribes to the banking crises of the past. From our systematic review of this literature, a very stable set of common causes of banking crises naturally emerges which is mostly mirrored in the theoretical literature, as well. Table 1 displays the main categories of banking crisis causes that emerge from our inspection of over 400 different sources. We identify ten major categories of causes, of which some have associated sub-categories. Importantly, each bank distress event must have at least one but can have multiple causes. Multiple causes can be in multiple categories, can reside within one particular category, or both. The aforementioned classification scheme into three dimensions—type of cause, origin, and time horizon—is applied to each individual category and sub-category. Where no unambiguous application is possible and an association would depend on the individual circumstances of the crisis event in question, the cell value becomes simply “depends”.

Credit booms are banking crises that are preceded by a period of sustained above-average growth in private credit—particularly bank credit—and a subsequent collapse of the boom. Closely related are *asset booms*, which are characterized by sustained and above-average growth in one or more types of specific assets. We distinguish between bonds, real estate and land, and stocks. Importantly, and to ensure the relevance as a cause of banking crisis, domestic banks must be engaged in the trading in, holding of, financing of, or borrowing against one or more of these assets. *Commodity shocks* are sudden and drastic changes in international commodity prices with particular relevance to a country’s economy. We also count bad harvests as commodity shocks. Global recessions and other shocks to international trade, such as tariffs or embargoes, we categorize as *trade shocks*. Occurring prior to the ultimate abandonment of the global (de facto) gold standard in 1971, *monetary gold shocks* were events of sustained in- or outflows of monetary gold or silver with relevance for banking stability. As *financial flow shocks*, we categorize a range of destabilizing events that are related to the in- and outflow of financial capital of both public and private nature. We further distinguish between four

Table 1: Coding framework for causes of banking crises

Category of cause	Binary classifier		
	Type	Origin	Time horizon
Credit boom	financial	domestic	structural
Asset boom	financial	domestic	structural
Bonds	financial	domestic	structural
Real estate and land	financial	domestic	structural
Stocks	financial	domestic	structural
Commodity shock	real	foreign	sudden
Trade shock	real	foreign	sudden
Monetary gold shock	financial	depends	sudden
Financial flow shock	financial	depends	depends
Public finances	financial	domestic	structural
Exchange rate	financial	foreign	sudden
Private flows	financial	foreign	sudden
Interbank flows	financial	foreign	sudden
Natural disaster	real	domestic	sudden
War	real	depends	sudden
Political shock	depends	depends	depends
Miscellaneous	depends	depends	depends
Banking system structure	financial	domestic	structural
Bank governance	financial	domestic	structural
Domestic recession	real	domestic	sudden
Consumer price instability	real	domestic	structural

Notes: Specific causes of banking crises are categorized into the above categories and sub-categories. On the categorical level, these are further classified into three binary schemes of type, origin, and time horizon. Where no unambiguous classification can be done, the value becomes “depends”. This, however, does not mean that it is impossible to classify the specific banking crisis unambiguously on a more granular level. The actual causes of banking crises within the above categories can be found in the appendix in Table A.4.

types of financial flow shocks. First, we record all flow shocks related to the state of public finances caused by imbalances ranging from high fiscal deficits and debt levels to outright sovereign default. Second, we record exchange rate-related events that affect the flow of capital and banking stability, for example when banks borrow heavily in foreign currency. These events typically feature sudden, severe, and unexpected changes to a country’s exchange rate and can also be outright speculative attacks.⁵ Third, we subsume all other types of changes in private capital flows that are not direct interbank flows. Under this sub-category we collect sudden stops, periods of substantial capital retrenchment, and adversely affected foreign assets to which domestic banks maintain high exposures. Fourth, we collect all events of bank distress that are related to difficulties in international

⁵ Many of the banking crises of this sub-category will naturally be characterized as currency crises, as well. We can safely assume that most of banking crises in this sub-category are so-called “twin crises” (Kaminsky & Reinhart, 1999).

interbank markets, particularly when domestic banks find themselves unable to acquire desperately needed liquidity from foreign sources.

Bank distress that is directly related to a shock to the real economy originating from *natural disasters*—such as earthquakes, droughts, and storms—is classified in its separate category. Sudden outbursts of uncertainty or adverse shocks caused by *wars*—either at home or abroad, and including civil wars—are separately categorized, as well. All other types of political decisions of both sudden and structural nature are categorized as *political shocks* and range from reforms such as deregulation and financial liberalization to unexpected disruptions like revolutions or military coups. All remaining causes of banking crises are categorized under *miscellaneous*. Here, several sub-categories emerge organically. First, we subsume all causal factors related to the structure of the banking system, such as instability-inducing levels of competition or concentration among banks or weak supervision and regulation. Second, we categorize all events related to bad bank governance, such as failure to diversify the loan portfolio, attempted market manipulations, and outright fraud. In this sub-category we also include events in which insufficient capital or reserves of one or several banks induce a wider banking crisis. Third, we record all observations where banking crises are ascribed to domestic recessions or the collapse of one or more domestic industries under one sub-category.⁶ Last, we subsume all evidence of disturbances to the consumer price level with relevance for banking stability—be it high inflation or deflation—in a separate sub-category.

III. CAUSES OF BANKING CRISES

The results of our literature review and systematic coding, categorizing, and classifying of banking crisis causes is presented in condensed form in Table 2 further below and in Tables A.2 and A.3 in the appendix. We compute the share of banking crises belonging to at least one of our categories or sub-categories for the time spans of 1870–1913, 1914–1944, 1945–2016, 1870–2016, and for the pooled sample. For the concrete time horizons, only countries with full coverage over the entire time are considered. In contrast, the pooled column contains all crises observations put together, regardless of length of coverage. We also define three forms of banking crises: first, all bank distress events in our sample, as outlined in the previous section (Table 2); second, all banking crises that feature widespread bank failures (Table A.2 in the appendix); and third, all bank distress periods that are strictly panics but do not exhibit bank failures (Table A.3 in the appendix). Additional to the categories of causes, we display the shares of banking

⁶ Non-domestic recessions that induce banking crises in a country are categorized as trade shocks if they are transmitted through the trade channel and as financial flow shocks if they are relayed to the home economy through financial exposures in banks' balance sheets.

crises that belong to each of the three binary classification schemes of type, origin, and time horizon. The values for categories and sub-categories of causes in the upper part of the table are not mutually exclusive, while the classification shares in the lower part are. Where a bank distress observation cannot be unambiguously assigned to either one of the binary classifiers but there is at least one cause of each class, we label the classifier as “both”. If we cannot classify the cause at all according to the framework laid out in Table 1 (for example, because all causes are recorded under categories classified as “depends”), we label it as “cannot be determined”.

We begin the presentation of our findings by inspecting the shares of banking crisis causes in Table 2. In reference to the title of this paper, we make our first observation that over the past 150 years only about 35% of banking crises were indeed credit booms gone bust. Even if we restrict the sample to crises with widespread bank failures this number does not exceed 40%. Interestingly, this observation is relatively stable over time, with the exception of the interwar years where only a somewhat surprisingly low number of countries actually exhibited credit booms prior to banking crises. A more detailed view of the development over time yields Figure 1 which plots the number of boom-bust banking crises against the inverse. Most banking crises that were credit booms gone bust occurred before 1900 or after 1985. Interestingly, the two most severe global banking crisis events in the sample—the Great Depression and the Global Financial Crisis—only feature a relatively small number of countries that actually experienced domestic credit-driven boom-bust dynamics. Both crises have their origins in an unsustainable domestic credit boom in the United States whose subsequent collapse subsequently spread banking distress around the globe. It is a recurring observation of our study that many domestic banking crises are the result of contagion from abroad in times of major global or regional financial distress, often originating from a single country or industry. Further below, we will investigate the issue of financial flow shocks and contagion in more detail.

Confirming what Jordà, Schularick and Taylor (2016) call “the great mortgaging”, we find that the principal asset involved in credit-fueled asset booms shifts from stocks during the first era of globalization before World War I (26% of all crises) to real estate and land after World War II (30% of all crises). Even though real estate and especially (agricultural) land were a common target of speculation before WWI (16% of all crises), the share of real estate booms as a crisis causes doubled over the last century.

Commodity price shocks have lost their horror to a large extent over the past century-and-a-half. While around one third of banking crises before WWI were at least partly caused by commodity price shocks, this number gradually declined to around 12 percent in modern times and is largely prevalent today in emerging economies only. Since global commodity price volatility has remained at comparable levels historically ([Williamson, 2012](#)), we conclude that with increasing economic development, financial systems be-

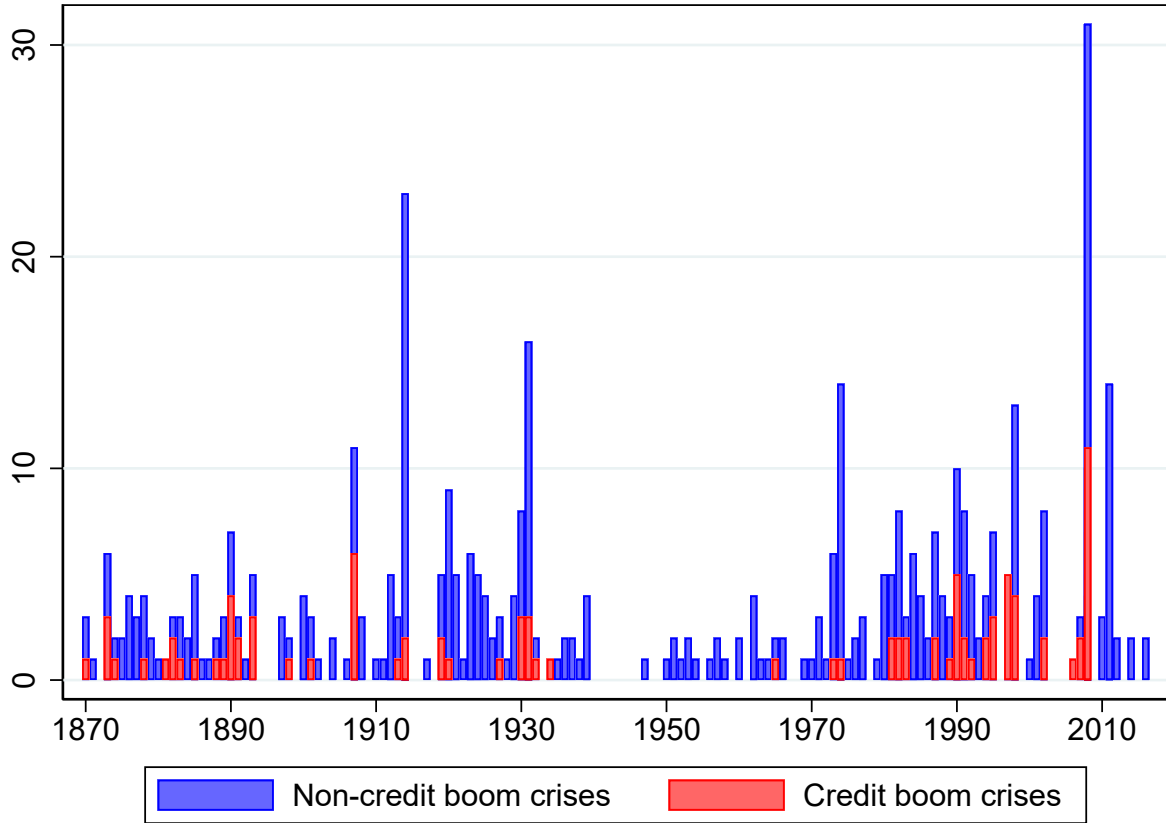
Table 2: Causes of banking crises, all types

Cause	1870–1913	1914–1945	1945–2016	1870–2016	Pooled
Credit boom	39.13	17.33	45.10	35.61	34.90
Asset boom	36.23	14.67	32.35	31.22	27.84
Bonds	4.35	0.00	0.98	1.95	1.57
Real estate and land	15.94	6.67	30.39	20.98	18.82
Stocks	26.09	9.33	6.86	14.15	13.33
Commodity shock	31.88	22.67	11.76	21.46	20.78
Trade shock	11.59	49.33	13.73	25.85	23.92
Monetary gold shock	15.94	4.00	0.00	6.34	5.88
Financial flow shock	59.42	32.00	65.69	54.63	52.55
Public finances	14.49	9.33	27.45	17.07	17.65
Exchange rate	7.25	5.33	11.76	6.83	8.63
Private flows	31.88	18.67	36.27	29.76	29.02
Interbank flows	21.74	5.33	22.55	17.07	16.86
Natural disaster	7.25	5.33	1.96	4.88	4.31
War	15.94	32.00	3.92	16.59	16.47
Political shock	13.04	12.00	45.10	24.88	25.10
Miscellaneous	39.13	38.67	54.90	42.93	44.71
Banking system structure	8.70	5.33	21.57	10.73	12.94
Bank governance	20.29	14.67	28.43	17.56	21.96
Domestic recession	13.04	6.67	7.84	8.78	8.63
Consumer price instability	5.80	18.67	19.61	16.59	14.90
Type					
Financial	36.23	8.00	53.92	33.17	34.51
Real	13.04	37.33	2.94	17.56	17.25
Both	49.28	53.33	39.22	47.32	45.88
Cannot be determined	1.45	1.33	3.92	1.95	2.35
Origin					
Domestic	23.19	17.33	31.37	23.41	24.71
Foreign	13.04	25.33	7.84	16.59	15.29
Both	53.62	37.33	56.86	49.76	49.02
Cannot be determined	10.14	20.00	3.92	10.24	10.98
Time horizon					
Structural	13.04	6.67	30.39	16.59	18.43
Sudden	28.99	48.00	7.84	28.29	27.06
Both	55.07	44.00	57.84	52.68	51.76
Cannot be determined	2.90	1.33	3.92	2.44	2.75
Number of countries	28	33	43	31	45
Number of observations	69	75	102	205	255

Notes: This table displays the causes of all types of banking crises, characterized by widespread bank failures, a panic, or both. For specific time horizons, only countries with full coverage over the entire time span are considered. The pooled column contains all crises observations pooled together, regardless of length of coverage. Read this table like this: Of all crises, XX.XX % had at least this cause. Causes and sub-categories not mutually exclusive in the upper part of the table. In the lower part of the table they are.

came more resilient against shocks to the manufacturing real economy. A similar pattern emerges from looking at the impact of domestic recessions. While recessions indeed have become less frequent post-WWII (Schularick & Taylor, 2012), we see a marked decline in the share of banking crises that are caused by a contraction of the real economy from 13% to 8%. It remains to be seen whether our conclusion holds in light of the ongoing

Figure 1: Credit booms gone bust and other banking crises



Notes: The plot shows the total number of banking crises in a certain year for all countries for which we have complete coverage from 1870-2016. Marked in red is the number of countries that experienced a domestic credit boom gone bust as a cause of banking crisis.

COVID-19 pandemic which—representing a purely real shock—poses a significant risk to modern financial systems worldwide. Lastly, a similar pattern emerges when we look at the share of banking crises caused (potentially among other factors) by natural disasters—the number reduced gradually from over 7% to not even 2% today—and by wars—here, the share climbed from 16% to 32% during the time of both world wars but then declined to 4% in modern times. Arguably, the development of good institutions and policies, such as lending of last resort and countercyclical fiscal measures have had an enormous and positive impact on the increased global financial stability in response to real shocks.

Considering shocks originating from the financial system itself, however, we observe a completely different pattern. We have already addressed credit-fueled asset booms which—according to our definition—represent a crisis cause originating from the domestic financial system. Next, we investigate shocks from financial flows and observe that the share of banking crises caused by at least one type of financial flow shock has remained at very high levels. From a share of 60% before WWI, the number dropped somewhat in the interwar years, where real factors were more prevalent for most countries, and then resurged to 65% in modern times. This pattern holds for all four sub-categories, as well.

Interestingly, the importance of interbank flows has risen substantially in modern times when we restrict the sample of crisis observations to panics only. All banking panics in the post-WWII sample that were related to financial flow shocks (64% of all panics) were simultaneously related to the collapse of the international interbank market.

When we aggregate categories along the three binary classifiers, we observe that the share of banking crises with purely financial origin increases from 36% in the beginning of our sample to 54% in modern times. Simultaneously, the share of banking crises with exclusively real causes follows an inverse v-shaped form, climbing from 13% to 37% in the interwar years, and dropping to 3% after WWII. Over time and with economic and financial development, banking crises have increasingly originated in the financial sector and less so in the real sector of the economy. In the following, we investigate further the role of the financial sector in causing banking crises. We are interested in finding out which parts of the financial sector are responsible for banking instability and whether the origins of major shocks tend to be domestic or foreign.

Table 3 displays the tabulation of credit booms gone bust (domestic origin) against the various types of financial flow shocks (the public finances category is of domestic origin, the rest of foreign origin). We observe that two-thirds of all banking crises are financial in origin, being either a credit boom gone bust or the result of a financial flow shock or both. As expected, most banking crises resulting from imbalances in public finances are not simultaneously *private* credit booms, while around half of the domestic credit booms that end in crises are accompanied by shocks to the inflow of private capital or interbank flows, leading to an interpretation that around 50% of the credit boom-crises in our sample are accompanied by the inflow of foreign capital or by the dependence on bank borrowing from abroad. Around 35% of the non-credit boom crises—23% of all crises in the full sample—are caused by shocks to the exchange rate, to private capital flows, or to cross-border interbank flows. Thus, almost a quarter of all banking crises in our sample are caused by contagion.

IV. QUANTIFYING THE CHANGING NATURE OF BANKING CRISES OVER TIME

How has the nature of banking crises changed over time? In the previous section, we discussed the aggregated insights from our comprehensive inspection of the narrative historiography. Now, we turn to quantitative historical data to support our findings and uncover new ways in which the causes of banking crises have changed over the past century-and-a-half. The first observation comes from BVX who find that in banking crises in post-1945 advanced economies, bank equity tends to crash first ahead of nonfinancial

Table 3: Cross-tabulation of credit booms and financial flow shocks

Financial flow shock	Credit boom		Total
	0	1	
0	88	33	121
	72.73	27.27	100.00
	53.01	37.08	47.45
Public finances	18	4	22
	81.82	18.18	100.00
	10.84	4.49	8.63
Exchange rate	8	5	13
	61.54	38.46	100.00
	4.82	5.62	5.10
Private flows	31	24	55
	56.36	43.64	100.00
	18.67	26.97	21.57
Interbank flows	20	23	43
	46.51	53.49	100.00
	12.05	25.84	16.86
Other	1	0	1
	100.00	0.00	100.00
	0.60	0.00	0.39
Total	166	89	255
	65.10	34.90	100.00
	100.00	100.00	100.00

Notes: For each sub-category, the first row contains the number of observations, the second row is the share of observations with regard to credit booms, and the third row contains the share of observations with regard to financial flow shocks. The values in the second row sum to 100 horizontally, while the third-row values sum to 100 vertically. Except for the respective first rows, all values are percentages.

equity, consistent with the view that banking crises originate from shocks to a narrow sector of the economy (such as subprime mortgages in the U.S. in 2008) before being transmitted to the broader nonfinancial economy. In contrast, they show that in the pre-1939 period and in emerging economies, nonfinancial equities are more likely to crash first, consistent with the view that prewar banking crises may have been the result of broader nonfinancial shocks that only later translated into losses for banks. Their discovery lends support to our finding that real shocks have become less important as causes of banking crises over time, as banking crises in modern times tend to originate more frequently from the financial or banking sector itself.

