

Session: G2: Trust and Business

Savers and the risk of deposit banking

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Abstract

The question of (organizational) legitimacy in markets is seldom more pronounced than in financial markets. Creating legitimacy and trust between individuals and organizations is acknowledged as one of the most important problems for the development of financial systems. Economic decisions are, to a greater or lesser extent, always influenced by uncertainty. Uncertainty exists due to the fact that there are information asymmetries, as well as a time span manifested by an unpredictable future. Legitimacy serves to decrease this uncertainty and thus transaction costs.

The legitimacy of and trust in financial actors has been of the greatest importance since the establishment of the “modern” Swedish financial market in the 1820s. Legitimacy was the basis for both the recruitment of depositors and borrowers and was also fundamental for risk management and the establishment of a bank’s business activities. The problems connected with banking in the 19th century were thus more or less the same as today. Thus, historical knowledge can help us understand also current risk management problems in banking (Larsson, forthcoming).

The issue to be discussed in the paper is how financial organizations manage to attract savings. The aim is to describe and analyse how deposit banking was established and how these institutions developed at the financial market up to World War I. What could we learn from the early savings institutions? Focus is on savings banks. Main sources are statistics and savings banks archival sources.

The paper shows that deposit banking was introduced and functioned with restrained legislation and control of the State. However, personal trustworthiness and founders’ networks had their limits in building and supporting legitimacy. In a growing economy with rapid changes – not least the integration of larger parts of the economy – the need for the State to support the emerging financial architecture became apparent. Bank regulations were introduced to secure account holders’ savings when deposit banking grew in size and the representatives of the bank no longer in person could guarantee the business.

¹ kristina.lilja@ekhist.uu.se, Department of Economic History, Uppsala University. This paper is to be a chapter in a book. This explains why the discussion about theory, methods, and sources are rather short, or missing, in the paper. I also apologize that this is not a language edited version. Please do not quote.

Introduction

The purpose of financial intermediaries is to safely administer savings, pay interest on, and keep money away from consumption, i. e. save. It is of most importance that they are considered being trustworthy organizations, as they are supposed to take care of household wealth. Financial intermediaries therefore depend on a good reputation for being stable, well-functioning, and long-lasting businesses. It is also of most importance that intermediaries have the ability to diversify and hence satisfy different saver's interests. This way they attract capital for the financial sector that otherwise has the risk to be kept in unproductive assets, i. e. the financial intermediaries secure liquidity and make capital available for lending.

These intermediaries help households to move wealth over time. As incomes not always are in level with the need of consumption, households have to save for rainy days.² Assets are saved in times of surplus in order to protect the family from decline in income during periods of unemployment, illness, and old age. Other main saving motives, beside precautionary saving and saving for old age, are target saving for major purchases and bequest saving. Target saving can be used either as a way to accumulate savings, if one plan to establish a household or decide to invest in real assets. It is also important to have money saved if one wants to start a business or decides to give ones children a good start in life. Bequest saving is supposed to favor heirs.

The issue to be discussed in this paper is how financial organizations manage to attract savings. The aim is to describe and analyse how deposit banking was established and how these institutions developed at the financial market up to World War I. What could we learn from the early savings institutions? How did they build a good reputation? And how did they handle the risks with deposits? What are the experiences when it comes to legitimacy, trust and risk of deposit banking? This paper is based on understanding from Swedish deposit banking 1820–1910. Savings banks are especially interesting to study as they were “market makers on the savings arena”. Perhaps even more interesting is, however, that they also managed to adapt to a changing business environment during industrialization and the financial (r)evolution.³ How was this development from local embryonic savings organizations, to modern banks on the financial arena possible?

From being a poor undeveloped country Sweden was industrialized from the middle of the 19th century, and the economy grew faster than before from the 1870s. During the period 1820–1910, population more than doubled and real wages doubled twice (Figure 1). Together with an extensive emigration this led to fast-increasing wages. In 1910, real wages for workers were at approximately the same level in Sweden as in Britain.⁴ At the same time, the share of food in workers' budgets

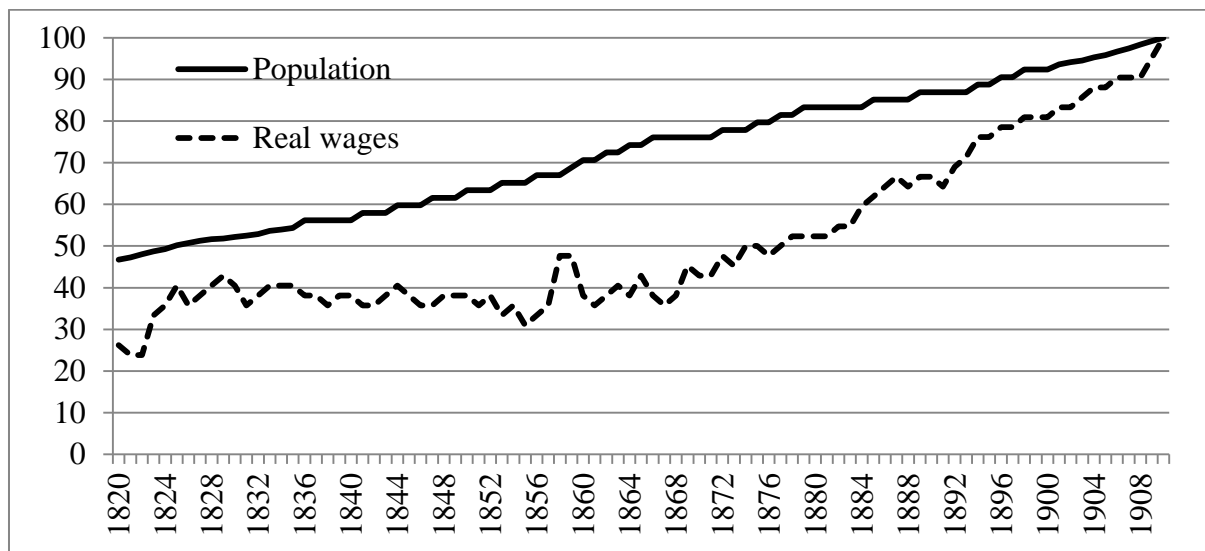
² Amortizing on a loan is also a sort of saving, but it takes place after and not before consumption.

³ See Ögren (2010) and especially Lilja (2010), pp. 41–63.

⁴ O'Rourke and Williamson (1995), p. 179.

decreased. It was 65 per cent in the 1840s and the 1850s, and 55 per cent during the period 1881–1900.⁵ This is an example of how the economic development led to surplus and better chances to save among the population.

Figure 1 *Index for Swedish population and real wages, 1820–1910, 1910=100*



Sources: *Historical Statistics of Sweden. Part I. Population 1720–1967* (1969); Söderberg (2010), pp. 474–475.

Private credit markets dominated in most pre-industrialized countries. In Sweden, this was in the beginning of the 19th century both a result of low monetization and a situation with only few savings institutions. Trustworthy persons with a good reputation in the local community as well as wealthy persons, employers, and savings funds hold savings in trust. These savings were often lent at the local credit market and in Sweden the legally maximum of interest of six per cent seems to have been rather common.⁶ In this system, credit relations were mainly based on personal networks and trust.⁷ Over time, more and more of the relations at this market were formalized by using written IOUs.⁸ As notes and coins were in short supply these papers were also circulated as money.⁹ The use of credits and promissory notes made the credit market function smoother.

