The present thesis is the first comprehensive analysis of the Swiss regional banks’ crisis of the 1990s. It challenges the existing common narrative of the crisis with regards to two main points: Firstly, it proposes that the crisis did not start in 1991 with the closure of the Savings & Loan Bank Thun, but earlier, in 1990. This in agreement with two recent chronologies of banking crises and further evidence presented. Secondly, it questions the function of real estate prices and proposes that real estate prices amplified the ongoing crisis rather than triggered it. The strict theoretical succession of interest rate increase(s), real estate price declines, high amortization due to credit defaults and financial instability in the style of the Great Financial Crisis is viewed as rather misleading and inadequate to describe the crisis. Instead, a deferred restructuring was triggered by the interest rate hikes through more direct transmission channels than the real estate price declines, which were only significant from 1992 on, and amplified the crisis rather than caused it. Since access to restricted documents was [...]
The Swiss Regional Banks’ Crisis: The First Comprehensive Case Study, Questioning The Common Narrative

Master’s thesis

Geneva School of Social Sciences
University of Geneva

Under the supervision of Dr. Gianandrea Nodari

Author: Jan Gygax
Master program: Political Economy of Capitalism
No.: 11-521-820
Address: Rue Cramer 2
1202 Genève
E-Mail: jangygax@bluewin.ch
Date: 26.01.2022
Abstract

The present thesis is the first comprehensive analysis of the Swiss regional banks’ crisis of the 1990s. It challenges the existing common narrative of the crisis with regards to two main points: Firstly, it proposes that the crisis did not start in 1991 with the closure of the Savings & Loan Bank Thun, but earlier, in 1990. This in agreement with two recent chronologies of banking crises and further evidence presented. Secondly, it questions the function of real estate prices and proposes that real estate prices amplified the ongoing crisis rather than triggered it. The strict theoretical succession of interest rate increase(s), real estate price declines, high amortization due to credit defaults and financial instability in the style of the Great Financial Crisis is viewed as rather misleading and inadequate to describe the crisis. Instead, a deferred restructuring was triggered by the interest rate hikes through more direct transmission channels than the real estate price declines, which were only significant from 1992 on, and amplified the crisis rather than caused it. Since access to restricted documents was not granted by the Swiss financial market supervisory authority FINMA, the paper mainly draws on existing literature, newspaper articles and data of the Swiss National Bank (SNB).
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1. Introduction

The regional banks’ crisis, an accelerated consolidation period in the Swiss banking industry over seven years, was the worst economic crisis in Switzerland since the end of World War II. Switzerland saw inflation rates of between 3% and 6% in the years 1989-1993, an increase of unemployment by about 4 percentage points from 1990 to 1993 and negative real GDP growth in the period 1991 to 1993 followed by another three years of stagnation; these metrics illustrate the severity of the crisis. It is all the more surprising that relatively little literature has engaged with this banking crisis in Switzerland, given the preeminent role of the banking sector in the Swiss economy.

A master’s thesis cannot fill the gap of research on this particular crisis. But hopefully, this paper will spur a renewed interest and discussion about the nature, dynamics, and ultimately, the different catalysts of the Swiss regional banks’ crisis. This thesis presents evidence that challenges the existing narrative of the crisis with regards to the start of the crisis and the role of real estate prices. Since the extent is more comprehensive than existing literature, it also provides a lot of background information from newspaper articles to gain a more complete overview of the crisis.

The first section (2.) discusses the role of banks in general with some technical background information on the role as intermediaries and creators of money and situates the crisis in international and national literature. Section three gives a descriptive overview of the developments in the banking industry, which is complemented by the narrative of the existing literature in section four. The last part of the latter refers two inconsistencies of the narrative, namely the closure of the Savings & Loan Bank Thun (SLT) as a starting date and the moment and extent of real estate price declines. The fifth and last section provides an adjusted narrative of the crisis with regard to these two inconsistencies.

This adjusted narrative attributes an important role to the real estate sector, but differs from the official narrative of a real estate price decline in which the collapse of the Savings & Loan Bank Thun in October 1991 is seen as the start of the banking crisis. Rather, the adjusted narrative argues that the restructuring of the banking sector, which occurred in a period of liberalisation with the dissolution of cartel agreements, and a simultaneously interest rate shock in 1989, had adverse effects on Swiss banks that triggered the crisis in 1990 before prices in real estate declined significantly (from 1992 on). In contrast to bigger banks, the regional banks could not compensate losses with other income streams. Neither were they backed with cantonal
guarantees as the cantonal banks. Or, in the case of the canton of Bern and Solothurn, only in the beginning of the crisis because their cantonal banks soon experienced financial difficulties themselves.

### 2. Banking and crises

**Banks as intermediaries and creators of money**

In literature, textbooks, and academic teaching a bank is primarily described as a financial intermediary, “[...] using short-term debt to finance long-term illiquid investments [which] exposes even solvent banks to self-fulfilling panics.”¹ Even solvent and healthy banks could face liquidity problems, if depositors withdraw big amounts of their deposits, based on right or wrong information. It constitutes the classical bank run problem. On the other hand, a bank is also vulnerable to asset depreciation, because its equity in proportion to the liabilities is small by definition and nature, since it “intermediates” short-term liabilities (deposits), not equity, and long-term assets.

There is an intermediation of newly acquired deposits into assets, but an important fact is often neglected in textbooks: Credits are not intermediated deposits! As McLeay et al. (2014) explain and Werner (2015) proofed, deposits or money respectively, are/is created as the credit is granted and booked.² It is an enlargement of the balance sheet with the credit on the asset side and deposits on the liability side. In aggregate, it leads to what the better-known concept of the money multiplier tries to capture for the banking system as a whole. This money creation through credits is the reason why our money system is a dual system: the central banks create the smaller part of money (central bank reserves of commercial banks as well as notes and coins) and commercial banks create the bigger part, which is book-entry money. Therefore, we need to differentiate: Non-credit assets are intermediated deposits. The bigger part, credits/loans, however, are created, not intermediated!

This is especially notable for Savings & Loans banks, because the common understanding is that they acquire deposits and then lend it mainly as mortgages as their core business, but this is mistaken. Rather, they create the deposits by credit-granting and mainly need to care about a

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deposit net-flow of $0^3$ to enable their loan activities without running in liquidity shortages. They do not need to acquire deposits or other financing means to the extent of new (net) credits, since the latter are not mitigated, but created.

The following figure illustrates this creation process by means of a single transaction involving two stylised bank balance sheets. A buyer buys a house from a seller and finances it with a (new) loan from his bank. The point of origin are the stylised balance sheets of the buyer’s and seller’s bank on the left side of figure 1 before the loan is booked. When the first bank grants the loan to the buyer, it creates money by enlarging the balance sheet as illustrated in the middle of figure 1: the loan is booked as an asset, because it is supposed to be paid back (or replaced by a new loan) in the future, and as new deposits on the buyer’s account on the liability side of the bank’s balance sheet. These newly created deposits are used to buy the house and hence transferred to the account on the seller’s bank in the illustration on the right side of figure 1. The buyer’s bank is left with the same stylised balance sheet as originally, except that the new loan replaced central bank reserves that were transferred to the seller’s bank. The newly created money is finally at the seller’s bank in the form of an enlarged balance sheet with more reserves on the asset side and more deposits on the liability side.

![Changes to the balance sheets of the house buyer and seller's banks](image)

*Figure 1 Money creation for an individual bank making an additional loan (mortgage), McLeay et al. (2014)*

The seller’s bank with this theoretical single transaction experienced an inflow, the buyer’s bank an outflow of liquidity. In practice, every bank is a buyer’s and seller’s bank at the same time and needs to find a balance between credit and other activities in order to stay within the targeted liquidity band.

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3 A mortgage e.g. is used to pay a house and if that payment goes to another bank, as illustrated in figure 1, it is an outflow. If a payment comes from another bank, it is an inflow. Of course there are automated clearing houses that do that clearing for banks every day.
The reason for this explanation is to illustrate that the monopoly of money creation is the crucial feature of a bank compared to other financial actors, who in contrast do intermediate (and not create) money when granting credits. The majority of loans are allocated in the real estate sector. The fact that credit granting does not require (new) deposits, but apart from the limits mentioned by McLeay et al. (2014) merely a book-entry, might help understand why the Swiss regional banks were able to extend their mortgage volume by 71% between 1985-1990\(^4\) (Savings & Loan Bank Thun even by 94\%\(^5\)). This in a period where they faced rising competition mainly from big banks. In such an environment it would have been impossible to attract additional deposits within six years to finance an increase of mortgages by 71%. Instead, such an extension of mortgages was possible because certain so-called “limitations” (e.g. market forces and risk mitigation) for granting credits do not actually limit banks at the time when decisions are made. More credits are more profitable in the short term, because interest payments are a direct income. Only later defaults can incur the losses that constitute the major credit risk which was too often underestimated in history.

Additionally, the accumulating risks related to excessive credit granting is not an issue pertaining to a single bank but of the system as a whole. Any one bank has the financial incentive to grant as many (non-defaulting) loans as possible and an interest that other banks grant as few loans as possible. This because the fewer are granted in total, the lower is the risk of a bubble and hence default for any one bank’s own loans. The moment of truth, whether a bank has been managed sustainable or not, is crisis. They usually reveal past mistakes, where too much risk has been taken.

