# The Swedish Bond Market, 1835–2020

**Daniel Waldenström**

## Introduction

Bonds play a major role in government and corporate finance and have done so for several centuries. The bond market consists of two parts. In the primary bond market, states, local governments and private-sector institutions issue bonds to finance their investments and other activities. In the secondary bond market, investors exchange bonds and set market prices that guide the pricing of stocks and bank loans and work as vehicles for facilitating the issuance of new bond loans.

The previous research literature on the history of bond markets has mainly focused on questions related to secondary market developments, compiling long time series on government bond yields or risk premia for investing in financial-sector or corporate bonds. Defaults and repudiations, especially on government debt, have also attracted much attention.[1] By contrast, there are relatively studies of the amounts raised or borrower composition in the primary markets, that is, of new bond issues or bonds in circulation. One possible explanation for this relative disinterest in the primary bond market could be a lack of data. While market prices have been published regularly in media and stock exchange listings and government debt repudiations are political events receiving considerable attention, detailed information about new bond issues or the amounts of bonds in circulation is less accessible.

In this chapter, a new database on the historical evolution of Sweden's primary bond market is presented for the period from its emergence in the 1830s to the present day. The main focus will be on the compilation and presentation of the new database, which consists of time series over aggregate amounts of new bond issues and bonds in circulation. The new data cover the universe of bond borrowing by the Swedish government, municipalities, different kinds of financial institutions, and corporations. The series cover both domestic debt issued to Swedish investors and denominated in Swedish kronor, and external debt issued to foreign markets and denominated in foreign currency.

What is missing in the new database is information about individual bond issues.

1 For overviews of this international literature, see Reinhart and Rogoff (2010) and Flandreau and Zumer (2014). For analyses of the Nordic countries, see Klovland (2010) and Waldenström (2014).

Instead, the series build on previously published aggregate market compilations. Constructing a database based on individual bond loan data would require more effort than the present project allowed. However, such a project would not be impossible, since most of the necessary source materials are available, as discussed below.

When looking at the evolution of the Swedish primary bond market, a strong feature is its close association with the activities of the borrowing institutions. Mortgage institutions were the first in Sweden to issue bonds as a structured means to generate financing, mainly for agriculture in the nineteenth and twentieth centuries. The mortgage associations and credit institutions based most of their lending to farmers on bond financing, but in the twentieth century, loans to housing became more important. The state and municipalities started issuing bonds in the middle of the nineteenth century. Government bonds soon became central to the bond market, both in terms of their increasing share of the primary market and because government bond yields in the secondary market evolved into references for risk-free rates of return. The National Debt Office (*Riksgäldskontoret*) was a key organiser of the issue of government bonds and thus the leading actor of the Swedish national debt policy in both domestic and foreign bond markets. In fact, the entire Swedish government debt was in the form of bonds in the late 1850s, a large portion of which financed expansion of the state railway network. The state-controlled Mortgage Bank was another major actor that later became important, especially for financing agriculture alongside private actors.

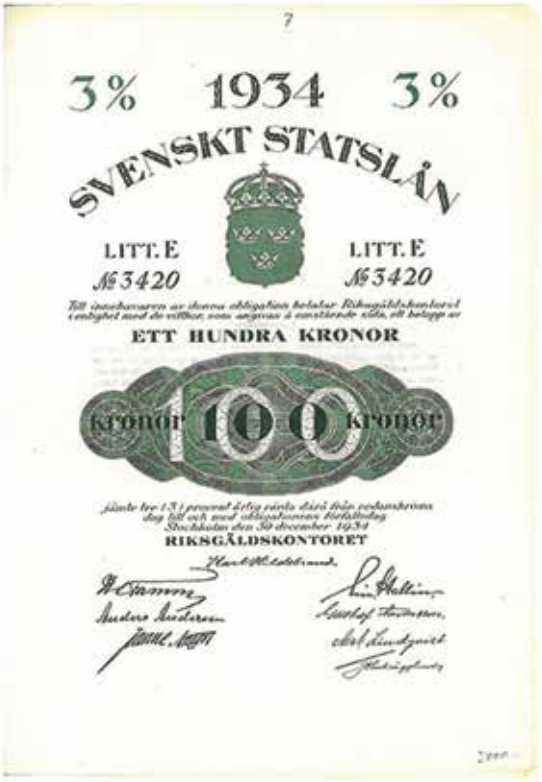
During the twentieth century, there were a number of important changes that affected the bond market. Due to the rapid growth in the Swedish economy in the 1910s and the turmoil of the First World War, the Swedish government was able to repurchase most of its foreign debt. During this decade, the country in effect went from being capital importer to capital exporter. The Second World War led to a number of capital market regulations that put most of the primary bond market under the direct control of the government and the Riksbank. Most of these regulations were lifted in the 1980s and 1990s, which laid the ground for an increase in private-sector bond issues. This trend continued after the turn of the millennium.

The remainder of the chapter is organised as follows. Section 2 presents the historical sources for the bond data and how the series have been constructed. Section 3 shows the main trends in the issue of new bonds and the amount of bonds in circulation. The outcomes are presented separately for different sectors and places of issuance. The section also discusses the role of bonds in the financing of the private corporate sector. Section 4 concludes and highlights questions for future research.

## Data and measurement

A bond is a fixed-interest debt security where the borrowers promise to follow certain repayment forms in relation to the lenders. Its primary function is to serve as a financing instrument for institutions in need of credit, for example, the state, municipalities or industrial firms. The analysis of this chapter focuses on bonds and debentures (*förlagslån*), both of which are debt securities with longer maturities. Money market instruments such as treasury bonds (*statsskuldsväxlar*) or bank certificates have shorter maturities, at most one year, and are not studied here.

Bonds started being issued in Sweden in the 1830s. This was in the early stages of the formal credit market, in which bank lending and other forms of borrowing were still limited. Bonds emerged as a simple loan form for both lenders and borrowers, guaranteeing repayment and often being backed by secured collateral and mortgages. This new format reduced risk premia and gave lower interest rates. As a consequence, the traditional short-term credits of companies could be extended as time passed.




*Swedish government bond loan of 1934, 3 percent coupon, issued by the Government Debt Office (Riksgäldskontoret). This was the last government "consol", that is, a loan without a specified maturity date, and it was therefore called "the eternal three" (eviga trean).*

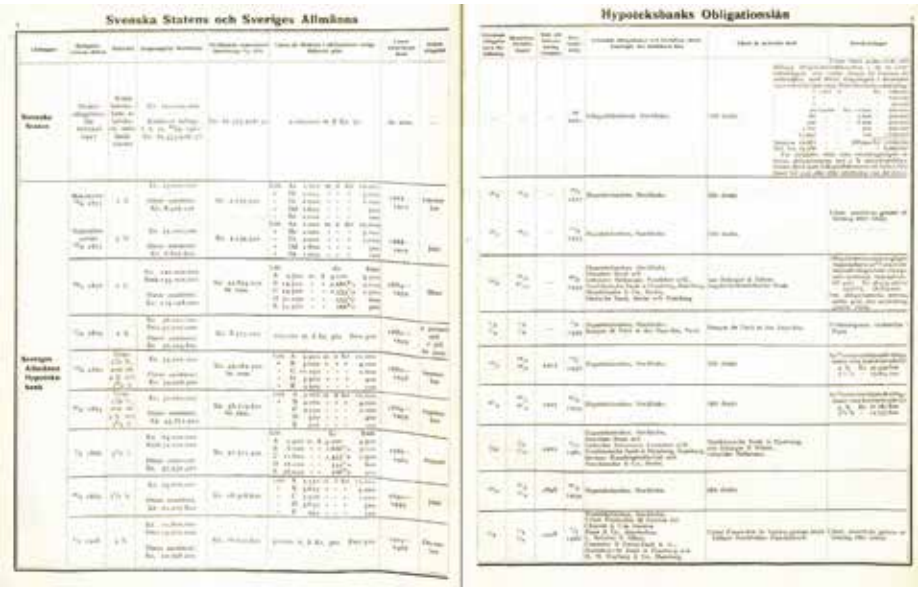
The earliest bond loans issued in the 1830s–1850s often came without predetermined maturity dates. Instead, they carried certain expiration terms in the form of dates set in advance for the earliest termination of the loan. The termination date functioned as a guarantee mainly so that the borrower was not forced to repay the loan without due notice. Government and municipal loans were often exempt from these rules and could not be terminated by lenders. In the 1860s, the indeterminate running time of bonds was replaced with predetermined expiration dates, maturities, which were often set to a period between 10 to 40 years after the loan issue. At maturity, the loans were redeemed in the printed nominal value. However, repayment sometimes took place through partial payments in special redemptions, which were drawn from the loan amount. Some government loans remained as "perpetual" loans, or consols, that had no final maturity date. By the middle of the twentieth century, these government consols had finally vanished from the market and were replaced by bonds with fixed maturities.

## *Sources for bond data*

Historical data on the primary bond market in Sweden are available in various market compilations published since the late nineteenth century. The first such compilation is Cervin (1875), produced by the private banker C. G. Cervin who was one of Sweden's most active bond underwriters in the nineteenth century. His compilation listed all bonds in circulation around 1875 that had been issued by the central government, municipalities, mortgage institutions and corporations, the latter being mainly railway companies and manufacturing firms. The listing provided information about each loan, covering variables such as date of issue, amount issued, currency denomination, maturity information (terms of repayment), name of underwriting banks, coupon interest rate and coupon payment schedule. Updated listings were published in Cervin (1884) and Håkansson (1901). Flodström (1912) compiled this evidence into annual time series across borrowers and currency between the first bond loan in 1835 and 1908.