Estimates from middle-sized Swedish towns all over the country show that still at the middle of the 19th century as much as 80–90 per cent of all credits was organized within the private credit market,

⁵ Myrdal (1933), pp. 138.

⁶ The regulations of credits are mentioned in *Handelsbalken*, Chapter 9, § 6, in *The Swedish Code of 1734 (Sveriges Rikes Lag gillad och antagen på Riksdagen år 1734)*.

⁷ For example Hoffman, Postel-Vinay, and Rosenthal (2000), pp. 1–3; Fontaine (2001), pp. 39–40; Muldrew (2001), pp. 3–6; Ogilvie, Küpker, and Maegraith (2012), pp. 134–136; Müller (1998); Hasselberg (1998), pp. 112–113 and 123; Nyberg (2010), pp. 14–40; Hemminki (2012), pp. 375–403.

⁸ For example Dermineur (2015), pp. 485–506; Engdahl and Ögren (2008), pp. 73–91.

⁹ Engdahl and Ögren (2008), pp. 73–91; Lilja and Jonsson (submitted).

while credits within the banking sector was small. In 1900, the situation was the other way round meaning that private credit was estimated to only a minor share, circa 10–45 percent.¹⁰ It is, however, important to remember that the development of the private credit market differed greatly depending on locality. Moreover, the transformation of the Swedish banking and financial system had its origin in the largest towns as these were economic and provincial administrative centres. If one also consider total deposits within the many savings funds¹¹ reporting 39 million SEK in 1834 and 70 million SEK in 1857,¹² the conclusion is that there was a lot of capital in circulation outside the banking system still in the middle of the 19th century.

Swedish households were poorer, both in per capita wealth and aggregate wealth-income ratios compared to countries as the United Kingdom, France, and Germany. Up until World War I, the wealth income-ratio was only one half of the ratios in these leading industrial countries. The low ratio in Sweden was due to a low saving rate.¹³ Until the 1860s, total deposits in the financial sector grew steadily, but slow (Figure 2), but from the middle of the 1870s until the 1890s, deposits per capita increased stronger than earlier. However, they accelerated at an even faster pace from the 1890s onwards. Estimated amount of total deposits was 2.4 million in 1834 and circa 4,000 million in 1910. It seems as if the large amount of capital in circulation outside the banking sector mentioned above, at the beginning of the 20th century at this time was deposited within the banking system.

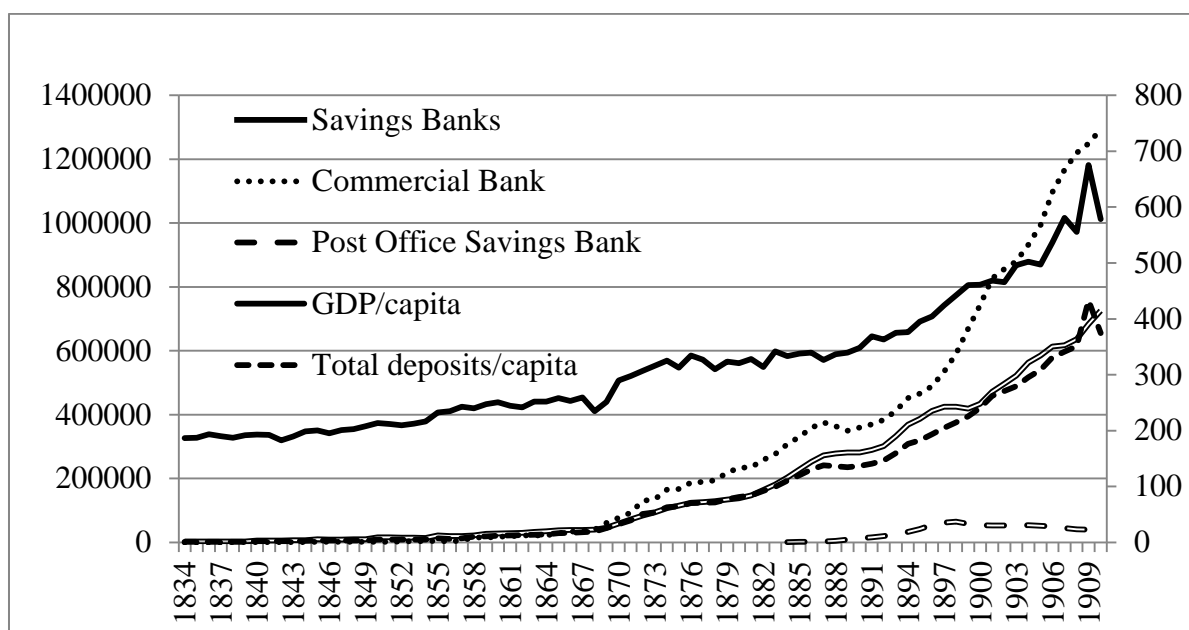
¹⁰ Lindgren (2002), p. 827; Hellgren (2003), p. 59.

¹¹ These funds were church funds, poor relief funds, school funds et cetera. The Official Financial Committee *Underdåning betänkande angående Sveriges ekonomiska och finansiella utveckling under åren 1834–1860* (1860), pp. 71–72.

¹² The Official Financial Committee *Underdåning betänkande angående Sveriges ekonomiska och finansiella utveckling under åren 1834–1860* (1860), pp. 71–80.

¹³ Waldenström (2017), p. 310.

Figure 2 Total deposits in savings banks, commercial banks, and post-office savings banks (left axis, thousands SEK), GDP/capita and total deposits/capita (right axis, SEK/capita), 1834–1910, constant prices (1861–1870 = 100), SEK



Sources: *Historical Statistics of Sweden, Statistical Survey. Tables not published in volume I and II* (1960), pp. 102–103 and 106; *Post & inrikes tidningar 1835–71*; *Sammandrag av de solidariska enskilda bankernas och kreditaktiebolagens uppgifter 1871–1911*, Stockholm, pp. 172–185; *BiSOS. Y. Sparbanksstatistik. II. Postsparbanken* (1893), p. XII; (1895), p. VII; (1901), p. XXI; (1903), p. XVII; (1906), p. XXI; *Statistisk årsbok* (1914), p. 124; *Krantz & Schön* (2007), pp. 35–37 and 55.

Prices deflated with a price index in Myrdal (1933), pp. 196–199.

Note: Total deposits = in savings banks, post-office savings banks, and commercial banks.

The transformation of the Swedish economy was a result of political reforms, industrialization, growing markets, and expanding trade among other things. It developed in parallel with the modernization and growth of the financial sector. Total deposits in the financial sector in relation to GDP was only 0.4 per cent in 1834, but had grown to more than 100 per cent of GDP in 1910. The growth of deposits in relation to GDP was especially strong during the years 1867–1875 - a period of growth in broad money supply and boom years in the Swedish economy.¹⁴

Still in the beginning of the 1860s, savings banks totally dominated the institutional deposit market in Sweden (Table 1). Competition increased from the 1870s, when the commercial banks accepted deposits on a larger scale. These banks were few in number compared to savings banks (Table 2) and their business had up until now mainly been based on the right to issuing notes. Despite this, they soon

¹⁴ These years were defined as the start of what can be called “The Deposit Market Revolution” in Sweden. Lilja (2010), pp. 41–63.

had more capital deposited than all savings banks together. It is, however, important to remember that only a smaller part of commercial banks deposits was household savings. Larger balances often derived from business accounts (Table 2). In the second half of the 19th century, several different kinds of organizations were established that competed for household savings; as for example sickness and burial funds and life insurance companies. In 1884, the Post Office Savings Banks (POSB) were established.¹⁵

Table 1 Shares of deposits among Swedish deposit banks 1830–1910, per cent

Year	Savings banks	Commercial banks	Post offices savings banks	Total
1830	100	0		100
1840	87	13		100
1850	90	10		100
1860	60	40		100
1870	44	56		100
1880	37	63		100
1890	44	55	1	100
1900	35	60	5	100
1910	35	63	2	100

Sources: See Figure 4.2.