**Banking crisis definitions and chronologies**

There is no single definition of a banking crisis. One well-regarded chronology of historical financial crises is Reinhart and Rogoff (2009). Similar to Caprio and Klingebiel (2002) (though much more comprehensive), they categorise two types of banking crisis with the following definitions: (1) “bank runs that lead to the closure, merging, or takeover by the public sector of one or more financial institutions (systemic crisis) and (2) if there are no runs, the closure, merging, take-over, or large-scale government assistance of an important financial institution (or group of institutions) that marks the start of a string of similar outcomes for other financial institutions (financial distress)”\(^6\). As the IMF with its Systemic Crisis Database, Laeven and

\(^4\) Swiss National Bank (SNB), Swiss banks report 1991, p. 46  
\(^5\) Der Bund, Band 142, Nummer 239, October, 12, 1991, „30000 Franken pro Sparheft und Konto sind garantiert”  
\(^6\) Reinhart, Carmen M., Rogoff, Kenneth S., 2009, „This time is different: Eight Centuries of Financial Folly“, Princeton University Press, table 1.2, p.11
Valencia (2013) built a banking crises database limited to systemic crises. They use an events definition similar to Reinhart and Rogoff’s (1), but add a second criteria. They use “significant banking policy intervention measures in response to significant losses in the banking system” to mark a systemic banking crisis. Demirgüç-Kunt, and Detragiache (2005) are others who focus on systemic crises, while Schularick and Taylor (2012) focus on the role of credit cycles and code crises following Reinhart and Rogoff (2009) and Bordo et al. (2001).

Romer and Romer (2017) measure financial distress on a scale between 0-15, but detect basically the same crises as Reinhart and Rogoff (2009). Although often comprehensive, the so far mentioned chronologies of banking crises do not include the Swiss regional banks’ crisis, obviously because the latter does not meet the criteria. Neither was this crisis systemic, nor was there a significant contagion to other, e.g. big banks, or were there significant banking policy intervention measures.

A recent chronology using a new approach, however, does include the Swiss regional banks’ crisis. Baron et al. (2021) identify crises based on the criteria of a bank equity crash defined by an annual bank equity decline of more than 30%. Additionally, they separate these bank equity crashes into panic and non-panic episodes based on narrative evidence. They find that panics are not necessary for banking crises to have severe economic consequences and that panics tend to be preceded by large bank equity declines, “suggesting that panics are the result rather than the cause, of earlier bank losses”. With their bank equity criteria they provide a comprehensive chronology of financial distress in the banking sectors of different countries.

The most comprehensive and recent chronology, which takes into account 494 crisis mutually covered by Reinhart and Rogoff (2009), Schularick and Taylor (2012), Laeven and Valencia (2020) and Baron et al. (2021) as well as 408 additional crisis, is not a chronology of crisis, but of government interventions with “the main purpose of stabilizing the financial sector”. This because the authors Metrick and Schmelzing also wanted to cover through government intervention prevented or attenuated crisis. They made three entries of the Swiss regional banks’ crisis in their list of interventions in appendix C: a general one mentioning

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recapitalizations and restructurings (of cantonal banks) by cantons, the establishment of regional banks’ crisis fund in 1992 with a SNB contribution of CHF 30 million and the canton of Vaud extending full guarantee to Banque Vaudoise de Credit to prevent closure and the integration into the Banque Cantonal Vaudoise in 1993.11

The identification of a crisis is one thing, to date the start of a crisis another. According to Laeven and Valencia (2013), this is a complex matter because the banking crises vary in how they develop.12 “For these reasons, the dating of banking crises has traditionally relied primarily on the identification of “events” or subjective criteria to determine when a banking crisis takes place (for example, Caprio and Klingebiel, 1996; Caprio, Klingebiel, Laeven, and Noguera, 2005; and Reinhart and Rogoff, 2009).”13 These subjective criteria are the reason for different starting dates in literature, as Romer and Romer (2017) state: “The Reinhart and Rogoff start dates for crises tend to be decidedly earlier than the IMF start dates, and often before our new measure identifies any rise in financial distress.”14

In accordance with Laeven and Valencia’s statement cited above, the start of the Swiss regional banks’ crisis in literature by Swiss authors is usually indicated with the year 199115, when the Savings & Loan Bank Thun (SLT) was closed. Baron et al. (2021), in contrast, indicate 1990 as the starting date of the Swiss regional banks’ crisis, due to a bank equity decline of more than 30%.16 They mark it as a “panic banking crisis” based on their “narrative evidence”, which is clearly overstated. The run on the SLT after its closure through the Swiss Federal Banking Commission does not qualify as a classical bank run which brings a bank (or several banks and eventually the system) in trouble, because it happened after the bank was already closed.17 This is in accordance with the authors’ (Baron et al.) statement, that panics happen after bank equity crashes, but in this case there was no contagion with runs on other banks and so it was more of a shock than a panic.

15 see table 1 on the next page; Staub is the only Swiss author implicitly indicating an earlier starting date.
17 see e.g. Gygax, Jan, 2021, „The Collapse of the Savings & Loan Bank Thun in the Year of its 125th Anniversary (1991)“, GRIN Verlag, München, p.13
Metrick and Schmelzing (2021) even indicate 1987 as the starting date of the Swiss regional banks’ crisis for their three records in appendix C. This without any explanation and as I will show, too early a date. The following table gives an overview of what is, to the knowledge of this author, the main literature, including an account of this particular banking crisis. The accounts vary between few sentences/records and several pages. BIS (2004) and SNB (2007) with 5.5 and 6 pages contain the most cited presentation of events.
<table>
<thead>
<tr>
<th>Author(s) &amp; year of publication</th>
<th>Title</th>
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<th>Approx. extent</th>
<th>Indicated starting date/period</th>
<th>Remarks</th>
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<tr>
<td>Meier 1997</td>
<td>Lessons from losses in the Swiss credit business*</td>
<td></td>
<td>“12” pages (pp.17-31)</td>
<td>–</td>
<td>Only a very short paragraph about the structural changes in the Swiss bank sector. In general, about credit losses of all banks and not specifically about regional (and cantonal) banks.</td>
</tr>
<tr>
<td>Staub 1998</td>
<td>The term structure of interest rates and the Swiss regional bank crisis</td>
<td>Swiss</td>
<td>4 pages (counted are only the first part of the introduction and the conclusion, since not more data is provided on the regional banks’ crisis)</td>
<td>‘1989’ (“problems of many regional banks followed the inversion of the term structure after 1989”, p.655)</td>
<td>“Analyses relationship between term structure of interest rates and problems in the regional bank sector” (p.676, regression of probability of failure on different measures of the term structure -&gt; ambiguous results)</td>
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<tr>
<td>BIS 2004</td>
<td>Bank failures in mature economies (The Swiss Case)</td>
<td></td>
<td>5.5 pages (pp.43-49)</td>
<td>1991-1996</td>
<td>First study providing a description of the crisis and hence much-quoted.</td>
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<td>Source</td>
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<td>Bodmer 2004</td>
<td>Extent and reasons of the economic crisis of the 90s*</td>
<td>4 sentences (p.9)</td>
<td>Reasons for the recession/stagnation not seen in the credit boom and bust, but in CH not joining the European Economic Area in 1992, lag in deregulation and a restrictive monetary and fiscal policy. At least it is admitted that bank problems were “a first reason for the severity and length of the recession”.</td>
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<tr>
<td>SNB 2007</td>
<td>The Swiss National Bank 1907-2007</td>
<td>6 pages (pp. 394-399)</td>
<td>Most comprehensive description of the crisis (notably including the problems of several cantonal banks). The quote on the left is a severe misstatement! Property prices did not fall by 20% in 1991!</td>
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<tr>
<td>Baumann &amp; Rutsch 2008</td>
<td>Swiss banking – how to go on? - Rise and transformation of the Swiss financial sector*</td>
<td>4 pages (pp.96-99)</td>
<td>No additional value to previous accounts.</td>
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|-----------------|-----------------------------------|--------------------------------------|-----------|-------------------------------------------------
| **Jans et al.** 2018 | Crisis-proof Swiss banks? The regulation of owner’s equity, liquidity and “too big to fail”* | Swiss | 4 pages (pp. 413-416) | 1991-1996 | Successful synthesis/summary of previous literature following Mauchle’s structure and ideas. (Mauchle not in references!) |
| **Baron et al.** 2021 | Banking crises without panics | International | Record in crises chronology (p.104) | 1990 | see text |

*freely translated from German, †non explicit indication of starting date/period (with implicit indication in brackets)

Table 1: (Major) literature including the Swiss regional banks’ crisis
The Swiss regional banks’ crisis in international comparison

The third international account besides Baron et al. (2021) and Metrick & Schmelzing (2021) that includes the Swiss regional banks’ crisis in a cross-country comparison is Basel Committee on Banking Supervision’s (Bank for International Settlements BIS) Working Paper No. 13 “Bank Failures in Mature Economies” (2004).18 “The Swiss Case” (p.43-48) was (co-)authored by Swiss Professor Suzanne Ziegler19 and is the first (not counting Meier 1997 and Staub 1998) and most-cited account of the Swiss regional banks’ crisis.

In 2004, bank failures in mature economies were viewed as unusual. Only after the Great Financial Crisis in 2008, it became clear that banking crises, in contrast to other financial crises, remains a recurring problem everywhere. “They are an equal-opportunity menace, affecting rich and poor countries alike.”20

Reinhart and Rogoff (2009) according, to their preface, provide a “quantitative history of financial crises in their various guises” with the basic message: “We have been here before. No matter how different the latest financial frenzy or crisis always appears, there are usually remarkable similarities with past experience from other countries and from history.” Similar to Schularick and Taylor (2012), they identify “excessive debt accumulation” as the “one common theme” of financial crises and remind every economist of Minsky’s Financial Instability Hypothesis.

The purpose of an economic theory such as Kindleberger’s, who built on Minsky, is to generalize so that it can be applied to as many cases as possible. However, every crisis is unique and needs to be examined in detail to understand it in the best way possible. This is a process and new research can question the previous narrative as was recently the case in the French banking crisis during the Great Depression.21 In a similar way, this thesis exhibits inconsistencies and questions the starting date of the Swiss regional banks’ crisis and the role of real estate prices in existing literature.