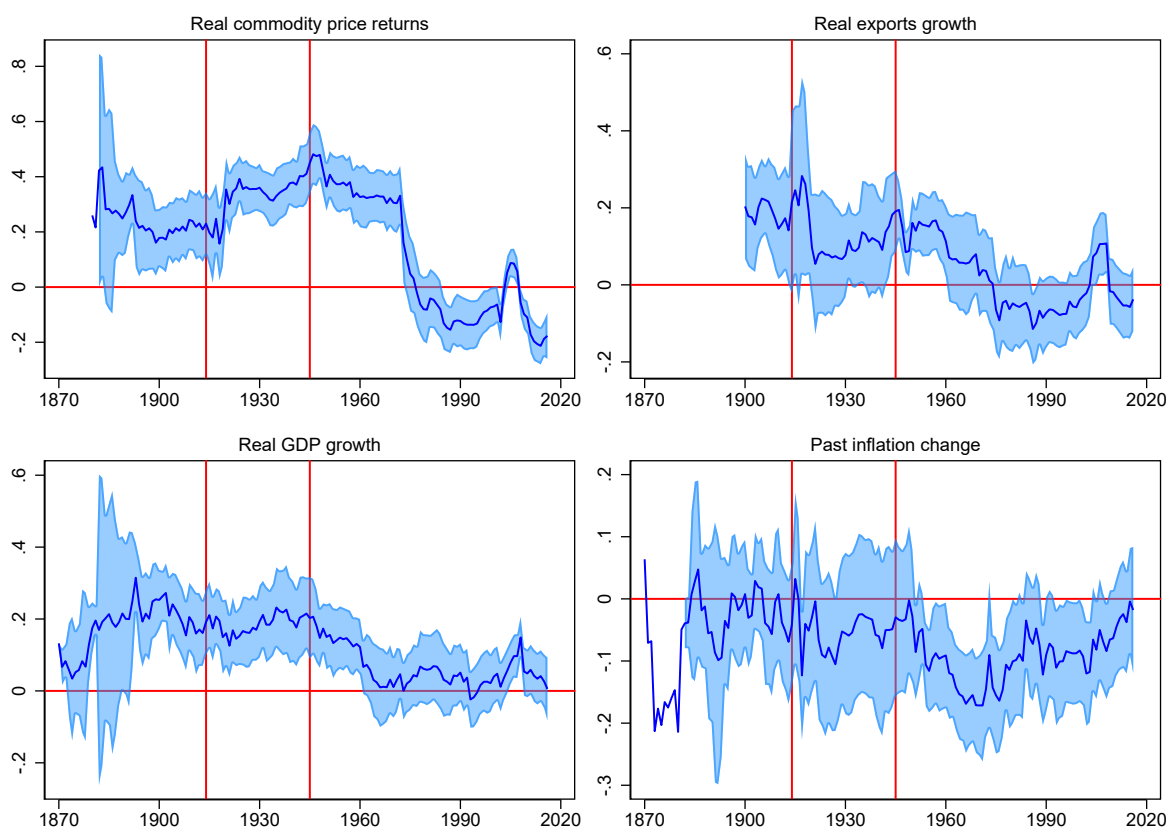
To quantitatively assess the relationship between bank distress and our categories of banking crisis causes, we exploit the main finding of BVX—namely that bank equity declines are predictive of banking crises—and compute rolling correlations of several vari-

ables, representing a large subset of our banking crisis causes categories, with real bank equity returns from BVX over time. Bank equity returns, thus, function as a proxy for future banking stability. We call the selection of variables representing our banking crisis causes categories “factors”. We collect historical data for a total of nine factors and relate them to a subset of our banking crisis causes categories from Table 1. The private debt-to-GDP ratio from the BVX dataset measures bank credit in relation to economic activity and describes *credit booms*. The growth rate of real house prices is calculated from data from Knoll et al. (2017) and the Bank for International Settlements and relates to *asset booms in real estate and land*. Real returns of a broad stock index are taken from BVX and proxy for *asset booms in stock prices*. The real growth rates of an average of up to 40 commodity price indices are from Jacks (2019) and capture *commodity price shocks*. Real growth rates of exports cover *trade shocks* and are computed with data from Schularick & Taylor (2012). The public-debt-to-GDP ratio proxies for *shocks to public finances* and is taken from the Historical Public Debt Database maintained by the International Monetary Fund. We aggregate *shocks to private financial flows* and capture net capital flows in the form of changes in the current account balance-to-GDP ratio taken from Schularick & Taylor (2012). The impact of *domestic recessions* is quantified by growth rates in domestic real GDP from BVX. Last, changes to the domestic consumer price index from BVX capture *consumer price instability* as a banking crisis cause.

We collect four real and five financial factors according to our binary classification schemes of Table 1. Real factor correlations are depicted in Figure 2 and financial factor correlations in Figure 3, respectively. Since the banking crisis causes play out over different time horizons, we use contemporaneous values for our factor variable correlations when the time horizon is classified as “sudden” and a horizon of the past three years when it is “structural”. Three of our factors are classified as having domestic origins while the remaining six represent shocks from abroad. All variables are annual and de-meaned within countries before calculating the correlation coefficient. Correlations are computed on a rolling basis over a 30-year window. The sample consists of all 46 countries if data are available, and of advanced economies otherwise. Data availability starts as early as 1800 for bank equity returns and some factors, which is why 30-year rolling correlations are partly available prior to 1900.

In the upper-left panel of Figure 2, we observe that real commodity prices are highly and positively correlated with real bank equity returns until the mid-1970s, indicating that drops in commodity prices tend to be followed by bank distress during this period. This observations fits very well with our narrative findings according to which a third of banking crises pre-1914 and around 23% in the interwar years were partly caused by commodity price crashes: For example, the collapse of copper prices in 1907 was linked directly to the crises in Chile, Japan, Germany, Italy, and the U.S. in the same

Figure 2: Sensitivity of bank equity to real factors over time



Notes: The blue line is the mean of 30-year rolling within-country correlations between the respective factor variable and real bank equity returns. The shaded areas in light blue represent 95% confidence intervals. The two vertical red lines are located at 1914 and 1945, respectively, and split the sample in line with our narrative analysis. All data are de-meanned on the country level. “Past” refers to a three-year past time horizon.

year (Noyes, 1909).⁷ Moving to the panel on the right hand side, we detect a general downward trend in the sensitivity of real bank equity returns to real exports growth while the correlation remains largely positive at statistical significance until the 1960s. During the Global Financial Crisis, the relevance of trade shocks for bank stability briefly flares up again. The overall picture is broadly in line with our narrative finding that real shocks—here, in the form of trade collapses due to global recessions or bad harvests—become less associated with bank distress over time and with increasing economic development.

A similar pattern emerges in the panel in the lower-left corner where the sensitivity of bank equity to real GDP growth continuously declines beginning in 1900 until the relationship becomes statistically insignificant in the mid-1960s. We interpret this pattern such that declines in real GDP—i.e. recessions—are associated with future banking distress until the 1960s but not afterwards. This fits nicely with our narrative observation that

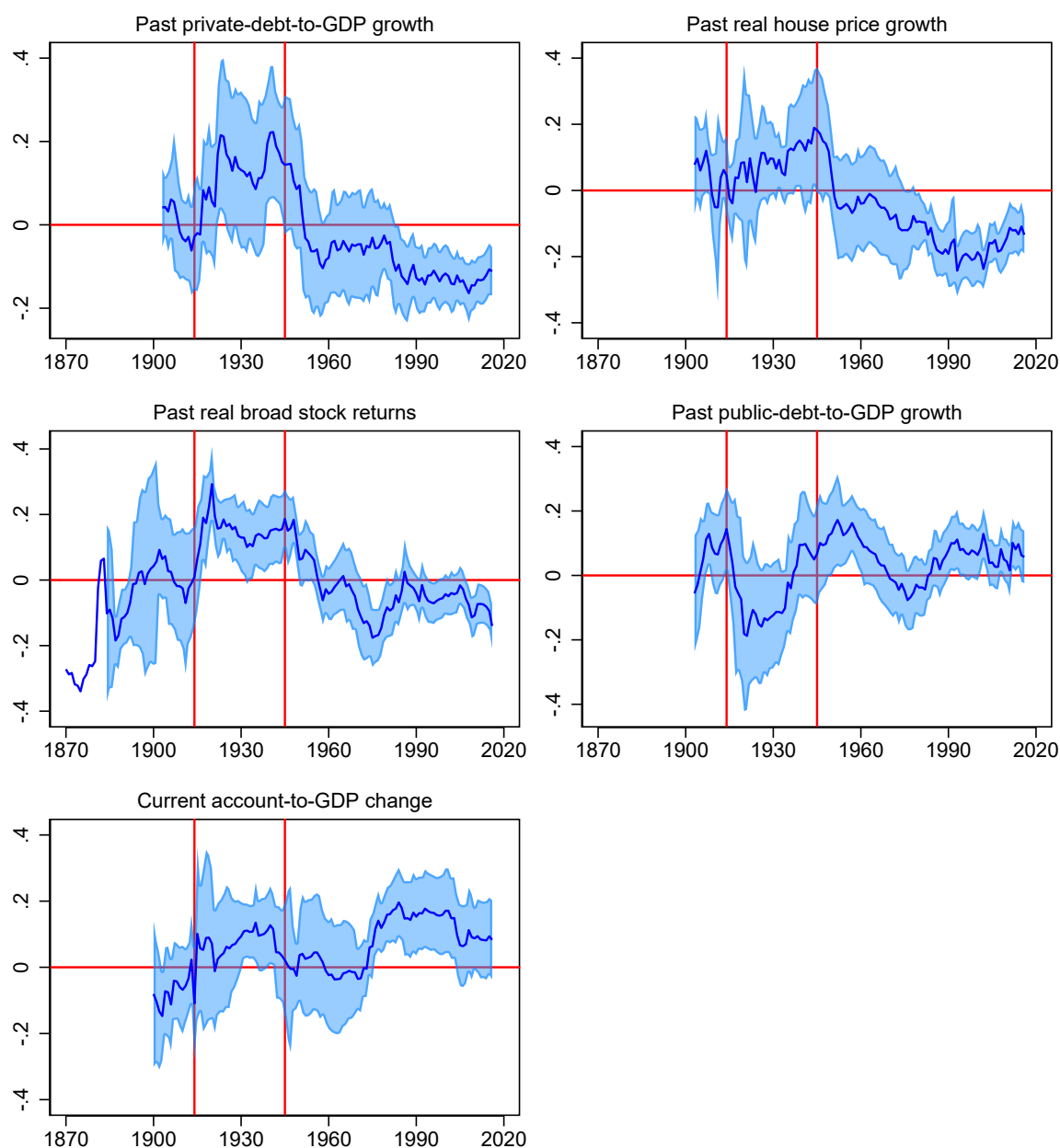
⁷ Other banking crises prominently linked in narrative accounts to commodity boom-bust cycles include France in 1889 (copper), Peru in 1876 (guano), and Sweden in 1878 (iron and timber). We provide an exhaustive list in Table A.4 in the appendix.

real factors have become less relevant as crisis causes over time. Being a “structural” factor, we capture the correlation of real bank equity returns with percentage point changes in inflation over the past three years. From the panel in the lower-right corner, it is somewhat difficult to make out a clear relationship between the two variables. While the mean coefficient hovers around zero until WWI, a slow downward trend sets in afterwards which results in a statistically significant negative correlation from the 1950s to the early 1980s, until U.S. monetary policy tightens significantly. This temporary downward trend is in line with our narrative finding in Table 2 that the share of banking crises caused by disturbances to consumer price stability has increased over time. The tendency towards a negative coefficient value over the entire time span allows for an interpretation where increases in past inflation are associated with increasing risks to banking stability. We suspect that there is significant non-linearity in this relationship which the rolling correlation coefficient of course does not capture. We believe that positive inflation up until a certain threshold is conducive to banking stability and that a negative relationship quickly sets in when that threshold is breached. In summary, the quantitative evidence supports our narrative finding that real shocks have become less relevant for future bank instability over time. Especially in modern times, we find little evidence that real shocks alone can cause banking crises.

Next, we move to investigate shocks of financial origin and inspect the sensitivity of real bank equity returns to financial factors over time in Figure 3. We start out in the upper-left corner with the past three-year growth rate of private credit-to-GDP: We observe a positive relationship between past credit growth and real bank equity returns in the interwar period which collapses after WWII and turns significantly negative with the global wave of deregulation in the 1980s. We interpret the plot such that while past credit booms have had a positive economic impact in the past, they have become increasingly linked to banking instability. The positive correlation before the Great Depression may be surprising at first as the boom gone bust in the United States was fueled by an extension of private credit. However, as our narrative coding of causes in Table A.4 in the appendix shows, most of the crises in other countries during the Great Depression were actually caused by financial contagion and the global economic collapse rather than by domestic credit booms. In the panel to the right, we observe a similar pattern for the sensitivity of bank equity to house prices over time. Beginning in the post-WWII era and turning significant in the 1980s, house price growth has increasingly become linked to impending banking crises in modern times. This is mirrored by our narrative analysis, by findings of [Schularick et al. \(2016\)](#), and by historical reports according to which banks were initially prohibited in many countries from lending in real estate and only gradually and especially after WWII developed into this role.

With regard to stock prices, we see a clear relationship with banking instability in the

Figure 3: Sensitivity of bank equity to financial factors over time



Notes: The blue line is the mean of 30-year rolling within-country correlations between the respective factor variable and real bank equity returns. The shaded areas in light blue represent 95% confidence intervals. The two vertical red lines are located at 1914 and 1945, respectively, and split the sample in line with our narrative analysis. All data are de-meaned on the country level. “Past” refers to a three-year past time horizon.

interwar years which is compatible with the reported stock market booms that ended in banking crises immediately after the end of WWI (Denmark and Sweden in 1919, Spain in 1920) and in the 1920s (in Austria, in the U.S., and in Italy). The positive coefficient indicates that bank equity declines were preceded by general equity price declines over the previous three years, pointing towards a collapse of the real economy preceding the emergence of distress in the banking sector. In the pre-WW1 era—the heyday of boom-

bust stock market crises (particularly in 1873, 1893, and 1907)—we observe a reversed pattern where a negative coefficient indicates that stock market booms preceded banking instability, pointing towards an interpretation in which the collapse of the general equity prices induces the banking distress at that time. In modern times, the mean correlation coefficient has approached zero with a temporary exception in the 1970s, indicating that the relationship between stock market returns and impending banking instability has weakened significantly.

For past public debt growth, the general picture is inconclusive. While the mean coefficient exhibits medium-term trend trajectories over time, the relationship is almost never statistically significant. On closer inspection, however, this observation is not all that surprising as the countries for which these data are available are advanced economies only. The rise in banking crises related to the state of public finances in modern times is explained by a number of banking crises in emerging economies which are not captured in this graph. For advanced economies, public debt does not seem to have relevance for future banking instability. We, however, again suspect significant non-linearity in this relationship. In line with historical narrative evidence, after a certain threshold public debt should indeed matter for banking instability in advanced economies like it did in Greece and in other peripheral European countries during the European Debt Crisis in the early 2010s.

Last, we inspect the sensitivity of bank equity to three-year changes in the current account-to-GDP ratio as a proxy for the relationship between net financial flows and impending banking instability. Over the past 150 years, we can observe a slight upward trend where decreases in the current account—i.e. increasing net capital inflows—are followed by positive changes in bank equity returns (negative correlation) during the first era of globalization before WWI, while the reverse holds for the second era of globalization (positive correlation) starting in the late-1970s. Thus, in modern times, capital inflows are linked to impending banking instability. The graph confirms our major narrative finding that banking crises are increasingly linked to contagion from cross-border financial flows.

Summarizing the results of our brief quantitative analysis, we can confirm several major findings of our narrative analysis. First, real causes have indeed become less relevant for banking stability over time. Bank equity declines, which are predictive of future bank distress, are highly sensitive to sudden drops in global commodity prices until the mid-1970s. Similarly, collapsing exports and declining domestic economic activity are linked to impending banking fragility until the 1960s. In modern times, no significant sensitivity of bank equity losses to real factors can be observed. High inflation is linked to banking instability over the entire time horizon, but especially so between 1960 and 1990. We assume that significant non-linearity exists in the latter relationship. Second, we find supportive evidence for our narrative finding that banking crises increasingly

originate in the financial sector and that the importance of credit-fueled housing bubbles and international contagion has increased significantly. Past credit and house price growth is negatively correlated at statistical significance with bank equity returns since the early 1980s. Past stock price booms, however, are not associated with bank equity declines since the end of WWI, although an ongoing and downward-sloping trend can be observed. With the global deregulation wave in the 1980s, increases in net capital inflows have become tightly linked to future bank distress, pointing towards the increased importance of contagion through cross-border financial flows.

V. CONCLUSION

Our systematic reassessment of the global economic historiography of banking crises over the past 150 years documents how their main causes have developed over time. We find that, notwithstanding the recent scholarly interest in the matter, only 35% of all banking crises—and 40% of those with widespread bank failures—are domestic credit booms gone bust. While banking crises caused by disturbances to the real economy—such as domestic recessions, commodity price shocks, and natural disasters—have become much rarer, indicating that better institutions and policies have made financial systems more resilient to real shocks over time, the share of crises originating in the financial sector have risen. This trend is partly due to a rise the share of boom-bust-crises but also caused increasingly by contagion through the interconnected global financial system. The increased resilience against real shocks currently undergoes its litmus test: The ongoing global COVID-19 pandemic represents an unparalleled adverse shock to the global real economy post-WWII. In the light of our findings, we remain optimistic that banking crises will not occur on a large scale, as a testament to the built-up resilience of banking systems worldwide.

We corroborate our findings from narrative sources by quantitatively analyzing the sensitivity of real bank equity returns over time to several variables representing different causes of banking crises. Since bank equity declines are predictive of banking crises we interpret them as proxies for future bank distress. We find that real factors—such as global commodity prices, domestic GDP, and exports—are tightly linked to bank equity declines and, thus, to future bank distress prior to the 1970s, but not afterwards. Reversely, we show that financial factors—such as past credit and housing price growth—have become increasingly negatively correlated with bank equity returns, making them a primary precursor to banking crises today. We further discover an increasing association between net financial flows and bank equity declines which supports our finding that international contagion as a source of domestic bank distress has become more important in recent decades. Overall, our quantitative analysis distinctly reaffirms our narrative findings.

We also confirm [Reinhart & Rogoff's \(2013\)](#) observation that banking crises tend to cluster. We recognize several globally or regionally clustered crisis periods which often originate from a financial center.⁸ We find that around one quarter of all banking crises in our sample are due to contagion and financial interconnectedness and can occur irrespective of macroeconomic or financial conditions in the domestic economy.⁹ This leads us to issue an acute warning to policy makers. The recent focus on domestic financial imbalances and credit aggregates in assessing financial instability and crisis risk only covers around 40% of the explained incidence of widespread bank failures. The historical record shows that it is paramount to capture the built-up of financial imbalances in countries to which the domestic economy maintains large exposures. Additionally, and with special relevance for emerging economies, our results highlight once again the importance of consumer price stability, solid public finances, careful deregulation, prudent supervision, and the right amount of competition among banks for achieving long-term financial stability.

Our birds-eye perspective on 150 years of banking crisis history reveals that while financial systems have become more resilient towards shocks from the real economy, banking crises have not become less common. With perplexing regularity history has repeated itself and have financial sectors produced disruptions that have spread across regions and the entire globe. Policy makers would do well to incorporate the built-up of foreign imbalances abroad into their models. Regarding the ongoing crises, however, history tells us that we may allow ourselves to be carefully optimistic that the world's financial systems will weather the pandemic without major bank failures.

⁸ Examples of financial distress in global or regional financial centers, which serve as the origin of banking crises in other countries, are the U.S. in 1929, Japan in the mid-1990s, the U.S. in 2008, or the U.K. in 1890. One can extend this argument to include monetary policy decisions in financial centers to explain, for example, the banking crises in the mid-1980s (tightening in the U.S.) or in the early 1990s in Europe (tightening in Germany after reunification). Additionally, one can track crisis clusters to severe recessions originating in global or regional economic centers.

⁹ Illustrative examples of banking crises that cannot be explained by financial imbalances but only by contagion are those in Switzerland and Germany in 2008. Both countries were neither financially leveraged nor exhibited real estate booms. Their banks, however, were heavily exposed to bad foreign assets. Refer to [Dieckelmann \(2020\)](#) for a systematic assessment of this channel of crisis transmission.