The period up until the 1870s can be characterized as a founding period for deposit banking in Sweden (Figure 2). Thereafter, deposits increased fast and competition between actors at the savings market became greater than before. These periods are used to divide this chapter into two chronological sections. The first describes and analysis the development during a period (1820–1870) when deposit banking was introduced and functioned with restrained legislation and control of the State. The following period (1870–1910) focus on a time when the different actors on the savings market had established a more stable business and regulations were introduced to secure account holders' savings when deposit banking grew in size and the representatives of the bank no longer in person could guarantee the business of the bank.

How to create legitimacy without regulation, 1820–1870

The Swedish savings banks were originally philanthropic mutual non-profit and local organizations founded in larger towns from the 1820s. They were a result of the debate in the Swedish Parliament in

¹⁵ Lilja and Bäcklund (2016).

the late 1810s regarding the need to establish some sort of savings institution. By making it possible for the less-wealthy groups to save a surplus, it was believed the problem with rising costs for poor-relief could be restrained. A report formulated that it was a matter for the local communities, and not for the central State, to establish such banks. It also gave clear instructions how to organize a savings bank and it in detail informed how to handle deposits, depositors, and savings banks accounts. The report was sent to public officials and authorities all over the country and was considered a recommendation. By the middle of the 19th century most Swedish towns had a savings bank.¹⁶

Of most importance for the establishment of savings banks was their strong local affiliation. They were founded and run by prominent persons in the local community. These initiators were persons that inspired confidence in their official positions as governors, mayors, and other public officials in the state or in the church. The report regarding savings banks had stipulated that it was convenient to have ‘admittedly honest, benevolent and wealthy persons’ in charge of running the savings banks so that there was no doubt regarding the safety of deposits. It was also understood as a guarantee that unselfish consideration always without exception was guiding them in their work. The founders in person had to act as economic guarantors for the savings banks.¹⁷ The founder’s socioeconomic position, wealth, and status as local authorities gave the savings banks their legitimacy.¹⁸

As Swedish savings banks and savings funds founding ideas and characteristics were considered to be very much the same, both kinds of organizations were during decades under the legislation of savings funds. They sometimes also shared board members. The strong dependence and relation to the founders and these persons often being civil servants meant that the savings banks were considered patriarchal semi-public institutions in the local community.¹⁹ These characteristics probably gave savings banks their legitimacy already from the beginning. Moreover, it might have been important for depositors to recognize these for them well-known characteristics when deciding to open an account and leave their money with a savings bank.

Important was also that the savings banks had an in detail defined charter for their operations.²⁰ The charter brought clearness and transparency to customers. Standardised and written terms meant predictability and hence a feeling of security that probably often could be seen as non-existent or at least lacking at the private credit market.

¹⁶ Sommarin (1940), p. 43; Lilja (2004), pp. 50–51.

¹⁷ Skogman (1819), pp. 9–10. The savings banks phenomenon was part of liberal and paternalistic ideas of the need to establish organizations that could support the less-wealthy individuals’ “help-to-self-help”. Lilja (2000), pp. 29–31.

¹⁸ This was also the case in other countries as for example France, Américi (2002), pp. 5–19.

¹⁹ *Underdånigt betänkande angående Sveriges ekonomiska och finansiella utveckling under åren 1834–1860* (1863), pp. 72–74.

²⁰ Lilja (2004), pp. 52 and 102.

Swedish savings banks had much in common with their Scottish and English role models. They were all inspired by the ideas that were formulated in “Essay on the Nature and Advantage of Parish Banks” published in Scotland in 1815.²¹ The charters that were recommended in the publication and were to organize the work in the savings banks focused on deposits. This way the savings banks showed financial responsibility and trustworthiness. It was also of most importance that the interest level on deposits was considered large enough for account holders. Even very small deposits were to have a rather high interest rate, attracting deposits from the target group of workers, servants and (their) children. Bonus was given to frequent savers.²² These ideas were more or less copied in the report that became the guide for the establishment of savings banks in Sweden.²³

Swedish savings banks were like their Scottish and English role models established out of a social motive. A difference was, however, that Swedish savings banks managed deposits in another way than British savings banks. Instead of placing the capital with the National bank, as was recommended in the British examples, the Swedish savings banks already from the beginning acted as lenders at the local credit market.²⁴ By making credits reachable for establishing small-scale businesses, savings banks also in this way became a force against poverty. This was probably seen as desirable. Moreover, it was also already the praxis among the savings funds!

As savings banks aimed for long-term accumulation of savings, withdrawals were highly restricted. Account holders had to notify the bank before making withdrawals, thereby making sure that the bank could give the account holder the demanded amount. Perhaps even more important was that the requirement made sure that the withdrawal was not done too easily. To prevent more wealthy persons to take advantage of savings banks, maximum levels for a single deposit as well as for total deposits on savings accounts were strictly regulated.²⁵ Working with well-defined target groups of less-wealthy individuals meant that the Swedish savings banks accepted deposits up to ten years, or even twenty years, with terms defined in advance.²⁶ When this goal was reached, the savings banks had fulfilled their obligations and the account holder had to close the account. Maximum levels were also motivated by the great effort to administer savings.²⁷ Clearly formulated regulations also made the work with depositors easier in the savings banks. These strict instructions meant that the aim of the

²¹ The text was written by Minister Henry Duncan, Ruthwell, Scotland. Horne (1947), pp. 1–2, and 43–50.

²² The interest rate of 4–5 per cent was recommended by Duncan and became also the recommendation for savings banks in Sweden. Horne (1947), p. 45; Skogman (1819), pp. 10–17.

²³ *Underrättelse om så kallade besparingsbanker*. Skogman (1819).

²⁴ Skogman (1819) pp. 15–17 and 47–48; for example Silow (1926), p. 242.

²⁵ Horne (1947), p. 45.

²⁶ Skogman (1819) p. 10–11; Silow (1926), p. 238.

²⁷ It was also great work to yield interest on funded capital that would make possible an interest rate on deposits at 4–5 per cent. Lilja (2000), pp. 34 and 104–105.

savings banks was obvious and transparent. This must have improved depositors feeling of safety of deposits.

How do banks attract depositors?