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19 see ‘Contributing authors’ before table of contents in Working Paper No. 13
20 Reinhart, Carmen M., Rogoff, Kenneth S., 2009, „This time is different: Eight Centuries of Financial Folly“, Princeton University Press, preface
The uniqueness of thirteen G10 crises in the last three decades of the 20th century is illustrated in table 2 on the next page, which was taken from the mentioned BIS Working Paper No. 13, where eighteen types of characteristics are compared for the five categories of risk and shock type, the impact on the banking system, crisis resolution and regulatory impact. While eleven of the thirteen compared crises were related to a credit risk exposure, the differences in the other categories are much wider and the combination of the characteristics makes each case unique. Nevertheless, there are similarities: the Small Banks crisis in the United Kingdom in the years 1991 and 1992 for example, exhibits the same characteristics as the Swiss regional banks’ crisis except for the systemic risk, crisis resolution and regulatory impact. Indeed, the cyclical credit losses remind of the Swiss regional banks’ crisis, but the erosion of capital ratios from high levels well above the 8% Basel minimum until June 1991 and the run on deposits constitute rather big differences. Each country has its own policy framework, economic events and structure and for these reasons, this thesis does not bring in many comparisons with other crises that happened internationally, but focuses on the Swiss regional banks’ crisis.

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### Summary of G10 banking crises

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<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>One bank</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Systemic risk</td>
<td>X</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
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</tr>
<tr>
<td><strong>Crisis resolution</strong></td>
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<td></td>
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<tr>
<td>Speed of resolution</td>
<td>quick</td>
<td>quick</td>
<td>quick</td>
<td>slow</td>
<td>quick</td>
<td>quick</td>
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<td>quick</td>
<td>slow</td>
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</tr>
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<td>Mainly closures</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Main type of support</td>
<td>private</td>
<td>public/private</td>
<td>X</td>
<td>private/public</td>
<td>X</td>
<td>X</td>
<td>public/private</td>
<td>public/private</td>
<td>public</td>
<td>public</td>
<td>public</td>
<td>public</td>
<td>public</td>
</tr>
<tr>
<td>Fiscal cost of resolution (%)</td>
<td>&lt;1</td>
<td>5</td>
<td>Nil</td>
<td>0.007</td>
<td>Nil</td>
<td>Nil</td>
<td>3.1</td>
<td>4.0</td>
<td>(a)</td>
<td>.0003</td>
<td>2.1</td>
<td>Nil</td>
<td>Nil</td>
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<tr>
<td>Regulatory changes</td>
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<td>✓</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
</tbody>
</table>

**Notes:** X denotes no or not a cause of failure. Nil denotes that the failure cost was either zero or close to zero.
(a) The Japanese Financial Services Agency reported that Japanese banks held ¥40.1 trillion ($342 billion) in non-performing loans as of September 2002.

Table 2: Summary of G10 banking crises, BIS (2004)
Swiss literature from after 2008 (Mauchle (2014) and Jans et al. (2018)), summarizes the US subprime crisis and the Japanese crisis of the 90s, as well as the Swiss regional banks’ crisis. In contrast to this thesis, they compare the three country cases and infer a simple synthesis.\(^{23}\) Mauchle (2014) as well as the reprint in Jans et al. (2018) identify the simple five sequence “model” in the following for the three crises:

1. raising real estate prices in a low interest period;
2. generous bank lending during an economic and real estate boom;
3. decreasing real estate prices after an interest rate increase by the central bank;
4. high amortization in the banking system due to credit defaults;
5. instability of the financial system.

The commonalities of the three crises with the boom and bust of real estate prices are straightforward, but it is exactly this similarity that could have contorted the narrative of the regional banks’ crisis in Switzerland.

While all of the five points are relevant, the succession of decreasing real estate prices, credit defaults, high amortization and financial instability, in light of evidence that will be presented in the following sections, is not adequate in the Swiss case. The real estate price declines occurred only after the closure of the SLT, when the crisis was already ongoing, as the data in part 4 will illustrate. This is a good example how a generalized simplistic “model”, though true to some extent, can be misleading. Notwithstanding that the developments on the real estate markets are the key feature of the three mentioned crises and constitute a notable similarity, each case needs to be analysed separately to result in a consistent narrative. For example, there are specific characteristics of a small banking country such as Switzerland that contrasts to the US (subprime) and Japanese crisis insofar as the crisis was limited to small regional (and some cantonal) banks.

Big banks were able to compensate their losses, which were bigger compared to regional and cantonal banks in absolute and relative terms, thanks to their (also geographically) diversified activities.\(^{24}\) Another major difference to the other two crises apart from the obvious very unequal magnitude is that the Swiss regional banks’ crisis was partly an accelerated restructuring after a liberalisation and dissolution of cartel agreements. In this regard, it is better

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\(^{23}\) Mauchle, Yves, 2014, „Systemrisiko aus dem Hypothekargeschäft“, in Schweizer Schriften zum Finanzmarktrecht, Band 112, p. 309, Schulthess Verlag

comparable to the US Savings & Loan crisis, although the related problems lasted much longer than the Swiss crisis. In the former case, the restructuring was deferred due to other reasons than in the latter case; notably lack of resources to resolve insolvent institutions, reduced capital standards and higher deposit insurance coverage that enabled unsustainable attraction of deposits (and growth) even for troubled or insolvent institutions.\textsuperscript{25}

Savings institutions, be it in the case of the US or the Swiss regional banks, are especially vulnerable to increases of the interest rate, because the long-term fixed-rate mortgages cannot be adjusted in the short-term. Staub (1998) however found a lack of robust econometric results for the term structure influence indicating “that other factors have played an important role in determining whether a Swiss regional bank survived the considered time interval (1987-1994) or not”.\textsuperscript{26} He mentions the quality of loan management, which is consistent with the statements of the Swiss Federal Banking Commission regarding the case of the SLT.\textsuperscript{27}

In order to understand why the regional banks’ crisis is named after regional banks, the next section will give an overview of the different bank groups and the accelerated restructuring during the crisis.

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3. The Swiss banking industry of the time

Characteristics of the Swiss banking sector

A key feature of the Swiss banking system was, and still is, its segmentation.\textsuperscript{28} There were 493 banks operating in Switzerland as of end 1988, of which 116 were foreign controlled.\textsuperscript{29} The Swiss National Bank (SNB) classifies banks operating in Switzerland into five highly heterogeneous segments.\textsuperscript{30} No explicit criteria is applied for this classification.\textsuperscript{31}

1) Big banks constitute the first and internationally most known group. Still five at the time, they later merged to the two remaining big banks United Bank of Switzerland

\textsuperscript{25}Savings and Loan Crisis | Federal Reserve History, retrieved September, 23, 2021
\textsuperscript{27}see e.g. Gygax, Jan, 2021, „The Collapse of the Savings & Loan Bank Thun in the Year of its 125th Anniversary (1991)“, GRIN Verlag, München, pp. 14-17
\textsuperscript{29}Swiss National Bank (SNB), Swiss banks report 1988, p.21
\textsuperscript{31}Schweizerische Nationalbank (SNB) - Glossar, retrieved October, 8, 2021
(UBS) and Credit Suisse (CS). The five were already large and complex universal financial institutions that operated globally and offered a wide range of products. At the end of 1988, 50% of the balance sheet sum as well as employees among Swiss banks could be attributed to these five big banks.

2) Cantonal banks: 29 institutions that were in part or fully owned by the 26 cantons of Switzerland made up this group in 1988 (Geneva, Vaud and Bern each with two institutions that merged to one bank per canton during the crisis). Similar to the cantons, the banks differed massively in size. While the larger cantonal banks had a lot in common with the big banks, the middle-sized and smaller institutes were rather comparable to regional banks. Even though their focus was still the saving and mortgage business, the cantonal banks were mostly universal banks and accounted for 18.6% of Swiss banks’ balance sheet sum as of end 1988. Some of the big cantonal banks were and are active abroad (e.g. Zürcher Kantonalbank ZKB, which the SNB labelled systemic relevant in the last decade together with UBS, Credit Suisse, Postfinance and Raiffeisen).

3) Regional and savings banks: 213 of them were counted in 1988. Over time, this group had also followed the trend to universal banks with a wider range of activities. That is why they had come to share similarities with cantonal banks, though with differences in the legal form (mostly private stock companies, but also cooperatives) and in the usually geographically narrower area of activity. They were disproportionately high represented in the large and regionally diversified canton of Bern and accounted for 8.5% of Swiss banks’ balance sheet sum in 1988.

4) Raiffeisen group and Fédération Vaudoise des Caisses de Crédit Mutuel: these 2 credit cooperatives with more subsidiaries than any of the other mentioned groups but compared modest balance sheet sums in 1988, focus(ed) on mortgage lending in rural areas. Fédération Vaudoise des Caisses de Crédit Mutuel joined Raiffeisen in 1994, which has been expanding into the cities in the last decades.

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33 Swiss National Bank (SNB), Swiss banks report 1988, pp.22-23
35 Swiss National Bank (SNB), Swiss banks report 1988, p.53
36 Swiss National Bank (SNB), Swiss banks report 1988, p.53
37 Swiss National Bank (SNB), Swiss banks report 1994, p.B39
5) Private, brokerage and foreign banks: these banks were/are engaged primarily in portfolio management.³⁸

Postfinance, the state-owned bank (with systemic relevance according to SNB criteria), received its bank licence only in 2013 and was hence not counted as a bank and bank group at the time of the regional banks’ crisis.

**Restructuring of the banking industry**

The following table for the period 1984-1997 exhibits a consolidation in all bank groups, but also illustrates why the regional banks’ crisis is named after regional banks. While their number diminished constantly from 290 in 1950 over 254 in 1970³⁹ to 212 as of the end of 1988, ninety-eight, almost half of the remaining, ceased to exist in only 8 years between 1989 -1996.