REFERENCES

- Baron, M. & Dieckelmann, D. (2022). Historical banking crises: A new database and a re-assessment of their incidence and severity. In M. Schularick (Ed.), *Leveraged: The New Economics of Debt and Financial Fragility*. University of Chicago Press, forthcoming.
- Baron, M., Verner, E., & Xiong, W. (2021). Banking crises without panics. *Quarterly Journal of Economics*, 136(1), 51–113.
- Bordo, M. D., Eichengreen, B., Klingebiel, D., Martinez-Peria, M. S., & Rose, A. K. (2001). Is the crisis problem growing more severe? *Economic Policy*, 16(32), 53–82.
- Caprio, G. & Klingebiel, D. (2003). Episodes of systemic and borderline financial crises. In D. Klingebiel & L. Laeven (Eds.), *Managing the real and fiscal effects of banking crises* (pp. 31–49). Washington, DC: The World Bank.
- Demirgüç-Kunt, A. & Detragiache, E. (1998). The determinants of banking crises: evidence from developing and developed countries. *Staff Papers - International Monetary Fund*, 45(1), 81–109.
- Dieckelmann, D. (2020). Cross-Border Lending and the International Transmission of Banking Crises. *School of Business & Economics Discussion Paper, No. 20/13*, Freie Universität Berlin.
- Grossman, R. S. (2010). *Unsettled account: The evolution of banking in the industrialized world since 1800*. Princeton University Press.
- Jacks, D. S. (2019). From boom to bust: A typology of real commodity prices in the long run. *Econometrica*, 13(2), 201–220.
- Kaminsky, G. L. & Reinhart, C. M. (1999). The twin crises: The cause of banking and balance of payment problems. *American Economic Review*, 89(3), 473–500.
- Kindleberger, C. P. & Aliber, R. Z. (2015). *Manias, panics and crashes: A history of financial crises* (7th ed.). Palgrave Macmillan.
- Knoll, K., Schularick, M., & Steger, T. (2017). No price like home: Global house prices, 1870-2012. *American Economic Review*, 107(2), 331–353.
- Laeven, L. & Valencia, F. (2020). Systemic banking crises database II. *IMF Economic Review*, 68(2), 307–361.
- Lindgren, C.-J., Garcia, G. G., Garcia, G. G., & Saal, M. I. (1996). *Bank soundness and macroeconomic policy*. Washington, DC: International Monetary Fund.

- Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., Lang, J. H., Detken, C., & Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. *ECB Occasional Paper, No. 194*, European Central Bank.
- Minsky, H. P. (1986). *Stabilizing an unstable economy*. McGraw-Hill.
- Noyes, A. D. (1909). *Forty years of American finance: A short financial history of the government and people of the United States since the Civil War, 1865-1907*. GP Putnam's Sons.
- Reinhart, C. M. & Rogoff, K. S. (2009). *This time is different: Eight centuries of financial folly*. Princeton University Press.
- Reinhart, C. M. & Rogoff, K. S. (2013). Banking crises: An equal opportunity menace. *Journal of Banking and Finance*, *37*(11), 4557–4573.
- Romer, C. D. & Romer, D. H. (2017). New evidence on the impact of financial crisis in advanced countries. *American Economic Review*, *107*(10), 3072–3118.
- Schularick, M. & Taylor, A. M. (2012). Credit booms gone bust: Monetary policy, leverage cycles and financial crises, 1870-2008. *American Economic Review*, *102*(2), 1029–1061.
- Schularick, M., Taylor, A. M., & Jordà, Ò. (2016). The great mortgaging: Housing finance, crises and business cycles. *Economic Policy*, *31*(85), 107–152.
- Williamson, J. G. (2012). Commodity prices over two centuries: Trends, volatility, and impact. *Annual Review of Resource Economics*, *4*, 185–206.

APPENDIX

Table A.1: Country coverage

Country	Coverage from	Entirely capitalist	Full coverage	Country	Coverage from	Entirely capitalist	Full coverage
Argentina	1870	1	1	Japan	1870	1	1
Australia	1870	1	1	Korea	1945	1	0
Austria	1870	1	1	Luxembourg	1870	1	1
Belgium	1870	1	1	Malaysia	1945	1	0
Brazil	1870	1	1	Mexico	1870	1	1
Canada	1870	1	1	Netherlands	1870	1	1
Chile	1870	1	1	New Zealand	1870	1	1
Colombia	1870	1	1	Norway	1870	1	1
Czech Republic	1870	0	0	Peru	1870	1	1
Denmark	1870	1	1	Philippines	1945	0	0
Egypt	1907	1	0	Portugal	1870	1	1
Finland	1870	1	1	Russia	1870	0	0
France	1870	1	1	Singapore	1965	1	0
Germany	1870	1	1	South Africa	1870	1	1
Greece	1912	1	0	Spain	1870	1	1
Hong Kong	1870	1	1	Sweden	1870	1	1
Hungary	1870	0	0	Switzerland	1870	1	1
Iceland	1870	1	1	Taiwan	1923	0	0
India	1907	0	0	Thailand	1945	1	0
Indonesia	1945	0	0	Turkey	1870	1	1
Ireland	1870	1	1	UK	1870	1	1
Israel	1948	1	0	US	1870	1	1
Italy	1870	1	1	Venezuela	1945	0	0

Notes: Coverage refers to the beginning of economic history literature of the respective country known and available to us.

Table A.2: Causes of banking crises, all with widespread bank failures

Cause	1870–1913	1914–1945	1945–2016	1870–2016	Pooled
Credit boom	43.55	20.41	46.15	39.64	39.23
Asset boom	40.32	18.37	32.97	34.91	31.58
Bonds	4.84	0.00	1.10	2.37	1.91
Real estate and land	17.74	6.12	30.77	22.49	20.57
Stocks	29.03	14.29	7.69	17.16	16.27
Commodity shock	33.87	22.45	13.19	21.89	22.01
Trade shock	12.90	61.22	15.38	27.22	25.84
Monetary gold shock	16.13	4.08	0.00	6.51	6.22
Financial flow shock	62.90	36.73	65.93	58.58	56.94
Public finances	16.13	14.29	29.67	20.71	21.05
Exchange rate	8.06	6.12	13.19	7.69	10.05
Private flows	33.87	18.37	37.36	31.36	31.10
Interbank flows	24.19	6.12	17.58	17.16	16.75
Natural disaster	6.45	4.08	2.20	4.73	3.83
War	11.29	14.29	4.40	9.47	9.09
Political shock	11.29	12.24	49.45	26.63	27.75
Miscellaneous	40.32	53.06	59.34	48.52	51.20
Banking system structure	8.06	8.16	23.08	11.83	14.83
Bank governance	19.35	18.37	30.77	18.93	24.40
Domestic recession	14.52	8.16	8.79	10.06	10.05
Consumer price instability	6.45	28.57	20.88	19.53	17.70
Type					
Financial	37.10	8.16	50.55	34.32	35.89
Real	9.68	26.53	2.20	12.43	11.00
Both	51.61	63.27	43.96	50.89	50.72
Cannot be determined	1.61	2.04	3.30	2.37	2.39
Origin					
Domestic	25.81	18.37	31.87	25.44	26.79
Foreign	14.52	26.53	4.40	14.79	13.88
Both	56.45	51.02	60.44	56.21	55.98
Cannot be determined	3.23	4.08	3.30	3.55	3.35
Time horizon					
Structural	14.52	6.12	30.77	17.75	20.10
Sudden	25.81	32.65	4.40	20.71	18.66
Both	58.06	59.18	61.54	59.17	58.85
Cannot be determined	1.61	2.04	3.30	2.37	2.39
Number of countries	28	29	42	31	45
Number of observations	62	49	91	169	209

Notes: This table displays the causes of all banking crises that feature widespread bank failures. For specific time horizons, only countries with full coverage over the entire time span are considered. The pooled column contains all crises observations pooled together, regardless of length of coverage. Read this table like this: Of all crises, XX.XX % had at least this cause. Causes and sub-categories not mutually exclusive in the upper part of the table. In the lower part of the table they are.

Table A.3: Causes of banking crises, only pure panics

Cause	1870–1913	1914–1945	1945–2016	1870–2016	Pooled
Credit boom	0.00	11.54	36.36	16.67	15.22
Asset boom	0.00	7.69	27.27	13.89	10.87
Bonds	0.00	0.00	0.00	0.00	0.00
Real estate and land	0.00	7.69	27.27	13.89	10.87
Stocks	0.00	0.00	0.00	0.00	0.00
Commodity shock	14.29	23.08	0.00	19.44	15.22
Trade shock	0.00	26.92	0.00	19.44	15.22
Monetary gold shock	14.29	3.85	0.00	5.56	4.35
Financial flow shock	28.57	23.08	63.64	36.11	32.61
Public finances	0.00	0.00	9.09	0.00	2.17
Exchange rate	0.00	3.85	0.00	2.78	2.17
Private flows	14.29	19.23	27.27	22.22	19.57
Interbank flows	0.00	3.85	63.64	16.67	17.39
Natural disaster	14.29	7.69	0.00	5.56	6.52
War	57.14	65.38	0.00	50.00	50.00
Political shock	28.57	11.54	9.09	16.67	13.04
Miscellaneous	28.57	11.54	18.18	16.67	15.22
Banking system structure	14.29	0.00	9.09	5.56	4.35
Bank governance	28.57	7.69	9.09	11.11	10.87
Domestic recession	0.00	3.85	0.00	2.78	2.17
Consumer price instability	0.00	0.00	9.09	2.78	2.17
Type					
Financial	42.86	57.69	9.09	41.67	28.26
Real	0.00	0.00	0.00	0.00	45.65
Both	28.57	7.69	81.82	27.78	23.91
Cannot be determined	28.57	34.62	9.09	30.56	2.17
Origin					
Domestic	0.00	15.38	27.27	13.89	15.22
Foreign	0.00	23.08	36.36	25.00	21.74
Both	28.57	11.54	27.27	19.44	17.39
Cannot be determined	71.43	50.00	9.09	41.67	45.65
Time horizon					
Structural	57.14	76.92	27.27	11.11	10.87
Sudden	0.00	0.00	36.36	63.89	65.22
Both	28.57	7.69	27.27	22.22	19.57
Cannot be determined	14.29	15.38	9.09	2.78	4.35
Number of countries	6	21	11	21	28
Number of observations	7	26	11	36	46

Notes: This table displays the causes of all banking crises that are pure panics, thus exhibiting no widespread bank failures. For specific time horizons, only countries with full coverage over the entire time span are considered. The pooled column contains all crises observations pooled together, regardless of length of coverage. Read this table like this: Of all crises, XX.XX % had at least this cause. Causes and sub-categories not mutually exclusive in the upper part of the table. In the lower part of the table they are.

Table A.4: Causes of banking crises

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Argentina	1891	3	1					sovereign default				
Argentina	1914	1	1	agricultural land	cereal				bad harvests	ww1		
Argentina	1930	1	1		1	1						
Argentina	1934	3+	1		wheat							
Argentina	1980	3+									deregulation	
Argentina	1985	3						sovereign default				hyperinflation
Argentina	1989	3						sovereign default				hyperinflation
Argentina	1995	3	1								deregulation	
Argentina	2000	3						sovereign default				
Australia	1893	3	1	land, real estate, mining shares	1							
Australia	1931	1			1			capital retrenchment				
Australia	1989	1	1	commercial real estate							deregulation	
Austria	1873	3+	1	stocks, real estate				french war reparations				
Austria	1912	1								balkan war		
Austria	1914	1								ww1		
Austria	1924	2+		stocks								hyperinflation
Austria	1931	3+	1					capital retrenchment				

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Austria	2008	3+						exposure to bad foreign assets, international financial stringency				
Austria	2011	2+						exposure to bad foreign assets			european debt crisis	
Belgium	1870	1					evacuation of gold reserves			franco-prussian war		
Belgium	1876	3+										recession
Belgium	1885	3+	?									
Belgium	1914	3+								ww1		unexpected bank failure
Belgium	1929	3			1	1						
Belgium	1939	3+				global recession				ww2		
Belgium	2008	3+		real estate				exposure to bad foreign assets, international financial stringency				
Belgium	2011	2+									european debt crisis, lack of government abolition of slavery, inflow of immigrants, deregulation	
Brazil	1890	3	1	stocks				capital retrenchment				

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Brazil	1900	3+			coffee			sovereign default			deregulation	deflation
Brazil	1914	1			coffee	1	gold outflow	capital retrenchment		ww1		
Brazil	1929	1			coffee	global recession		capital retrenchment			military coup	
Brazil	1985	3+						high public debts				high inflation
Brazil	1990	1										hyperinflation
Brazil	1994	3				1					economic reforms	
Canada	1873	3									immigration	recession
Canada	1887	2		land								recession
Canada	1893	2						international financial stringency				
Canada	1907	2	1		crop failure			international financial stringency, capital retrenchment				
Canada	1914	1		real estate						ww1		
Canada	1920	3							spanish flu			return of soliders, recession
Canada	1982	3		real estate	oil, gas						deregulation	high inflation
Canada	1991	2		real estate		global recession						
Chile	1878	3			bad harvests, copper, silver	global recession	export of gold and silver	sudden stop				

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Chile	1898	3+		real estate				capital retrenchment			tensions with argentina	
Chile	1907	3	1	stocks	copper, (nitrate)			exchange rate depreciation	val-paraiso earthquake			
Chile	1914	1				global trade shock		sudden stop, exchange rate depreciation				
Chile	1925	3+									military coup	
Chile	1931	3			copper	global recession					military coup	
Chile	1976	3+			copper			high public debts			financial liberalization	recession
Chile	1982	3	1			global recession		capital retrenchment				high global interest rates
Colombia	1876	1								civil war		
Colombia	1885	3			quinine, coffee, tobacco		gold outflows			civil war		
Colombia	1904	3+						foreign exchange appreciation		war of a thousand days		hyperinflation
Colombia	1923	3			coffee			fiscal crisis				recession
Colombia	1931	1	1		coffee	global recession		capital retrenchment				recession
Colombia	1982	2+						sudden stop			financial liberalization	recession, low competition among banks, high inflation
Colombia	1998	3	1					sudden stop, fiscal crisis			financial liberalization	

Note: The numbers in the type column are to be read as follows: 1—banking crisis with panic only and no widespread bank failures, 2—banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+—like number 2 but at least with one of the top-5 banks failing, 3—banking crisis with both widespread bank failures and a panic, 3+— like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Czech Republic	1873	3				global recession						
Czech Republic	1884	2+			sugar							
Czech Republic	1912	1								first balkan war		
Czech Republic	1923	3				global recession						weak supervision
Czech Republic	1991	3									financial liberalization, collapse of soviet union privatizations	
Czech Republic	1995	3+	1					capital inflows, speculative attack				weak supervision
Denmark	1877	3				global recession		international financial stringency				
Denmark	1885	3+										recession
Denmark	1907	3	1	real estate				international financial stringency, capital retrenchment				
Denmark	1919	3+	1	stocks						ww1		deflation
Denmark	1992	2						high public debts, large current account deficit, speculative attack			erm crisis	

Note: The numbers in the type column are to be read as follows: 1—banking crisis with panic only and no widespread bank failures, 2—banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+—like number 2 but at least with one of the top-5 banks failing, 3—banking crisis with both widespread bank failures and a panic, 3+— like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Denmark	2008	3	1	real estate				international financial stringency				
Denmark	2011	2						exposure to bad foreign assets				
Egypt	1907	3+	1	real estate, land, stocks	good cotton crops							
Egypt	1914	1								ww1		
Egypt	1931	3			cotton	global recession	gold outflows					
Finland	1900	3			iron, steel							mismanagement, fraud
Finland	1921	2		stocks		global recession		exchange rate depreciation				deflation
Finland	1931	3	1	real estate	poor harvest	global recession						
Finland	1990	3+	1	stocks, real estate		collapse of soviet union					deregulation	recession
France	1870	1								franco-prussian war	paris commune	
France	1882	3+	1	railroad stocks, government bonds				war reparations				financial innovation
France	1889	3+			copper	trade war with italy						attempted market manipulation
France	1914	1								ww1		
France	1930	3				global recession	gold inflows					deflation, high competition

Note: The numbers in the type column are to be read as follows: 1—banking crisis with panic only and no widespread bank failures, 2—banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+—like number 2 but at least with one of the top-5 banks failing, 3—banking crisis with both widespread bank failures and a panic, 3+— like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
France	1937	1								ww2	war preparations	
France	1994	2+	1	real estate		global recession					deregulation, erm crisis	mismanagem- ment
France	2008	1	1	real estate				international financial stringency				
Germany	1874	3	1	real estate, stocks				war reparations				
Germany	1891	3	1	stocks	iron, coal			international financial stringency				fraud
Germany	1901	3	1	real estate, stocks				exposure to bad foreign assets				recession
Germany	1914	1								ww1		
Germany	1930	3+				global recession		high fiscal deficits, capital retrenchment				mismanagem- ment
Germany	2008	3						exposure to bad foreign assets, international financial stringency				weak regulation
Greece	1914	1								ww1		
Greece	1929	3				global recession		high fiscal deficits, exchange rate depreciation				high inflation, mass immigration

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Greece	2008	1						sudden stop, international financial stringency				
Greece	2010	3+						high fiscal deficits, high public debt levels			european debt crisis	fraud
Hong Kong	1892	3+			silver	global recession			hurricane mauritius			
Hong Kong	1914	1								ww1		
Hong Kong	1965	3+	1	real estate								weak regulation, mismanagement
Hong Kong	1982	3+	1	stocks, real estate		global recession					announcement of take-over by china	high inflation, high competition
Hong Kong	1991	1										fraud, mismanagement, weak supervision
Hong Kong	1998	3+	1	real estate				speculative attack			china handover	high inflation
Hungary	1873	3	1	railroad stocks								
Hungary	1912	1								balkan war		

Note: The numbers in the type column are to be read as follows: 1—banking crisis with panic only and no widespread bank failures, 2—banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+—like number 2 but at least with one of the top-5 banks failing, 3—banking crisis with both widespread bank failures and a panic, 3+— like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Hungary	1931	3						capital retrenchment, high public debts, high foreign debts				insufficient capital
Hungary	1991	2									financial liberalization, collapse of soviet union	weak regulation, insufficient capital
Hungary	1995	3										capital mismanagement
Hungary	2008	1	1					high public debts, high foreign debts, international financial stringency				
Hungary	2011	2+									nationalisation	insufficient capital
Iceland	1920	3+			fish	global recession		sudden stop				high inflation
Iceland	1930	3+				global recession		sudden stop				
Iceland	1993	2+				collapse in export demand		exchange rate depreciation				low competition
Iceland	2008	3+	1	real estate				sudden stop			dergeulation, privatization	
India	1913	3+	1									weak regulation, insufficient capital
India	1914	1								ww1		

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
India	1920	3				global recession						mismanagement, insufficient capital
India	1938	1										mismanagement
India	1993	2						high fiscal deficit, exchange rate depreciation				mismanagement, insufficient capital, fraud
Indonesia	1990	3	1								financial liberalization	mismanagement, fraud
Indonesia	1998	3+	1					speculative attack, exchange rate depreciation				high foreign indebtedness
Ireland	1878	1			bad harvest, grain					severe weather		mismanagement, weak regulation, fraud
Ireland	1885	3+										mismanagement, fraud
Ireland	2007	3+	1	real estate				international financial stringency				high foreign indebtedness, mismanagement
Ireland	2010	3+						high public debt, deposit retrenchment			european debt crisis	

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Israel	1983	2+	1	bank stocks								high inflation, bank stock buy-backs, fraud, high concentration
Italy	1873	2	1	railroad stocks				international financial stringency				
Italy	1889	2	1	real estate		trade war with france	gold inflow	capital inflows, exchange rate appreciation				mismanagement, fraud, recession
Italy	1891	3+						sudden stop, exchange rate depreciation, international financial stringency				
Italy	1907	3+		stocks	copper			international financial stringency				
Italy	1914	3	1							ww1		recession
Italy	1921	3+				global recession				ww1		
Italy	1930	3+	1	stocks				international financial stringency				deflation, insufficient capital, weak regulation
Italy	1992	2	1			global recession		high public debts, speculative attack, exchange rate depreciation			erm crisis	

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Italy	2008	1						international financial stringency				
Italy	2011	2+						high public debts			european debt crisis	high exposure to sovereign bonds
Italy	2016	2						high public debts			political instability	insufficient capital
Japan	1871	3+										mismanagem-ent, weak regulation
Japan	1882	2					depreciation of silver					recession
Japan	1890	3	1	stocks	bad harvest							
Japan	1901	3					gold outflows	currency depreciation		boxer uprising		
Japan	1907	3			cotton, copper, silver	decline of chinas purchasing power in silver						
Japan	1920	3				global recession		capital retrenchment				
Japan	1922	3										mismanagem-ent
Japan	1923	3							great kanto earthquake			
Japan	1927	3	1								miscommuni-cation	