The main modern source for the Swedish primary bond market was the Swedish Banking Association's "bond catalogue", which was published tri-annually from 1911 until 1997. The bond catalogue became the official publication for bond market information, listing the same characteristics about each bond loan as in earlier publications but also compiling the evidence in national and sectoral summaries of issued and outstanding bonds.

The later post-war period also saw Statistics Sweden and the Riksbank publishing summary statistics on the Swedish bond market. This offers valuable complementary aggregate evidence about the market up until the present day. Specifically, Statistics Sweden has different sources for the bond market data. Its Statistical Yearbook published aggregate series up until 2012 (but was discontinued in 2014). The Statistics Sweden website contains a spreadsheet with monthly data for 1997–2013 and monthly evidence from March 2013 as part of its online database.




*Bond issue data from the bond catalogue, issued by the Swedish Bankers' Association since 1911. The catalogue reported information about all bonds issued in Sweden. The information concerned the loan size, coupon rate, dates of coupon payments and maturity, underwriting banks and other loan-specific features.*

The main sources used to compile the evidence for this study are as follows. For the nineteenth century and early twentieth century, series come primarily from the compilations in Flodström (1912) and with some complementary information in Cervin (1875). The period from 1911 until the 1980s is based on data in the bond catalogues issued by the Swedish Bankers' Association. Finally, from the early 1980s until the present day, series published by Statistics Sweden and the Riksbank comprise the main source.

## *Measurement*

There are several aspects to account for when measuring the value of bonds over historical periods. Two main bond variables will be reported and analysed: the value of new bond issues and the value of bonds in circulation. These two variables comprise the most relevant aspects of the primary bond market. New bond loans show the credit flow to borrowers at each point in time. Bonds in circulation show the current stock of bond loans that exist in the capital structure of borrowing institutions. There are no comprehensive data available on the number of bonds newly issued or in circulation.

Measuring the value of new bond issues is relatively simple for most years in the studied period. Compilations were possible to make since information about new loans was published in media together with documented details of the loan (issue terms, interest rates, underwriting banks, repayment clauses, earliest and final repayment dates and so forth). An exception in data availability is the post-1982 period, when official statistics about the bond market deteriorate, especially concerning foreign loans. As a consequence, the series for newly issued bonds to foreign markets or in foreign currency is not complete in the early 2000s.

Historical data on bonds in circulation are scarcer, available only for certain periods. The reason is that there are few examples of contemporary surveys or reports on the stock of outstanding loans. Before the comprehensive assessment by Flodström (1912) of the stock of bonds in circulation in 1908, there are no estimations of the bonds still in circulation. From 1911, the Bankers' Association estimated the stock of outstanding bonds every three years, and this was done annually from the 1980s onwards.

In order to estimate the stock of bonds in circulation prior to 1908, annual rates of repayment (as a share of accumulated bond issues) are calibrated so as to match the levels of 1908. There is scattered information about actual repayment schemes that could be used to estimate the stock of bonds from the reported bond issues. In some cases, repayment follows a pre-defined schedule. For almost all loans, there is also a final maturity date at which the entire loan will be reimbursed to lenders according to plan. However, it is reasonable to believe that repayment has sometimes been slower or quicker than scheduled, for example, during the 1910s when many Swedish foreign bond loans were repurchased at a very high rate. This eliminated Sweden's external debt balance within a couple of decades. Several loans do not have a pre-defined repayment plan except for the maturity date, which makes it necessary to assume an average repayment rate (more about this below).

Because of risk-related institutional differences, repayment rates, that is, the share of the outstanding loan stock that was amortised annually, varied across borrower categories and also across domestic and foreign debt. The repayment rates are not directly observed but have to be assumed based on the observed levels in 1908 and the flows of loans issued before then. The following repayment rates were estimated using this method: central government loans were repaid at between 1.5–3 percent in the pre-1908 period, municipalities at 1.2–2 percent, railway companies at 1.5–3 percent, industrial corporations at 5.5–6 percent and other private non-financial institutions at 7 percent. It should be noted that the actual annual variation in repayment rates may differ from these assumed rates, which means that the true stock of bonds in circulation deviates from the one presented here. Having said this, the levels in 1908 are credible and the data on new issues before that are also credible.

Domestic and foreign bond issues represent an important dimension when analysing the primary bond market. Sweden industrialised during the latter half of the nineteenth century and a long-standing discussion in the research literature is to

what extent the financing of Swedish investments were based on foreign or domestic funds.[2] In the statistical sources, bonds are often reported separately as being domestically or foreign-issued. The main variable used to make this distinction is the currency denomination of the loan, being Swedish kronor (SEK) for domestic loans and foreign currency (German marks, British pounds, US dollars, euros etc.) for foreign loans.[3] In the nineteenth and early twentieth century, foreign currency-denominated bonds were generally also underwritten by foreign financial intermediaries, mainly in Germany, France and the UK. In the twenty-first century bond market statistics, loans are divided in terms of issued currency between SEK, euros, US dollars and other currencies.

A problematic aspect concerning the measurement of the amount of domestic and foreign bonds in circulation is that we know too little about cross-border flows in the secondary market when it came to single bonds. For example, the repurchases of Swedish foreign-issued government bonds during the 1910s was recorded internally by the National Debt Office (Franzén, 1998) and the numbers are incorporated in the series used here, but this information is not published in any of the publicly available bond market sources. After the capital account liberalisations in the late 1980s and early 1990s, securities have been transferred freely across country borders. As a result, this study's estimation of bonds in circulation either domestically or abroad is based on the loans' original place of issuance rather than the actual location of their bearers.

The sectoral division of borrowing institutions is centred around four main groups: 1) state (central government), 2) municipalities (local government), 3) financial institutions and 4) corporations. These four groups are relatively consistent over time, but they contain a relatively broad range of actors that are not identical in all periods. The state, or the national sovereign, and the municipalities are quite homogenous throughout the studied period, representing the same institutional functions and societal entities. By contrast, the financial institutions have changed in nature during the period. Mortgage associations have been the central actors in this category throughout the period, but they have gone from being separate organisations to being owned by commercial banks since the post-war era. Banks, credit institutions and other financial market actors started issuing bonds in the early twentieth century and they are also included in the broad category of financial institutions.[4] Corporations have been mainly manufacturing firms and railway companies, but this cate-

2 See, for example, Gårdlund (1947) and Schön (1989).

3 In the post-1997 series at Statistics Sweden, currency denomination is the only way in which bond issues are separated geographically.

4 In the post-1970 listings, the statistical sources list bonds issued by banks, credit market companies, investment companies, housing finance institutions, housing institutions, municipal and business institutions, pure business institutions, insurance companies and other financial market actors.

gory also includes other private non-financial institutions such as canal companies and various associations and foundations.

## Evolution in the Swedish bond market

This section presents the main trends in the Swedish primary bond market, from the first bond issue in 1835 up to 2020. The presentation begins with a description of aggregate values of new bond issues and the stock of bonds in circulation. Thereafter, the analysis shows divisions between domestically and foreign-circulating bonds. Finally, there is a discussion of the role of bonds in corporate finance among Swedish industrial firms and railway companies.

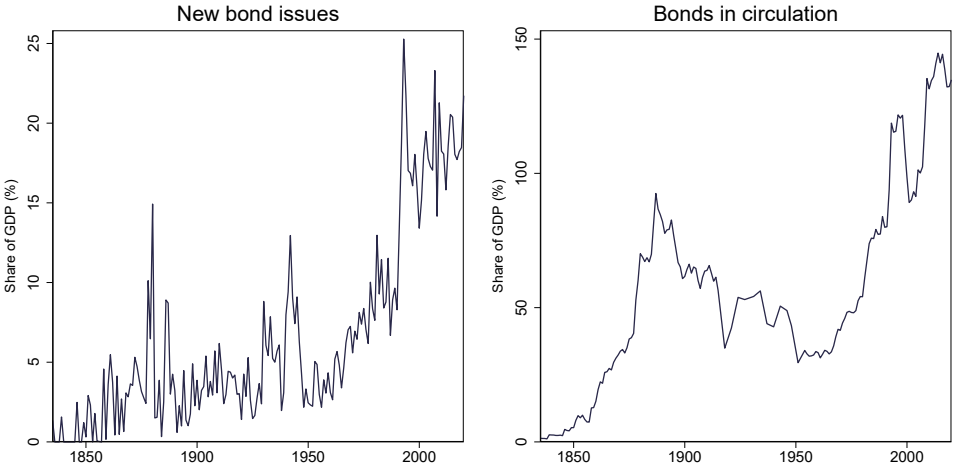
### *Main trends*

Figure 4.1 shows the long-run evolution of Swedish bond issues and bonds in circulation over the entire 185-year period since 1835. The economic importance of bonds appears to have increased over the period, although at a somewhat different pace across different eras. The left panel shows the annual flow of new bond issues as a share of GDP. The flow hovered around 5 percent until the 1970s after which it increased significantly up to 15–20 percent in the 2000s. There are several notable wartime and crisis-related spikes which will be discussed further below. The right panel shows the stock of bonds in circulation as a share of GDP. It exhibits a similar increasing long-run time trend as the bond issues, but with a more distinct periodisation in the trends. Two periods were clearly expansionary for the bond market, the pre-1890 and post-1980 periods, and in between there was a stable, or even slightly stagnant, period.