<table>
<thead>
<tr>
<th>Number of banks and finance companies, 1984-97</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>84</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>Cantonal banks</td>
</tr>
<tr>
<td>Big banks</td>
</tr>
<tr>
<td>Regional banks</td>
</tr>
<tr>
<td>Raiffeisen banks</td>
</tr>
<tr>
<td>Other Swiss-owned banks</td>
</tr>
<tr>
<td>Foreign banks</td>
</tr>
<tr>
<td>Finance companies</td>
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<tr>
<td>Private banks</td>
</tr>
</tbody>
</table>


Table 3: The restructuring of the industry, Braun et al. (1999)

As graph 1 on the next page focusing on the regional banks group reveals, further regional banks merged in the period 1997-2003, but acquisitions in average remained on a moderate level. The period of the regional banks’ crisis (1990-1996) before, in contrast, was marked by acquisitions accompanied by mergers and liquidations.

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Graph 1: Regional banks: acquisitions, mergers and liquidations, SNB yearly Swiss banks reports data

The seven banks who merged in 1991 were joined to Seeland Bank and four of the six banks who fused in 1993 were merged to New Emme Bank (Neue Emme Bank). Both of these new banks were acquired in 1994 by one of the two predecessors of the UBS.\(^{40}\) Hence, the crisis period was characterized by takeovers, mainly by big banks, even though the foundation of RBA-Holding in 1994 by 90 regional banks (see also end of section) sustained the remaining regional bank sector.

Only three liquidations were registered during the crisis. The liquidation in 1989 concerned the small Savings Bank Ennenda (Ersparniskasse Ennenda) and was only formally a liquidation; the savings accounts and mortgages were transmitted to the cantonal bank of Glarus without losses.\(^{41}\) The two liquidations in 1991 can be seen as one, since the SLT and Savings & Loan Bank Niedersimmental (Spar- und Leihkasse Niedersimmental) acquired shares of each other,\(^{42}\) the SLT a majority of the latter.\(^{43}\)

The closure of the SLT by the Swiss Federal Banking Commission (SFBC) in October 1991 was without doubt the highlight of the crisis with a major impact on Swiss banking legislation.

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\(^{40}\) Schweizerischer Bankverein, see Swiss National Bank (SNB), Swiss banks report 1994, p.B37

\(^{41}\) Protocol of the extraordinary community assembly Ennenda, September, 8, 1989, p.5, available in the state archive of Glarus (Landesarchiv Glarus)


in the aftermath (see later sub-section). But as this thesis argues, the closure did not constitute the starting date of the crisis.

Most of the regional banks which disappeared between 1988 and 1996 were headquartered in the flatter and denser populated regions of Switzerland (between the two mountain chains Alps and Jura from Geneva in the West to Lake Constance in the North-East), as the map below demonstrates. Most concerned was the canton of Bern (cantonal lines are dashed and pale), notably in its North: between Bern and the lake of Biel/Bienne (Seeland) as well as around Burgdorf and Langenthal in the canton’s northeast region (e.g. Neue Emme Bank). But there were also five cases in the South of the canton, of which two were the liquidations in 1991 (SLT and affiliated bank headquartered in Wimmis, a village with two cases). The neighbouring cantons Freiburg/Fribourg, Solothurn (north of Bern) and Lucerne as well as the two North-Eastern cantons Zurich and St. Gallen also experienced a remarkable number of acquisitions and mergers of regional banks during this period, which are charted in the following map.

![Map of cancelled regional banks in Switzerland](image)


*Figure 2: Headquarters of cancelled regional banks in yearly SNB Swiss banks reports 1988-1996*
Why the canton of Bern seems to have been the starting point in 1990 and most affected by
the crisis already before the closure of the SLT remains unresolved. It is clear that its real estate
prices presented in the last part of section 4 did not develop much different than national prices.
As Switzerland’s geographically most diversified and second biggest canton, it still exhibits the
highest number of regional banks to this day.

The Swiss Federal Banking Commission (SFBC) even after the first big wave of
restructuring and the SLT shock in 1991 stated that “the network of banks is measured on the
current and future demands too dense. […] A structural adjustment and reduction in size is
inevitable […]”. This expression is corroborated by a number of statements by professionals
discovered in various documents during the research for this thesis, notably in newspaper
articles or presentation protocols.

One reason for the widely recognized backlog of restructuring in 1989 was that “banks had
restricted competition in the Swiss market for years through cartel agreements under the aegis
of the Swiss Bankers Association (SBA). These were removed in the late 1980s, partly
voluntarily and partly in response to pressure from the Cartel Commission (now known as the
Competition Commission) and a decision by the Federal Department of Economic Affairs,
supported by the Federal Supreme Court”.

The Cartel Commission decided in 1985 to take up examinations in the banking sector and
publicized the results of these examinations including recommendations in 1989. The SBA
refused the recommendations in general, but was ready to make one adjustment as of January,
1, 1990. The decisive Federal Court decision dates from October 25, 1991. This national
liberalisation led to lower prices and profit margins for Swiss banks, while an ongoing
internationalisation and standardization simultaneously increased pressure from foreign banks,
especially for big banks.

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44 10 vor 10 (srf news) from December, 18, 1990, „Berner Regionalbanken-Krise“
45 Swiss Federal Banking Commission (SFBC), annual report 1991, p.16
46 e.g. in one of only four provided documents by the federal archive: „Der Strukturwandel im schweizerischen
Bankensystem und die Raiffeisenbanken“, Vortrag von Professor Dr. Hans Schmid an den
Delegiertenversammlungen zweier Verbände der Raiffeisenbanken, April/Mai 1994, S.3-4
48 Federal Court decision 117 Ib 481, October, 25, 1991
49 Mauchle, Yves, 2014, „Systemrisiko aus dem Hypothekargeschäft“, in Schweizer Schriften zum
Finanzmarktrecht, Band 112, Schulthess Verlag, p.295
Besides intensified competition and macroeconomic developments, high investment needs in IT infrastructure facilitated the consolidation. Even regional banks that remained autonomous (were not acquired and did not merge) joined forces as a response to the crisis and higher regulatory requirements and to reach cost advantages through scale effects, notably with a common IT infrastructure. About 90 regional banks founded the RBA-Holding in 1994, a proposition of the 1971 founded Swiss umbrella organisation for regional banks.  

4. The Swiss regional banks’ crisis and its narrative

The existing narrative of the regional banks’ crisis

The most notable event of the crisis, the collapse (forced liquidation) of the Savings & Loan Bank Thun (SLT), has moulded the common narrative of the Swiss regional banks’ crisis. Mauchle’s (2014) introduction to a sub-chapter about the crisis illustrates and summarizes this narrative numerous newspaper articles and existing literature on the topic draw:

“In the first half of the 1990s, Swiss banks had to weather a severe crisis. On the one hand, the liberalization and the associated dissolution of cartel agreements threatened the less profitable banks; on the other hand, a decline in domestic property prices led to losses in mortgage business. The geographically poorly diversified regional banks were particularly hard hit. After the collapse of the Savings & Loan Bank Thun it came to a comprehensive adjustment and consolidation, which went down in Swiss economic history as the ‘regional banks’ crisis’.”

According to this narrative and the main accounts on the regional banks’ crisis (BIS 2004, SNB 2007, Mauchle 2014, Jans et al. 2018) the adjustment and consolidation started with the collapse (forced liquidation) of the Savings & Loan Bank Thun (SLT) in October 1991 and ended in 1996. According to them, the SLT was the first who ran into refinancing problems and was closed due to indications of insolvency by the SFBC in October 1991. The crisis of the other regional banks only followed afterwards in their narrative. In the mentioned literature and various newspaper articles, the SLT is seen as the Lehman Brothers of the Swiss regional banks’ crisis, as it was recently again described in an article in summer 2021. This is in accordance

50 www.entris-holding.ch/ueber-uns/geschichte/
51 freely translated from German, Mauchle, Yves, 2014, „Systemrisiko aus dem Hypothekargeschäft“, in Schweizer Schriften zum Finanzmarktrecht, Band 112 Schulthess Verlag, p. 295
with Laeven and Valencia’s (2013) statement that the dating (starting date) of a crisis has traditionally relied on events or a subjective criteria. The prominent role of the SLT is understandable when it is considered that it was the only case of the crisis that led to losses for creditors. Nevertheless, this is a major inconsistency of the narrative, which will be elaborated upon in a later section.

Next to the structural particularities treated in section 3, macroeconomic developments on a global and national level influenced the crisis. The interaction and causalities between them and the banking sector were reciprocal, which is one reason why research on the crisis and economic research in general is so complex. The crisis is summarized along these macroeconomic developments drawing mainly from existing literature in the following section, starting with the build-up of the crisis.

The years 1983 - 1990 constituted a boom phase for the Swiss economy (see graph 4 in the next sub-section), enhanced official discount rates of 4%, which were relatively low for the time, at the end of the years 1983-1986. In 1987, after the stock exchange crash in the USA, the discount rate was lowered to extraordinary low 2.5% and raised by one percentage point to 3.5% at the end of 1988 (see table 5 in section 5). During the year 1989, it was raised to 6%, and during 1991 it was raised even higher to 7% due to inflation levels above 5% in 1990 and 1991 (see graph 4 in the next sub-section).

The overheating of the economy in the second half of the 1980s and the low interest rates had resulted in spiralling property prices. Banks were responsible for the latter since they traditionally play a prominent role in real estate financing in Switzerland. As the SNB publication (2007) including the regional banks’ crisis stated: “The property boom was at once the cause and the result of rapid expansion in bank lending. On the one hand, higher prices enabled borrowers to borrow larger amounts; on the other, the additional loans fuelled demand for real estate and pushed up prices”

The mortgage volume grew massively from 1981 to 1991, as illustrated in graph 2 below, first because interest rates were favourable until 1989 and then...
secondly, because real estate was perceived as a safe investment alternative after the stock exchange crash in 1987.