Savings banks were intended to foster habits of thrift and foresight.²⁸ They were considered as recommended solutions against poverty, and important instruments for thrifty behaviour and self-help.²⁹ Even a low-income worker was believed to be able to accumulate sufficient funds to escape poverty.³⁰ Studies of the 19th century indicate that workers many times saved if possible, and that precautionary savings dominated.³¹ Low levels of savings were mainly a result of unsecure working conditions and too small surpluses. British studies show that when economic circumstances in general improved between 1870 and 1911, deposits in savings banks increased.³²

Low wages and lack of means of payments meant that the expansion of savings banks progressed slowly during the first half of the 19th century in Sweden (Table 2). Most of them experienced fluctuations in their operations, and withdrawals were almost as frequent as were deposits.³³ This meant that it was difficult to establish a stable business, and consequently the risks with deposit banking were high. The savings banks' charters were adjusted in several ways over the years to better meet the demand of depositors and make the savings banks more attractive. Operating hours were extended from two hours during the weekend to several hours a week and clerks were employed. The maximum levels of savings banks accounts were adjusted upwards, and the account holders were allowed to keep their accounts over a long period in time. It also became easier to make withdrawals.³⁴ These changes increased the accessibility, and were a necessary step towards a more professional organization.

Despite different kinds of difficulties in creating well-functioning organizations the savings banks were seen as good role models, and as a result the number of savings banks grew steadily from the middle of the 19th century (Table 2). From this time onwards, savings banks were more often founded also in the countryside. They were considered an important element in the local infrastructure, and it was also well-known that a short geographical distance improved the possibility of opening a bank

²⁸ For example Smiles (1877), pp. 16–38; Kiesewetter (1981), pp. 446–486.

²⁹ Bäcklund and Lilja (2014), p. 618.

³⁰ For example, Fishlow (1961), p. 26; Américi (2002), p. 19; Wadhvani (2002), pp. 43–44.

³¹ Johnson (1985); Boyer (2009), pp. 62–79; Payne (1967), pp. 157–171, Schultz (1981), p. 493.

³² Boyer (2009), pp. 67–72.

³³ Lilja (2004), p. 103; *Varifrån kommer, hur uppstår sparkapitalet?* (1946), pp. 66–70.

³⁴ Lilja (2004), pp. 104–106.

account.³⁵ This great expansion of savings banks made most Swedish inhabitants accustomed to the statements of the virtues of having a savings account.

The target group of workers and servants often lived under very small economic circumstances. As a way to force these groups to save, some employers in the early phase of the savings banks choose to put (part of) of their employees' wages in a savings banks account.³⁶ These accounts probably became short stories. On the other hand, it seems as if many Swedish workers were account holders at some time in their lives.³⁷ Studies show that in 1860 workers constituted one-half of the account holders, but held just one-third of total deposits.³⁸ Instead a large share of the account holders belonged to the middle class, something that also was the experience in several other countries.³⁹ Up until 1870, the capital in the Swedish savings banks increased largely from deposits by wealthier groups.⁴⁰ However, when real wages increased from the 1880s onwards, more savings were deposited in the banks (Table 2). Nevertheless, the seasonality in deposits and withdrawals continued although industrialization matured.⁴¹

³⁵ Lilja (2000), pp. 35–37.

³⁶ Lilja (2000), pp. 49–50.

³⁷ Lilja and Bäcklund (2016), pp. 111–132.

³⁸ Sommarin (1942), p. 148

³⁹ For example, Fishlow (1961); Alter, Goldin and Rotella (1994), pp. 744–766; Ross (2001), pp. 305–309; Olmstead (1975); Ó Gráda (2003), pp. 34–38; Maltby (2011); McLaughlin (2013).

⁴⁰ Nygren (1981), pp. 84–89.

⁴¹ Ó Gráda (2003), pp. 42–46; Lilja (2004), pp. 114–116.

Table 2 Number of savings banks (SB), commercial banks (CB), and Post-Office Savings Banks, and their offices, number of accounts, total deposits, and average balances, 1834–1910, SEK

Year	SB (offices)	CB (offices)	POSB (offices)	Number of accounts, thousands		Total deposits, million SEK		Average balance, SEK	
				SB	CB	SB	CB	SB	CB
1834 ¹	25 (25)	-	-	23		2	0	102	-
1840	60 (60)	6 (14)	-	48	-	5	1	108	-
1850	86 (90)	8 (25)	-	100	-	13	1	129	-
1860	151 (151)	30 (50)	-	188	-	27	18	145	-
1870	234 (234)	36 (136)	-	354	36	57	74	162	2,084
1880	341 (921)	44 (205)	1,575 ²	762	128	146	247	177	1,919 (158) ³
1890	378 (909)	43 (190)	1,942	1,07 3	104	275	352	256	1,930 (275) ³
1900	388 (748)	67 (269)	2,652	1,22 9	448	437	772	334	1,724 (494) ³
1910	436 (854)	80 (625)	3,245	1,56 0	806	809	1,466	541	1,818 (382) ³

Sources: *Historical Statistics of Sweden, Statistical Survey. Tables not published in volume I and II.* (1960), pp. 99 and 102–103; Sammandrag af de enskilda sedelutgifvande Bankernas samt Skandinaviska Kreditaktiebolagets kvartalsuppgifter för den 30 juni 1871, Stockholm 1871; Sammandrag af de solidariska enskilda bankernas samt aktiebankernas och kreditbolagens uppgifter för den 31 december 1880, Stockholm 1881; Sammandrag af de enskilda sedelutgifvande bankernas och aktiebankernas till Kongl. Finansdepartementet ingifvna uppgifter för Den 31 dec. 1890, Stockholm 1891, Sammandrag af de enskilda sedelutgifvande bankernas och aktiebankernas till kongl. Finansdepartementet ingifvna uppgifter för 31 december 1900, Stockholm 1901; Sammandrag af de solidariska bankbolagens och bankaktiebolagens Uppgifter för den 31 december 1910, Stockholm 1911; BiSOS. Y. Sparbanksstatistik 1880, p. 144; 1890, p. 186; 1900, pp. 36, 47 and 49; 1910, pp. 1–7 and 36–37; Petersson (2001), Table 2.1, p. 71.

Note: ¹Data missing for 1830. ²Established in 1884. ³Average balance on savings accounts (*Sparkasseräkning in Aktiebankerna 1880–1890, 1900–1910 also in Enskilda banker*)

An important advantage compared to other savings alternatives was that very small deposits were accepted and that assets in savings banks were movable. Although a majority of accounts in savings banks in Sweden as well as in other countries at the time were short-term stories,⁴² some workers accumulated savings over a substantial period of time.⁴³ In this regard, there were significant gender differences in savings behaviour between married and unmarried persons. A Scottish study shows that savings banks accounts were used for families' need for recurrent payment obligations, such as rent.⁴⁴ The husband's account was normally used for family purpose. Two accounts or more could be motivated if the family wanted to save more money than was accepted according to maximum levels.⁴⁵ It is obvious, that the savings banks account was "a family matter".

There is, however, also an indication that married women's accounts sometimes was for own disposition. Studies from England interpret that married women 'were active economic agents in their own right'⁴⁶ by the middle of the 19th century and used savings bank accounts as a precaution for future needs.⁴⁷ Female savers constituted an important share of the account holders in the savings banks from the very start, despite having no formal right to decide in economic questions (widows being the exception⁴⁸). In Sweden, approximately one half of all account holders were women (for example Table 3). Compared to men, they saved more in savings banks - both in absolute and in relative terms, and their accounts were more often long-lasting.⁴⁹ This made women a relatively stable and important group of savers.

Table 3 Account holders' socioeconomic status and sex in Stockholm stads sparbank, per cent

	High strata		Middle strata		Low strata		Total	Total
	Men	Women	Men	Women	Men	Women	Men	Women
1830	20	16	24	37	56	47	100	100
1893	4	6	28	28	68	66	100	100
1912	5	2	34	46	61	52	100	100

Source: *Varifrån kommer, hur uppstår sparkapitalet?* (1946), p. 78.