Evidence on the creditors to Swedish bond issuers is relatively scarce. Kock's (1961) study of interwar credit market notes that savings banks, insurance companies, funds and other types of financial associations were the largest bond purchasers. The state, industrial companies and mortgage institutions were the most active borrowers in the 1920s.[5]

5 Kock (1961): pp. 35 ff.

**Figure 4.1:** *Bonds issued and in circulation in Sweden, 1835–2020 (% of GDP)*




A more detailed picture of the long-run patterns is offered in Figures 4.2 and 4.3, in which the series are disaggregated across borrowing institutions. This disaggregation sheds new light on a number of historical patterns.

Looking first at bond issuances, several notable spikes appear in the data series. The first occurs around 1880 in connection with the rapid expansion of railways in Sweden and a large increase in the issuance of bonds by private railway companies. These were bonds with 10–30 years to maturity, promising regular coupon payments around five percent and marketed by private banks and banking firms to domestic investors. The railway bond expansion of the 1860s and 1870s was an international phenomenon, linked to technological developments in the automation and railway industries across Europe. After an international recession in the early to mid-1870s, several railway companies started getting less traffic and lower revenues, making it difficult for them to keep up their coupon payments to creditors. This, in turn, instigated a financial crisis in the latter half of the decade that affected several banks and financial intermediaries that had kept railway bonds in their own portfolios. As a consequence, some actors went bankrupt and some were salvaged by emergency loans from the Riksbank or by making new bond issues of their own. The series shows that the crisis was succeeded by a few large financial and government bond issues.

In the early 1930s and through the Second World War, government bond issues increased to meet the strongly increased financing need for public investments and defence spending during this turbulent period. Interestingly, there was no equivalent bond financing activities during the First World War, which instead was a period when the Swedish government exported capital to the continent through repurchases of previously foreign-issued bonds.


*A poster from 1941 advertising one of the Swedish government's three government bond loans issued during the Second World War with the aim to fund the country's military mobilization. The slogan says "For defence and work. The second defence loan".*

After the Second World War, the Swedish bond market contracted and underwent a compositional change. New bond issues decreased for corporate borrowers and to some extent for financial institutions while government bonds continued to be issued. Overall, however, the first post-war decades saw a contraction of the bond market relative to GDP. The amount of bonds in circulation fell to its lowest level since the 1860s. This contraction had several causes, one of the most important being the new credit and capital market regulations that were introduced during the war and retained afterwards. These restrictions implied among other things that all new bond issues had to be approved by a supervisory board at the Riksbank, which effectively channelled resources from private issuers to the government bond issues.

In the 1980s, credit and capital market regulations were gradually phased out. Along with a general economic recovery after the structural crisis of the 1970s, this led to a revival in the bond market. There are two notable spikes in government bond issuance during the post-1980 period. The first was in the early 1980s, and the other was after the major Swedish economic crisis of the early 1990s. After the 1990s, government bond issues started to decrease in relative importance and this is also reflected in the bonds in circulation (see Figures 4.4 and 4.5). One explanation for the reduction in government bond issues is the new fiscal policy framework that came into force in the 1990s, in which smaller budget deficits and public debt ceilings were introduced.

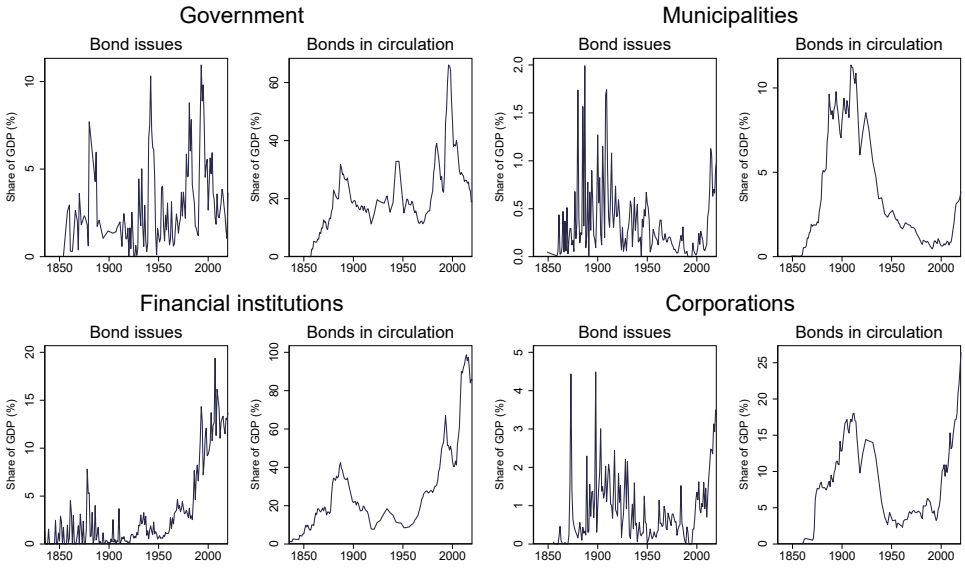
Municipalities have been active borrowers on the Swedish bond market since the

middle of the nineteenth century. Their bonds represented up to ten percent of all bonds in circulation from the late nineteenth century up to the mid-twentieth century. During the post-war period, municipalities almost stopped issuing bonds and most of their bonds went out of circulation. Around 2010, municipalities again started issuing bonds which could be associated with the tightening of legal balance requirements for municipal budgets.

Financial institutions have been the main bond-issuing sector in Sweden since the emergence of the bond market in the 1830s. Figure 4.3 shows that they dominated the bond market in the nineteenth century and after the Second World War. After the market deregulations of the 1980s, there has been strong growth in the issuance of mortgage-backed bonds in particular. There are notable spikes in the mid-1990s and in 2007. While these are temporarily associated with the financial crises, they also reflect the expansion of the Swedish housing market (Lundgren, 2021).

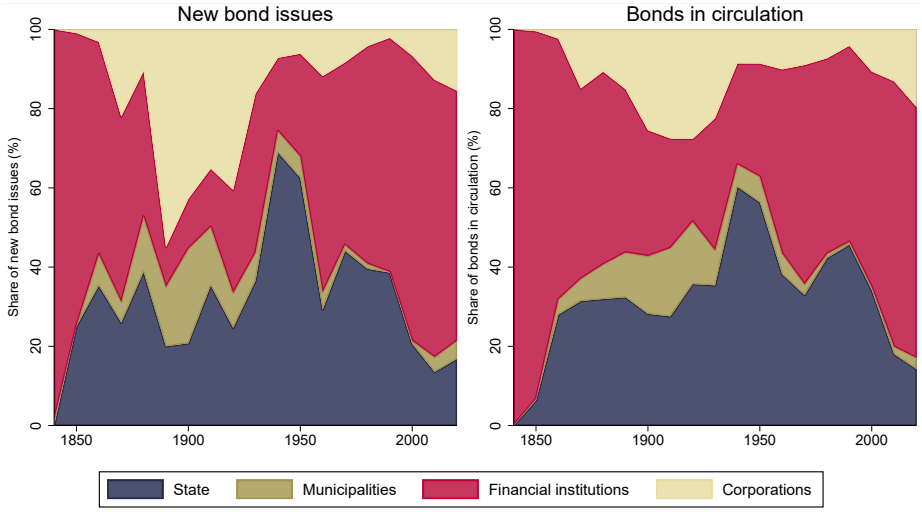
Corporations have long since played a quantitatively small role as borrowers throughout most of Sweden's bond market history. However, starting with the railway bond boom during the 1860s and 1870s and extending over the industrial expansion in the late nineteenth century and early decades of the twentieth century, Sweden had a relatively lively corporate bond market. Around 1900, half of all new bond issues came from the corporate sector. The increased regulatory pressures during the Second World War and the post-war era put an end to Swedish corporate bond activities. New issues almost ceased altogether for several decades and not even the deregulated 1980s and 1990s sparked a revival. Since the 2000s, the Swedish

**Figure 4.2:** *Bond issues by Swedish borrowing institutions, 1835–2020 (% of GDP)*



corporate bond market has grown steadily. In the 2010s, corporate bonds represented 10–15 percent of all new bond issues. Bonthron (2014) shows that the expansion is largely driven by bond issues from the car industry and companies in the real estate and construction sectors.

**Figure 4.3:** *Share of issued bonds by borrower category, 1835–2020*




## *Domestic and external debt*

The geographical location and currency denomination of the issued bonds constitute an important dimension for both debtors and creditors. Governments have in different eras been able to deflate away loans by repaying them through money-printing. Some borrowers may not be internationally renowned enough to float loans abroad. The home country may not be rich enough to offer sufficient capital for new bond loans, and borrowers are forced to turn to foreign creditors.