There exists no composite real estate market price index for Switzerland, but there are sub-indices, notably the single home and owner-occupied flat prices indices.59 As graph 3 on the next page exhibits, the two indices peaked end 1989 (Q4), beginning 1990 (Q2) respectively, and remained high until 1991 (small peak in Q3) Afterwards they continuously fell until 1999, more than 20% till the end of the regional banks’ crisis in 199660. It constitutes a classical boom and bust cycle, often observed in national real estate sectors.61

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60 Swiss National Bank (SNB), real estate price indices, retrieved March, 23, 2021, from https://data.snb.ch/de/topics/uvo#!/cube/plimoinchq
61 see e.g. International Monetary Fund, 2020, „Discerning Good from Bad Credit Booms: The Role of Construction“, IMF staff discussion note
Graph 3: Swiss real estate price indices 1981-1999, SNB data (see section 8)

Many borrowers faced rising interest rates just as revenues were contracting following the cyclical downturn (1991-1993 were recession years, see graph 4 in the next sub-section). As a consequence, the proportion of non-performing loans on the banks’ books increased, since the falling real estate prices and high lending limits implied that the collateral no longer covered the total amount of mortgages. When the real estate (collaterals) were sold, oversupply and lower demand due to high interest rates enhanced the decrease in real estate prices.

Parallel to the interest rate hike by the SNB, three resolutions by the state concerning land rights became effective on October, 6, 1989. They had the main goal of attenuating speculation and lowering demand for real estate.\(^2\)

The regional banks were especially vulnerable to these developments due to structural challenges, undiversified assets as well as income streams, and the high exposition to the real estate market. Unlike the big banks and larger cantonal banks, they had hardly any revenues from other operations that could be used to offset losses on their mortgage and property financing business.\(^3\)

Due to these undiversified income streams the crisis turned out more severe for regional and some cantonal banks, even though big banks experienced much higher losses, not just in absolute but also relative terms. As the table below exhibits, the latter had to write off about CHF 30 billion or 12.6% of their loan volume between the years 1991 and 1996, a percentage three times higher than the 4% cumulative losses in domestic loans of the regional banks for

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the same period. In light of these losses, paradoxically, the big banks were beneficiaries of the crisis in the long-term. They could increase their market share by means of the many acquisitions they executed during this time, while regional banks had to fight for their future.

![Swiss banking industry: reserves and losses on domestic lending (in CHF million)]

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<tbody>
<tr>
<td>Big banks</td>
<td>240,105</td>
<td>2,771</td>
<td>19,274</td>
<td>30,129</td>
<td>12.6%</td>
</tr>
<tr>
<td>Cantonal banks</td>
<td>188,313</td>
<td>2,243</td>
<td>6,306</td>
<td>10,536</td>
<td>5.6%</td>
</tr>
<tr>
<td>Regional banks</td>
<td>33,882</td>
<td>300</td>
<td>1,041</td>
<td>1,337</td>
<td>4.0%</td>
</tr>
<tr>
<td>Raiffeisen-banks</td>
<td>37,770</td>
<td>22</td>
<td>163</td>
<td>254</td>
<td>0.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>500,070</strong></td>
<td><strong>5,341</strong></td>
<td><strong>28,784</strong></td>
<td><strong>42,256</strong></td>
<td><strong>8.5%</strong></td>
</tr>
</tbody>
</table>

*Table 4: Swiss banks’ reserves and losses on domestic lending 1991-1996 per bank group and total, BIS (2004)*

**Resolution of the crisis**

The SFBC set up a special committee on regional banks, including representatives of major banks and delegates from the Swiss Banking Association and the National Bank.\(^{64}\) It organised “about seven cases” of takeovers for banks threatened by bankruptcy and “forced” “about twenty banks” to merge and give up their independence.\(^{65}\) Big banks in particular helped to solve the crisis by taking over weak institutions.\(^{66}\) Supposedly, this was mainly out of reputational concerns for the Swiss banking sector as a whole. As the BIS Working Paper No. 13 states: “Probably the big banks were willing to cooperate with the authorities because messy liquidations of insolvent banks might have impaired their own reputation.”\(^{67}\)

The SFBC and SNB had different views on the severity of the crisis and the necessity of public intervention. The latter “rejected all plans involving public sector financing out of hand […]”. While the SFBC, which was responsible for the supervision of individual banks,\(^{68}\) was

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afraid that mounting problems could lead to a general loss of confidence that could spread rapidly through the sector, the SNB considered the crisis not to be systemic. The regional banks accounted for only 8.3% of the Swiss banking system’s aggregate balance sheet total at the end of 1991. Those actually facing problems represented less than 3% of the Swiss banking system. 69 The SNB feared that national public sector intervention for private banks (in contrast to cantonal banks) could establish a “dangerous precedent” and was therefore keen for problems to be resolved by “market forces”. 70 In its capacity as lender of last resort, however, the SNB was prepared to provide liquidity assistance to solvent banks in an emergency. It hence agreed to provide 30 million Swiss francs in mid-1992 to refinance a crisis fund established by the Swiss Banking Association. 71 This is one of the three interventions (see p.9) recorded in the intervention chronology of banking crises by Metrick and Schmelzing (2021).

The other two records concern cantonal interventions to support their state-owned banks (“state-owned” referring to cantonal ownership). This was the case in the cantons of Bern, Geneva, Jura, Solothurn and Vaud 72, of which the Bernese cantonal bank incurred the highest loss to taxpayers (CHF 3 billion). The fiscal cost for the listed five cantonal banks combined was less than 1% of annual Swiss GDP. 73 The cantonal Bank of Solothurn, whose problems were mainly related to an acquisition of an ailing regional bank 74, was acquired by Swiss Bank Corporation (later UBS) in 1995 in a takeover subsidised by the canton. It was later sold to Bâloise Insurance. A second cantonal bank that disappeared was the one of Appenzell Ausserrhoden which was taken over by UBS at the beginning of 1997. 75

Whether the economic downturn was the result of the crisis, as presented by the literature on the regional banks’ crisis, or was due to other reasons and was only responsible for the severity and length of the recession/stagnation, as argued by Bodmer (2004); it was the worst economic crisis in Switzerland in 75 years after World War II. As the following graph 4 illustrates, the years 1991-1993 were marked by inflation, real GDP decrease and an increase in

72 Mauchle, Yves, 2014, „Systemrisiko aus dem Hypothekargeschäft“, in Schweizer Schriften zum Finanzmarktrecht, Band 112, Schulthess Verlag, p. 301
74 Bank in Kriegstetten, Neue Zürcher Zeitung (NZZ), November, 6, 2001, „Rückblick auf die Regionalbankenkrise“, Author: Prof. Dr. Ziegler, Susanne
unemployment to unprecedented levels and were followed by three years of stagnation. The low levels of unemployment before the crisis were since never reached again.

Graph 4: Swiss economic growth, inflation and unemployment 1982-2006, SNB (2007)

Regulatory responses

As a response to the regional banks’ crisis, the SFBC introduced an early information system in 1997 and the SNB created a systemic stability division in 2001. Furthermore, they both have coordinated the collection of statistical data.\textsuperscript{76}

Legal revisions made amendments to the provisions in the Banking Act\textsuperscript{77}, which were passed in 2003. The revision’s intent was “(a) more efficient liquidation, (b) maximising the chances of successful restructuring, (c) better protection of small depositors.”\textsuperscript{78} Regarding point (b), “[…] the provisions give the SFBC an almost free hand in drawing up a restructuring plan. As the final recourse, this includes compulsory conversion of debt into equity. This facilitates rapid


restructuring without having to resort to public funds.\textsuperscript{79} Small depositors’ protection was improved with the status of senior claims for the first CHF 30’000 per depositor in the event of restructuring or liquidation.\textsuperscript{80}

The amount of senior claims per depositor was increased to CHF 100’000 after the Great Financial Crisis and the “system’s upper limit (maximum amount) of the depositor protection scheme was raised […] to currently six billion Swiss francs”.\textsuperscript{81} However, the sum of all senior claims within Switzerland was notably a high three digit billion amount in 2008\textsuperscript{82} and increased since. The maximum amount of six billion Swiss francs compared to these sums seems like a drop in the ocean. “Should this amount not be sufficient to cover all claims recorded in the payment plan, then the secured deposits will be paid out proportionally.”\textsuperscript{83} If a or several banks with accumulated secured deposits exceeding six billion Swiss francs should ever need to be liquidated, then significantly less than CHF 100’000 will be insured. Since this exigency needs to be anticipated, notably also if the meanwhile installed too-big-too-fail regulations are taken seriously, it is misleading to talk of a deposit insurance of CHF 100’000 in Switzerland. This only as a side note. The following sub-sections return to the crisis period and outlay the main argument of this thesis

Inconsistencies in the existing narrative

Savings & Loan Bank Thun closure as starting point

Table 1 in section 2 illustrates that all Swiss authors making an explicit statement about the starting date (and the period) indicate the year 1991 as the start of the regional banks’ crisis. More precisely, the closure of the SLT in October 1991 is referred to as the beginning of the regional banks’ crisis (whose main cause is argued to be the turn in the real estate market). The following citations from different literature express it as follows:

“The regional banks, a group consisting of small locally based institutions ran into difficulties in the early 1990s. In October 1991, the SFBC closed Spar + Leihkasse Thun, a medium-size regional bank with assets of CHF 1.1 billion. The liquidation was accompanied by depositor losses, as the bank's assets could not cover outstanding