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Japan	1990	2	1	stocks, real estate							deregulation	
Japan	1997	3+	1			asian financial crisis		exposure to bad foreign assets			tax increase	recession, insufficient capital
Japan	2001	2+						high public debt				recession, insufficient capital
Korea	1997	3+	1					capital retrenchment, high short-term foreign debts			deregulation	weak supervision, financial problems of large industrial groups
Luxembourg	2008	3	1					exposure to bad foreign assets				
Malaysia	1985	3			tin, palm oil			high public debts, high foreign debt				recession
Malaysia	1997	3	1	real estate				capital retrenchment, speculative attack				
Mexico	1883	3	1			global recession		capital retrenchment				
Mexico	1893	2			silver, bad harvests			high fiscal deficit, international financial stringency				
Mexico	1908	2						capital retrenchment				

Note: The numbers in the type column are to be read as follows: 1—banking crisis with panic only and no widespread bank failures, 2—banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+—like number 2 but at least with one of the top-5 banks failing, 3—banking crisis with both widespread bank failures and a panic, 3+— like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Mexico	1913	3+					outflow of gold and silver	capital retrenchment, high fiscal deficit		civil war		hyperinflation
Mexico	1921	3			cotton crop failure							insufficient capital
Mexico	1928	3				global recession		sovereign default				
Mexico	1981	3+			oil			high public debts, high foreign debts, capital retrenchment				high inflation
Mexico	1994	3	1	government bonds				sudden stop, exchange rate depreciation		assassinations, chiapas conflict, civil war, terrorism	financial liberalization, privatization	weak regulation
Netherlands	1907	3	1	stocks				international financial stringency				fraud
Netherlands	1914	1								ww1		
Netherlands	1921	2+				global recession						inflation, weak supervision
Netherlands	1931	2				global recession		exposure to bad foreign assets				fraud
Netherlands	1981	2	1	real estate								high inflation

Note: The numbers in the type column are to be read as follows: 1—banking crisis with panic only and no widespread bank failures, 2—banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+—like number 2 but at least with one of the top-5 banks failing, 3—banking crisis with both widespread bank failures and a panic, 3+— like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Netherlands	2008	3+	1	real estate				exposure to bad foreign assets, international financial stringency				
New Zealand	1888	3+	1	agricultural land				exposure to bad foreign assets, capital retrenchment				weak regulation
New Zealand	1987	3+	1	commercial real estate, stocks				capital inflows			deregulation	
Norway	1886	2				decline in shipping industry						fraud
Norway	1898	3	1	real estate, land, stocks							railroad construction	high competition
Norway	1914	1								ww1		
Norway	1919	3+				global recession					deflationary monetary policy	hyperinflation
Norway	1931	3+		real estate		global recession						
Norway	1987	3+	1	real estate	oil			high foreign debts, capital retrenchment			deregulation	high competition, weak supervision
Norway	2008	1	1	real estate				international financial stringency				
Peru	1876	3			guano			sovereign default				

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Peru	1914	1				insufficient ships				ww1		
Peru	1931	3				global recession						
Peru	1981	2				global recession		sovereign default, high foreign debts, capital retrenchment				high inflation
Peru	1998	2	1					sudden stop	el niño			mismanagement
Philippines	1971	1										
Philippines	1981	3	1			global recession		sovereign default, high foreign debts, capital retrenchment		assasination of politician		
Philippines	1997	2	1					high foreign short-term debts, capital retrenchment			deregulation	
Portugal	1876	3										weak regulation, mismanagement, insufficient reserves
Portugal	1890	3						sovereign default, capital retrenchment, baring brothers collapse			abolition of slavery in brazil, british ultimatum	

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Portugal	1921	3				global recession						
Portugal	1923	3			bad harvests	global recession						
Portugal	1925	1										fraud
Portugal	1931	3			wine, sugar	global recession		international financial stringency				
Portugal	2008	3	1					international financial stringency				
Portugal	2011	2						high public debts			europaean debt crisis	
Portugal	2014	2+										mismanagement, insufficient capital
Russia	1875	3				global recession		international financial stringency				mismanagement
Russia	1900	3					second boer war induced gold shortage in europe	sudden stop, exchange rate depreciation		greco-turkish war, spanish-american war		induced capital shortage in europe

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Russia	1995	3									monetary policy tightening	mismanagement, insufficient liquidity, high inflation
Russia	1998	3			metals, oil			sovereign default, exchange rate depreciation, high foreign debts				weak supervision, mismanagement
Russia	2008	3	1	real estate	oil, natural gas, metals			capital retrenchment, international financial stringency			russo-georgian war	
South Africa	1881	3	1	diamond stocks						first boer war		insufficient reserves, mismanagement
South Africa	1890	3	1	gold mining stocks	gold discovery			capital inflows				
Spain	1882	3	1	stocks				sovereign default, sudden stop				
Spain	1890	3	1					international financial stringency, capital retrenchment				
Spain	1913	3+								mexican revolution		
Spain	1914	1								ww1		

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Spain	1920	3+	1	stocks		global recession						high inflation
Spain	1924	3+				global recession						bad assets
Spain	1931	1				global recession		international financial stringency			proclamation of the second spanish republic	
Spain	1975	2			oil					yom kippur war	death of franco, trade union pressures	high inflation
Spain	1982	2				global recession						mismanagement, weak regulation, high inflation
Spain	1991	2+									erm crisis	mismanagement
Spain	2008	3	1	real estate				exposure to bad foreign assets				
Spain	2010	2+						exposure to bad foreign assets, high public debts			european debt crisis	insufficient capital
Sweden	1878	3+	1	railroad corporate bonds	iron timber			international financial stringency				

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Sweden	1907	3	1		iron			international financial stringency, capital retrenchment, high foreign short-term debt				
Sweden	1919	2	1	stocks		global recession		capital inflows		ww1	revolution in russia	deflation
Sweden	1932	2+				global recession		capital retrenchment				mismanagement
Sweden	1991	3+	1	real estate				international financial stringency			deregulation	high inflation
Sweden	2008	1						international financial stringency, high foreign short-term debts, exposure to bad foreign assets				
Switzerland	1870	3	1	railroad stocks			sudden stop in gold flows from france			franco-prussian war		
Switzerland	1910	2										
Switzerland	1914	1								ww1		
Switzerland	1919	2				global recession						deflation

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Switzerland	1931	3+				global recession		international financial stringency				
Switzerland	1990	3	1	real estate		global recession		international financial stringency				
Switzerland	2008	1						international financial stringency, exposure to bad foreign assets				
Taiwan	1923	1							great kanto earthquake			
Taiwan	1927	3										mismanagement, failure of large corporation
Taiwan	1983	3									financial repression	fraud, mismanagement, weak supervision
Taiwan	1995	3	1	real estate, stocks							financial liberalization, deregulation	
Taiwan	1998	2						international financial stringency				high share of npl, insufficient capital

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Thailand	1979	2										weak regulation, mismanagement, fraud
Thailand	1983	3	1			global recession						weak regulation, mismanagement, fraud
Thailand	1997	3	1	real estate, stocks				sudden stop, speculative attack, high foreign short-term debts				
Turkey	1914	3						high public debts		ww1, balkan wars		
Turkey	1930	3						exchange rate depreciation, high foreign debts				deflation
Turkey	1980	3						sovereign default			financial liberalization	weak supervision, weak regulation, fraud, high competition
Turkey	1994	3						high fiscal deficit, sudden stop				high inflation

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Turkey	2001	3						sudden stop, international financial stringency, high fiscal deficit, high public debts	earthquake			high inflation
U.K.	1878	3+						exposure to bad foreign assets				mismanagement, weak regulation, fraud
U.K.	1890	1						exposure to bad foreign assets				mismanagement
U.K.	1911	1						decline in yield on domestic fixed-income securities			expansion of eligible trustee securities	
U.K.	1914	1								ww1		
U.K.	1973	3	1	commercial real estate				exchange rate depreciation				weak supervision
U.K.	1991	3	1	commercial real estate							erm crisis	
U.K.	2008	3+	1	real estate				international financial stringency, exposure to bad foreign assets				
U.S.	1873	3		railroad corporate bonds	silver			capital retrenchment	chicago and boston fires			high inflation

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
U.S.	1884	3					gold outflow	international financial stringency				recession
U.S.	1890	3					gold outflow	international financial stringency, capital retrenchment				
U.S.	1893	3	1	real estate, railroad stocks	agricultural prices		gold outflow	capital retrenchment			sherman silver purchase act	
U.S.	1907	3			copper				san francisco earthquake			recession, fraud
U.S.	1930	3+	1	stocks, real estate	agricultural prices						restrictive monetary policy	deflation
U.S.	1984	3			oil						deregulation	high inflation, competition, mismanagement
U.S.	1990	2	1	real estate								mismanagement
U.S.	2007	3+	1	real estate								weak regulation
Venezuela	1981	3			oil			sovereign default, capital retrenchment				
Venezuela	1992	3			oil			sovereign default, sudden stop		coup attempts	financial liberalisation	high inflation, weak supervision

Note: The numbers in the type column are to be read as follows: 1—banking crisis with panic only and no widespread bank failures, 2—banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+—like number 2 but at least with one of the top-5 banks failing, 3—banking crisis with both widespread bank failures and a panic, 3+— like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

Table A.4: Causes of banking crises (continued)

Country	Year	Type	Credit boom	Asset boom	Commodity shock	Trade shock	Monetary gold shock	Financial flow shock	Natural disaster	War	Political shock	Misc.
Venezuela	2008	3			oil			sudden stop				fraud, insuff. capital, mis-management.

Note: The numbers in the type column are to be read as follows: 1–banking crisis with panic only and no widespread bank failures, 2–banking crisis with widespread bank failures and no panic (“quiet crisis”), 2+–like number 2 but at least with one of the top-5 banks failing, 3–banking crisis with both widespread bank failures and a panic, 3+– like number 3 but with at least one of the top-5 bank failing. For the definition and identification of widespread bank failures and panics refer to section II.

SOURCES FOR NARRATIVES OF BANKING CRISES

Narrative summaries can be downloaded from the Historical Banking Crises Database at

<https://www.quantfinhistory.org/banking-crises-database>.

Argentina	A-3
Australia	A-5
Austria	A-6
Belgium	A-8
Brazil	A-10
Canada	A-12
Chile	A-15
Colombia	A-17
Czech Republic	A-18
Denmark	A-19
Egypt	A-21
Finland	A-22
France	A-23
Germany	A-25
Greece	A-27
Hong Kong	A-28
Hungary	A-29
Iceland	A-31
India	A-32
Indonesia	A-33
Ireland	A-34
Israel	A-35
Italy	A-36
Japan	A-38
Korea	A-40
Luxembourg	A-41
Malaysia	A-42
Mexico	A-43
Netherlands	A-44
New Zealand	A-45
Norway	A-46
Peru	A-47
Philippines	A-48
Portugal	A-49

Russia	A-51
Singapore	A-52
South Africa	A-53
Spain	A-54
Sweden	A-55
Switzerland	A-57
Taiwan	A-59
Thailand	A-60
Turkey	A-61
United Kingdom	A-62
United States	A-64
Venezuela	A-66

ARGENTINA

- Beckerman, P. (1995). Central-Bank 'Distress' and Hyperinflation in Argentina, 1989-90. *Journal of Latin American Studies*, 27(3), 663-682.
- Bernanke, B., & James, H. (1991). The gold standard, deflation, and financial crisis in the Great Depression: An international comparison. In Hubbard, R. G. (ed.), *Financial markets and financial crises*, 33-68. Chicago: University of Chicago Press.
- Bordo, M., & Eichengreen, B. (1999). *Is Our Current International Economic Environment Unusually Crisis Prone?* In Gruen, D., & Gower, L. (eds.). Conference: Capital Flows and the International Financial System. Reserve Bank of Australia. pp. 18-74.
- Bordo, M., Eichengreen, B., Klingebiel, D., & Martinez-Peria, M. S. (2001). Is the crisis problem growing more severe? *Economic policy*, 16(32), 52-82.
- Cachanosky, N. (2012). The Law of National Guaranteed Banks in Argentina, 1887 – 1890. *The Independent Review*, 16(4), 569-590.
- Caprio, G. & Klingebiel, D. (1996). Bank Insolvencies, Cross-Country Experience. World Bank Policy Research Working Paper, No. 1620. Washington, DC: World Bank.
- Caprio, G. & Klingebiel, D. (2003) Episodes of Systemic and Borderline Financial Crises. Report. Washington DC: The World Bank.
- Conde, R. C. (2010). The monetary and banking reforms during the 1930 Depression in Argentina. Working Paper, No. 98. Universidad de San Andres, Departamento de Economia.
- Da Rocha, B. T., & Solomou, S. (2015). The effects of systemic banking crises in the inter-war period. *Journal of International Money and Finance*, 54, 35-49.
- Della Paolera, G., & Taylor, A. M. (2001). *Straining at the anchor: The Argentine Currency Board and the search for macroeconomic stability, 1880-1935*. Chicago: University of Chicago Press.
- Federal Reserve Board (1920). Federal Reserve Bulletin. December. Washington: Government Printing Office.
- Feldman, E. V. (1983). La crisis financiera argentina: 1980-1982. Algunos comentarios. *Desarrollo económico*, 23(91), 449-455.
- Hodge, J. (1970). Carlos Pellegrini and the Financial Crisis of 1890. *The Hispanic American Historical Review*, 50(3), 499-523.
- Honohan, P. & Klingebiel, D. (2000). Controlling the Fiscal Costs of Banking Crises. World Bank Policy Research Working Paper, No. 2441. Washington, DC: World Bank.

- Jácome, L. I. (2008). Central Bank Involvement in Banking Crises in Latin America. International Monetary Fund Working Paper, No. 08/135. Washington, DC: International Monetary Fund.
- Jácome, L. I., Sedik, T. S., & Townsend, S. (2011). Can emerging market central banks bail out banks? A cautionary tale from Latin America. IMF Working Paper, No. 11/258. Washington, DC: International Monetary Fund.
- Kaminsky, G. L. (2003). Varieties of Currency Crises. *NBER Working Papers, 10193*. National Bureau of Economic Research.
- Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.
- Lough, W. H. (1915). *Financial Development in South American Countries*. United States: Department of Commerce. Bureau of Foreign and Domestic Commerce. Government Printing Office.
- Marshall, W. (2009). Origins of Banking Crises in Latin America: A Critical View. *Journal of Post Keynesian Economics*, 31(4), 669-690.
- Mitchener, K. J., & Weidenmier, M. D. (2008). The Baring Crisis and the Great Latin American Meltdown of the 1890s. *Journal of Economic History*, 68 (2), 462-500.
- Montanaro E. (1990). The Banking and Financial System in Argentina: The History of a Crisis. In: Gardener E.P.M. (ed.) *The Future of Financial Systems and Services*. Palgrave Macmillan, London.
- Nakamura, L. & Zarazaga, C. (2001), Banking and Finance in Argentina in the Period 1900-35: *Research Papers*, Federal Reserve Bank of Dallas.
- Reinhart, C. M., & Rogoff, K. S. (2009). *This time is different: eight centuries of financial folly*. Princeton: Princeton University Press.
- Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.
- Triner, G., & Wandschneider, K. (2005). The Baring Crisis and the Brazilian Encilhamento, 1889–1891: An Early Example of Contagion Among Emerging Capital Markets. *Financial History Review*, 12(2), 199-225.
- Zettelmeyer, J. (2018). Lessons from the 2000–2002 crisis in Argentina for the sustainability of the Euro. *ifo DICE Report*, 16(3), 21-24.

AUSTRALIA

Bordo, M., & Eichengreen, B. (1999). Is Our Current International Economic Environment Unusually Crisis Prone? In Gruen, D., & Gower, L. (eds.). *Conference: Capital Flows and the International Financial System*. Reserve Bank of Australia, 18-74

Davis, K. (2004). *Study of Financial System Guarantees*. Canberra: Commonwealth of Australia.

Fisher, C., & Kent, C. (1999). Two Depressions, One Banking Collapse. Research Discussion Paper, No. 1999-06. System Stability Department, Reserve Bank of Australia.

Fitz-Gibbon, B. & Gizycki, M. (2001). A History of Last-Resort Lending and Other Support for Troubled Financial Institutions in Australia. *RBA Research Discussion Papers*. System Stability Department. Reserve Bank of Australia.

Kent, C. J. (2011). Two depressions, one banking collapse: Lessons from Australia. *Journal of Financial Stability*, 7 (3), 126-137.

Merrett, D. (2013). The Australian Bank Crashes of the 1890s Revisited. *The Business History Review*, 87(3), 407-429.

AUSTRIA

- Bordo, M. D., & Landon-Lane, J. S. (2010). The global financial crisis of 2007-08: Is it unprecedented? NBER Working Paper, No. 16589. National Bureau of Economic Research.
- Brunnermeier, M., & Schnabel, I. (2016). Bubbles and Central Banks. In M. Bordo, Ø Eitheim, M. Flandreau, & J. Qvigstad (Eds.), *Central Banks at a Crossroads: What Can We Learn from History?* Studies in Macroeconomic History, 493-562. Cambridge: Cambridge University Press.
- Copolla, F. (2015). The Traumatic Restructuring of Austria's Cooperative Banking System. Forbes. Newspaper article, April 30. Available at <https://www.forbes.com/sites/francescoppola/2015/04/30/the-traumatic-restructuring-of-austrias-cooperative-banking-system/>.
- Eichengreen, B. J. (1992). *Golden fetters: the gold standard and the Great Depression, 1919-1939*. Oxford University Press.
- Iwanicz-Drozdowska, M., Kerlin, J., Malinowska-Misiąg, E., Smaga, P., Witkowski, B., Nowak, A. K., Kozłowska, A., & Wiśniewski, P. (2016). *European bank restructuring during the global financial crisis*. Springer.
- Jobst, C., & Rieder, K. (2016). Principles, circumstances and constraints: the Nationalbank as lender of last resort from 1816 to 1931. *Monetary Policy and the Economy*, Q3-Q4 (OeNB bicentennial issue), 140-162. Vienna: Oesterreichische Nationalbank.
- Kernbauer, H. (1991). *Währungspolitik in der Zwischenkriegszeit: Geschichte der Oesterreichischen Nationalbank von 1923 bis 1938*. Part 3, Vol. 1. Vienna: Österreichische Nationalbank.
- Kindleberger, C. (1978). *Manias, Panics and Crashes: A History of Financial Crises*. New York: Basic Books.
- Kindleberger, C. P. (1984). *A financial history of Western Europe*. Routledge.
- Kindleberger, C. P. (1986). *The world in depression, 1929-1939*. University of California Press.
- Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. *ECB Occasional Paper*, No. 194. European Central Bank.
- Macher, F. (2018). The Austrian Crisis of 1931: One bad Apple Spoils the Whole Bunch. Economic History Working Paper, No. 274/2018. London School of Economics and Political Science.

- Macher, F. (2018). The Austrian banking crisis of 1931: a reassessment. *Financial History Review*, 25(3), 297-321.
- März, E. (1982). Economic Policy in the Crises of 1920 and 1929. Comment in Charles P. Kindleberger, C. P. & Laffargue, J.-P. (eds.) *Financial Crises: Theory, History and Policy*. Cambridge University Press.
- Rieder, K. (2017). (Un)promising beginnings - Bagehot in the land of the waltz: financial crises and lending of last resort in the Austro-Hungarian Empire (1868-1914). PhD thesis. University of Oxford.
- Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.
- Schubert, A. (1992). *The Credit-Anstalt Crisis of 1931*. Cambridge University Press.
- Weber, F. (1995). From Imperial to Regional Banking: The Austrian Banking System, 1918-1938. In Feinstein, C. H. (Ed.), *Banking, Currency, and Finance in Europe Between the Wars* (pp. 337-357). Oxford: Clarendon Press.
- Willis, H. P., & Beckhart, B. H. (1929). *Foreign Banking Systems*. NY: Henry Holt and Company.