⁴² For example, Alter, Goldin and Rotella (1994); Wadhvani (2002), p. 50; Lilja (2004), pp. 109–13.

⁴³ Haber and Gratton (1993), pp. 72–81.

⁴⁴ Ross (2013), pp. 195–196.

⁴⁵ Ó Gráda (2003), pp. 42–46; Lilja (2004), pp. 116–117.

⁴⁶ Perriton (2012), p. 12

⁴⁷ Maltby (2011); Perriton (2012); Perriton and Maltby (2015).

⁴⁸ The Swedish Code of 1734 placed a woman (widows excluded) under the legal framework of their father, brother, or husband. The law was reformed during the 19th century and for example from 1874, it became possible for married women to control their property. They also gained the right to dispose their own income. Lilja (2004), p. 25.

⁴⁹ Petersson (2006), p. 43; Lilja (2004), p. 117.

Female capital was of most importance for investments during industrialization and for the growth of the domestic economy.⁵⁰ Research has shown that women seem to prefer some investment areas and that investment could be said to be gender divided. In Britain before 1914, female investors appear to have preferred being shareholders and avoid risk-taking if possible.⁵¹ They sought secure investments and often ‘remained relatively passive in relation to their financial dealing’⁵². They were considered as ‘financial investors primarily seeking a *rentier* income’⁵³. Women in general were interested in areas where they had access to information and where investments were considered secure and returns reliable.⁵⁴ This made deposit banking most attractive. These female characteristics also explain women’s importance as actors on the financial market arena in the 19th century Europe, when capital for investments still were lacking in many countries.

Few unskilled (male) workers had an account, while domestic (female) servants were one of the largest single groups of account holders in the savings banks.⁵⁵ Unmarried female savers were one of the most industrious groups of savers. They saved much more than other groups, and sometimes twice as much as unmarried men in the same age. Consequently, they in several cases managed to accumulate amounts corresponding to an annual salary of a male worker in industry (Table 4).⁵⁶ Every second female account holder in the savings banks during the 19th century was a servant, and a majority was between 16 and 25 years of age. Other belonged to the growing number of unmarried women of middle-class that often also had a savings account in a commercial bank. Presumably, most of the unmarried women wished to marry and settle down in the future.⁵⁷ If the woman did not marry, they could use their capital for old age. Most married women also had to plan for being a widow, as they in general lived longer than men. For these reasons, the praxis that women were allowed to use their savings banks accounts as own economic agents was of most importance. The combination of needs and lack of alternatives probably explains why savings banks were important for unmarried women from all socioeconomic strata.⁵⁸

⁵⁰ Petersson (2006); Owens (2006).

⁵¹ Maltby and Rutterford (2006), pp. 220–253.

⁵² Owens (2006), p. 25.

⁵³ Owens (2006), p. 25.

⁵⁴ A reliable return was assumed to be more important than an exceptional size of the return. Owens (2006), p. 26. For a discussion about custom and cultural expectations, see Owens (2006).

⁵⁵ Fishlow (1961), pp. 28–29 and 36; Lilja (2004), pp. 116–126.

⁵⁶ Lilja (2004), pp. 116–126.

⁵⁷ Alter, Goldin and Rotella (1996), p. 738; Lilja (2004), pp. 123–126.

⁵⁸ Lilja and Bäcklund (2016), p. 126.

Table 4 Index for average deposits and socioeconomic status for male and female depositors in Stockholm stads sparbank

	High strata		Middle strata =100		Low strata		Children, students and unknown	
	Men	Women	Men	Women	Men	Women	Men	Women
1830	69	114	100	100	63	68	96	87
1893	52	95	100	100	51	78	22	50
1912	79	47	100	100	61	79	9	48

Source: *Varifrån kommer, hur uppstår sparkapitalet?* (1946), p. 80.

A rather large share of the savings banks accounts was already from the start open for children. The possibility to save for children was in fact one of the main ideas of the savings banks from the very beginning. During the 19th century in Sweden, children's accounts amounted to approximately one fourth of all accounts in the savings banks. These were most common among the more wealthy groups, but also workers seem to have prioritised accounts for their children if possible.⁵⁹ Important to notice is that accounts often were opened for several children in the family despite gender (Table 4). Children's accounts were target motivated. This explains why withdrawals only were done in exceptional cases, and then, not surprising, mostly among account holders belonging to the less-wealthy groups. However, children's accounts often lasted for a long period in Sweden, on average more than ten years, and several of the children continued to save also as an adult.⁶⁰

Deposit banking in a changing market, 1870–1910

Deposit banking expanded fast in total deposits and number of accounts from the 1870s onwards when monetization, industrialization, and economic growth developed (Figure 2 and Table 2). A majority of savings banks now (again) reformed their charters to better meet changing terms on the deposit market. They successively chose to open up for all socioeconomic groups in society, and the maximum amount for deposits was raised as operations were forced to adjust to growing wealth and a more competitive market for savings. Moreover, the “normal” interest rate (4.5–5 per cent) on deposits that had been kept for decades was somewhat modified downward.⁶¹ As a consequence of these reforms, savings banks previous guise as savings funds faded. Still, the most distinct characteristics of the savings banks – being a non-profit organization controlled by a board and with a strong local affiliation – were preserved. However, being philanthropic associations meant that savings banks could not be regulated as either banks or associations; the latter was how they were looked upon in for

⁵⁹ Lilja (2004), pp. 117–118 and 123–124; *Varifrån kommer, hur uppstår sparkapitalet?* (1946), pp. 12 and 80.

⁶⁰ Lilja (2004), pp. 118 and 123–124.

⁶¹ Lilja (2000), pp. 52–57; Lilja (2004), pp. 104–106.

example Great Britain.⁶² The fast expansion of the number of savings banks led the Swedish Parliament to formulate a first national ordinance in 1875. It was decided that the county administrative board was given the right to inspect the local savings banks accounts.⁶³ The effort to regulate savings banks was motivated as they now administered great and fast growing deposits (Table 2). It probably also was a result of the increasing competition from the commercial banks and these having many influential representatives in the Parliament with an interest of distinguishing savings banks from other banks.⁶⁴ As the ordinance was considered as a recommendation, it had little real impact on the savings banks. More important for the development of the savings banks organizations was probably that several of them had decided to include a member from the local representative assembly in the savings banks boards after the municipal law of 1862.⁶⁵

The serious parliamentary critic of the Swedish savings banks not reaching their main target groups led to the founding of the Post-Office Savings Banks (POSB) in 1884. The many POSBs that by the end of the 19th century were established in the industrialized countries were meant to improve accessibility as well as continuity in savings if the account holder moved. These public facilities organized within the post offices were founded on the same principles as the savings banks, but they were under the supervision of the State. The State being a guarantee for the POSB increased the legitimacy of these new organizations and it was probably one of the reasons why depositors chose to open an account with the POSB. Already from the start, operation costs, however, became huge and the interest level on deposits was on average 0.75 per cent lower than in most savings banks. It is worth notice that an even lower interest rate was offered by their popular British predecessor. Before World War I, Swedish POSB never surpassed savings banks in deposits or number of depositors notwithstanding a large number of offices and long opening hours (Table 2). The weak development in deposits with the POSB in Sweden was probably mainly a result of low interest rates.⁶⁶ The numbers of account holders were 237,000 in 1890 and 557,000 in 1910 showing that they had only a minor part of the deposit market in Sweden at the time (Table 2). The average amount on accounts was smaller and total deposits only amounted to 5–10 per cent of total deposits in the savings banks.⁶⁷ In Britain,

⁶² Horne (1942), pp. 71–80; Lilja (2004), pp. 104–106.