\textsuperscript{81} Swiss Financial Market Supervisory Authority FINMA, October, 2018, Fact sheet: “Protection of bank deposits”, p. 2
\textsuperscript{82} Tagesanzeiger, October 8, 2008, „Für die grosse Pleite wäre die Schweiz nicht gewappnet“
\textsuperscript{83} freely translated from German, Esisuisse, information flyer deposit insurance Switzerland (Kundeninformation Einlagensicherung Schweiz), p. 2, footnote 7
liabilities. This closure was followed by a ‘regional banking crisis’. Nearly half of the 200 regional banks did not survive the crisis and lost their independence.” (BIS, 2004, p. 47)

“Consequently, this episode has gone down in history as the ‘regional bank crisis’. The first bank to collapse was Spar + Leihkasse Thun, a medium-sized regional bank with total assets of just over 1 billion Swiss francs.” (SNB, 2007, p.395)

“The first bank that collapsed was the Savings & Loan Bank Thun (SLT), a middle sized regional bank.” (Baumann & Rutsch, 2008, p.97)*

“The regional banks’ crisis followed the closure of the Savings & Loan Bank Thun: about half of the original 180 regional banks disappeared from the market between 1991 and 1996.”(Mauchle, 2014, pp.299-300; repeated by Jans et. al., 2018, p.415)*

“After the liquidation of the Savings & Loan Bank Thun a comprehensive restructuring in the regional bank sector had to occur.” (Jans et. al., 2018, p. 413)*

The yearly SNB Swiss banks reports statistics and numerous newspaper articles from this time contradict this narrative. The closure of the SLT in October 1991 was the most shocking case that spread in international media and can be considered as the highlight of the regional banks’ crisis, but not the beginning. Several regional banks according to the SNB classification disappeared before the SLT, as graph 1 exhibits, which is inserted below repeatedly.

In the years 1989 and 1990 combined, 10 regional banks disappeared. In 1991, 14 further next to the SLT and the affiliated Savings & Loan Bank Niedersimmental were cancelled in the SNB statistics. 7 of the 14 merged shortly after the SLT closure (October 1991) to Seeland Bank registered in Biel/Bienne, the second biggest city in the canton of Bern.84 But the plans to merge were announced before the SLT shock85 and building on an existing cooperation.86 The other seven regional banks were acquired: four did not have financial problems87 according to bank statements cited in available newspaper articles, for two of them, there was no...

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* freely translated from German
84 Biel is famous for its watch industry. It headquarters Swatch and more than 100 other watchmakers and is the location where Rolex produces its clockworks.
87 Schweizerische Depositen- und Kreditbank in Basel, Bank in Burgdorf (canton of Bern), Banque & Caisse d’Epargne du Pays-d’Enhaut in Château-d’Oex (canton of Vaud), Spar- und Kreditkasse Wohlen bei Bern
One of the seven regional banks, however, the ‘Bank in Thun’, was acquired by the Bernese cantonal bank in spring 1991, after it had already received a guarantee by the latter in October 1990 to cover its loss risk of CHF 10 million.

Graph 1: Regional banks: acquisitions, mergers and liquidations, SNB yearly Swiss banks reports data

There were other Bernese regional banks receiving guarantees. One of them was the Savings Bank Ursenbach in December 1990, who ran into problems as a result of the risen interest rates and was backed with a CHF 3 million guarantee from the predecessor of the Bernese cantonal and another Bernese bank. It was acquired only in 1992 and hence one of the 15 regional banks that disappeared from the statistics that year. The Savings Bank of Laupen had to utilize financial help from nine regional banks due to one single write off in 1990 and was later acquired in 1993. The Savings Bank Burgdorf in February 1991 benefited from CHF 4.9 million guaranteed by the Swiss regional bank association and merged in 1993 with other regional banks. The Credit and Merchant Bank Lyss experienced financial distress and was taken over

88 Sparkasse „Biene Ebnat-Kappel (canton of St. Gallen), Sparkasse-Wüflingen-Winterthur (canton of Zurich)
already in December 1990\textsuperscript{92}, but was only formally acquired in 1993 (and thus only included in the year 1993 in the graph above).

All these accounts as well as a television news episode from December, 18, 1990, titled “Bernese regional banks’ crisis”\textsuperscript{93} indicate that the regional banks’ crisis started before the closure of the SLT in October 1991. Many of the 60 regional banks in the canton of Bern as of October 1990\textsuperscript{94} (SLT in the third biggest city of the canton was one of them), experienced problems well before 1991, even though none of them belongs to the 10 regional banks that merged or were acquired in 1989 or 1990 (SNB statistics depicted in graph 1 above). The consolidation of Bernese regional banks was prolonged until 1991. This possibly due to the guarantees granted to the Bank in Thun and Savings Bank Ursenbach by the cantonal bank in 1990 and financial help from regional banks and the Swiss regional bank association (in the cases of the Savings Banks Laupen and Burgdorf).

**Real estate price development**

The second main inconsistency in the narrative is the real estate price decline as trigger of the banking crisis. The real estate prices in Switzerland according to the available two indices, covering the most important real estate types, exhibit no significant price decline before 1992,\textsuperscript{95} as was already illustrated for offering prices in graph 3. Hence, they are not relevant for the SLT, the other 26 regional banks that disappeared in the years 1989-1991, nor for the Bernese regional banks which experienced difficulties but remained separate enterprises in these first years.


\textsuperscript{93} 10 vor 10 (srf news) from December, 18, 1990, „Berner Regionalbanken-Krise“, 3:40min, 10 vor 10 - Berner Regionalbanken-Krise - Play SRF

\textsuperscript{94} Der Bund, Band 141, Nummer 252, October, 27, 1990, „Dramatische Veränderungen in der Bankenwelt“, retrieved August, 07, 2021, from www.e-newspaperarchives.ch/?a=d&d=DBB19901027-01.2.16.17.1

\textsuperscript{95} If a decline, then only compared to the peak, which due to its very momentary nature can hardly be described as a price level.
Transaction prices do not paint a different picture than the already presented offering prices; as illustrated in the graph above, the heavy declines actually mainly took place in the years 1995-1996 and brought the real estate price level back to levels comparable to (1988-1989). Notably, this was in a period where consumer prices rose heavily (by Swiss standards).
Graph 6: (Swiss) Lake Geneva real estate price indices (transaction prices, 3rd quarter 1988=100), Wüest Partner

Data is available for eight regions covering Switzerland (see figure 3 at the end of section). With the exception of the Lake Geneva region (Swiss side), no other conclusions regarding the start of significant declines can be drawn. Only in this one region significant declines started already in 1990 (single homes) and 1991 (owner-occupied flats), as graph 6 above exhibits. It is noteworthy that none of the 26 regional banks that disappeared in the period 1989-1991 was from this exceptional region.

Fortunately, the canton of Bern alone constitutes one of the eight regions where data is available. Since this canton was the hotspot of the crisis, the real estate price indices for this region are of particular interest and depicted in the following graph 7.
The transaction prices in the canton of Bern above resemble the ones on the national level for the years 1989-1992, except that prices for owner-occupied flats did not remain constant in 1992, but fell to a level of the first quarter 1990. Overall, prices fell more continuously than on the national level and by about 16% until end 1996 for owner-occupied flats (to a level similar to mid-1988).

On the national level as well as in the canton of Bern, the price decline of max. 1%\textsuperscript{96} in 1991 is insignificant. But when it is considered that consumer price inflation reached almost 6% that year, it constituted a more significant reduction of price, relatively speaking. However, in order to lead to depreciations and losses on banks’ mortgages that could be identified as the main cause and start of a crisis, these would need to be absolute price declines (since credits are compensated in absolute terms) of more than 1% and additionally not just compared to a very

\textsuperscript{96} It looks like more in the graphs for owner-occupied flats, but when only looked at 1991 on Indices des prix de l’immobilier suisse (interactifs) - Wüest Partner Blog (wuestpartner.com), then the decrease is from 100 to 99.
momentary peak in one quarter. Nevertheless, the end of real estate price increases had a major impact on market sentiment and was indicating that the fat years (1984-1990), particularly in real estate business, were over.

This market sentiment is exaggerated in newspaper reports, which give the impression that real estate prices had started to fall earlier and heavier than the actual data presented above. Already in November 1990, price declines of 20% were reported for “French speaking Switzerland” and “in many places” in Ticino.97 These statements are definitely not consistent with data of the available eight regions, even when the data from Geneva and Ticino is not available separately, but integrated into bigger regions (Geneva is built into one region together with the Lake Geneva area of Vaud; Ticino is aggregated with Valais and almost all parts of Graubünden, as marked dark grey on the map below). It is notable that only one single regional bank disappeared in the three cantons of Valais, Ticino, and Graubünden in the period 1987-1997. It was the Savings Bank of Valais, which already 1987 faced difficulties due to bad investments in touristic construction projects and was integrated in a predecessor of the UBS in 1989, after the latter had already acquired a majority in June 1987.98

![Image of map showing aggregated real estate price development in Switzerland](image_url)

*Figure 3: 8 regions of aggregated real estate price development, Wüest Partner*

97 see e.g. Netto (srf economic format) from November, 02, 1990, “Immobilien-Markt”, 25:01min. Netto vom 02.11.1990 - Play SRF

An article in the economic newspaper ‘Cash’ from August 1991 is the best example for incorrect information regarding real estate prices.\(^{99}\) It mentions general real estate price declines of up to 20% since 1989, and single once of 30%, not indicating a special region and thus meaning Switzerland as a whole. Such statements need to be classified as fake news after verification of data that is publicly available nowadays (graph 3 for offering prices and graph 5 for transaction prices). But there were also newspaper articles that corrected exaggerated statements. One in February 1991 with the title ‘There can be no talk of a real estate crash in Bern’ vaguely states that price declines were not “all too massive, neither in the region of Bern”.\(^{100}\) Clear is that Bernese real estate prices started moving the opposite direction in 1991, with individual real estate possibly losing significant subsistence, but in aggregate these movements became only dramatic after 1991.