BELGIUM

- Bayot, B (2017). Histoire bancaire en Belgique. Report, part 1. Réseau Financité. Available at: <https://www.financite.be/fr/reference/histoire-bancaire-en-belgique-13>.
- Bernanke, B., & James, H. (1991). The gold standard, deflation, and financial crisis in the Great Depression: An international comparison. In Hubbard, R. G. (ed.), *Financial markets and financial crises*, 33-68. University of Chicago Press.
- BIS (1940). *Tenth Annual Report*. Basle: Bank for International Settlements.
- Bussière, E. (1998). Economics and Franco-Belgian relations in the inter-war period. In Boyce, R. W. D. (Ed.). *French foreign and defence policy, 1918-1940: the decline and fall of a great power*, 71-87. London: Routledge.
- Buyst, E. (2003). Corporate governance and the Belgian banking sector, 1934-2000. In *Proceedings EBHA 200*, 1-14. University of Helsinki.
- Buyst, E. & Maes, I. (2008). Central banking in nineteenth-century Belgium: was the NBB a lender of last resort? *Financial History Review*, 15, 153-173.
- Buyst, E., & Maes, I. (2008). The Regulation and Supervision of the Belgian Financial System. Bank of Greece, Economic Research Department – Special Studies Division.
- Cameron, R. & Bovykin, V. I. (1991). *International Banking, 1870-1914*. Oxford University Press.
- Chlepner, B. S. (1930). *Le Marche Financier Belge Depuis Cent Ans*. Brussels: Falk Fils.
- Chlepner, B. S. (1943). *Belgian banking and banking theory*. Washington, DC: Brookings Inst.
- Conant, C. A. (1910). The National Bank of Belgium. *Senate Documents 61st Congress, 2nd Session*, 10, document No. 400. Washington, DC: Government Printing Office.
- Durviaux, R. (1947). *La banque mixte: origine et soutien de l'expansion économique de la Belgique*. Brussels: Établissements Émile Bruylant.
- Grossman, R. S. (2010). *Unsettled Account: The Evolution of Banking in the Industrialized World since 1800*. Princeton, NJ: Princeton University Press.
- IMF (2009). Belgium: Staff Report for the 2008 Article IV Consultation. IMF Country Report, No. 09/87. Washington, DC: International Monetary Fund.
- IMF (2010). Belgium: Staff Report for the 2009 Article IV Consultation. IMF Country Report, No. 10/63. Washington, DC: International Monetary Fund.

IMF (2012). Belgium: Staff Report for the 2011 Article IV Consultation. IMF Country Report, No. 12/55. Washington, DC: International Monetary Fund.

Iwanicz-Drozdowska, M., Kerlin, J., Malinowska-Misiąg, E., Smaga, P., Witkowski, B., Nowak, A. K., Kozłowska, A., & Wiśniewski, P. (2016). *European bank restructuring during the global financial crisis*. Springer.

Johnson, H. C. (1997). *Gold, France, and the Great Depression, 1919-1932*. Yale University Press.

Kurgan-van Hentenryk, G. (1991). Finance and financiers in Belgium, 1880–1940. In Y. Cassis (Ed.), *Finance and Financiers in European History 1880–1960*, 317-336. Cambridge: Cambridge University Press.

Lemoine, R. J. (1929). The Banking System of Belgium. In Willis, H. P., & Beckhart, B. H. (Eds.). *Foreign Banking Systems*. NY: Henry Holt and Company, 175-288.

Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.

Makinen, G. E., & Woodward, G. T. (1990). Funding crises in the aftermath of World War I. In Dornbusch, M., & Draghi, M. (eds.), *Public Debt Management: Theory and History*. Cambridge University Press, ch. 6.

Pignal, S. (2010). The eurozone crisis and Belgium. Blog post. The Financial Times, November 25. Available at: <https://www.ft.com/content/1d6db721-0425-3bfb-bd69-18e4b47ec086>.

Reinhart, C. M., & Rogoff, K. S. (2009). *This time is different: eight centuries of financial folly*. Princeton: Princeton University Press.

Scott, R. D. (1944). Preliminary Study of Certain Financial Laws and Institutions. Treasury Department of Austria, Office of the General Counsel.

Vantheemsche, G. (1991). State, Banks and Industry in Belgium and the Netherlands (1919-1939), in James, H., Lindgren, H., & Teichova, A. (eds.). *The Role of Banks in the Interwar Economy*, 104-121. Cambridge: Cambridge University Press.

BRAZIL

Ayres, J., Garcia, M., Guillén, D. A., & Kehoe, P. J. (2019). The monetary and fiscal history of Brazil, 1960-2016. NBER Working Paper, No. 25421. National Bureau of Economic Research.

Bordo, M., & Eichengreen, B. (1999). Is our current international economic environment unusually crisis prone? In Gruen, D., & Gower, L. (eds.), *Conference: Capital flows and the international financial system*, pp. 18-74.

Bordo, M., Eichengreen, B., Klingebiel, D., & Martinez-Peria, M. S. (2001). Is the crisis problem growing more severe? *Economic policy*, 16 (32), 52-82.

Briones, I. & Vilella, A. (2006). European Banks and Their Impact on The Banking Industry in Chile and Brazil: 1862-1913. Working Paper, No. 108. Vienna: Oesterreichische Nationalbank.

Calomiris, C. W., & Haber, S. H. (2015). *Fragile by design: The political origins of banking crises and scarce credit*. Princeton University Press.

Chwiero, J., & Walter, A. (2019). *The Wealth Effect: How the Great Expectations of the Middle Class Have Changed the Politics of Banking Crises*. Cambridge: Cambridge University Press.

Hanley, A. G. (2005). *Native capital: financial institutions and economic development in Sao Paulo, Brazil, 1850-1920*. Stanford University Press.

Jácome, L. I., Sedik, T. S., & Townsend, S. (2012). Can emerging market central banks bail out banks? A cautionary tale from Latin America. *Emerging Markets Review*, 13(4), 424-448.

Jácome, L. I. (2008). Central Bank Involvement in Banking Crises in Latin America. International Monetary Fund Working Paper, No. 08/135. Washington, DC: International Monetary Fund.

Kaminsky, G. L., & Reinhart, C. M. (1999). The twin crises: the causes of banking and balance-of-payments problems. *American Economic Review*, 89(3), 473-500.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Lough, W. H. (1915). *Financial Development in South American Countries*. Department of Commerce, Bureau of Foreign and Domestic Commerce, Government Printing Office.

Martinez, I. (2009). Latin America and the Great Depression. Online article. The Library of Economics and Liberty, April 06. Available at: <https://www.econlib.org/>

library/Columns/y2009/Martinezgreatdepression.html

Pereira da Silva, G. (2019). The Baron and the Encilhamento: José de Lacerda Guimarães's Investments in the São Paulo's Coffee Economy (1885-1893). *Análise Econômica*, 37(74), 35-59.

Reinhart, C. M., & Rogoff, K. S. (2009). *This time is different: eight centuries of financial folly*. Princeton: Princeton University Press.

Reinhart, C. M., & Rogoff, K. S. (2014). This Time is Different: A Panoramic View of Eight Centuries of Financial Crises. *Annals of Economics and Finance*, 15(2), 1065-1188.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Scranton, P. (2012). When Brazil Dumped Coffee to Save Its Economy. Online article. Bloomberg Opinion, October 08. Available at: <https://www.bloomberg.com/opinion/articles/2012-10-08/when-brazil-dumped-coffee-to-save-its-economy>

Smith, J. (2014). *A History of Brazil*. Routledge.

Triner, G. D. (2000). *Banking and economic development: Brazil, 1889-1930*. Macmillan.

Triner, G. D. (2001). International Capital and the Brazilian Encilhamento, 1889-1892: An Early Example of Contagion among Emerging Capital Markets? In *Economic History Association Conference, Philadelphia, Pa.*, October.

Triner, G. D. (2014). British Banking in Brazil during the First Republic. *Locus-Revista de História*, 20 (2).

Triner, G., & Wandschneider, K. (2005). The Baring Crisis and the Brazilian Encilhamento, 1889–1891: An Early Example of Contagion Among Emerging Capital Markets. *Financial History Review*, 12(2), 199-225.

Vidal Luna, F., & Klein, H. S. (2014). *The economic and social history of Brazil since 1889*. Cambridge University Press.

Weller, L. (2015). Rothschilds' "Delicate and Difficult Task": Reputation, Political Instability, and the Brazilian Rescue Loans of the 1890s. *Enterprise & Society*, 16(2), 381-412.

CANADA

- Bank of Canada & Canadian Payments Association (2003). *Planning an Evolution: The Story of the Canadian Payments Association, 1980-2002*. Bank of Canada.
- Belshaw, J. D. (2016). *Canadian History: Post-Confederation*. Victoria, B.C.: BCcampus.
- Bordo, M., & Eichengreen, B. (1999). Is our current international economic environment unusually crisis prone? In Gruen, D., & Gower, L. (eds.), *Conference: Capital flows and the international financial system*, 18-74.
- Bordo, M. D., Redish, A., & Rockoff, H. (2015), Why Didn't Canada Have a Banking Crisis? *The Economic History Review*, 68, 218-243
- Bordo, M. D. (2018). Reflections on the Evolution of Financial Crises: Theory, History and Empirics. In: Rockoff, H., & Suto, I. (Eds.), *Coping with Financial Crises*, 1-15. Singapore: Springer.
- Breckenridge, R. M. (1895). *The Canadian banking system, 1817-1890*. Publications of the American Economic Association, Volume 10, Nrs. 1-3.
- Breckenridge, R. M. (1910). The history of banking in Canada. Senate Documents 61st Congress, 2nd Session, document No. 332. Washington: Government Printing Office.
- Calomiris, C. W., & Haber, S. H. (2015). *Fragile by design: The political origins of banking crises and scarce credit*. Princeton University Press.
- Caprio, G., & Klingebiel, D. (2003). *Episodes of Systemic and Borderline Financial Crises*. Washington, DC: The World Bank.
- Carr, J., Mathewson, F., & Quigley, N. (1995). Stability in the absence of deposit insurance: the Canadian banking system, 1890-1966. *Journal of Money, Credit & Banking*, 27(4), 1137-1158.
- CDIC (2016). *An Overview of CDIC's History and Evolution, 1967-2015*. Canada Deposit Insurance Corporation.
- CDIC (2019). History of member institution failures. The Canadian Deposit Insurance Corporation.
- Conant, C. A. (1915). *A history of modern banks of issue*. GP Putnam's sons.
- Darroch, J. L. (1994). *Canadian banks and global competitiveness*. McGill-Queen's Press.
- Dean, K. A. (1988). Crisis in Canadian Banking. Perspectives on Business and Economics, paper No. 1. Lehigh University.

- Fingard, J. (1993). The 1880s: Paradoxes of Progress. In Forbes, E. R., & Muise, D. A. (eds.). *The Atlantic Provinces in Confederation*, chapter 3, 82-116. University of Toronto Press.
- Fung, B. S. C., Hendry, S., & Weber, W. E. (2017). Canadian bank notes and Dominion notes: Lessons for digital currencies. Staff Working Paper, No. 2017-5. Bank of Canada.
- Goodhart, C. A. E. (1995). *The central bank and the financial system*. Springer.
- Grossman, R. S. (2010). *Unsettled Account: The Evolution of Banking in the Industrialized World since 1800*. Princeton, NJ: Princeton University Press.
- Gup, B. E. (1998). *Bank failures in the major trading countries of the world: causes and remedies*. Greenwood Publishing Group.
- Higgins, J. (2008). The 1894 Bank Crash. Newfoundland and Labrador Heritage Website. Available at: <https://www.heritage.nf.ca/articles/economy/1894-bank-crash.php>.
- Howell, C. (1993). The 1900s: Industry, Urbanization, and Reform. In Forbes, E. R., & Muise, D. A. (eds.). *The Atlantic Provinces in Confederation*, chapter 5, 155-191. University of Toronto Press.
- Jamieson, A. B. (1953). *Chartered banking in Canada*. Toronto: The Ryerson Press.
- Johnson, J. F. (1910). The Canadian Banking System and Its Operation under Stress. *The Annals of the American Academy of Political and Social Science*, 36(3), 60-84.
- Kobrak, C., & Martin, J. (2018). *From wall street to bay street: The origins and evolution of American and Canadian Finance*. University of Toronto Press.
- Kryzanowski, L., & Roberts, G. S. (1993). Canadian Banking Solvency, 1922-1940. *Journal of Money, Credit and Banking*, 25(3), 361-376.
- Martin, J. (2014). The Forgotten Credit Crisis of 1907. Case Study, Rotman School of Management, University of Toronto.
- Naylor, R.T. (2006). *Canada in the European Age, 1453-1919*. McGill-Queen's University Press.
- Reinhart, C. M., & Rogoff, K. S. (2009). *This time is different: eight centuries of financial folly*. Princeton: Princeton University Press.
- Reinhart, C. M., & Rogoff, K. S. (2014). This Time is Different: A Panoramic View of Eight Centuries of Financial Crises. *Annals of Economics and Finance*, 15(2), 1065-1188.
- Rich, G. (1989). Canadian banks, gold, and the crisis of 1907. *Explorations in Economic History*, 26(2), 135-160.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Ross, V. (1922). *A history of the Canadian Bank of Commerce with an account of the other banks which now form part of its organization*. Volume II. Oxford University Press.

Rossant, M.J., (1965). "Atlantic Acceptance: Even the Big Ones Got Stung". New York Times. November 14, 1965.

Savage, L. (2014). From Trial to Triumph: How Canada's Past Financial Crises Helped Shape a Superior Regulatory System. SPP Research Paper, 7(15). The School of Public Policy, University of Calgary.

Staebler, Edna (1966). "Stratford's Dark Day" Maclean's: Canada's National Magazine. Jan. 22, 1966.

Willis, H. P., & Beckhart, B. H. (1929). *Foreign Banking Systems*. NY: Henry Holt and Company.

CHILE

Barandiarán, E., & Hernández, L. (1999). Origins and Resolution of a Banking Crisis: Chile, 1982-86 . Working Papers, No. 57. Banco Central de Chile.

Bordo, M., & Eichengreen, B. (1999). Is our current international economic environment unusually crisis prone? In Gruen, D., & Gower, L. (eds.), Conference: Capital flows and the international financial system, pp. 18-74.

Briones, I. (2002). Free-banking revisited: the Chilean experience 1860-1898. Working Paper. Institut d'Etudes Politiques de Paris.

Briones, I. & Vilella, A. (2006). European Banks and Their Impact on The Banking Industry in Chile and Brazil: 1862-1913. Working Paper, No. 108. Vienna: Oesterreichische Nationalbank.

Brock, P. L. (1998). Financial Safety Nets and Incentives Structures in Latin America. Department of Economics Working Paper. University of Washington.

Brock, P. L. (2016). Mortgage Lending and Banking Crises in Nineteenth-Century Chile. Department of Economics Working Paper. University of Washington.

Carrasco, C. (2009). *Banco Central de Chile, 1925-1964: una historia institucional*. Santiago, Chile: Banco Central de Chile.

Inostroza A. (1979) Nationalization of the Banking System in Chile. In Sideri S. (eds), *Chile 1970-73: Economic Development and its International Setting*. Institute of Social Studies (Series on the Development of Societies), vol 4. Springer, Dordrecht.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Lough, W. H. (1915). *Financial Development in South American Countries*. Department of Commerce, Bureau of Foreign and Domestic Commerce, Government Printing Office.

Noyes, A. (1909). A Year After the Panic of 1907. *The Quarterly Journal of Economics*, 23(2), 185-212.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Rodgers, M. T., & Payne, J. E. (2015). Was the Panic of 1907 a Global Crisis? Testing the Noyes Hypothesis. Workshop on Monetary and Financial History, May, Federal Reserve Bank of Atlanta. Available at: <https://www.frbatlanta.org/-/media/documents/news/conferences/2015/0511-workshop-on-monetary-and-financial-history/papers/rodgers-payne-noyes-hypothesis.pdf>.

Subercaseaux, G. (1922). *Monetary and banking policy of Chile*. Clarendon Press.

COLOMBIA

Arias, A. F. (2000). The Colombian banking crisis: macroeconomic consequences and what to expect. *Borradores de Economía*, No. 157. Bogotá: Banco de la República.

Bell, P. L. (1921). *Colombia: a Commercial and Industrial Handbook*. Special Agents Series, No. 206. Department of Commerce. Washington, DC: U.S. Government Printing Office.

Chávez Salazar, N. D. (2017). Una revisión microeconómica del episodio de Banca libre en Colombia: 1865-1886. *Procesos de Mercado: Revista Europea de Economía Política*, 14(2), 259-289.

Drake, P. W. (1989). *The Money Doctor in the Andes: The Kemmerer Missions, 1923-1933*. Duke University Press.

Gomez-Gonzalez, J. E., & Kiefer, N. M. (2009). Bank failure: Evidence from the Colombian financial crisis. *The International Journal of Business and Finance Research*, 3(2), 15-31.

Jácome, L. I. (2008). Central Bank Involvement in Banking Crises in Latin America. International Monetary Fund Working Paper, No. 08/135. Washington, DC: International Monetary Fund.

Jácome, L. I. (2015). Central banking in Latin America: From the gold standard to the golden years. IMF Working Paper, No. 15-60. Washington, DC: International Monetary Fund.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Meisel-Roca, A. (1990). *El Banco de la República: antecedentes, evolución y estructura*. Tercer Mundo Editores.

Mora Cuartas, A. M., Serna Rodríguez, M., & Serna Rodríguez, N. (2011). Las Entidades bancarias en Colombia, consecuencia de un movimiento constante del sector bancaria. *Revista MBA*, 2, 32-53.

Toniolo, G., & White, E. N. (2015). The evolution of the financial stability mandate: From its origins to the present day. NBER Working Paper, No. 20844. Washington, DC: National Bureau of Economic Research.

White, E. (1998). *The Evolution of Banking Regulation in Twentieth Century Colombia*. Unpublished Manuscript. Bogotá: Superintendencia Bancaria.

CZECH REPUBLIC

- Albrecht, C. (1986). Savings banks in Bohemia, 1852-1914: the politics of credit. PhD thesis. Indiana University.
- Bárta, V., & Singer, M. (2006). The banking sector after 15 years of restructuring: Czech experience and lessons. In Bank for International Settlements (ed.), *The banking system in emerging economies: how much progress has been made?* BIS papers, 28, (pp. 203-212). Bank for International Settlements.
- Dubská, D. (2013). The Czech Banking Sector: Two Decades with the Shuttle Changes. *Statistika*, 93(1), 71-82.
- Cottrell, P. L. (1994). *Rebuilding the Financial System in Central and Eastern Europe, 1918-1994*. Routledge.
- Federal Reserve (1923). Banking Failures in Norway, Denmark, and Czechoslovakia. *Federal Reserve Bulletin*, August.
- Grossman, R. S. (2010). *Unsettled Account: The Evolution of Banking in the Industrialized World since 1800*. Princeton University Press.
- Jobst, C., & Rieder, K. (2016). Principles, circumstances and constraints: the Nationalbank as lender of last resort from 1816 to 1931. *Monetary Policy and the Economy Q3-Q4* (OeNB bicentennial issue), 140-162.
- Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.
- Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.
- Pryor, Z. P. (1979). Czechoslovak fiscal policies in the Great Depression. *The Economic History Review*, 32(2), 228-240.
- Rieder, K. (2017). (Un)promising beginnings - Bagehot in the land of the waltz: financial crises and lending of last resort in the Austro-Hungarian Empire (1868-1914). PhD thesis. University of Oxford.
- Rudolph, R. L. (1976). *Banking and Industrialization in Austria-Hungary: The Role of Banks in the Industrialization of the Czech Crownlands, 1873-1914*. Cambridge University Press.

DENMARK

Abildgren, K., & Thomsen, J. (2011). A tale of two Danish banking crises. *Danmarks Nationalbank Monetary Review*, 50(1), 121-142.

Abildgren, K. (2014). Far out in the tails: The historical distributions of macro-financial risk factors in Denmark. Koldingfjord Conference, Danmarks Nationalbank, Danish Economic Society.

Abildgren, K. (2018). *Danmarks Nationalbank 1818-2018*. Copenhagen: Danmarks Nationalbank.

Bordo, M., & Eichengreen, B. (1999). Is our current international economic environment unusually crisis prone? In Gruen, D., & Gower, L. (eds.), *Conference: Capital flows and the international financial system*, pp. 18-74.

Frifelt, S. J. (1947). *Vestjylland og Varde bank gennem 75 aar*. A. Rasmussens bogtrykkeri.