⁶³ Sjölander (2003), pp. 16 and 60–62.

⁶⁴ Sjölander (2003), pp. 60–62.

⁶⁵ Lilja (2010), p.p. 51–52.

⁶⁶ Fishlow 1961; Samuelsson (1978), pp. 14–43; Johnson (1985), pp. 89–96.

⁶⁷ These calculations are based on the years 1890–1910. *Historical Statistics of Sweden, Statistical Survey. Tables not published in Volume I and II.* SCB 1960, p. 99.

the average amount on savings accounts was half that of Trustee Savings Banks.⁶⁸ It is clear, that POSB to a greater extent than savings banks managed to reach people with limited means.⁶⁹

The legal control of the savings banks was finally set with the savings banks law of 1892. In this law it was stressed that the savings banks' main purpose was to accept deposits from the general public. As savings banks operations in many ways already were in accordance with the law, it meant no major changes for most savings banks. The law stipulated the terms on savings banks' lending as a way of avoiding hazardous management of deposits and consequently bank failures. It clarified the differences between savings banks, savings funds, and commercial banks. Savings banks that did not accept the new regulation were not allowed to work as savings banks, and instead choose to be reconstructed as joint-stock banks (*Folkbanker*). The latter explains the large expansion of limited-liability banks in the 1890s and the reduction in the number of savings banks offices (Table 2). The savings bank law of 1892 settled down the diversity between actors in deposit banking that already was established.⁷⁰

As commercial banks many times shared board members with the local savings bank, they had learnt how to successfully organize deposit banking.⁷¹ The liberal bank law of 1864 made it easier to establish bank companies in Sweden, and their number increased fast (Table 2). Commercial banks' growing interest in the general public's savings from the 1870s onwards resulted in a rapidly growing number of accounts and total deposits increased quickly. However, the average balances in the commercial banks savings accounts went down at the turn of the 20th century. This was mainly a result of the growing number of account holders from the broad middle class and better-off workers, groups that earlier had turned to the savings banks.

Several actors entered the financial market during the second half of the 19th century. These intermediaries could offer different kinds of savings alternatives and thereby satisfy households' different motives to save (Figure 3). At this time more wealthy persons often had accounts in commercial banks, life insurances, stocks and bonds, and even an account in the local savings bank as a strategy of risk diversification of the portfolio and at the same time maximize the expected return on equity.⁷² Having cash reserves in savings banks and 'saving for spending' was important for many married workers, but collective contractual saving in sickness and burial funds (as friendly societies),

⁶⁸ Johnson (1985), p. 90.

⁶⁹ Johnson (1985), pp. 110–116. See Wadhvani (2011), pp. 508–509 for the founding of POSB in different countries.

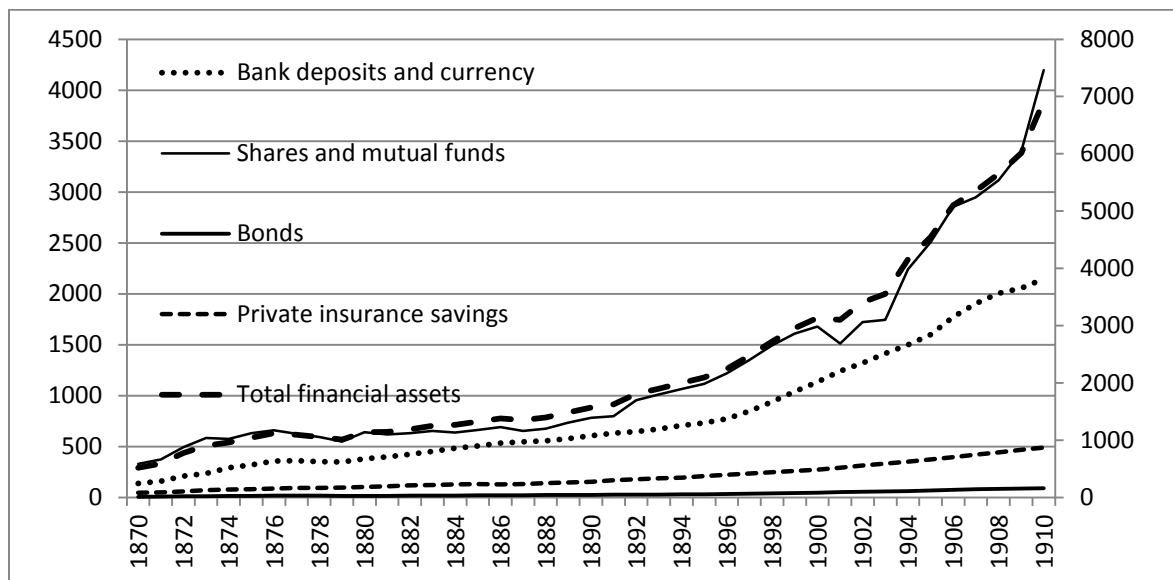
⁷⁰ SFS 1892:59; Sjölander (2003), pp. 18–20; Petersson (2001), pp. 82–86.

⁷¹ Nygren (1985), pp. 48 and 54; Petersson (2001), pp. 134–136; Sjölander (2003), p. 84.

⁷² Lilja (2004), pp. 93–98.

and life and endowment funds was more prioritized out of working-class family needs.⁷³ However, those who preferred high liquidity and unquestioned security most likely choose a bank account.

Figure 3 Bank deposits and currency, shares and mutual funds, bonds, and private insurance savings (left axis), total financial assets (right axis), 1870–1910, current prices, million SEK



Sources: Waldenström (2017), Swedish National Wealth Database (SNWD), 1810–2016. Table SE2.3 Households, financial assets.

Approximately one out of every four inhabitants had a savings bank account and one out of seven had an account in a commercial bank in Sweden in 1910.⁷⁴ As workers in general were better off, they now managed to constitute a larger part of the account holders in the (savings) banks.⁷⁵ In Britain, approximately 40 per cent of working-class financial funds in 1901 were deposited in savings banks.⁷⁶ However, their net savings rates were still low.⁷⁷ In Sweden, approximately one-third of workers' net savings were deposited in savings banks in the 1870s as well as in the 1900s.⁷⁸ It seems obvious that workers were aware of the advantages of having a savings account.⁷⁹

⁷³ For example, Johnson (1985), pp. 209 and 214–215; Johnson (1984), pp. 331–334 and 347; Boyer (2009), pp. 67–72; Lilja and Bäcklund (2016), pp. 123–126.

⁷⁴ For sources, see Figure 1 and Table 2.

⁷⁵ *Varifrån kommer, hur uppstår sparkapitalet?* (1946), pp. 78–79; Lilja 2004, p. 122.

⁷⁶ Johnson (1985), p. 205.

⁷⁷ Johnson (1994), pp. 122.

⁷⁸ Lilja and Bäcklund (2016), p. 127.

⁷⁹ Perriton (2012).