5. Adjusted narrative of the crisis

Unfortunately, the available primary data on the regional banks’ crisis is scarce. The Swiss financial market supervisory authority FINMA as the successor (a.o.) of the Swiss Federal Banking Commission (SFBC) did not grant access to documents about the crisis requested through the federal archive. Chances to gain access before court according to ‘Sonntagszeitung’ are negligible and the procedure very costly.\(^{101}\)

About two thirds of FINMA’s dossiers in 2018 were underlying a protection period of 50 years with the indicated reason that they would contain personal data. In addition, 6,640 dossiers of the SFBC were blocked by the Federal Council because they had “an overriding public or private interest worthy of protection”.\(^{102}\) The FINMA can block dossiers even after expiration of the protection period with the same justification, which led to 869 dossiers with prolonged protection period as of April 2018. The ‘Sonntagszeitung’ lists some seemingly insensitive documents of the concerned dossiers and found that the oldest among them date back to 1930! In contrast, all other Federal Offices combined amounted to 45 dossiers with


\(^{100}\) Der Bund, Band 142, Nummer 44, February, 22, 1991, „In Bern kann von einem Immobiliencrash keine Rede sein“, retrieved October, 29, from www.e-newspaperarchives.ch/?a=d&id=DBB19910222-01.2.17.19.1; there is more vague, but not concrete information available in this article. The main message is that real estate prices after a period of speculation are not raising anymore, but also not (massively) declining as claimed elsewhere.

\(^{101}\) Sonntagszeitung, April, 8, 2018, „Paranoia bei der Finma“, retrieved August, 10, 2021, from tas_20180408_0_0_16.pdf (oeffentlichkeitsgesetz.ch)

\(^{102}\) Sonntagszeitung, April, 8, 2018, „Paranoia bei der Finma“, retrieved August, 10, 2021, from tas_20180408_0_0_16.pdf (oeffentlichkeitsgesetz.ch)
prolonged protection periods, among them top secret diplomatic documents.\textsuperscript{103} Even though the Swiss bank secrecy is history, the authorities have obviously not yet found a reasonable balance between privacy and transparency, especially when it comes to historical events where there is an overriding public interest in the information.

Available sources provided in this thesis nevertheless suggest other conclusions and an adjusted narrative of the crisis with regard to several points. Such are proposed in the following without claiming to sum up to an exhaustive and inerrant new narrative. Many important aspects of the crisis, which were hopefully adequately rendered in this thesis, are mentioned in existing literature. What is proposed in the following is an adjustment of the existing narrative with regard to the start and the succession of the crisis.

\section*{The starting date of the crisis}

As mentioned before, table 1 in section 2 illustrates that all Swiss literature which makes an explicit statement about the starting date (and the period) indicates the year 1991 as the start of the crisis. In the sub-section ‘Savings & Loan Bank Thun closure as starting point’ quotes made clear that the start is seen more precisely in October 1991, when the SFBC closed the SLT. This narrative was reproduced by newspaper articles in more recent years and often repeated with a view through the glasses of the Global Financial Crisis routed in the subprime crisis. The SLT was often described as the Lehman Brothers of the regional banks’ crisis.\textsuperscript{104}

In contrast to this prevailing story, two international chronologies of banking crisis with two totally different approaches propose that the crisis started earlier. Baron et al. (2021) indicates 1990 based on a bank equity decline of more than 30\% during that year. Metrick & Schmelzing (2021) indicates 1987 (or 1988) as the starting year based on public related interventions. Unfortunately, there are not more details provided and in Metrick & Schmelzing (2021) it is not totally clear what recapitalizations or restructurings of state-owned banks by the cantons,\textsuperscript{105} which are identified as interventions, are meant. Possibly, the evaluation in 1987 whether the two cantonal banks of Bern (‘Hypothekarkasse des Kantons Bern’ and ‘Kantonalbank von Bern’) should merge to one Bernese cantonal bank (‘Berner Kantonalbank’), which took effect by 1991, was identified as an intervention. Yet the two banks were both assessed as financially

\textsuperscript{103} Sonntagszeitung, April, 8, 2018, „Paranoia bei der Finma“, retrieved August, 10, 2021, from \url{tas_20180408_0_0_16.pdf (oeffentlichkeitsgesetz.ch)}
\textsuperscript{104} see e.g. Handelszeitung, July, 31, 2021, „Wie eine Thuner Regionalbank zum Symbol der Krise wurde“, retrieved August, 03, 2021 from \url{Handelszeitung.ch | Aktuelle Nachrichten und Hintergründe zu Wirtschaft, Politik und Börsen | HZ}
sound by leading experts in April 1988, when a report was publicized. This reorganization was hence possibly mistakenly prejudged as a public intervention by Metrick & Schmelzing (2021).

Later actions such as guarantees granted in the last quarter of 1990 (see sub-section ‘Savings & Loan Bank Thun closure as starting point’), however, qualify as interventions and are a hint that the crisis was ongoing already in 1990, the year that meets Baron et al.’s criteria of a bank equity decline of more than 30%.

In view of this and further evidence provided in this thesis, such as a rise of mergers and especially acquisitions as of 1989, the ‘official’ start of the crisis should be shifted to 1990. It seems the most reasonable year, considering the diverse evidence and approaches. The macroeconomic imbalances, however, built up earlier. They were mainly related to one single event in 1987, Black Monday, which shocked the economies around the globe.

**First problems due to Black Monday**

On October 19, 1987, the stock, futures, and options markets crashed, with the S&P 500 stock market index falling about 20%. This one-day loss had dimensions of the two-day crash in 1929 and raised fears of a depression. Central banks reacted with expansive policies, which contributed to a quick and strong recovery in Switzerland. The stock exchange crash, though, did not only make real estate relatively more attractive as a supposedly save investment alternative to stocks, but also incurred “sensitive losses” to some regional banks. The Savings Bank Wyssachen (Ersparniskasse Wyssachen) had to be financially supported by a close Bernese regional bank due to crash related losses.

The period after Black Monday was critical for global monetary policy and Switzerland in particular. Strong real appreciation of the Swiss franc and a slowdown in the real economy in 1987 required an expansionary policy. The monetary base (M0), consisting of banknotes in

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106 Der Bund, Band 139, Nummer 90, April, 19, 1988, „Warum Fusion von Kantonalbank und Hypothekarkasse?“ retrieved October, 22, 2021, from www.e-newspaperarchives.ch/?a=d&id=DBB19880419-01.2.9


circulation and sight deposits, shortly increased by 11.4% from November to December 1987, but diminished again to former levels till February 1988.\footnote{111} Financial innovations on the other hand caused a decline in the banking system’s demand for base money reserves, which was underestimated by the SNB. Hence, it failed its monetary target by about 7% in 1988 and caused the monetary overexpansion of the late 1980s.\footnote{112} Until 1989, the three monetary aggregates M1, M2 and M3, which in contrast to today’s inflation targeting were the main target, were growing, with staggering growth rates for M1 and M2 as the following graph illustrates.

![Graph 8: Monetary aggregates year-on-year change (growth rates in %), SNB data](https://data.snb.ch/en/topics/snb#!/chart/snbmobalech)

This overexpansion turned out to be the major policy error of the period, even though public criticism of the SNB centred more on the monetary restrictions, which “necessarily had to follow the monetary overexpansion”.\footnote{113} The following is stated about this policy error in the SNB publication (2007):

“The single major policy error the SNB made over the last twenty-five years was in the 1987-1989 period. Various factors combined to induce the SNB to pursue a policy course which, in retrospect, turned out to have been far too expansionary.[…] This policy error caused the 1989/1990 surge in inflation. It led to a major speculative bubble in real estate in particular and to an overheated economy in general which, when the bubble burst and the boom came to an end after the necessary monetary policy correction in the early 1990s, represented a huge burden of adjustment for the Swiss financial sector and the country’s real economy.”\footnote{114}

\footnote{111} [https://data.snb.ch/en/topics/snb#!/chart/snbmobalech](https://data.snb.ch/en/topics/snb#!/chart/snbmobalech)


In reaction to the in the quote mentioned surge in inflation (expectations) the SNB started to increase interest rates in 1989. Its effects on the regional banks, and hence, a major role in the crisis are the subject of the next and last section before the conclusion of this thesis.

**Interest rate developments**

Staub (1998) stated that “problems of many regional banks followed the inversion of the term structure after 1989”. The inversion of the term structure or the yield curve means that short-term interest rates at a particular moment are higher than long-term rates, which is an exceptional situation and considered to be a predictor of economic recession. Even though Staub (1998) found a lack of robust econometric results for the term structure influence in determining whether a Swiss regional bank survived the considered time interval (1987-1994) or not, high short-term interest rates after a period of low interest rates still affected banks adversely, notably regional banks. This because part of the mortgages were fixed-term, still running with lower interest rates till expiration, while refinancing costs on the passive side increased.

Interest rates undoubtedly were a, if not the major factor in the regional banks’ crisis. First, because they affect both sides of banks’ balance sheets. Secondly, they are a main determinant of real estate prices, as for example Mauchle (2014) explains in detail. Thirdly, they affect the economy as a whole. Businesses that can service their credits at a lower interest rate, default at a higher rate, if their net income is not sufficient to pay the higher interest payments.

The interest rate developments in Switzerland depicted in table 5 below are interesting from the end of 1987 onwards, when official discount rates were lowered as a reaction to Black Monday. Until the beginning of 1989, low interest rates fuelled credit granting and real estate prices as mentioned, before they were raised several times within one year.