Hansen, P. H. (1995). Banking Crises and Lenders of Last Resort: Denmark in the 1920s and the 1990s. In Feldman, G., Olsson, U., & Cassis, Y. (eds.), *The Evolution of Financial Institutions and Markets in Twentieth Century Europe* (pp. 20-46). Aldershot, UK: Scolar Press.

Hansen, P. H. (2012). Making Sense of Financial Crisis and Scandal: A Danish Bank Failure in the First Era of Finance Capitalism. *Enterprise & Society*, 13(3), 672-706.

Holmbo Sørensen, K. (2010). Finansielle kriser i Danmark 1875-2009. Master's thesis. Copenhagen Business School. Available at: <https://studenttheses.cbs.dk/handle/10417/1299>.

Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.

Rangvid, J., Grosen, A., Østrup, F., Møgelvang-Hansen, P., Jensen, H. F., Thomsen, J., ... Buchhave Poulsen, B. (2013). *Den finansielle krise i Danmark: Årsager, konsekvenser og læring*. Copenhagen: Erhvervs- og Vækstministeriet.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Sumner, W. G., Macleod, H. D., Horn, A. E., Townsend, J. P., Des Essars, P., Rafalovich, A., ... & Jensen, A. L. O. (1896). *A History of Banking in All the Leading Nations*. Volume 4. Journal of commerce and commercial bulletin.

Straumann, T. (2010). *Fixed Ideas of Money: small states and exchange rate regimes in*

twentieth-century Europe. Cambridge University Press.

Svendsen, K. E., Hansen, S. A., Olsen, E., & Hoffmeyer, E. (1968). *Dansk pengehistorie 1700-1960*. Copenhagen: Danmarks Nationalbank.

EGYPT

Bernanke, B., & James, H. (1991). The gold standard, deflation, and financial crisis in the Great Depression: An international comparison. In Hubbard, R. G. (ed.), *Financial markets and financial crises*, 33-68. University of Chicago Press.

Çanakci, D. (1995). Financial liberalization in the Middle East and North Africa: A Case Study of Experiences in Egypt, Jordan and Tunisia. SSRN Working Paper, No. 1158173.

Crouchley, A. E. (1938). *Economic development of modern Egypt*. Longmans, Green, & Co.

Noyes, A. (1909). A Year After the Panic of 1907. *The Quarterly Journal of Economics*, 23(2), 185-212.

Rifaat, M. A. (1935). *The monetary system of Egypt, an inquiry into its history and present working*. G. Allen and Unwin.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Rodgers, M., & Payne, J. (2014). How the Bank of France Changed U.S. Equity Expectations and Ended the Panic of 1907. *The Journal of Economic History*, 74(2), 420-448.

Rothermund, D. (2002). *The global impact of the Great Depression 1929-1939*. Routledge.

Tignor, R. L. (2017). *State, private enterprise and economic change in Egypt, 1918-1952*. Princeton University Press.

FINLAND

Bank of Finland (1932). *Year Book 1931*. Volume XII. Helsinki: Statistical Department of the Bank of Finland.

Bank of Finland (1940). *Year Book 1939*. Volume XX. Helsinki: Statistical Department of the Bank of Finland.

Borio, C. E., Vale, B., & Von Peter, G. (2010). Resolving the financial crisis: are we heeding the lessons from the Nordics? BIS Working Papers, No. 311. Bank for International Settlement.

Frederiksen, N.C. (1902). *Finland: Its Public and Private Economy*. London: Edward Arnold.

Herrala, R. (1999). Banking Crises vs. Depositor Crises: the era of the Finnish markka, 1865–1998. *Scandinavian Economic History Review*, 47(2), 5-22.

Jonung, L., & Hagberg, T. (2005). How costly was the crisis of the 1990s? A comparative analysis of the deepest crises in Finland and Sweden over the last 130 years. DG ECFIN Economic Papers, No. 224. Directorate General Economic and Financial Affairs, European Commission.

Kuusterä, A. (1994). The Finnish Banking System in Broad Outline from the 1860s to the Mid 1980s. In Pohl, M. (ed.), *Handbook on the History of European Banks*, 135-184.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.

FRANCE

Baubeau et al. (2018). Flight-to-safety and the Credit Crunch: A new history of the banking crisis in France during the Great Depression. Banque de France Working Paper, No. 698. Paris: Banque de France.

Bordo, M., & Eichengreen, B. (1999). Is our current international economic environment unusually crisis prone? In Gruen, D., & Gower, L. (eds.), *Conference: Capital flows and the international financial system*, 18-74.

Brunnermeier, M., & Schnabel, I. (2016). Bubbles and Central Banks. In M. Bordo, Ø Eitheim, M. Flandreau, & J. Qvigstad (Eds.), *Central Banks at a Crossroads: What Can We Learn from History?* *Studies in Macroeconomic History*, 493-562. Cambridge University Press.

Conant, C. A. (1915). *A history of modern banks of issue*. G. P. Putnam's sons.

Grossman, R. S. (2010). *Unsettled Account: The Evolution of Banking in the Industrialized World since 1800*. Princeton University Press.

Gup, B. E. (1998). *Bank failures in the major trading countries of the world: causes and remedies*. Westport, CT: Quorum.

Hautcoeur, P. C., Riva, A., & White, E. N. (2014). Floating a “lifeboat”: The Banque de France and the crisis of 1889. *Journal of Monetary Economics*, 65, 104-119.

Johnson, H. C. (1997). *Gold, France, and the Great Depression, 1919-1932*. Yale University Press.

Kindleberger, C. P. (1984). *A Financial History of Western Europe*. London: Allen & Unwin.

Lescure, M. (1995). Banking in France in the Inter-War Period. In Feinstein, C. H. (Ed.), *Banking, Currency, and Finance in Europe Between the Wars*, 315-336. Oxford: Clarendon Press.

Noyes, A. (1909). A Year After the Panic of 1907. *The Quarterly Journal of Economics*, 23(2), 185-212.

Plessis, A. (1998). *Histoires de la Banque de France*. Albin Michel.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Sumner, W. G., Macleod, H. D., Horn, A. E., Townsend, J. P., Des Essars, P., Rafalovich, A., ... & Jensen, A. L. O. (1896). *A History of Banking in All the Leading Nations*. Volume 4. *Journal of commerce and commercial bulletin*.

Tournie, V. (2013). The Crisis and the French Savings Bank. The Aftermaths of Crises: Savings and Savings Banks: Elements of Stability in Times of Crises? Perspectives, No. 66. WSBI-ESBG.

GERMANY

- Andrews, D., Prescott, C., Mah, S. K., & Dias, B. (2005). Fitch Bank Failures Study 1990-2003. Special Report. Fitch Ratings.
- Baltzer, M. (2008). *Der Berliner Kapitalmarkt nach der Reichsgründung 1871: Grunderzeit, internationale Finanzmarktintegration und der Einfluss der Makroökonomie*. LIT Verlag.
- Bernanke, B., & James, H. (1991). The gold standard, deflation, and financial crisis in the Great Depression: An international comparison. In Hubbard, R. G. (ed.), *Financial markets and financial crises*, 33-68. University of Chicago Press.
- Biggeleben, C. (2006). *Das "Bollwerk des Bürgertums": die Berliner Kaufmannschaft 1870-1920*. CH Beck.
- Bopp, K. R. (1953). Reichsbank Operations, 1876-1914. Federal Reserve Bank of Philadelphia.
- Bordo, M., & Eichengreen, B. (1999). Is our current international economic environment unusually crisis prone? In Gruen, D., & Gower, L. (eds.), Conference: Capital flows and the international financial system, 18-74.
- Conant, C. A. (1915). *A history of modern banks of issue*. GP Putnam's sons.
- Engels, W., & Pohl, H. (2012). *German Yearbook on Business History 1984*. Springer Science & Business Media.
- Grossman, R. S. (2010). *Unsettled Account: The Evolution of Banking in the Industrialized World since 1800*. Princeton University Press.
- Hardach, G. (1995). Banking in Germany, 1918–1939. In Feinstein, C. H. (ed.), *Banking, Currency, and Finance in Europe Between the Wars*, 269-295. Oxford: Clarendon Press.
- Hardach, G. (2015). War Finance and Monetary Consequences: The German Case Revisited. In Daniel, U., Gatrell, P., Janz, O., Jones, H., Keene, J., Kramer, A., & Nasson, B. (eds.), *1914-1918*. International Encyclopedia of the First World War. Freie Universität Berlin.
- Kindleberger, C. P. (1984). *A financial history of Western Europe*. Routledge.
- Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., . . . Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.
- Noyes, A. (1909). A Year After the Panic of 1907. *The Quarterly Journal of Economics*, 23(2), 185-212.

Riesser, J. (1911). *The German great banks and their concentration in connection with the economic development of Germany*. US Government Printing Office.

Rodgers, M., & Payne, J. (2014). How the Bank of France Changed U.S. Equity Expectations and Ended the Panic of 1907. *The Journal of Economic History*, 74(2), 420-448.

Scharff, J. (2009). Chronik der Weltfinanzkrise. *Wirtschaft im Wandel*, 15, 5-7.

Schenk, C. R. (2014). Summer in the city: banking failures of 1974 and the development of international banking supervision. *The English Historical Review*, 129(540), 1129-1156.

Verlag der Frankfurter Zeitung (1906). *Geschichte der Frankfurter Zeitung 1856 bis 1906*. Druckerei von A. Osterrieth.

Vague, R. (2019). *A Brief History of Doom: Two Hundred Years of Financial Crises*. University of Pennsylvania Press.

GREECE

Antoniades, D., & Kouzionis, D. (1990). Financial distress of industrial firms on the Greek banking system. World Bank Working Paper Series, No. 57. Washington DC: World Bank.

Bank of Greece (2014). *The chronicle of the great crisis: The Bank of Greece 2008-2013*. Centre for Culture, Research and Documentation. Athens: Bank of Greece.

Carnegie Endowment for International Peace (1914). Report of the International Commission to Inquire into the Causes and Conduct of the Balkan Wars. Division of Intercourse and Education, Publication No. 4. Washington, DC: Carnegie Endowment for International Peace.

Dertilis, G. B., & Costis, C. (1995). Banking, Public Finance, and the Economy: Greece, 1919-1933. In Feinstein, C. H. (ed.), *Banking, Currency, and Finance in Europe Between the Wars*, 315-336. Oxford: Clarendon Press.

Dritsas, M. (1994). The structure of the Greek commercial banking system, 1840-1980. In Pohl, M. (ed.), *Handbook on the History of European Banks*, 491-530. Edward Elgar.

Folkerts-Landau, D. F. I., Mathieson, D. J., & Schinasi, G. J. (1997). *International Capital Markets: Developments, Prospects, and Key Policy Issues*. Washington, DC: International Monetary Fund.

Iwanicz-Drozdowska, M., Kerlin, J., Malinowska-Misiąg, E., Smaga, P., Witkowski, B., Nowak, A. K., Kozłowska, A., & Wiśniewski, P. (2016). *European bank restructuring during the global financial crisis*. Springer.

Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.

Reinhart, C. M., & Trebesch, C. (2015). The pitfalls of external dependence: Greece, 1829-2015. Brookings Papers on Economic Activity. Fall 2015. Brookings Institution.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

HONG KONG

Basler, B. (1991). Panic and Run at Hong Kong Bank. Newspaper article, The New York Times, 10 August.

Gargan, E. A. (1999). A Major Hong Kong Bank Is Forced to Close Its Doors. Newspaper article, New York Times, January 12.

Goodstadt, L. (2007). *Profits, politics and panics: Hong Kong's banks and the making of a miracle economy, 1935-1985*. Volume 1. Hong Kong University Press.

Li, R. (1999). Banking Problems: Hong Kong's experience in the 1980s. BIS Policy Paper, No. 6. Bank for International Settlements.

Muirhead, S., & Green, E. (2016). *Crisis Banking in the East: The History of the Chartered Mercantile Bank of London, India and China, 1853-93*. Routledge.

Mülhaupt, R. (2009). Hong Kong's banks during the financial crisis. Frankfurt am Main: Deutsche Bank Research.

Roberts, P., & Westad, O. A. (2013). *China, Hong Kong, and the Long 1970s: Global Perspectives*. New York: Palgrave Macmillan.

HUNGARY

Barisitz, S. (2007). *Banking in Central and Eastern Europe 1980-2006: from communism to capitalism*. Routledge.

Barcsay, T. (1991). Banking in Hungarian Economic Development, 1867-1919. *Business and Economic History*, 20, 216-225.

Begg, D., Gaspar, P., Vilagi, B., Vincze, J., & Perasso, G. (1998). *Hungary: towards a market economy*. Cambridge University Press.

European Commission (2015). State aid: Commission approves restructuring aid to Hungarian bank MKB. Press release, 15 December. Available at https://ec.europa.eu/commission/presscorner/detail/en/IP_15_6347.

Jobst, C., & Rieder, K. (2016). Principles, circumstances and constraints: the Nationalbank as lender of last resort from 1816 to 1931. *Monetary Policy and the Economy Q3-Q4* (OeNB bicentennial issue), 140-162.

Király, J. (2016). A magyar bankrendszer tulajdonosi struktúrájának átalakulása. *Közgazdasági Szemle*, 63(7-8), 725-761.

League of Nations (1934). *Commercial Banks, 1925-1933*. Economic Intelligence Service.

Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.

Macher, F. (2019). The Hungarian twin crisis of 1931. *The Economic History Review*, 72(2), 641-668.

Pogány, Á. (2014). Financial Crises during the Great Depression: The Hungarian Financial Crisis in a Central-European Context. Working Papers in Crisis History, No. 1. MTA – ELTE Crises History Research Group.

Rieder, K. (2017). (Un)promising beginnings - Bagehot in the land of the waltz: financial crises and lending of last resort in the Austro-Hungarian Empire (1868-1914). PhD thesis. University of Oxford.

Sumner, W. G., Macleod, H. D., Horn, A. E., Townsend, J. P., Des Essars, P., Rafalovich, A., ... & Jensen, A. L. O. (1896). *A History of Banking in All the Leading Nations*. Volume 4. Journal of commerce and commercial bulletin.

Than, K., & Szakacs, G. (2016). Hungary to sell MKB Bank, domestic buyers to own majority. News article. Reuters, 30 March. Available at: <https://www.reuters.com/article/us->

hungary-mkb-exclusive/exclusive-hungary-to-sell-mkb-bank-domestic-buyers-to-own-majority-ceo-idUSKCN0WW2AO.

Voszka, É. (2018). Nationalisation in Hungary in the Post-Crisis Years: A Specific Twist on a European Trend?. *Europe-Asia Studies*, 70(8), 1281-1302.

ICELAND

Árnason, Ö (2006). The Hafskip Affair. Ísland í aldanna rás 1900-2000. Available at: <http://www.islandia.is/ornolfur/Hafsk.htm>.

Bergmann, E. (2014). *Iceland and the international financial crisis: Boom, bust and recovery*. Springer.

Dimitriou, G., & Metaxas, T. (2017). Iceland's response to economic crises: A success story? MPRA Working Paper, No. 78758. Munich Personal RePEc Archive.

Einarsson, B. G., Gunnlaugsson, K., Ólafsson, T. T., & Pétursson, T. G. (2015). The long history of financial boom-bust cycles in Iceland-Part I: Financial crises. Central Bank of Iceland Working Papers, No. 68. Seðlabanki Íslands.

Flannery, M. J. (2009). Iceland's failed banks: A post-mortem. Report, Special Investigation Commission.

Jónsson, G. (2009). Efnahagskreppur á Íslandi 1870–2000, *Saga*, XLVII (1), 45-74.

INDIA

Aftab, N. & Husain, T. (2016). The Great War and evolution of Central Bank in India. Working Papers, No. 16012. Economic History Society.

Banerjee, A., Cole, S., & Duflo, E. (2004, June). Banking reform in India. *India policy forum*, 1(1), 277-332. Global Economy and Development Program, The Brookings Institution.

Chandavarkar, A. (1983). Money and Credit (1858–1947). In D. Kumar & M. Desai (Eds.), *The Cambridge Economic History of India*, 762-803. Cambridge University Press.

Doraiswami, S. V. (1915). *Indian finance, currency and banking*. Madras: G. Ramasawmy Naidu & Son.

Howard, H. F. (1921). The Imperial Bank of India. *The Economic Journal*, 31(122), 147-171.

League of Nations (1934). Commercial Banks, 1925-1933. Economic Intelligence Service.

Muranjan, S. K. (1952). *Modern banking in India*. 3rd edition. Bombay: New Book Company.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Rodgers, M., & Payne, J. (2014). How the Bank of France Changed U.S. Equity Expectations and Ended the Panic of 1907. *The Journal of Economic History*, 74(2), 420-448.

Saez, L. (2001). Banking reform in India and China. *International Journal of Finance & Economics*, 6(3), 235-244.

White, H. (1895). *Money and Banking*. Boston: Ginn & Company

INDONESIA

Caprio, G., & Klingebiel, D. (2003). *Episodes of Systemic and Borderline Financial Crises*. Washington, DC: The World Bank.

Cook, M. (2008). *Banking Reform in Southeast Asia: The region's decisive decade*. Routledge.

Fane, G., & McLeod, R. H. (2002). Banking collapse and restructuring in Indonesia, 1997-2001. *Cato Journal*, 22(2), 277-295.

Henley, D., & Boomgaard, P. (Eds.). (2009). *Credit and debt in Indonesia, 1860-1930: from peonage to pawnshop, from kongsi to cooperative*. Institute of Southeast Asian Studies.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

van Zanden, J. L. (2018). Credit and the Colonial State: The Reform of Capital Markets on Java, 1900–30. In Henley, D., & Boomgaard, P. (eds.), *Credit and Debt in Indonesia*, chapter 8, 860-1930. Singapore: ISEAS Publishing.

IRELAND

Kenny, S., & Lennard, J. (2018). Monetary aggregates for Ireland, 1840–1921. *The Economic History Review*, 71(4), 1249-1269.

Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.

Ó Gráda, C. (1995). Money and Banking in the Irish Free State, 1921-1939, C. H. (ed.), *Banking, Currency, and Finance in Europe Between the Wars*, chapter 16. Oxford: Clarendon Press.

Ó Gráda, C. (2012). The last major Irish bank failure before 2008. *Financial History Review*, 19(2), 199-217.

Ollerenshaw, P. (1987). *Banking in nineteenth century Ireland: the Belfast banks, 1825-1914*. Manchester, UK: Manchester University Press.

Whelan, K. (2014). Ireland's economic crisis: The good, the bad and the ugly. *Journal of Macroeconomics*, 39, 424-440.

ISRAEL

Bank of Israel (2004). Israel's Banking System - Annual Survey, 2002. Jerusalem: Bank of Israel. Available at: http://www.boi.org.il/en/NewsAndPublications/RegularPublications/Pages/skira02_skira02e.aspx.

Barkai, H., & Liviatan, N. (2007). *The Bank of Israel: A Monetary History*. Volume 1. Oxford University Press.

Blass, A. A., & Grossman, R. S. (1996). Financial fraud and banking stability: The Israeli bank crisis of 1983 and trial of 1990. *International Review of Law and Economics*, 16(4), 461-472.

Bruno, M., & Sussman, Z. (1979). Exchange-rate flexibility, inflation, and structural change: Israel Under Alternative Regimes. *Journal of Development Economics*, 6(4), 483-514.

Mitter, S. (2014). A History of Money in Palestine: From the 1900s to the Present. PhD thesis. History Department, Harvard University.

Ottenssooser, R. D. (1955). *The Palestine pound and the Israel pound: transition from a colonial to an independent currency* (Vol. 13). Annemasse, France: Le Presses de Savoie.

Plessner, Y. (2012). *The Political Economy of Israel: From Ideology to Stagnation*. SUNY Press.