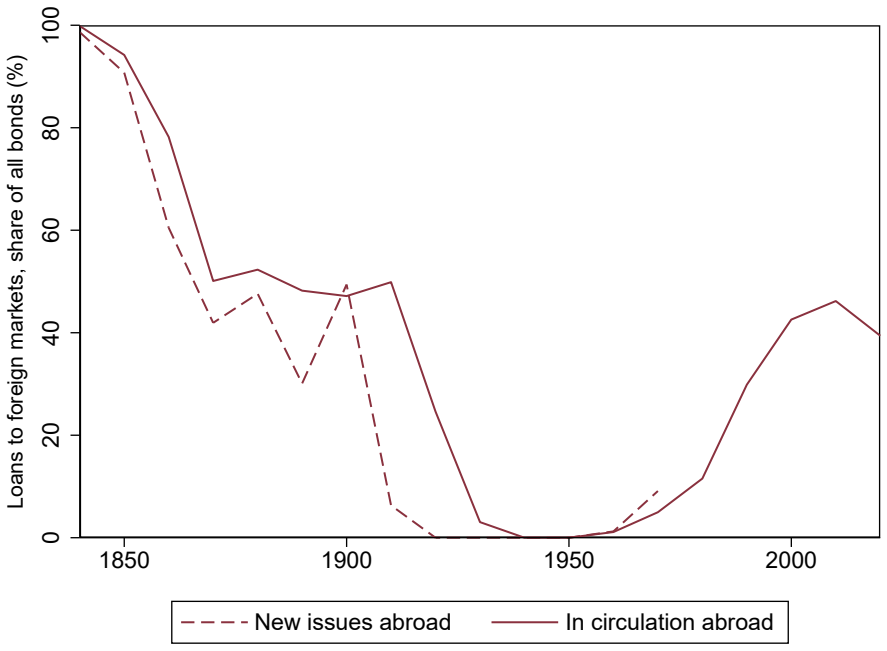
Swedish economic history shows how the country went from being relatively poor in the nineteenth century to relatively rich in the twentieth century. This development is reflected in the evolution of the country's primary bond market. Figure 4.4 shows the share of foreign, or external, bond loans, which here refer to loans sold to foreign markets and (or) being denominated in foreign currency, of all newly issued or circulating Swedish bond loans. The figure shows that Swedish bonds were initially only issued to foreign markets up until the 1870s. Thereafter, domestic creditors started to purchase bonds between 1870 and 1920, when about half of all bonds were floated abroad and half was floated domestically. According to the listings in Cervin (1875), practically all foreign-issued bonds in Sweden up to the 1870s were

placed in Germany, with banking houses Bethmann and Erlanger in Frankfurt am Main, and the North German Bank in Hamburg and the banking firms Salomon Heine and Warburg. Later in the nineteenth century, Swedish bonds started being placed not only in Germany but also in other countries, predominantly Great Britain, France and Denmark. Prominent underwriting banking firms in the listings of Håkansson (1901) include Hambro, Rothschild and Carnegie in London, Rothschild and Credit Lyonnais in Paris, and Den Danske Landmansbank and Hypotek- og Vekselbank in Copenhagen.

In the early twentieth century, domestic creditors became more important. This development was particularly accentuated regarding government debt. Sweden stayed neutral in the First World War, and, as an indirect consequence, the country could accumulate funds to repurchase foreign government bonds and went from being capital importer to capital exporter. Studies by Kock (1961) and Franzén (1998) show that the share of foreign bondholding of the state's total funded debt went from about 90 percent in 1913 to about 21 percent in 1922 (Kock 1961, Franzén 1998).

From the 1920s and up until the 1980s, Swedish bond issuers were only active on the domestic capital market. There are several partial explanations for this develop-

**Figure 4.4:** *Domestic and foreign shares of bonds in circulation, 1835–2020*

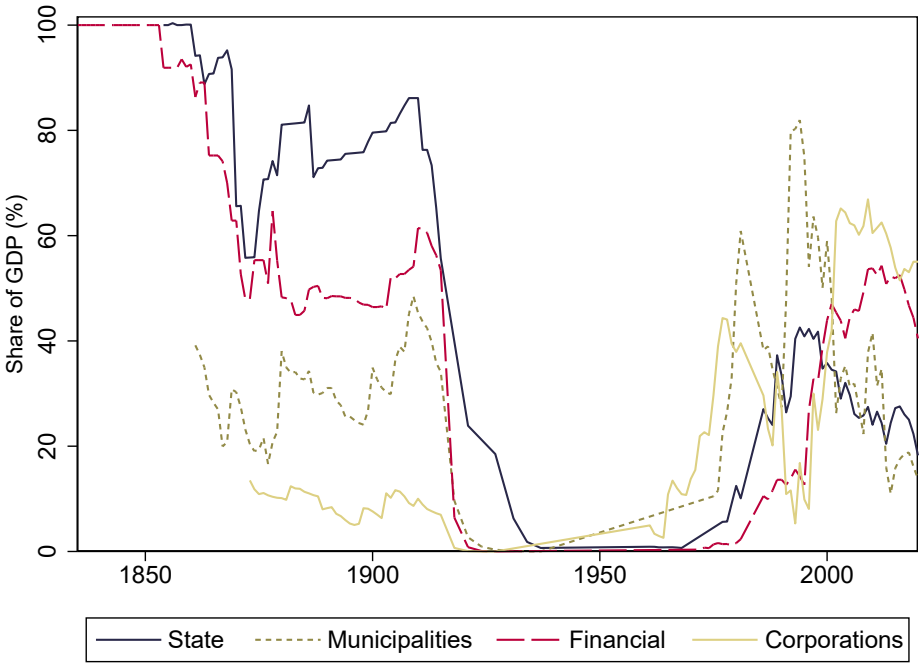



*Note:* There is a lack of data on foreign-issued bonds for some years in the post-1980 period which explains the missing points for that period.

ment. Sweden was industrialising rapidly and domestic investors were able to accommodate new bond issues during this era. The post-war period brought strict capital account regulations that restricted cross-border capital flows. Furthermore, credit and capital market regulations implied that Swedish financial institutions were required to overtake new bond issues, especially those of the public sector. The 1980s and 1990s came with deregulations of most financial markets, and some institutions started issuing bonds abroad. In the 2010s, the foreign share of bonds in circulation was around 40 percent, which is close to the levels seen a century before.

Figure 4.5 decomposes foreign bond issue activities across borrower categories. The figure shows that in the nineteenth century, mortgage associations and the central government placed almost all of their bond loans in foreign markets. By contrast, bonds issued by municipalities and corporations were mostly issued to the domestic market in the early historical era. The shift to domestic creditors in the twentieth century is clearly noticeable in the figure and all borrower categories were affected by it. It is interesting to note that the post-1980s reversal into more foreign borrowing is the most marked for municipal and corporate bonds.

**Figure 4.5:** *Share of foreign bonds of all bonds in circulation, by borrower category.*



## *Bonds and corporate finance*

What role did bonds play in the financing of Sweden's industrial revolution in the nineteenth and early twentieth centuries? How has its role developed during the twentieth century, and what does it look like now? Questions about how bonds contributed to industrialisation have been studied in the Swedish economic history literature, but it is fair to say that consensus has not yet been reached. For example, Gårdlund (1947) is an important study of industrial finance in Sweden up to the 1910s. This study presented hand-collected balance sheet information of Swedish industrial firms and examined the main sources of external finance, as presented in Table 4.1. The evidence suggests that bond loans went from being quantitatively unimportant in 1870 to being the major source of external finance in 1910.

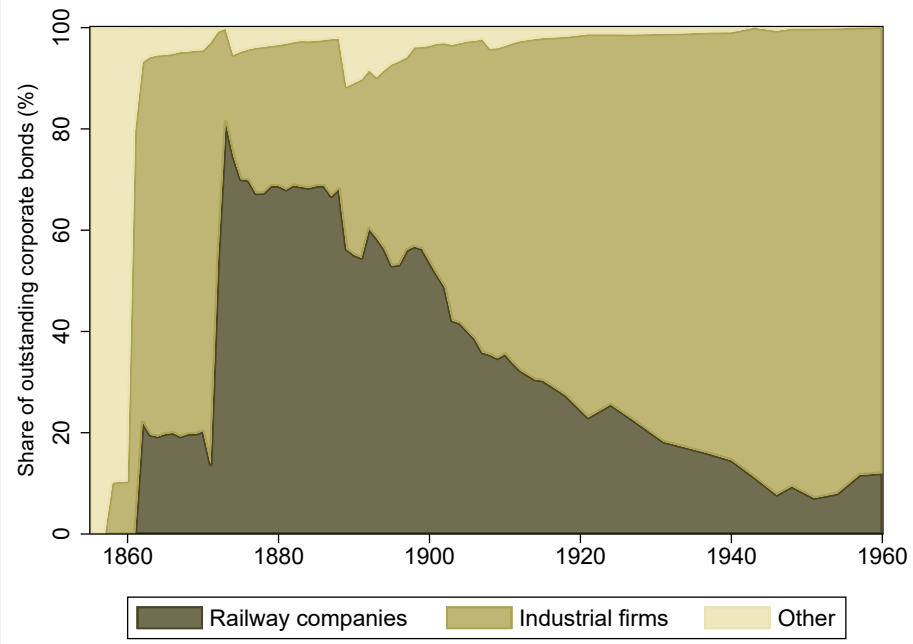
**Table 4.1:** *The capital structure in the industrial sector 1870–1910 (%)*

| | Promissory note loans | Debenture loans and advances | Bank loans | Bonds | Total |
|---|---|---|---|---|---|
| 1870 | 39 | 25 | 33 | 4 | 100 |
| 1890 | 48 | 6 | 33 | 13 | 100 |
| 1910 | 21 | 3 | 39 | 37 | 100 |

*Note:* The figures are taken from Gårdlund's study of industrial companies. Source: Gårdlund (1947, p.161).

The bond data presented in this chapter could complement Gårdlund's study. Figures 4.2 and 4.3 showed that corporate bonds grew in importance during the end of the nineteenth century and that they remained relatively sizeable up until the Second World War. To gain further insight, Figure 4.6 presents a decomposition of the corporate bonds by distinguishing between three different kinds: railway companies, industrial manufacturing companies and other companies (mainly canal companies). These were reported as three separate categories in the historical sources up to the 1950s. The analysis shows that railway companies gained importance after the 1860s and 1870s and became the most important corporate bond issuer up until the 1910s when manufacturing firms gradually took over.