Conclusion

Deposit banking was introduced and functioned with restrained legislation and control of the Swedish State, until the first savings bank law was introduced in 1892. The early expansion of savings banks was in its early phase dependent on the founders being considered as trustworthy individuals in the local society. Having well-defined charters was also important, as it made savings banks purpose transparent to potential customers. These charters were reformed to better meet changing demand and growing competition on the savings market, and this reduced the risks with deposit banking. The lack of alternatives on the deposit market arena (especially on the countryside) might also explain the savings banks successful growth during the period studied.

However, personal trustworthiness and founders' networks had their limits in building and supporting legitimacy. In a growing economy with rapid changes – not least the integration of larger parts of the economy – the need for the State to support the emerging financial architecture became apparent. Bank regulations were introduced to secure account holders' savings when deposit banking grew in size and the representatives of the bank no longer in person could guarantee the business.

References

- Alter, G. Goldin, C. & Rotella, E. (1994), "The Savings of Ordinary Americans: The Philadelphia Saving Fund Society in the Mid-Nineteenth Century". *Journal of Economic History*, Vol. 54:4, pp. 735–766.
- Américi, L. (2002), Preparing the people for capitalism: relations with depositors in a French savings bank during the 1820s, *Financial History Review* 9, pp. 5–19.
- Bidrag till Sveriges Officiella statistik (BiSOS). Y. Sparbanksstatistik. 1880/1890/1900/1910.
- Bidrag till Sveriges Officiella statistik (BiSOS). Y. Sparbanksstatistik. II. Postsparbanken. Styrelsen för postsparbankens underdåniga berättelse 1893/1895/1901/1903/1906.
- Boyer, G. R. (2009), Insecurity, safety nets, and self-help in Victorian and Edwardian Britain, in D. Eltis, F. Lewis, and K. L. Sokoloff (Eds.) *Human capital and Institutions: A long run view*. Cambridge, MA: Cambridge University Press, pp. 46–89.
- Bäcklund, D, and Lilja, K. (2014), Variation och förnyelse: Arbetarsparande i Sverige 1870–1914, *Historisk tidskrift* 2014:4, pp. 615–646.
- Dermineur, E. (2015), Trust, Norms of Cooperation, and the Rural Credit Market in Eighteenth-Century France, *Journal of Interdisciplinary History*, XLV:4 (Spring), pp. 485–506.
- Engdahl, T. and Ögren, A. (2008), "Multiple paper monies in Sweden 1789–1903: Substitution or complementarity?", *Financial History Review* 15:1, pp. 73–91.
- Fishlow, A. (1961), The Trustee Savings Banks, 1817–1861, *The Journal of Economic History*, Vol. 21:1, pp 26–40.
- Fontaine, L. (2001), 'Antonio and Shylock; Credit and trust in France, c. 1680–c. 1780', *The Economic History review* 54, pp. 39–52.
- Haber, C. and Gratton, B. (1993), *Old age and the search for security: An American social history*. Indiana University Press: Bloomington and Indianapolis.
- Hasselberg, Y. (1998), Den sociala ekonomin: Familjen Clason och Furudals bruk 1804–1856, *Studia Historica Upsaliensia* 189 (Uppsala).
- Hellgren, H. (2003), Fasta förbindelser: En studie av låntagare hos sparbanken och informella kreditgivare i Sala 1860–1910, *Uppsala Studies in Economic History*, Uppsala.
- Hemminki, T. (2012), Långa listor med fordringar och skulder: Om förtroendeförhållanden i Ilmola och Nordmaling i början av 1800-talet, *Historisk Tidskrift för Finland* årg. 97, No. 3, pp. 375–403.
- Historical Statistics of Sweden, Statistical Survey. Tables not published in volume I and II* (1960) Statistical Sweden.
- Historical Statistics of Sweden. Part I. Population 1720–1967* (1969) Statistical Sweden.
- Hoffman, P.T. Postel-Vinay, G., and Rosenthal, J.-L., (2000), *Priceless Markets: The Political Economy of Credit in Paris 1660–1870* (Chicago).
- Horne, O. (1947), *A History of savings banks*, Oxford University Press: London/New York/Toronto.

- Johnson, P. (1994), The employment and retirement of older men in England and Wales, 1881–1981, *Economic History Review*, XLVII, I, pp.106–128.
- Johnson, P. (1985), *Saving and spending: The working-class economy in Britain 1870–1939* (Oxford).
- Johnson, P. (1984), Self-help versus state help: Old age pensions and personal savings in Great Britain, 1906–1937, *Explorations in Economic History* 21, pp. 329–350.
- Krantz, O. and Schön, L. (2007), Swedish Historical National Accounts 1800–2000, *Lund Studies in Economic History* 41, Lund.
- Kiesewetter, H. (1981), Zur Entwicklung sächsischer Sparkassen, zum Sparverhalten und zur Lebenshaltung sächsischer Arbeiter im 19. Jahrhundert (1819–1914), in W. Conze and U. Engelhardt (Hrsg.) *Arbeiterexistenz im 19. Jahrhundert: Lebensstandard und Lebensgestaltung deutscher Arbeiter und Handwerker*. Stuttgart: Klett-Cotta.
- Lilja, K. (2000), ”Utav omsorg och eftertanke. En undersökning av Falu stads sparbanks sparare 1830–1914”, *Uppsala Papers in Financial History. No. 11*. Uppsala.
- Lilja, K. (2004), *Marknad och hushåll. Sparande och krediter i Falun 1820–1910 utifrån ett livscykelperspektiv (Market and Household. A study of savings and credit on the local credit market in the town of Falun 1820–1910 from a life-cycle perspective.)* Studies in Economic History, Uppsala.
- Lilja, K. (2010), ”The Deposit Market revolution in Sweden”, in A. Ögren, (Ed.), *The Swedish Financial Revolution*, Palgrave, pp. 41–63.
- Lilja, K. and Bäcklund, D. (2016), Savings banks and working-class saving during the Swedish industrialisation, *Financial History Review*, 23:1, pp. 111–132.
- Lilja, K. and Jonsson, P. (Submitted) ‘Not always the second best: auctions, second hand consumption, and the ‘consumption (r)evolution’ in Sweden during the late 19th century’.
- Lindgren, H. (2002). ”The Modernization of Swedish Credit markets, 1840-1905: Evidence from Probate Records”, *The Journal of Economic History*, Vol. 62, No. 3 (Sep., 2002), pp. 810–832.
- Maltby, J. (2011), The wife’s administration of the earnings?’ Working-class women and savings in the mid-nineteenth century, *Continuity and Change*, 26, pp. 187–217.
- Maltby, J. and Rutterford, J. (2006), ‘She possessed her own fortune’: Women investors from the late nineteenth century to the early twentieth century, *Business History*, 48:2, pp. 220–253.
- Mclaughlin, E. (2013), ‘Profligacy in the encouragement of thrift’: Savings banks in Ireland, 1817–1914. *Business History*, 56, pp. 569–91.
- Muldrew, C. (2001), *The Economy of Obligation: The Culture of Credit and Social Relations in Early Modern England* (Basingstoke, Hampshire).
- Müller, L. (1998), *The merchant houses of Stockholm, c. 1640-1800: A comparative study of early-modern entrepreneurial behaviour*, Uppsala.
- Myrdal, G. (1933), ”Wages, Cost of living and National Income in Sweden 1860–1930, in *The Cost of Living in Sweden 1830–1930*, London: P.S. King & Son, LTD.