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<td>5.5</td>
<td>11.875</td>
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<td>3.51</td>
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<td>3.52</td>
<td>3.29</td>
<td>3.02</td>
<td>3.98</td>
<td>4.77</td>
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</table>

Table 5: End of year interest rates 1981-1991 in Switzerland, SNB Swiss banks report 1990

In 1989, the SNB increased the discount rate four times due to raising inflation and inflation expectations: in January by 0.5%, in April by 0.5%, in June by 1% and in October by 0.5%.\textsuperscript{116} Lombard advances made it possible for banks to bridge short-term liquidity bottlenecks at the Lombard rate if they were unable to obtain liquidity in the market. At the end of the year 2005, Lombard advances were replaced by special-rate repo transactions. The corresponding Lombard rate, which from 1989 on was set 2 percentage points above the average of the overnight rates paid in the money market on the two preceding days\textsuperscript{117}, indicates how high interest rates were in that market at the end of 1989 and 1991. It reached extortionate levels of 11.875% and 11.5% in these years.

Fixed term mortgages ran with lower interest rates until expiration, but when renewed, interest rates on mortgages from cantonal banks reached almost 8% at the end of the year 1990, almost 3 percentage points higher than two years before (see table 5 above). Depending when the fixed term mortgage expired, house and flat owners could not refinance their properties, which led to the real estate price declines illustrated in section 4. These declines arrived with a lag of about two years to the interest rate rises, while the continuously restructuring in the regional bank sector already had slowly started to increase in 1989 and 1990. It was possibly partly delayed from October 1990 to 1991 in the canton of Bern by guarantees of the cantonal bank and the intervention of other regional banks (in the case of the Savings Banks Laupen and Burgdorf) in the last quarter 1990 (see sub-section ‘Savings & Loan Bank Thun closure as starting point’).

Net profits and losses, depreciations and reserves in the Swiss banking sector decoupled from each other in 1989, the year when the interest rates were raised. This is illustrated in the following graph 8, which unfortunately does not exhibit less aggregated data.

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|c|c|c|c|c|c|}
\hline
New mortgages* & 6.45 & 5.92 & 5.49 & 5.49 & 5.27 & 5.23 & 4.99 & 6.49 & 7.92 & 7.80 \\
\hline
* cantonal banks
\end{tabular}
\end{table}

\textsuperscript{116} see Swiss National Bank (SNB) – Chronicle of monetary events 1848–2021
\textsuperscript{117} Swiss National Bank (SNB), 2007, „Interest rates and yields“, Historical time series, retrieved October, 30, 2021, from Interest rates and yields (snb.ch), p. 9
Nevertheless, this data illustrates the fact that banks experienced difficulties before the real estate price declines. When competition was enforced and interest rates rose, the restructuring started. As well as its general slackening effect on the economy, an interest rate hike, as mentioned, adversely affects banks. This is because part of the mortgages are fixed-term, still running with lower interest rates till expiration, while refinancing costs on the passive side increase. Regional banks, whose core business are interest difference transactions such as mortgage lending, are especially vulnerable to unexpected interest rate hikes due to the usually longer-term assets.

One further possible explanation is that credits to enterprises in the real estate sector started to default shortly after interest rates increased. This because these highly leveraged firms could possibly not sell newly built buildings to higher prices anymore and were not able to refinance their credits due to risen interest rates.

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**Graph 9: Development of losses, depreciations and reserves as well as net profits in Swiss banking system, Meier (1997)**

118 72.2% of mortgages e.g. had an interest rate of at least 7% as of end 1991, while a year before only 44% had such rates; SNB Swiss banks report 1991, p. 47: impressive is the distribution of mortgages according to interest rates on pp. 260-262 of the same report, where for the first time in the second half of the last century interest rates of more than 6.5% were reached in 1990 and 1991. Some reached more than 10%, an extraordinary and unprecedented high level for Switzerland.

Credits to enterprises (or agents) is also one interpretation of cluster risks (big credits to few creditors) in the case of the SLT, where at least some data is publicly accessible (e.g. SFBC reports). Cases, such as the Savings Bank of Laupen in 1990, who needed financial assistance due to one single write-down (a credit to a hotel), fuel the assumption that banks suffered credit defaults of firms related to the real estate sector rather than small mortgage takers in the period before real estate prices started to decline.

A big and famous case is the collapse of W.K. Rey’s Omni Holding in spring 1991. Debts to banks at the end amounted to more than CHF 2 billion according to the SFBC. 50 banks including 14 cantonal banks had business connections to Omni Holding.

Such an interpretation attributes an important role to the real estate sector, but differs from the narrative of a real estate price decline and the collapse of the Savings & Loan Bank Thun in October 1991 as the start of the banking crisis. Rather, it was the restructuring of the banking sector in a period of liberalisation with the dissolution of cartel agreements, and a simultaneously interest rate shock in 1989, that had the described adverse effects on Swiss banks that triggered the crisis in 1990 before real estate crisis declined significantly (from 1992 on). In contrast to bigger banks, the regional banks could not compensate losses with other income streams. Neither were they backed with cantonal guarantees as the cantonal banks. Or, in the case of the canton of Bern and Solothurn, only in the beginning of the crisis because their cantonal banks soon experienced financial difficulties themselves.

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120 see Gygax, Jan, 2021, „The Collapse of the Savings & Loan Bank Thun in the Year of its 125th Anniversary (1991)“, GRIN Verlag, München, p. 16
122 70.4% of cantonal bank mortgages were held by private households as of end 1991, see SNB Swiss banks report 1991, p. 194
6. Conclusion

This master’s thesis reassessed the nature, dynamics, and ultimately, the causes of the Swiss regional banks’ crisis in the 1990s. For this purpose, the focus laid on the beginning of the crisis. In contrast to literature by Swiss authors, who propose the closure of the SLT in 1991 as the start of the crisis, it was argued that the crisis started in 1990 when according to Baron et al. (2021) bank equity declined more than 30%. Numerous regional banks experienced financial problems in this year, of which some were bailed out indirectly by the canton of Bern through its cantonal bank (state intervention recorded in Metrick & Schmelzing, 2021).

The transmission mechanism over real estate prices fuelled the crisis after the closure of the SLT, but did not initiate it, as national and regional real estate price indices suggest. A comparison to the subprime crisis is in this regard inadequate. Other transmission channels of interest rate hikes were instead decisive in the beginning of the crisis. Two have been proposed in the last section: First, the rise of refinancing costs over short-term passives for fixed-term assets as a direct, and secondly, credit defaults due to enterprises who were not able to refinance their debt on higher interest rates as an indirect channel.

The suggested transmission channels of the interest rate hikes on the regional banks in 1989 and 1990 lacks more concrete evidence. Further research on the regional banks’ crisis would be desirable in view of the presented argument contrasting with existing literature. FINMA documents and data about the regional banks’ crisis should be made available to researchers for this purpose. Alternatively, the FINMA could itself execute research on this marking crisis in Switzerland.

The interest rates level and development, which next to enhanced competition and investment requirements was identified as key factor of the crisis, has been and will be subject to past and future debates. They are less determined by supply and demand (price of money) than by the lead interest rates set by central banks. These interest rates and other actions of the central banks have major impacts on the banking system and the real economy. Asset price bubbles such as real estate price bubbles are to some extent the result of central bank policy and banks’ credit activities. Policy makers should take this into account, learn from past crises and make decisions based on what seems best in the long-term. As this Swiss case study suggests, their analysis should consider structural changes within the mostly private banking industry and the vulnerabilities of banks to such changes as well as to economic developments.
The digitalisation of banking services, notably services related to mortgages, and the competition going out from cost-efficient neobanks, could increase the pressure on traditional small/regional banks in the future. Additionally, the overheated real estate sector\textsuperscript{124} together with a scenario of a sudden interest rate hike could constitute a potential risk comparable to the situation at the end of the 1980s, after a period of for the time low interest rates and a disproportionate increase in mortgages. Hopefully, the lessons learned from the regional banks’ crisis will prevent supervisors/policy makers and banks from underestimating such risks and scenarios, even when they do not seem likely.

\textsuperscript{124} \textit{UBS Swiss Real Estate Bubble Index} is in the risk zone since 2015 with the exception of three quarters in 2018 and 2019, where the index decreased to a level shortly below the risk zone.
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Source: Wüest Partner, 2019, real estate price indices, retrieved October, 27, 2021, from
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Source: Swiss National Bank (SNB), monetary aggregates change, retrieved December, 6, 2021, from https://data.snb.ch/en/topics/snb#!/chart/snbmonaggchch

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Source: Wüest Partner, 2019, real estate price indices, retrieved October, 27, 2021, from
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9. Appendix


U.S. Ships Destroy Iran Outpost

A few hours later. Navy commanders boarded a number of Iranian con-

v and destroyed radar and communica-

tion equipment. The Iranians said

they had no choice but to fire the iranians in re-

Powerful reason described the ac-

cussion as a "pretend yet continued re-

sponse to Israeli attack."

The Persians said they were respond-

ing to Israeli attack. The Iranians also

charged that the U.S. ships had fired on

them.

In the meantime, the U.S. ships were

approaching the Iranian coastline.

The Persians had no choice but to fire

the iranians in return. The Iranians also

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Closed SLT headquarters Thun, October 3, 1991

Source: Der Bund, September, 16, 2016, “Bankencrash in Thun erschütterte 1991 die Schweiz”

Source: Freiburger Nachrichten, April, 30, 1992, “Selbständigkeit bedingt heute Zusammenarbeit”
Declaration of originality

I hereby confirm that I am the sole author of the written work here enclosed and that I have compiled it in my own words, except where indicated differently.

With my signature I confirm that

- I have committed no form of plagiarism.
- I have not manipulated any data.
- I have mentioned all persons who were significant facilitators of the work.

I am aware that the work may be screened electronically for plagiarism.

Geneva, 26 January 2022