ITALY

- Bartoletto, S., Chiarini, B., Marzano, E., & Piselli, P. (2019). Banking crises and business cycle: evidence for Italy (1861-2016). *Journal of Financial Economic Policy*, 11(1), 34-61.
- Battilossi, S. (2009). Did governance fail universal banks? Moral hazard, risk taking, and banking crises in interwar Italy 1. *The Economic History Review*, 62, 101-134
- Boccuzzi, G. (2011). Towards a new framework for banking crisis management: the international debate and the Italian model. Quaderni di Ricerca Giuridica della Consulenza Legale, No. 71. Banca d'Italia.
- Caziani, A. (2006). Between Politics And Double Entry: The Crises of Banca Italiana di Sconto and Banco di Roma and the Italian Banking System 1914-1924. 2004 Conference of S.I.S. - Societa Italiana di Storia della Ragioneria. Brescia University.
- De Bonis, R., & Silvestrini, A. (2014). The Italian financial cycle: 1861-2011. *Cliometrica*, 8(3), 301-334.
- Galassi, F., & Harrison, M. (2005). Italy at war, 1915–1918. In S. Broadberry & M. Harrison (eds.), *The Economics of World War I*, 276-309. Cambridge University Press.
- Gigliobianco, A., & Giordano, C. (2010). Economic theory and banking regulation: The Italian case (1861-1930s). Bank of Italy Economic History Working Paper, No. 5. Banca d'Italia.
- Goodhart, C. (1995). *The central bank and the financial system*. Springer.
- Kindleberger, C. P. (1984). *A financial history of Western Europe*. Routledge.
- Marro, E. (2015). From Treviso to Rimini, Italian banks in extraordinary administration. Newspaper article, *Finanza & Mercati*, 14 June. Available at <https://st.ilsole24ore.com/art/finanza-e-mercati/2012-06-14/treviso-rimini-ecco-tutte-143708.shtml>.
- Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.
- Olsen, I. C. (1930). Consolidated Position of Italian Postwar Banking Structure. Commerce Reports, No. 1, 06 January. Washington, DC: Bureau of Foreign and Domestic Commerce, Department of Commerce.
- Pani, M. M. (2017). Crisis and Reform: The 1893 Demise of Banca Romana. IMF Working Paper, No. 17/274. International Monetary Fund.
- Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Russo, C. (2012). Bank Nationalizations of the 1930s in Italy: The IRI Formula. *Theoretical Inquiries in Law*, 13(2), pp. 407-428.

Toniolo, G. (2014). *An Economic History of Liberal Italy: 1850-1918*. Routledge.

Willis, H. P., & Beckhart, B. H. (1929). *Foreign Banking Systems*. Henry Holt and Company.

Zamagni, V. (1993). *The economic history of Italy 1860-1990*. Oxford: Clarendon Press.

JAPAN

Bordo, M., & Eichengreen, B. (1999). Is our current international economic environment unusually crisis prone? In Gruen, D., & Gower, L. (eds.), *Conference: Capital flows and the international financial system*, 18-74.

Cameron, R. & Bovykin, V. I. (1991). *International Banking, 1870-1914*. Oxford University Press.

Kanaya, A., & Woo, D. (2000). The Japanese banking crisis of the 1990s: sources and lessons. IMF Working Paper, No. 00/7. International Monetary Fund.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Nakabayashi, M. (2017). Contained crisis and socialized risk: Unconventional monetary policy by the Bank of Japan in the 1890s. *Research in International Business and Finance*, 40, 231-241.

Nakano, M. (2016). Financial Crisis and Banking Crisis in Japan: 1997–2003. In Nakano, M. (ed.), *Financial Crisis and Bank Management in Japan (1997 to 2016)*, 1-32. London: Palgrave Macmillan.

Nakaso, H. (2001). The financial crisis in Japan during the 1990s: how the Bank of Japan responded and the lessons learnt. BIS Papers, No. 6. Bank for International Settlements.

Montgomery, H. (2002). Taipei, China's banking problems: lessons from the Japanese experience. Research Papers, No. 51. ADB Institute.

Noyes, A. (1909). A Year After the Panic of 1907. *The Quarterly Journal of Economics*, 23(2), 185-212.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Rodgers, M. T., & Payne, J. E. (2015). Was the Panic of 1907 a Global Crisis? Testing the Noyes Hypothesis. Workshop on Monetary and Financial History, May, Federal Reserve Bank of Atlanta. Available at: <https://www.frbatlanta.org/-/media/documents/news/conferences/2015/0511-workshop-on-monetary-and-financial-history/papers/rodgers-payne-noyes-hypothesis.pdf>.

Shizume M. (2012). The Japanese Economy during the Interwar Period: Instability in the Financial System and the Impact of the World Depression. In: Ögren A., Øksendal L.F. (eds.), *The Gold Standard Peripheries*, 211-228. London: Palgrave Macmillan.

Sumner, W. G., Macleod, H. D., Horn, A. E., Townsend, J. P., Des Essars, P., Rafalovich,

A., ... & Jensen, A. L. O. (1896). *A History of Banking in All the Leading Nations*. Volume 4. Journal of commerce and commercial bulletin.

Takenobu, Y. (1929). *The Japan Year Book: Complete Cyclopaedia of General Information and Statistics on Japan and Japanese Territories for the Year*. The Japan Year Book Office. Tokyo: Ushigome Haramachi Sanchom.

Tamaki, N. (1995). *Japanese banking: A history, 1859-1959*. Cambridge University Press.

Westernhagen, N., Harada, E., Nagata, T., Vale, B., Ayuso, J., Saurina, J., ... & Peristiani, S. (2004). Bank Failures in Mature Economies, Basel Committee on Banking Supervision Working Papers, No. 13. Bank for International Settlements.

Yabushita, S., & Inoue, A. (1993). The stability of the Japanese banking system: A historical perspective. *Journal of the Japanese and International Economies*, 7(4), 387-407.

Yamamura, K. (1972). Then Came the Great Depression: Japan's Interwar Years. In van der Wee, H. (ed.), *The Great Depression Revisited*, 182-211. Dordrecht: Springer.

KOREA

Borensztein, M. E., & Lee, J. W. (1999). Credit allocation and financial crisis in Korea. IMF Working Paper, No. 99/20. Washington, DC: International Monetary Fund.

Huh, C., & Kim, S. B. (1994). Financial regulation and banking sector performance: a comparison of bad loan problems in Japan and Korea. *Economic Review*, 2(18). Federal Reserve Bank of San Francisco.

Ito, T., & Krueger, A. O. (1996). Financial liberalization: the Korean experience. In Park, W. A. (ed.), *Financial deregulation and integration in East Asia*, 247-276. University of Chicago Press.

Kihwan (2006). The 1997-98 Korean Financial Crisis: Causes, Policy Response, and Lessons. Presentation at The High-Level Seminar on Crisis Prevention in Emerging Markets, July 10-11, Singapore. Available at: <https://www.imf.org/external/np/seminars/eng/2006/cpem/pdf/kihwan.pdf>.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Teo, L. E., Enoch, C., Lindgren, C. J., Baliño, T. J., Gulde, A. M., & Quintyn, M. G. (2000). Financial Sector Crisis and Restructuring; Lessons from Asia: Lessons from Asia. IMF Occasional Paper, No. 188. International Monetary Fund.

LUXEMBOURG

Andrews, D., Prescott, C., Mah, S. K., & Dias, B. (2005). Fitch Bank Failures Study 1990-2003. Special Report. Fitch Ratings.

Grand-Duché de Luxembourg (1932). La Situation de l'Industrie et du Commerce en 1932. Mémorial, Journal Officiel du Grand-Duché de Luxembourg, 17 June, Annexe No. 3. Imprimerie de la Cour Victor Buck. Available at <http://data.legilux.public.lu/file/eli-etat-leg-annexe-1932-01-fr-pdf.pdf>.

Lehners, J. P. (1994). The history of banks in Luxemburg. In: Pohl, M. (ed.), *Handbook on the History of European Banks*, 675-681. Edward Elgar.

Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.

MALAYSIA

Ariff, M., & Abubakar, S. Y. (1999). The Malaysian financial crisis: economic impact and recovery prospects. *The Developing Economies*, 37(4), 417-438.

Drake, P. J. (1969). *Financial Development in Malaya and Singapore*. Canberra: ANU Press.

Drake, P. J. (2017). *Merchants, Bankers, Governors: British Enterprise in Singapore and Malaya 1786–1920*. Singapore: World Scientific Publishing.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Lee, S. Y. (1990). *The monetary and banking development of Singapore and Malaysia*. Singapore University Press.

MEXICO

Alvarez, S. (2014). The untold story of the Mexican debt crisis: Domestic banks and external debt, 1977-1989. eabh Papers, No. 14-03. The European Association for Banking and Financial History.

Boonman, T. M., Jacobs, J. P., & Kuper, G. H. (2011). Why didn't the Global Financial Crisis hit Latin America?. CIRANO Scientific Series, No. 2011s-63. Montréal: Centre interuniversitaire de recherche en analyse des organisations. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1948680.

Bortz, J., & Haber, S. H. (2002). *The Mexican economy, 1870-1930: essays on the economic history of institutions, revolution, and growth*. Stanford University Press.

Calomiris, C. W., & Haber, S. H. (2015). *Fragile by design: The political origins of banking crises and scarce credit*. Princeton University Press.

Conant, C. A. (1910). The banking system of Mexico. Senate Documents 61st Congress, 2nd Session, 19, document No. 493. Washington, DC: Government Printing Office.

Gómez-Galvarriato, A. (2014). The Transformation of the Mexican Banking System from the Porfiriato to 1925. First World Conference of Business History, Frankfurt am Main, March 17.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Maurer, N. (2002). *The power and the money: The Mexican financial system, 1876-1932*. Stanford University Press.

Musacchio, A. (2012). Mexico's Financial Crisis of 1994-1995. Harvard Business School Working Paper, No. 12-101. Harvard University.

McCaleb, W. F. (1920). *Present and past banking in Mexico*. Harper & Brothers.

Robitaille, P. T. (1997). Private payments systems in historical perspective: the Banco Central system of Mexico. Federal Reserve System Discussion Paper, No. 599. Washington, DC: Federal Reserve System.

Serrano, A. (2015). Banking history of Mexico and the 1982 nationalization of banks. *Journal of Emerging Issues in Economics, Finance and Banking*, 4(2), 1554-1577.

Turrent, E. (2007). A brief summary of banking in Mexico. Banco de México. Available at: <http://www.anterior.banxico.org.mx/sistema-financiero/material-educativo/basico/%7B860B8FCB-0988-D96E-0260-1371980FCC40%7D.pdf>.

NETHERLANDS

De Nederlandsche Bank (2006). History of DNB. Available at: https://www.dnb.nl/en/binaries/History%20DNB_tcm47-144511.pdf?2020010618.

de Vries, J. (1994). The Netherlands financial empire. In Pohl, M. (ed.), *Handbook on the History of European Banks*, 719-787. Edward Elgar.

Grossman, R. S. (2010). *Unsettled Account: The Evolution of Banking in the Industrialized World since 1800*. Princeton University Press.

Kindleberger, C. P. (1984). *A financial history of Western Europe*. Routledge.

League of Nations (1935). *Commercial Banks, 1929-1934*, Economic Intelligence Service.

Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.

Noyes, A. (1909). A Year After the Panic of 1907. *The Quarterly Journal of Economics*, 23(2), 185-212.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Rodgers, M. T., & Payne, J. E. (2015). Was the Panic of 1907 a Global Crisis? Testing the Noyes Hypothesis. Workshop on Monetary and Financial History, May, Federal Reserve Bank of Atlanta. Available at: <https://www.frbatlanta.org/-/media/documents/news/conferences/2015/0511-workshop-on-monetary-and-financial-history/papers/rodgers-payne-noyes-hypothesis.pdf>.

Sumner, W. G., Macleod, H. D., Horn, A. E., Townsend, J. P., Des Essars, P., Rafalovich, A., ... & Jensen, A. L. O. (1896). *A History of Banking in All the Leading Nations*. Volume 4. Journal of commerce and commercial bulletin.

The Banker's Magazine (1908). The Bank of the Netherlands, 1907-1908. Volume 86.

't Hart, M. , Jonker, J., & van Zanden, J. L. (1997). *A Financial History of the Netherlands*. Cambridge University Press.

Vantheemsche, G. (1991). State, Banks and Industry in Belgium and the Netherlands (1919-1939), in James, H., Lindgren, H., & Teichova, A. (eds.), *The Role of Banks in the Interwar Economy*, 104-121. Cambridge: Cambridge University Press.

NEW ZEALAND

Andrews, D., Prescott, C., Mah, S. K., & Dias, B. (2005). Fitch Bank Failures Study 1990-2003. Special Report. Fitch Ratings.

Hunt, C. (2009). Banking Crises in New Zealand-An Historical Perspective. *The Reserve Bank of New Zealand Bulletin*, 72(4), 26-41.

James, C. (2015). *New territory: the transformation of New Zealand, 1984-92*. Bridget Williams Books.

Matthews, K. (2003). The legal history of money in New Zealand. *The Reserve Bank of New Zealand Bulletin*, 66(1), 40-49.

McLintock, A. H. (1966). *An Encyclopaedia of New Zealand*. South Africa: Government Printer.

Sinclair, K. V., & Mandle, W. F. (1961). *Open Account: A History of the Bank of New South Wales in New Zealand, 1861-1961*. Whitcombe & Tombs.

NORWAY

- Andrews, D., Prescott, C., Mah, S. K., & Dias, B. (2005). Fitch Bank Failures Study 1990-2003. Special Report. Fitch Ratings.
- Brunnermeier, M., & Schnabel, I. (2016). Bubbles and Central Banks. In M. Bordo, Ø Eitrheim, M. Flandreau, & J. Qvigstad (Eds.), *Central Banks at a Crossroads: What Can We Learn from History?* Studies in Macroeconomic History, 493-562. Cambridge University Press.
- Eitrheim, Ø., Klovland, J. T., & Øksendal, L. F. (2016). *A Monetary History of Norway, 1816–2016*. Cambridge University Press.
- Gerdrup, K. R. (2003). Three episodes of financial fragility in Norway since the 1890s. BIS Working Paper, No. 142. Bank for International Settlements.
- Goodhart, C. (1995). *The central bank and the financial system*. Springer.
- Grytten, O. H., & Hunnes, A. (2014). An anatomy of financial crises in Norway, 1830–2010. *Financial History Review*, 21(1), 25-57.
- Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.
- League of Nations (1934). Commercial Banks, 1925-1933. Economic Intelligence Service.
- Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.
- Nicolaisen, J. (2015). Should banks be bailed out? Speech at the Norwegian Academy of Science and Letters, 14 April. Available at: <https://www.norges-bank.no/en/news-events/news-publications/Speeches/2015/2015-04-14-Nicolaisen-DNVA/>.
- Westernhagen, N., Harada, E., Nagata, T., Vale, B., Ayuso, J., Saurina, J., ... & Peristiani, S. (2004). Bank Failures in Mature Economies, Basel Committee on Banking Supervision Working Papers, No. 13. Bank for International Settlements.
- Willis, H. P., & Beckhart, B. H. (1929). *Foreign Banking Systems*. Henry Holt and Company.

PERU

- Canta, M. (1998). Determining the probability of banking system's weakness in developing countries: the case of Peruvian banking system. SBS Documentos de Trabajo, No. 01/1998. Lima: Superintendencia de Banca, Seguros y Administradoras Privadas de Fondos de Pensiones.
- Caprio, G., & Klingebiel, D. (2003). Episodes of Systemic and Borderline Financial Crises. Washington, DC: The World Bank.
- Gilbert, D. (2017). *The Oligarchy and the Old Regime in Latin America, 1880-1970*. Rowman & Littlefield.
- Jácome, L. I. (2008). Central Bank Involvement in Banking Crises in Latin America. International Monetary Fund Working Paper, No. 08/135. Washington, DC: International Monetary Fund.
- Jácome, L. I., Sedik, T. S., & Townsend, S. (2012). Can emerging market central banks bail out banks? A cautionary tale from Latin America. *Emerging Markets Review*, 13(4), 424-448.
- League of Nations (1934). Commercial Banks, 1925-1933. Economic Intelligence Service.
- Lough, W. H. (1915). *Financial Development in South American Countries*. Department of Commerce, Bureau of Foreign and Domestic Commerce, Government Printing Office.
- Pravin Banker Associates v. Banco Popular Del Peru, 165 B.R. 379 (1994). Available at <https://law.justia.com/cases/federal/district-courts/BR/165/379/1942299/>.
- Randall, L. R. R. (1977). *A comparative economic history of Latin America: 1500-1914*. Volume 4: Peru. Ann Arbor, MI : University Microfilms International.
- Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.
- Zegarra, L. F. (2013). Free-Banking and Financial Stability in Peru. *Quarterly Journal of Austrian Economics*, 16(2), 187.

PHILIPPINES

Bresnan, J. (2014). *Crisis in the Philippines: The Marcos era and beyond*. Princeton University Press.

Caprio, G., & Klingebiel, D. (2003). *Episodes of Systemic and Borderline Financial Crises*. Washington, DC: The World Bank.

Guinigundo, D. (2010). The impact of the global financial crisis on the Philippine financial system: an assessment. *BIS Papers*, 54, 317-342. Bank for International Settlements.

Hutchcroft, P. D. (1998). *Booty capitalism: The politics of banking in the Philippines*. Cornell University Press.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Myers, R. H. (1984). The roots of the Philippines' economic troubles. Background, No. 14. Washington, DC: Asian Studies Center, The Heritage Foundation.

Patrick, H. T., & Moreno, H. (1982). Philippine Private Domestic Commercial Banking, 1946-1980, in Light of Japanese Historical Experience. Center Discussion Paper, No. 427. Economic Growth Center (EGC), Yale University.

PORTUGAL

Arnold, W. & Wise, P. (2016). Portugal and EU reach deal to recapitalize Caixa Geral de Depósitos. Newspaper article, *The Financial Times*, August 25. Available at: <https://www.ft.com/content/95c3a946-6ac3-11e6-a0b1-d87a9fea034f>.

Bordo, M., & Eichengreen, B. (1999). Is our current international economic environment unusually crisis prone? In Gruen, D., & Gower, L. (eds.), *Conference: Capital flows and the international financial system*, 18-74.

Branco, A., Valério, N., & Sousa, R. M. D. (2011). Echoes from the past: Portuguese stabilization of the 1890s and 1920s. GHEs - Série Documentos de Trabalho, No. 47. Lisbon: Gabinete de História Económica e Social.

Costa, L. F., Lains, P., & Miranda, S. M. (2016). *An economic history of Portugal, 1143–2010*. Cambridge University Press.

Engrácia Antunes, J. (2019). Banco Espírito Santo-The Anatomy of a Banking Scandal in Portugal. In Busch, D., Ferrarini, G., & Solinge, G. V. (eds.), *Governance of Financial Institutions*, chapter 23. Oxford University Press.

European Commission (2010). State aid: Commission orders recovery of illegal state aid from Banco Privado Português. Press release, July 20. Available at: https://europa.eu/rapid/press-release_IP-10-972_en.htm.

Faria, M. F. D., & Mendes, J. A. (2013). *Dicionário de História Empresarial Portuguesa, Séculos XIX e XX*. Volume I. Imprensa Nacional Casa da Moeda.

Iwanicz-Drozdowska, M., Kerlin, J., Malinowska-Misiąg, E., Smaga, P., Witkowski, B., Nowak, A. K., Kozłowska, A., & Wiśniewski, P. (2016). *European bank restructuring during the global financial crisis*. Springer.

Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.

Reis, J. (1994). Portuguese banking. In: Pohl, M. (ed.), *Handbook on the History of European Banks*, 135-184. Edward Elgar.

Reis, J. (1995). Portuguese Banking in the Inter-War Period. In Feinstein, C. H. (ed.), *Banking, Currency, and Finance in Europe Between the Wars*, 472-501. Oxford: Clarendon Press.

The Banker's Magazine (1877). The Banking Crisis in Portugal. Volume 31, 275-278.

Wigan, H. (2004). The Effects Of The 1925 Portuguese Bank Note Crisis. Department of

RUSSIA

Caprio, G., & Klingebiel, D. (1996). Bank insolvency: bad luck, bad policy, or bad banking?. In Annual World Bank conference on development economics, Volume 79. Washington, DC: The World Bank.

Jaffree, D. & Levonian, M. (1995). Russian Banking. FRBSF Weekly Letter, No. 95-35. Federal Reserve Bank of San Francisco.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Lychakov, N. (2018). Industrialisation, Politics, and Banking Instability in Late Imperial Russia. PhD thesis. Queen's University Belfast.

Milward, A., & Saul, S. B. (2013). *The Economic Development of Continental Europe 1780-1870*. Routledge.

Niinimäki, J. P. (2002). Bank panics in transition economies. BOFIT Discussion Papers, No. 2/2002. Institute for Economics in Transition, Bank of Finland.