**Figure 4.6:** *Corporate bonds in circulation, by borrower category, 1855–1960.*



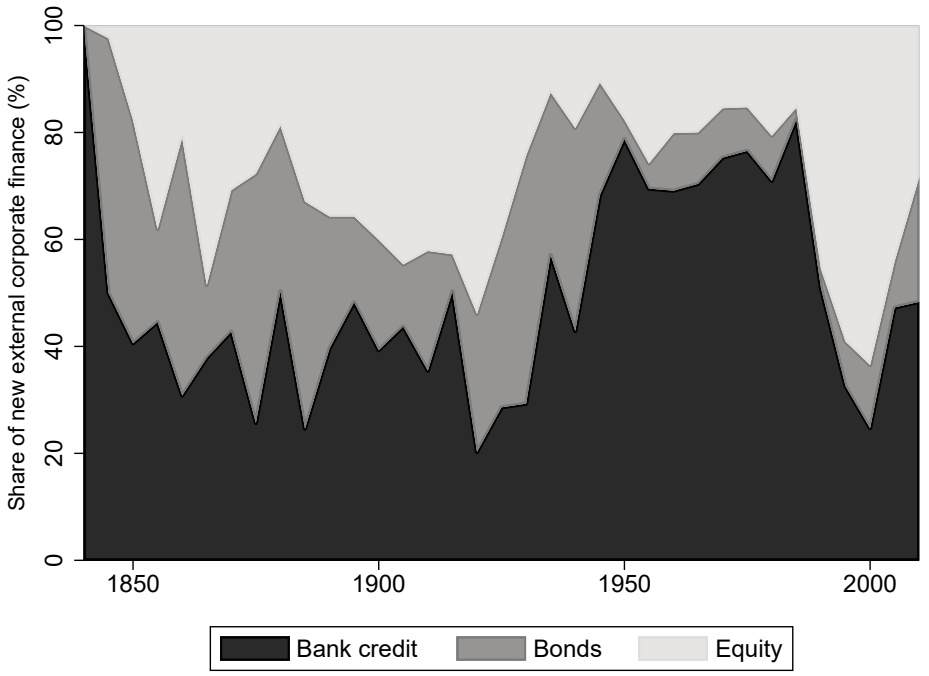

Another way to assess the role of bonds in industrial finance is to compare them with the other two main channels of external corporate finance: bank loans and share issues. Figure 4.7 provides a preliminary picture of this. It shows the relative shares of the flow of funds coming from bank credits, bond loans and new equity issues. Data on bank credit come from Ahnland (2022) and Fregert (2022), and the series is calculated by taking first differences of the stock of outstanding bank credit with mortgage credits removed in the post-war era.[6] Data on new equity issues come from Waldenström (2016) and includes all new corporate capital issued since the Corporate Law of 1848, including bonus issues. Bond issues come from this chapter's new database.

The patterns in Figure 4.7 suggest that bank credit has been the overall most important source of external funding of firms over the past 185 years. In these series, bank loans represent between 40 and 80 percent of all new external funding to Swedish firms. New equity issues and bonus issues have also been important, representing between 20 and 40 percent. Finally, corporate bond issues have represented between 10 and 20 percent. A couple of things to note with these results. First, the picture

6 The official statistics on private bank lending to firms is complicated by the fact that during most of the historical period, loans to firms and households are reported under one and the same category ("the public"). Despite this, the present analysis uses changes in the total bank lending up until 1945 when mortgage lending is removed.

may differ when we look at funds in circulation, that is, the outstanding amounts of bank credit, corporate equity and bonds. Second, some bank credits to firms may be funded by bond loans of banks and other financial intermediaries, which would suggest a larger role of bonds in Swedish corporate finance than the figure shows. These findings are largely in line with the evidence presented in Table 4.1 above, which was based on the examination of the corporate capital stock, that bank loans were particularly important for industrial firms throughout the industrialization era but that bonds became more important over time.

**Figure 4.7:** *External corporate funding: Bank credit, bonds and equity, 1835–2020.*




## *International comparison*

The past research literature on historical bond markets is relatively limited, particularly concerning international historical comparisons of primary bond markets. Reinhart and Rogoff (2010) and Flandreau and Zumer (2014) compile data on government debt, including central and local government and domestic and external debt. Using their databases, Table 4.2 compares the share of total government bond loans of GDP in Sweden with five other European countries for which data are available for single years between 1880 and 2020.

The international comparison shows that Sweden is a country that has had a rela-

tively low level of public-sector indebtedness throughout history. The selected years in the table suggest that over the past 140 years, Sweden's consolidated government debt hovered between 20 and 40 percent of GDP (with higher levels in single periods, especially the 1980s and 1990s). Furthermore, the table shows that the other Nordic countries also exhibit relatively low government debt levels today and historically (with the exception of Finland in 2020). By contrast, France has had much higher levels of public debt several times in the past, often in relation to wars. Germany has lower debt levels than France both historically and in 2020.

**Table 4.2:** *General government debt (% of GDP), 1880–2020.*

| | France | Germany | Sweden | Denmark | Norway | Finland |
|---|---|---|---|---|---|---|
| 1880 | 96 | 37 | 28 | 24 | 16 | |
| 1913 | 66 | 42 | 26 | 16 | 20 | 11 |
| 1938 | 161 | | 19 | 17 | 26 | 10 |
| 1950 | 27 | 18 | 18 | 46 | 32 | 25 |
| 1980 | 21 | 30 | 23 | 35 | 47 | 11 |
| 2020 | 108 | 65 | 41 | 41 | 41 | 65 |

*Note and sources:* Table shows sum of central and local government debt issued both domestically and abroad. Data come from Reinhart and Rogoff (2010), Flandreau and Zumer (2014), Eurostat, and this chapter. Some years are not exactly as in the table: Finland 1914 not 1913, France 1931 not 1938 and Sweden 1951 not 1950.

## Concluding remarks

This chapter has presented a newly collected and compiled database on Sweden's primary bond market over the past 185 years. The main purpose has been to complement the picture of Sweden's economic history. Government and corporate borrowing have helped finance both public-sector investments in infrastructure and other institutions and private-sector investments in agriculture and industrial production.

The new time series cover both issues of new bonds and estimates of the value of outstanding bonds in circulation. A sectorial division was made to study where in the Swedish economy bonds have been used to finance activities. The extent of domestic and foreign borrowing and the relative importance of bonds in total corporate finance are two additional dimensions analysed.

Several interesting historical patterns emerge from the new data. In the nineteenth century, bonds were initially a way for farmers to attract funding through mortgage association bonds issued mainly in Germany. The state soon became a dominant

bond issuer later in that century. First, the purpose was to finance the state-led railway expansion, and later in the twentieth century, bonds have been used fund military armaments, especially during the World Wars, and later to finance the welfare state. Municipalities have used bond financing to fund larger investments as well as welfare-related expenditure. Looking at private-sector bond issues over the past two centuries, financial institutions, mainly banks, have used bonds to fund their lending, in recent decades in the form of mortgages. Corporations used bonds to finance their investments up to the interwar era, then stopped doing so due to the tightening of post-war regulations, but have again started issuing bonds on a larger scale since the 2000s.

The chapter's data are aggregate time series, offering a broad picture of the long-run developments and the overall role of bonds in the Swedish economy. However, a deeper understanding of the role of bonds requires richer data on individual loans across several dimensions. A richer database can indeed be constructed since the sources named in this chapter contain such individual bond loan information back to the 1830s, including details about interest rates, currency denomination, repayment clauses and involved actors. Hopefully, this chapter can inspire others to engage in such a research project that would shed even more light on the role of bonds in the development of the Swedish economy.

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# Appendix tables

**Table A4.1:** *New bond issues*

| | *Total* | *Gov.* | *Municip.* | *Financial* | *Corp.* | *Railway* | *Industry* | *Oth. corp* |
|---|---|---|---|---|---|---|---|---|
| 1835 | 6 | | | 6 | | | | |
| 1836 | 0 | | | 0 | | | | |
| 1837 | 0 | | | 0 | | | | |
| 1838 | 0 | | | 0 | | | | |
| 1839 | 8 | | | 8 | | | | |
| 1840 | 0 | | | 0 | | | | |
| 1841 | 0 | | | 0 | | | | |
| 1842 | 0 | | | 0 | | | | |
| 1843 | 0 | | | 0 | | | | |
| 1844 | 0 | | | 0 | | | | |
| 1845 | 0 | | | 0 | | | | |
| 1846 | 13.333 | | | 13.333 | | | | |
| 1847 | 0 | | | 0 | | | | |
| 1848 | 0 | | | 0 | | | | |
| 1849 | 6.942 | | 0.275 | 6.667 | | | | |
| 1850 | 1.872 | | | 1.872 | | | | |
| 1851 | 17.733 | | | 17.733 | | | | |
| 1852 | 14.839 | | | 14.839 | | | | |
| 1853 | 0 | | | 0 | | | | |
| 1854 | 13.188 | 0.282 | | 12.906 | | | | |
| 1855 | 0.5 | | | 0 | 0.5 | | | 0.5 |
| 1856 | 0.25 | | | 0 | 0.25 | | | 0.25 |
| 1857 | 0 | | | 0 | 0 | | | |
| 1858 | 38.631 | 21.841 | 0.1 | 16.62 | 0.07 | | 0.07 | |
| 1859 | 1.358 | | 0.07 | 1.288 | 0 | | | |
| 1860 | 32.58 | 26.667 | 0.58 | 5.333 | 0 | | | |
| 1861 | 52.248 | 3 | 4.16 | 43.188 | 1.9 | | 1.9 | |
| 1862 | 36.551 | | 0.245 | 31.806 | 4.5 | 1.5 | 3 | |
| 1863 | 4.35 | 3 | 0.35 | 0 | 1 | | 1 | |
| 1864 | 40.541 | 9.891 | 0.94 | 29.41 | 0.3 | | 0.3 | |
| 1865 | 4.575 | | 4.575 | 0 | 0 | | | |
| 1866 | 27.092 | 26.486 | 0.5 | 0 | 0.106 | | 0.106 | |
| 1867 | 6.72 | | 3.82 | 2.5 | 0.4 | | 0.4 | |
| 1868 | 31.319 | 20.7 | 0.619 | 10 | 0 | | | |
| 1869 | 29.484 | 4 | 5.334 | 20 | 0.15 | | 0.15 | |
| 1870 | 40.34 | 40 | 0.34 | 0 | 0 | | | |
| 1871 | 41.11 | | 2.038 | 36.272 | 2.8 | | 2.8 | |
| 1872 | 69.997 | 24 | 3.868 | 21.741 | 20.388 | 14.188 | 6.2 | |
| 1873 | 73.895 | | 4.565 | 0 | 69.33 | 63.53 | 5.8 | |