- Nyberg, K. (2010), The early Modern Financial System and the Informal Credit Market, in A. Ögren, (Ed.), *The Swedish Financial Revolution*, Palgrave, pp. 14–40.
- Nygren, I. (1981), *Svensk kreditmarknad 1820–1875. Översikt av det institutionella kreditväsendets utveckling*, Göteborg.
- Nygren, I. (1985), *Från Stockholms banco till Citibank. Svensk kreditmarknad under 325 år*, Stockholm.
- Ogilvie, S., Küpker, M., and Maegraith, J. (2012), Household debt in early modern Germany: Evidence from personal inventories, *Journal of Economic History*, 72, pp. 134–167.
- Ó Gráda, C. (2003), Savings banks as an institutional import: the case of nineteenth-century Ireland, *Financial History Review*, Vol. 10, Issue 1, pp. 31–55.
- Olmstead, A. L., (1975), Mutual Savings Bank Depositors in New York, *Business History Review*, Vol. XLIX, No. 3 (autumn), pp. 287–311.
- O’Rourke, K. H. and Williamson, J. G. (1995), Open Economy and Late Nineteenth Century Swedish Catch-Up: A Quantitative Accounting, *Scandinavian Economic History Review*, Vol. XLIII, No. 2, pp. 171–203.
- Owens, A. (2006), ‘Making some provision for the contingencies to which their sex is particular liable’: women and investment in early nineteenth century England, in R. Beachy, B. Craig & A. Owens (eds.), *Rethinking Separate Spheres. Women, Business and Finance in Nineteenth-century Europe*, Berg Publishers, London & New York, pp. 20–35.
- Payne, P. L. (1967), The savings bank of Glasgow 1836–1914, in P. L. Payne (ed.) *Studies in Scottish business history*, London, pp. 152–186.
- Perriton, L. (2012), Depositor trends in the Limehouse Savings bank. *Worlds Savings Banks Institute/European Savings Banks Groups*.
- Perriton, L. and Maltby, J. (2015), Working-Class Households and Savings in England, 1850–1880. *Enterprise & Society*, 16, pp. 413–445.
- Petersson, T. (2001), Framväxten av ett lokalt banksystem: Oppunda sparbank, Södermanlands enskilda bank och stationssamhället Katrineholm 1850–1916, Uppsala Studies in Economic History, Uppsala.
- Petersson, T. (2006), “The silent partners: Women, capital and the development of the financial system in nineteenth-century Sweden”, in R. Beachy, B. Craig & A. Owens (eds.), *Rethinking Separate Spheres. Women, Business and Finance in Nineteenth-century Europe*, Berg Publishers, London & New York, pp. 36–51.
- Ross, D. M. (2001), “Between Philanthropy and Entrepreneurship: Two Scottish Savings Banks in the Early Nineteenth Century” in *Entrepreneurship in Business and Research: Essays in Honour of Håkan Lindgren*, in M. Henrekson, M. Larsson, and H. Sjögren (eds.), Institute for research in Economic History, Stockholm School of Economics, pp. 301–326.

- Ross, D. M. (2013), Savings banks depositors in a crisis, Glasgow in 1847 and 1857. *Financial History Review*, **20**, pp. 183–208.
- Sammandrag af de enskilda sedelutgivande Bankernas samt Skandinaviska Kreditaktiebolagets kvartalsuppgifter för den 30 juni 1871*, Stockholm 1871.
- Sammandrag af de solidariska enskilda bankernas samt aktiebankernas och kreditbolagens uppgifter för den 31 december 1880*, Stockholm 1881.
- Sammandrag af de enskilda sedelutgivande bankernas och aktiebankernas till Kongl. Finansdepartementet ingifna uppgifter för Den 31 dec. 1890*, Stockholm 1891.
- Sammandrag af de enskilda sedelutgivande bankernas och aktiebankernas till kongl. Finansdepartementet ingifna uppgifter för 31 december 1900*, Stockholm 1901.
- Sammandrag af de solidariska bankbolagens och bankaktiebolagens Uppgifter för den 31 december 1910*, Stockholm 1911.
- Samuelsson, K. (1978), *Postbanken - postsparbank och postgiro 1884–1925–1974*, Stockholm.
- Schulz, G. (1981), Der konnte freilich ganz anders sparen als ich, in W. Conze and U. Engelhardt (eds), *Arbeiterexistenz in 19. Jahrhundert: Lebensstandard un Lebensgestaltung deutscher Arbeiter und Handwerker* (Stuttgart), pp. 446–486.
- Silow, A. (1926), *Falu stads sparbank 1825–1925*, Falun.
- SFS 1892:59 Lag angående sparbanker
- Sjölander, A. (2003), *Den naturliga ordningen: Makt och intressen i de svenska sparbankerna 1882–1968*, Uppsala Studies in Economic History, Uppsala.
- Skogman, C.-D. (1819), *Underrättelse om så kallade besparingsbanker*, Stockholm.
- Smiles, S. (1877 (1875)), *Sparsamhet (Thrift)*. Stockholm: C. E. Fritses bokh.
- Sommarin, E. (1940), *Grundläggningen av vårt sparbanksväsen*, Stockholm.
- Sommarin, E. (1942), *Vårt sparbanksväsen 1834–1892*, Lund.
- Statistisk tidskrift 1880/1890/1900/1910. Sparbanksstatistik*, SCB, Stockholm.
- Statistisk Årsbok 1914*, Stockholm: P.A. Norstedts & söner.
- Sveriges Rikes Lag gillad och antagen på Riksdagen år 1734*.
- Söderberg, J. (2010), Long-term trends in real wages of labourers. In R. Edvinsson, T. Jacobson and D. Waldenström (eds.). *Exchange rates, prices, and wages, 1277–2008*. Stockholm: Ekerlids Förlag.
- Underdånigt betänkande angående Sveriges ekonomiska och finansiella utveckling under åren 1834–1860, Avgivet den 9 februari 1863* (1858 års Finanskommitté III, Stockholm 1863).
- Wadhwanii, R. D. (2002), Banking from the bottom up: the case of migrant savers at the Philadelphia Saving Fund Society during the late nineteenth century. *Financial History Review*, **9**, pp. 41–63.
- Wadhwanii, R. D. (2011), The Institutional Foundations of Personal Finance: Innovation in U.S. Savings Banks, 1880s–1920s, *Business History Review*, **85**, pp. 499–528.

- Waldenström, D. (2017), Wealth-Income Ratios in a Small Developing Economy: Sweden, 1810–2014, *The Journal of Economic History*, Vol. 77, No. 1 (March), pp. 285–313.
- Waldenström (2017), *Swedish National Wealth Database (SNWD), 1810–2016*.
<http://www.uueconomics.se/danielw/SNWD.htm>
- Varifrån kommer, hur uppstår sparkapitalet?: en statistisk-ekonomisk undersökning rörande insättarna och inlåningsrörelsen i Stockholms stads sparbank 1821–1943*. (1946). Uppsala: Unpublished paper (99 pages), Department of Economic History, Uppsala University.
- Ögren, A., (2010), The Swedish Financial revolution: An In-Depth Study, in A. Ögren (ed.) *The Swedish Financial revolution, Palgrave MacMillan Studies in Banking and Financial Institutions*, pp. 1–13.