Owen, T. C. (2005). *Dilemmas of Russian capitalism: Fedor Chizhov and corporate enterprise in the railroad age*. Harvard University Press.

Salomatina, S. A. (2014). Investment banking in Russia, 1890-1917: from pioneering finance to universal banking. In Bonin, H. & Brambilla, C. (eds.), *Investment Banking History: National and Comparative Issues (19th-21st centuries)*, 347-380. Peter Lang.

SINGAPORE

Caprio, G., & Klingebiel, D. (2003). *Episodes of Systemic and Borderline Financial Crises*. Washington, DC: The World Bank.

Drake, P. J. (2017). *Merchants, Bankers, Governors: British Enterprise in Singapore and Malaya 1786–1920*. Singapore: World Scientific Publishing.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Lee, S. Y. (1990). *The monetary and banking development of Singapore and Malaysia*. Singapore University Press.

SOUTH AFRICA

Amphlett, G. T. (1914). *History of the Standard Bank of South Africa Ltd., 1862-1913*. Glasgow: Robert Maclehose & Co.

Arndt, E. H. D., & Richards, C. S. (1929). The Banking System of South Africa. In: Willis, H. P., & Beckhart, B. H. (eds.), *Foreign Banking Systems*, 955-1010. New York, NY: Henry Holt and Company.

Gilbert, D. W. (1933). The economic effects of the gold discoveries upon South Africa: 1886–1910. *The Quarterly Journal of Economics*, 47(4), 553-597.

Hirsch, A. (1989). The origins and implications of South Africa's continuing financial crisis. *Transformation*, 9.

Kantor, B. (1975). The Cape Bank Act of 1891. Report. Available at: <http://www.zaeconomist.com/research/1975b.pdf>.

Okeahalam, C. C. (1998). The political economy of bank failure and supervision in the Republic of South Africa. *African Journal of Political Science*, 3(2), 29-48.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Verhoef, G. (2009). Concentration and competition: The changing landscape of the banking sector in South Africa 1970–2007. *South African Journal of Economic History*, 24(2), 157-197.

SPAIN

- Andrews, D., Prescott, C., Mah, S. K., & Dias, B. (2005). Fitch Bank Failures Study 1990-2003. Special Report. Fitch Ratings.
- Betrán, C., Martín-Aceña, P., & Pons, M. (2012). Financial Crises In Spain: Lessons From The Last 150 Years. *Revista De Historia Económica*, 30(3), 417-446.
- Betrán, C., & Pons, M. A. (2013). Understanding Spanish Financial crises, 1850-2000: What determined their severity? EHES Working Papers in Economic History, No 48. European Historical Economics Society.
- Betrán, C., & Pons, M. A. (2018). Understanding Spanish financial crises severity, 1850–2015. *European Review of Economic History*, 23(2), 175-192.
- Iwanicz-Drozdowska, M., Kerlin, J., Malinowska-Misiąg, E., Smaga, P., Witkowski, B., Nowak, A. K., Kozłowska, A., & Wiśniewski, P. (2016). *European bank restructuring during the global financial crisis*. Springer.
- Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.
- Martín-Aceña, P. (1995). Spanish Banking in the Inter-War Period. In Feinstein, C. H. (ed.), *Banking, Currency, and Finance in Europe Between the Wars*, 472-501. Oxford: Clarendon Press.
- Martín-Aceña, P. (2007). Central banking in the Iberian Peninsula: A comparison. UC3M Working papers in Economic History, No. 07-15. Universidad Carlos III de Madrid.
- Riding, A. (1993). Ambitious Bank in Spain Stumbles and Is Taken Over. Newspaper article, The New York Times, December 29. Available at <https://www.nytimes.com/1993/12/29/business/ambitious-bank-in-spain-stumbles-and-is-taken-over.html>.
- Sudrià, C. (2020). Banking Crisis in Spain: A Historical Perspective. *Studies of Applied Economics*, 32(2), 473-496.
- Tortella, G., & García Ruiz, J. L. (2013). *Spanish Money and Banking: A History*. Springer.
- Westernhagen, N., Harada, E., Nagata, T., Vale, B., Ayuso, J., Saurina, J., ... & Peristiani, S. (2004). Bank Failures in Mature Economies, Basel Committee on Banking Supervision Working Papers, No. 13. Bank for International Settlements.

SWEDEN

Bordo, M., & Eichengreen, B. (1999). Is our current international economic environment unusually crisis prone? In Gruen, D., & Gower, L. (eds.), *Conference: Capital flows and the international financial system*, 18-74.

Grodecka, A., Kenny, S., & Ögren, A. (2018). Predictors of Bank Distress: The 1907 Crisis in Sweden. *Lund Papers in Economic History*, No. 180. Department of Economic History, Lund University.

Häggqvist, H., Hedberg, P., Karlsson, L., & Larsson, M. (2019). The development of Swedish commercial banking, from establishment to consolidation: A presentation of a new database, 1866-1938. *Uppsala Papers in Financial and Business History*, No. 24. Uppsala University.

Hortlund, P. (2007). The provision of liquidity in the Swedish note banking system, 1878–1901. *Scandinavian Economic History Review*, 55(1), 20-40.

Hu, M. (2012). On the Success of ‘Free Banking’ in Sweden (1830-1897). Blog post, May 31. Retrieved from <https://menghublog.wordpress.com/2012/05/31/on-the-success-of-free-banking-in-sweden/>.

Iwanicz-Drozdowska, M., Kerlin, J., Malinowska-Misiąg, E., Smaga, P., Witkowski, B., Nowak, A. K., Kozłowska, A., & Wiśniewski, P. (2016). *European bank restructuring during the global financial crisis*. Springer.

Jonung, L., & Hagberg, T. (2005). How costly was the crisis of the 1990s? A comparative analysis of the deepest crises in Finland and Sweden over the last 130 years. DG ECFIN Economic Papers, No. 224. Directorate General Economic and Financial Affairs, European Commission.

Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.

Lönnborg, M., Ögren, A., & Rafferty, M. (2011). Banks and Swedish Financial Crises in the 1920s and 1930s. *Business History*, 53(2), 230-248.

Ögren, A. (2018). Banking Crises and Lender of Last Resort in Theory and Practice in Swedish History, 1850–2010. In: Rockoff, H., & Suto, I. (eds.), *Coping with Financial Crises*, 47-76. Singapore: Springer.

Schön, L. (2012). *An economic history of modern Sweden*. Routledge.

Westernhagen, N., Harada, E., Nagata, T., Vale, B., Ayuso, J., Saurina, J., ... & Peristiani, S. (2004). Bank Failures in Mature Economies, Basel Committee on Banking Supervision

Working Papers, No. 13. Bank for International Settlements.

SWITZERLAND

Abegg, W., Baltensperger, E., & others (2007). *The Swiss National Bank, 1907-2007*. Swiss National Bank.

Baltensperger, E., & Kugler, P. (2017). *Swiss Monetary History since the Early 19th Century*. Cambridge University Press.

Bauer, H., & Blackman, W. J. (1998). *Swiss banking: an analytical history*. Springer.

Grossman, R. S. (2010). *Unsettled Account: The Evolution of Banking in the Industrialized World since 1800*. Princeton University Press.

Gup, B. E. (1998). *Bank failures in the major trading countries of the world: causes and remedies*. Westport, CT: Quorum.

Jonker, J., & van Zanden, J. L. (1995). Method in the Madness? Banking Crises Between the Wars, an International Comparison. In Feinstein, C. H. (ed.), *Banking, Currency, and Finance in Europe Between the Wars*, 77-93. Oxford: Clarendon Press.

League of Nations (1934). *Commercial Banks, 1925-1933*. Economic Intelligence Service.

Mombelli, A. (2018). The day UBS, the biggest Swiss bank, was saved. News article, SWI swissinfo.ch, October 16. Available at: https://www.swissinfo.ch/eng/2008-crisis_the-day-ubs--the-biggest-swiss-bank--was-saved/44474630.

Schwarzenbach, E. (1929). The Banking System of Switzerland. In Willis, H. P., & Beckhart, B. H. (eds.), *Foreign Banking Systems*, 1075-1143. New York, NY: Henry Holt and Company.

Sheldon, G., & Haegler, U. (1993). Economies of scale and scope and inefficiencies in Swiss banking. In Blattner, N., Genberg, H., & Swoboda, A. (eds.), *Banking in Switzerland*, 103-142. Heidelberg: Physica-Verlag.

Straumann, T. (2010). *Fixed Ideas of Money: small states and exchange rate regimes in twentieth-century Europe*. Cambridge University Press.

Sumner, W. G., Macleod, H. D., Horn, A. E., Townsend, J. P., Des Essars, P., Rafalovich, A., ... & Jensen, A. L. O. (1896). *A History of Banking in All the Leading Nations*. Volume 4. Journal of commerce and commercial bulletin.

Verlag der Frankfurter Zeitung (1906). *Geschichte der Frankfurter Zeitung 1856 bis 1906*. Druckerei von A. Osterrieth.

Westernhagen, N., Harada, E., Nagata, T., Vale, B., Ayuso, J., Saurina, J., ... & Peristiani, S. (2004). Bank Failures in Mature Economies, Basel Committee on Banking Supervision Working Papers, No. 13. Bank for International Settlements.

Wetter, E. (1918). Bankkrisen und Bankkatastrophen der letzten Jahre in der Schweiz.
Habilitationsschrift. Zürich: Art. Institut Orell Füssli.

TAIWAN

Chu, Y. H. (2013). Coping with the Global Financial Crises: institutional and ideational sources of Taiwan's economic resiliency. *Journal of Contemporary China*, 22(82), 649-668.

Lee, L. L. (1998). The development of banking in Taiwan: the historical impact on future challenges. Occasional Papers in Contemporary Asian Studies, No. 6. School of Law, University of Maryland.

Lee, S. Y. (1990). *Money and finance in the economic development of Taiwan*. Springer.

Montgomery, H. (2002). Taipei, China's banking problems: lessons from the Japanese experience. Research Papers, No. 51. ADB Institute.

Ohno, K. (2008). Showa Financial Crisis of 1927. In: Economic Development of Japan, lecture series, session 8. Available at: http://www.grips.ac.jp/teacher/oono/hp/lecture_J/lec08.htm.

Satō, Y. (2002). Democratization and Financial Reform in Taiwan: The Political Economy of Bad-loan Creation. *The Developing Economies*, 40(3), 226-251.

Winn, J. K. (1991). Banking and finance in Taiwan: The prospects for internationalization in the 1990s. *The International Lawyer*, 25(4), 907-952.

THAILAND

Bank of Thailand (2010). The international banking crisis: impact on Thailand's financial system and policy responses. In: Bank for International Settlements (ed.), *The global crisis and financial intermediation in emerging market economies*, BIS Papers No. 54, 377-386. Bank for International Settlements.

Caprio, G., & Klingebiel, D. (2003). Episodes of Systemic and Borderline Financial Crises. Washington, DC: The World Bank.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Sundaravej, T., & Trairatvorakul, P. (1989). Experiences of financial distress in Thailand. Development Economics Working Papers, No. 283. The World Bank.

Teo, L. E., Enoch, C., Lindgren, C. J., Baliño, T. J., Gulde, A. M., & Quintyn, M. G. (2000). Financial Sector Crisis and Restructuring; Lessons from Asia: Lessons from Asia. IMF Occasional Paper, No. 188. International Monetary Fund.

Thitibordin, A. (2016). Control and Prosperity: The Teak Business in Siam 1880s-1932. PhD thesis. Fakultät Geisteswissenschaften, University of Hamburg.

TURKEY

- Birdal, M. (2010). *The political economy of Ottoman public debt: insolvency and European financial control in the late nineteenth century*. Bloomsbury Publishing.
- Fraser, M. P. (2016). *East Meets West-Banking, Commerce and Investment in the Ottoman Empire*. Routledge.
- Görmez, Y. (2008). Banking in Turkey: History and Evolution. Working Papers, No. 83, Bank of Greece.
- Görmez, Y., & Yiğit, S. (2009). The economic and financial stability in Turkey: A historical perspective. *SEEMHN papers*, 12, 283-313. National Bank of Serbia.
- Gündoğdu, A. (2014). *Türkiye’de Bankacılık Sisteminin Yasal Düzenlemeleri*. Seçkin Yayınevi.
- Ignatius, D. (1989). Talking Turkey to Debtors. Newspaper article, The Washington Post, April 23. Available at: <https://www.washingtonpost.com/archive/opinions/1989/04/23/talking-turkey-to-debtors/aa5bf40d-aabf-423e-af2e-dc3733fc514d/>.
- Kiefer, M. V. (2014). Bank failures and mergers in Turkey: 1992-2014. *Journal of Economic & Financial Studies*, 2(05), 31-49.
- Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.
- Lo Duca, M., Koban, A., Basten, M., Bengtsson, E., Klaus, B., Kusmierczyk, P., ... Peltonen, T. (2017). A new database for financial crises in European countries: ECB / ESRB EU crises database. ECB Occasional Paper, No. 194. European Central Bank.
- Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.
- Rothermund, D. (2002). *The global impact of the Great Depression 1929-1939*. Routledge.

UNITED KINGDOM

- Andrews, D., Prescott, C., Mah, S. K., & Dias, B. (2005). Fitch Bank Failures Study 1990-2003. Special Report. Fitch Ratings.
- Bordo, M., & Eichengreen, B. (1999). Is our current international economic environment unusually crisis prone? In Gruen, D., & Gower, L. (eds.), Conference: Capital flows and the international financial system, 18-74.
- Collins, M. (1989). The banking crisis of 1878. *Economic History Review*, 42(4), 504-527.
- Conant, C. A. (1915). *A history of modern banks of issue*. GP Putnam's sons.
- Goodhart, C. (1995). *The central bank and the financial system*. Springer.
- Grossman, R. S. (2010). *Unsettled Account: The Evolution of Banking in the Industrialized World since 1800*. Princeton University Press.
- Kenny, S., Lennard, J., & Turner, J. D. (2017). The Macroeconomic Effects of Banking Crises: Evidence from the United Kingdom, 1750-1938. Lund Papers in Economic History: General Issues, No. 165. Department of Economic History, Lund University.
- Kindleberger, C. P. (1984). *A financial history of Western Europe*. Routledge.
- Mahate, A. A. (1994). Contagion Effects of Three Late Nineteenth Century British Bank Failures. *Business and Economic History*, 23(1), 102-115.
- Roberts, R. (2013). The impact of crises on savings banks institutions in the United Kingdom, *WSBI ESBG Perspectives*, 66, 29-66. The World Savings and Retail Banking Institute and The European Savings and Retail Banking Group.
- Schwartz, A. J. (1987). Real and pseudo-financial crises. In Schwartz, A. J. (ed.), *Money in historical perspective*, 271-288. University of Chicago Press.
- Turner, J. D. (2014). *Banking in crisis: the rise and fall of British banking stability, 1800 to the present*. Cambridge University Press.
- Ugolini, S. (2017). *The evolution of central banking: theory and history*. London: Palgrave Macmillan UK.
- Westernhagen, N., Harada, E., Nagata, T., Vale, B., Ayuso, J., Saurina, J., ... & Peristiani, S. (2004). Bank Failures in Mature Economies, Basel Committee on Banking Supervision Working Papers, No. 13. Bank for International Settlements.
- White, E. (2018). Censored Success: How to Prevent a Banking Panic, the Barings Crisis of 1890 Revisited. Macroeconomic Theory Workshop, Rutgers University, February 13.

Available at: <https://economics.rutgers.edu/downloads-hidden-menu/news-and-events/workshops/macroeconomic-theory/1747-eugenewhitefeb12/file>.

Willis, H. P., & Beckhart, B. H. (eds.), *Foreign Banking Systems*, 955-1010. New York, NY: Henry Holt and Company.

UNITED STATES

Andrews, D., Prescott, C., Mah, S. K., & Dias, B. (2005). Fitch Bank Failures Study 1990-2003. Special Report. Fitch Ratings.

Bordo, M. D., Dueker, M. J., & Wheelock, D. C. (2002). Aggregate price shocks and financial instability: A historical analysis. *Economic Inquiry*, 40(4), 521-538.

Bordo, M., & Landon-Lane, J. (2010). The banking panics in the United States in the 1930s: some lessons for today. *Oxford Review of Economic Policy*, 26(3), 486-509.

Carlson, M. (2005). Causes of Bank Suspensions in the Panic of 1893. *Explorations in Economic History*, 42(1), 56-80.

Conant, C. A. (1915). *A history of modern banks of issue*. GP Putnam's sons.

Duca, J. V. (2013). Subprime Mortgage Crisis, 2007-2010. Federal Reserve History. Available at: https://www.federalreservehistory.org/essays/subprime_mortgage_crisis.

Fleming, M. & Liu, W. (2013). Near Failure of Long-Term Capital Management, September 1998. Federal Reserve History. Available at: https://www.federalreservehistory.org/essays/lbcm_near_failure.

Goodhart, C. (1995). *The central bank and the financial system*. Springer.

Jalil, A. J. (2015). A new history of banking panics in the United States, 1825-1929: construction and implications. *American Economic Journal: Macroeconomics*, 7(3), 295-330.

Kemmerer, E. W. (1911). American banks in times of crisis under the national banking system. *Proceedings of the Academy of Political Science in the City of New York*, 1(2), 233-253.

Lucas, D. (2019). Measuring the cost of bailouts. *Annual Review of Financial Economics*, 11, 85-108.

Moen, J., & Tallman, E. (1990). Lessons from the Panic of 1907, *Economic Review*, 75, 2-13. Federal Reserve Bank of Atlanta .

Odell, K. A., & Weidenmier, M. D. (2004). Real shock, monetary aftershock: The 1906 San Francisco earthquake and the panic of 1907. *The Journal of Economic History*, 64(4), 1002-1027.

Office of the Comptroller of the Currency (1932). Annual Report of the Comptroller of the Currency: December 7 1931. Document No. 3046, Treasury Department. Washington: Government Printing Office.

Roberts, R. (2013). *Saving the City: the great financial crisis of 1914*. Oxford University Press.

Schwartz, A. J. (1987). Real and pseudo-financial crises. In Schwartz, A. J. (ed.). *Money in historical perspective*, 271-288. University of Chicago Press.

Rockoff, H. (2018). It is Always the Shadow Banks: The Regulatory Status of the Banks that Failed and Ignited America's Greatest Financial Panics. In: Rockoff, H., & Suto, I. (eds.), *Coping with Financial Crises*, 77-106. Singapore: Springer.

United States Government Accountability Office (2013). Financial Institutions: Causes and Consequences of Recent Bank Failures. Report to Congressional Committees, No. GAO-13-71. Available at: <https://www.gao.gov/assets/660/651154.pdf>.

Ugolini, S. (2017). *The evolution of central banking: theory and history*. London: Palgrave Macmillan UK.

Walton, G. M., & Rockoff, H. (2017). *History of the American economy*. 12th edition. Cengage Learning.

Westernhagen, N., Harada, E., Nagata, T., Vale, B., Ayuso, J., Saurina, J., ... & Peristiani, S. (2004). *Bank Failures in Mature Economies*, Basel Committee on Banking Supervision Working Papers, No. 13. Bank for International Settlements.

VENEZUELA

Cancel, D., & Pons, C. R. (2010). Venezuela Seizes Banco Federal for 'Grave' Weakness. Bloomberg Businessweek, News article, June 14. Available at: <https://web.archive.org/web/20100722061948/http://www.businessweek.com/news/2010-06-14/venezuela-seizes-banco-federal-for-grave-weakness-update2-.html>.

Jácome, L. I. (2008). Central Bank Involvement in Banking Crises in Latin America. International Monetary Fund Working Paper, No. 08/135. Washington, DC: International Monetary Fund.

Jácome, L. I., Sedik, T. S., & Townsend, S. (2012). Can emerging market central banks bail out banks? A cautionary tale from Latin America. *Emerging Markets Review*, 13(4), 424-448.

Laeven, M. L., & Valencia, M. F. (2018). Systemic banking crises revisited. IMF Working Paper, No. 18/206. Washington, DC: International Monetary Fund.

Romero, S. (2009). Venezuela takes greater control of banks. The New York Times. Newspaper article, December 06. Available at: <https://www.nytimes.com/2009/12/07/world/americas/07venez.html>.