| | Total | Gov. | Municip. | Financial | Corp. | Railway | Industry | Oth. corp |
|---|---|---|---|---|---|---|---|---|
| 1874 | 62.717 | | 2 | 38.417 | 22.3 | 10 | 6.3 | 6 |
| 1875 | 49.896 | 36.882 | 2.66 | 0 | 10.354 | 1.434 | 8.92 | |
| 1876 | 45.461 | 36.62 | 0.9 | 0 | 7.941 | 4.5 | 3.441 | |
| 1877 | 39.436 | | 11.077 | 22.229 | 6.13 | 0.25 | 5.88 | |
| 1878 | 152.433 | 27.24 | 2.866 | 117.807 | 4.52 | 2.2 | 2.2 | 0.12 |
| 1879 | 93.759 | 9 | 4.93 | 76.344 | 3.485 | 3.25 | 0.235 | |
| 1880 | 230.105 | 118.746 | 26.81 | 82.108 | 2.441 | 0.856 | 1.575 | 0.01 |
| 1881 | 23.582 | | 6.485 | 11.997 | 5.1 | 1.8 | 3.3 | |
| 1882 | 24.87 | | 2.34 | 13.5 | 9.03 | 6.41 | 2.62 | |
| 1883 | 63.101 | | 4.097 | 53.894 | 5.11 | 2.31 | 2.8 | |
| 1884 | 5.465 | | 3.815 | 0 | 1.65 | | 1.45 | 0.2 |
| 1885 | 40.127 | | 25 | 8.197 | 6.93 | 4.4 | 2.35 | 0.18 |
| 1886 | 133.951 | 64.546 | 4.84 | 60.33 | 4.235 | 2.125 | 2.11 | |
| 1887 | 124.433 | 85.144 | 28.439 | 6 | 4.85 | | 4.85 | |
| 1888 | 46.303 | 26.667 | 1.445 | 14.561 | 3.63 | 3.33 | 0.2 | 0.1 |
| 1889 | 69.16 | | 3.595 | 28.24 | 37.325 | 6.25 | 15.575 | 15.5 |
| 1890 | 55.129 | 35.556 | 13.273 | 1 | 5.3 | | 5.3 | |
| 1891 | 10.6 | | 0.06 | 5 | 5.54 | 0.9 | 4.64 | |
| 1892 | 39.911 | | 11.83 | 0.756 | 27.325 | 23.6 | 3.7 | 0.025 |
| 1893 | 17.384 | | 4.794 | 0 | 12.59 | 2.95 | 5.71 | 3.93 |
| 1894 | 76.755 | 18 | 15.419 | 20.086 | 23.25 | 8.086 | 15.164 | |
| 1895 | 25.085 | | | 0 | 25.085 | 5.685 | 19.25 | 0.15 |
| 1896 | 19.69 | | 4.32 | 2 | 13.37 | 5.82 | 7.55 | |
| 1897 | 36.812 | | 3.751 | 8.421 | 24.64 | 18.08 | 6.41 | 0.15 |
| 1898 | 110.858 | | 2.125 | 7.178 | 101.555 | 57.345 | 44.21 | |
| 1899 | 55.716 | 36 | 11.742 | 0.374 | 7.6 | 0.5 | 6.6 | 0.5 |
| 1900 | 97.455 | 36.32 | 32.025 | 5 | 24.11 | 2.7 | 20.91 | 0.5 |
| 1901 | 49.085 | | 13.65 | 0 | 35.435 | 7.66 | 27.775 | |
| 1902 | 78.148 | | 19.915 | 13 | 45.233 | 11.67 | 32.163 | 1.4 |
| 1903 | 91.051 | | 6.149 | 6 | 78.902 | 6.59 | 68.172 | 4.14 |
| 1904 | 144.623 | 36 | 3.3 | 68.293 | 37.03 | 10.18 | 26.85 | |
| 1905 | 77.99699 | | 31.71 | 5.097 | 41.19 | 6.28 | 34.91 | |
| 1906 | 116.586 | 43.2 | 22.332 | 14.304 | 36.75 | 3.65 | 32.4 | 0.7 |
| 1907 | 97.235 | 46.8 | 6.63 | 0 | 43.805 | 0 | 43.805 | |
| 1908 | 190.128 | 54.48 | 56.19 | 11.798 | 67.66 | 16.95 | 38.71 | 12 |
| 1909 | 101.667 | | 57.424 | 7.693 | 36.55 | 3.7 | 31.25 | 1.6 |
| 1910 | 219.434 | | 31.614 | 130.848 | 56.972 | 19.517 | 37.235 | 0.22 |
| 1911 | 164.476 | 72 | 14.95 | 2 | 75.526 | 10.025 | 65.501 | |
| 1912 | 92.622 | | 11.858 | 8.514 | 72.25 | 8 | 64.25 | |
| 1913 | 123.781 | 24.48 | 26.401 | 29.5 | 43.4 | 1.5 | 41.9 | |
| 1914 | 189.612 | 77.521 | 46.3 | 22.451 | 43.34 | 0.9 | 42.44 | |
| 1915 | 215.764 | 121.177 | 23.098 | 38.249 | 33.24 | 3.2 | 30 | 0.04 |

| | Total | Gov. | Municip. | Financial | Corp. | Railway | Industry | Oth. corp |
|---|---|---|---|---|---|---|---|---|
| 1916 | 248.139 | 119.177 | 18.976 | 20.361 | 89.625 | 10.35 | 75.35 | 3.925 |
| 1917 | 298.533 | 72.629 | 32.75 | 19.467 | 173.687 | 52.632 | 121.055 | |
| 1918 | 288.527 | 98.192 | 71.099 | 32.336 | 86.9 | | 86.9 | |
| 1919 | 352.481 | 190.112 | 48.816 | 16.768 | 96.785 | 5 | 91.425 | 0.36 |
| 1920 | 185.696 | 4.793 | 55.846 | 29.357 | 95.7 | 31 | 64.7 | |
| 1921 | 410.459 | 158.693 | 57.211 | 16.555 | 178 | 1 | 177 | |
| 1922 | 233.709 | 37.704 | 36.899 | 69.906 | 89.2 | 30.5 | 57.2 | 1.5 |
| 1923 | 433.776 | 207.737 | 16.794 | 84.245 | 125 | 24 | 101 | |
| 1924 | 222.231 | 118.248 | 6 | 83.183 | 14.8 | 11 | 3.8 | |
| 1925 | 128.812 | 0.416 | 27 | 53.696 | 47.7 | 3.4 | 42.8 | 1.5 |
| 1926 | 146.65 | 0.349 | 5 | 72.401 | 68.9 | 10.2 | 58.7 | |
| 1927 | 247.772 | 57.416 | | 58.456 | 131.9 | | 131.5 | 0.4 |
| 1928 | 341.462 | 7.079 | 17.766 | 110.815 | 205.802 | 11.652 | 193.55 | 0.6 |
| 1929 | 232.648 | 44.092 | 5.977 | 92.979 | 89.6 | | 88.8 | 0.8 |
| 1930 | 869.673 | 437.525 | 25.098 | 194.285 | 212.765 | 27 | 185.765 | |
| 1931 | 548.001 | 227.612 | 27.521 | 170.202 | 122.666 | 3.6 | 119.066 | |
| 1932 | 464.645 | 151.111 | 34.47 | 259.064 | 20 | 20 | | |
| 1933 | 669.658 | 428.081 | 49.577 | 179.668 | 12.332 | | 12.332 | |
| 1934 | 494.656 | 162.782 | 48.967 | 224.91 | 57.997 | 9.197 | 48.8 | |
| 1935 | 506.423 | 59.505 | 10.444 | 331.323 | 105.151 | 10.116 | 95.035 | |
| 1936 | 617.063 | 317.323 | 35.037 | 221.333 | 43.37 | 1.17 | 42.2 | |
| 1937 | 731.3359 | 115.687 | 74.163 | 349.761 | 191.725 | 5.45 | 186.275 | |
| 1938 | 247.846 | 36.126 | 34.606 | 115.264 | 61.85 | 8.35 | 53.5 | |
| 1939 | 431.576 | 103.293 | 58.348 | 193.735 | 76.2 | 6.5 | 69.7 | |
| 1940 | 1181.052 | 1007.01 | 80.711 | 84.335 | 9 | 6 | 3 | |
| 1941 | 1537.431 | 1224.48 | 25 | 236.75 | 51.2 | 8.5 | 42.7 | |
| 1942 | 2332.459 | 1858.52 | 29.972 | 342.767 | 101.2 | | 101.2 | |
| 1943 | 1763.159 | 1410.03 | 39.866 | 261.665 | 51.6 | | 51.6 | |
| 1944 | 1501.098 | 1260.81 | 0.741 | 196.877 | 42.67 | | 42.67 | |
| 1945 | 1918.491 | 1291.41 | 82.52 | 484.054 | 60.51 | | 60.51 | |
| 1946 | 1526.844 | 1122.49 | 75 | 259.426 | 69.923 | 18.942 | 50.981 | |
| 1947 | 1149.875 | 338.918 | 131.148 | 345.918 | 333.891 | 64 | 269.891 | |
| 1948 | 640.368 | 31.983 | 125 | 316.385 | 167 | 0 | 167 | |
| 1949 | 1011.195 | 489.912 | 204.237 | 156.546 | 160.5 | 0 | 160.5 | |
| 1950 | 908.445 | 448.653 | 206.761 | 245.531 | 7.5 | 0 | 26 | |
| 1951 | 1055.5 | 380.1 | 231 | 397.4 | 47 | 0 | 146.5 | |
| 1952 | 1106.9 | 528.8 | 185 | 294.6 | 98.5 | 30 | 122 | |
| 1953 | 2580.6 | 2022.6 | 25 | 331.5 | 201.5 | 30 | 180.5 | |
| 1954 | 2635.4 | 2182.5 | | 324.9 | 128 | 40 | 98 | |
| 1955 | 1732 | 1036 | 80 | 535 | 81 | 0 | 41 | |
| 1956 | 1373.6 | 566.6 | 179.4 | 499.6 | 128 | 12 | 116 | |
| 1957 | 2622.5 | 1599.8 | | 808.7 | 214 | 83 | 131 | |

| | Total | Gov. | Municip. | Financial | Corp. | Railway | Industry | Oth. corp |
|---|---|---|---|---|---|---|---|---|
| 1958 | 2177.8 | 1089.2 | 150 | 783.6 | 155 | 30 | 125 | |
| 1959 | 3278 | 2320.3 | | 823.7 | 134 | 0 | 134 | |
| 1960 | 2543.8 | 1211.3 | 140 | 936.5 | 256 | 30 | 192 | |
| 1961 | 2357 | 600 | 110 | 1332 | 315 | | | |
| 1962 | 5018 | 969 | 290 | 2658 | 1101 | | | |
| 1963 | 5930 | 3278 | 400 | 1687 | 565 | | | |
| 1964 | 5615 | 1354 | 445 | 3180 | 636 | | | |
| 1965 | 4349 | 778 | 290 | 2691 | 590 | | | |
| 1966 | 6477 | 1050 | 240 | 4502 | 685 | | | |
| 1967 | 9423 | 2524 | 275 | 5135 | 1489 | | | |
| 1968 | 11304 | 3915 | 385 | 5623 | 1381 | | | |
| 1969 | 12629 | 3523 | 305 | 8073 | 728 | | | |
| 1970 | 10876 | 2612 | 295 | 7239 | 730 | | | |
| 1971 | 14612 | 3995 | 400 | 8517 | 1700 | | | |
| 1972 | 14830 | 4977 | 470 | 7770 | 1613 | | | |
| 1973 | 20832 | 9427 | 525 | 9332 | 1548 | | | |
| 1974 | 21450 | 6745 | 490 | 12820 | 1395 | | | |
| 1975 | 28492 | 12545 | 433 | 12894 | 2620 | | | |
| 1976 | 27155 | 11513 | 420 | 12182 | 3040 | | | |
| 1977 | 25871 | 9168 | 300 | 13518 | 2885 | | | |
| 1978 | 46713 | 27311 | 365 | 16372 | 2665 | | | |
| 1979 | 43678 | 23897 | 283 | 16453 | 3045 | | | |
| 1980 | 45302 | 27268 | 222 | 16447 | 1365 | | | |
| 1981 | 84124 | 57005 | 270 | 24334 | 2515 | | | |
| 1982 | 65929 | 42864 | 715 | 19060 | 3290 | | | |
| 1983 | 91111 | 62323 | 1270 | 23498 | 4020 | | | |
| 1984 | 75244 | 36874 | 1975 | 22756 | 13639 | | | |
| 1985 | 85517 | 34803 | 1610 | 43782 | 5322 | | | |
| 1986 | 122818 | 33203 | 3302 | 81783 | 4530 | | | |
| 1987 | 77129 | 20000 | 1060 | 53664 | 2405 | | | |
| 1988 | 112465 | 20600 | 455 | 90510 | 900 | | | |
| 1989 | 134761 | 19000 | 500 | 115161 | 100 | | | |
| 1990 | 127544 | 18500 | 860 | 101316 | 6868 | | | |
| 1991 | 220063 | 76535 | 0 | 138210 | 5318 | | | |
| 1992 | 309151 | 130818 | 0 | 178333 | 0 | | | |
| 1993 | 418938 | 181417 | 0 | 237521 | 0 | | | |
| 1994 | 384033 | 157095 | 0 | 226938 | 0 | | | |
| 1995 | 324586 | 186956 | 0 | 137630 | 0 | | | |
| 1996 | 329789 | 149720 | 2795 | 169739 | 7535 | | | |
| 1997 | 329015 | 92820 | 1261 | 226888 | 8046 | | | |
| 1998 | 388415 | 112367 | 820 | 260403 | 14825 | | | |
| 1999 | 360547 | 125818 | 390 | 208574 | 25765 | | | |
| 2000 | 322974 | 64065 | 860 | 225557 | 32492 | | | |

| | Total | Gov. | Municip. | Financial | Corp. | Railway | Industry | Oth. corp |
|---|---|---|---|---|---|---|---|---|
| 2001 | 379392 | 102733 | 2506 | 245255 | 28898 | | | |
| 2002 | 468945 | 146432 | 6341 | 274004 | 42168 | | | |
| 2003 | 526660 | 127958 | 3487 | 370504 | 24711 | | | |
| 2004 | 503348.1 | 168034 | 7515 | 304782 | 23017 | | | |
| 2005 | 506542 | 105659 | 6245 | 363639 | 30999 | | | |
| 2006 | 532278 | 102454 | 5327 | 394037 | 30460 | | | |
| 2007 | 773680 | 73982 | 2556 | 643809 | 53333 | | | |
| 2008 | 483383 | 63198 | 2145 | 386453 | 31587 | | | |
| 2009 | 710878.7 | 119659 | 3165 | 539392 | 48663 | | | |
| 2010 | 652041 | 83339 | 4620 | 538957 | 25125 | | | |
| 2011 | 673404 | 82779 | 15595 | 529044 | 45986 | | | |
| 2012 | 591989 | 96640 | 18028 | 413302 | 64019 | | | |
| 2013 | 708613 | 117077 | 27015 | 485263 | 79258 | | | |
| 2014 | 820217 | 153671 | 44988 | 522744 | 98814 | | | |
| 2015 | 868286 | 150404 | 45069 | 568058 | 104755 | | | |
| 2016 | 796781 | 127395 | 27856 | 537743 | 103787 | | | |
| 2017 | 819356 | 109973 | 32541 | 531979 | 144863 | | | |
| 2018 | 879721 | 72237 | 32017 | 634041 | 141426 | | | |
| 2019 | 932562 | 52519 | 46695 | 656752 | 176596 | | | |
| 2020 | 1082617 | 182221 | 49839 | 682946 | 167611 | | | |

**Table A4.2:** *Bonds in circulation*

| | *Total* | *Gov.* | *Municip.* | *Financial* | *Corp.* | *Railway* | *Industry* | *Oth. corp* |
|---|---|---|---|---|---|---|---|---|
| 1835 | 6 | | | 6 | | | | |
| 1836 | 5.88 | | | 5.88 | | | | |
| 1837 | 5.762 | | | 5.762 | | | | |
| 1838 | 5.647 | | | 5.647 | | | | |
| 1839 | 13.534 | | | 13.534 | | | | |
| 1840 | 13.264 | | | 13.264 | | | | |
| 1841 | 12.998 | | | 12.998 | | | | |
| 1842 | 12.738 | | | 12.738 | | | | |
| 1843 | 12.484 | | | 12.484 | | | | |
| 1844 | 12.234 | | | 12.234 | | | | |
| 1845 | 11.989 | | | 11.989 | | | | |
| 1846 | 25.083 | | | 25.083 | | | | |
| 1847 | 24.581 | | | 24.581 | | | | |
| 1848 | 24.089 | | | 24.089 | | | | |
| 1849 | 30.549 | | 0.275 | 30.274 | | | | |
| 1850 | 31.811 | | 0.27 | 31.541 | | | | |
| 1851 | 48.907 | | 0.264 | 48.643 | | | | |
| 1852 | 62.768 | | 0.259 | 62.509 | | | | |
| 1853 | 61.513 | | 0.254 | 61.259 | | | | |
| 1854 | 73.471 | 0.282 | 0.249 | 72.94 | | | | |
| 1855 | 72.501 | 0.276 | 0.244 | 71.481 | 0.5 | | | 0.5 |
| 1856 | 71.275 | 0.27 | 0.239 | 70.051 | 0.715 | | | 0.715 |
| 1857 | 69.814 | 0.265 | 0.234 | 68.65 | 0.665 | | | 0.665 |
| 1858 | 107.014 | 22.1 | 0.329 | 83.897 | 0.688 | | 0.07 | 0.618 |
| 1859 | 106.178 | 21.636 | 0.393 | 83.508 | 0.641 | | 0.066 | 0.575 |
| 1860 | 136.582 | 47.849 | 0.965 | 87.171 | 0.597 | | 0.062 | 0.535 |
| 1861 | 186.022 | 49.844 | 5.106 | 128.616 | 2.456 | | 1.958 | 0.497 |
| 1862 | 218.697 | 48.797 | 5.248 | 157.849 | 6.803 | 1.5 | 4.841 | 0.463 |
| 1863 | 218.392 | 50.772 | 5.493 | 154.692 | 7.435 | 1.455 | 5.55 | 0.43 |
| 1864 | 254.259 | 59.598 | 6.324 | 181.008 | 7.329 | 1.411 | 5.517 | 0.4 |
| 1865 | 253.433 | 58.346 | 10.772 | 177.388 | 6.927 | 1.369 | 5.186 | 0.372 |
| 1866 | 275.159 | 83.607 | 11.057 | 173.84 | 6.655 | 1.328 | 4.981 | 0.346 |
| 1867 | 276.063 | 81.851 | 14.656 | 172.864 | 6.692 | 1.288 | 5.082 | 0.322 |
| 1868 | 301.545 | 100.832 | 14.981 | 179.406 | 6.326 | 1.249 | 4.777 | 0.299 |
| 1869 | 324.679 | 102.715 | 20.015 | 195.818 | 6.131 | 1.212 | 4.641 | 0.278 |
| 1870 | 358.212 | 140.558 | 19.955 | 191.902 | 5.797 | 1.176 | 4.362 | 0.259 |
| 1871 | 391.817 | 137.606 | 21.594 | 224.335 | 8.282 | 1.14 | 6.9 | 0.241 |
| 1872 | 453.541 | 158.716 | 25.03 | 241.59 | 28.205 | 15.295 | 12.686 | 0.224 |
| 1873 | 517.534 | 155.383 | 29.094 | 236.758 | 96.299 | 78.366 | 17.725 | 0.208 |
| 1874 | 568.243 | 152.12 | 30.513 | 270.44 | 115.17 | 86.015 | 22.962 | 6.194 |
| 1875 | 604.532 | 185.807 | 32.562 | 265.031 | 121.132 | 84.868 | 30.504 | 5.76 |
| 1876 | 635.36 | 218.525 | 32.811 | 259.73 | 124.294 | 86.822 | 32.115 | 5.357 |

| | *Total* | *Gov.* | *Municip.* | *Financial* | *Corp.* | *Railway* | *Industry* | *Oth. corp* |
|---|---|---|---|---|---|---|---|---|
| 1877 | 659.45 | 213.936 | 43.232 | 276.765 | 125.517 | 84.468 | 36.068 | 4.982 |
| 1878 | 795.944 | 236.684 | 45.233 | 389.036 | 124.991 | 84.134 | 36.104 | 4.753 |
| 1879 | 871.024 | 240.713 | 49.259 | 457.599 | 123.453 | 84.86 | 34.173 | 4.42 |
| 1880 | 1081.031 | 354.405 | 75.083 | 530.555 | 120.988 | 83.17 | 33.697 | 4.121 |
| 1881 | 1080.253 | 346.962 | 80.067 | 531.941 | 121.283 | 82.475 | 34.975 | 3.833 |
| 1882 | 1080.755 | 339.676 | 80.805 | 534.802 | 125.472 | 86.41 | 35.497 | 3.564 |
| 1883 | 1119.439 | 332.543 | 83.286 | 578 | 125.61 | 86.128 | 36.167 | 3.315 |
| 1884 | 1099.709 | 325.559 | 85.436 | 566.44 | 122.274 | 83.544 | 35.447 | 3.283 |
| 1885 | 1115.099 | 318.723 | 108.727 | 563.308 | 124.341 | 85.438 | 35.67 | 3.233 |
| 1886 | 1223.986 | 376.576 | 111.392 | 612.372 | 123.646 | 85 | 35.64 | 3.007 |
| 1887 | 1321.137 | 453.811 | 137.603 | 606.125 | 123.598 | 82.45 | 38.352 | 2.796 |
| 1888 | 1338.065 | 470.948 | 136.296 | 608.564 | 122.257 | 83.306 | 36.25 | 2.7 |
| 1889 | 1377.575 | 461.058 | 137.165 | 624.633 | 154.719 | 87.057 | 49.65 | 18.011 |
| 1890 | 1400.933 | 486.931 | 147.695 | 613.14 | 153.167 | 84.445 | 51.971 | 16.751 |
| 1891 | 1379.267 | 476.706 | 144.801 | 605.877 | 151.883 | 82.812 | 53.493 | 15.578 |
| 1892 | 1387.37 | 466.695 | 153.735 | 594.516 | 172.424 | 103.928 | 53.984 | 14.513 |
| 1893 | 1372.615 | 456.894 | 155.454 | 582.626 | 177.641 | 103.76 | 56.455 | 17.427 |
| 1894 | 1417.294 | 465.3 | 167.764 | 591.059 | 193.171 | 108.733 | 68.231 | 16.207 |
| 1895 | 1408.941 | 455.528 | 164.409 | 579.238 | 209.766 | 111.156 | 83.387 | 15.222 |
| 1896 | 1394.788 | 445.962 | 165.441 | 569.653 | 213.732 | 113.641 | 85.934 | 14.157 |
| 1897 | 1397.977 | 436.597 | 165.883 | 566.681 | 228.816 | 128.312 | 87.188 | 13.316 |
| 1898 | 1475.002 | 427.429 | 164.69 | 562.525 | 320.358 | 181.808 | 126.167 | 12.384 |
| 1899 | 1493.306 | 454.453 | 173.138 | 551.648 | 314.067 | 176.854 | 125.197 | 12.017 |
| 1900 | 1553.063 | 481.229 | 201.7 | 545.615 | 324.519 | 174.248 | 138.595 | 11.676 |
| 1901 | 1562.735 | 471.123 | 211.316 | 534.703 | 345.593 | 176.68 | 158.054 | 10.858 |
| 1902 | 1600.527 | 461.23 | 227.005 | 537.009 | 375.283 | 183.05 | 180.734 | 11.498 |
| 1903 | 1649.471 | 451.544 | 228.614 | 532.269 | 437.044 | 184.149 | 238.062 | 14.833 |
| 1904 | 1748.547 | 478.061 | 227.342 | 589.916 | 453.228 | 188.804 | 250.629 | 13.795 |
| 1905 | 1778.492 | 468.022 | 254.505 | 583.215 | 472.75 | 189.42 | 270.501 | 12.829 |
| 1906 | 1845.684 | 501.394 | 271.747 | 585.854 | 486.689 | 187.387 | 286.671 | 12.631 |
| 1907 | 1891.531 | 537.664 | 272.942 | 574.137 | 506.788 | 181.766 | 313.276 | 11.747 |
| 1908 | 2040.467 | 584.079 | 323.673 | 579.046 | 553.669 | 195.989 | 334.755 | 22.925 |
| 1909 | 2096.994 | 575.318 | 374.623 | 579.79 | 567.263 | 196.749 | 347.594 | 22.92 |
| 1910 | 2269.675 | 566.688 | 398.745 | 703.68 | 600.562 | 213.315 | 365.711 | 21.536 |
| 1911 | 2384.411 | 630.188 | 405.72 | 697.236 | 651.267 | 220.14 | 411.098 | 20.028 |
| 1912 | 2423.784 | 620.735 | 409.464 | 697.383 | 696.202 | 224.838 | 452.738 | 18.626 |
| 1913 | 2492.119 | 635.904 | 427.675 | 718.515 | 710.025 | 222.966 | 469.737 | 17.322 |
| 1914 | 2624.625 | 703.887 | 465.422 | 732.343 | 722.973 | 220.521 | 486.342 | 16.11 |
| 1915 | 2782.258 | 812.609 | 479.211 | 761.804 | 728.634 | 220.886 | 492.802 | 14.946 |
| 1916 | | | | | | | | |
| 1917 | | | | | | | | |
| 1918 | 3369.125 | 1086.197 | 581.896 | 755.774 | 945.258 | 259.251 | 668.802 | 17.206 |
| 1919 | | | | | | | | |

| | Total | Gov. | Municip. | Financial | Corp. | Railway | Industry | Oth. corp |
|---|---|---|---|---|---|---|---|---|
| 1920 | | | | | | | | |
| 1921 | 4090.504 | 1423.465 | 712.784 | 744.853 | 1209.402 | 278.198 | 915.44 | 15.765 |
| 1922 | | | | | | | | |
| 1923 | | | | | | | | |
| 1924 | 4575.986 | 1669.001 | 725.679 | 955.981 | 1225.325 | 312.986 | 896.508 | 15.831 |
| 1925 | | | | | | | | |
| 1926 | | | | | | | | |
| 1927 | 4770.437 | 1706.851 | 681.896 | 1101.611 | 1280.079 | 287.87 | 975.138 | 17.071 |
| 1928 | | | | | | | | |
| 1929 | | | | | | | | |
| 1930 | | | | | | | | |
| 1931 | 4898.202 | 1665.174 | 510.767 | 1455.873 | 1266.388 | 231.011 | 1019.92 | 15.46 |
| 1932 | | | | | | | | |
| 1933 | | | | | | | | |
| 1934 | 5305.671 | 1978.015 | 450.741 | 1739.767 | 1137.148 | 194.148 | 930.274 | 12.726 |
| 1935 | | | | | | | | |
| 1936 | | | | | | | | |
| 1937 | 5292.172 | 1840.815 | 412.616 | 1965.752 | 1072.989 | 170.575 | 892.383 | 10.032 |
| 1938 | | | | | | | | |
| 1939 | | | | | | | | |
| 1940 | 6347.221 | 2757.742 | 517.576 | 2227.371 | 844.532 | 122.983 | 713.974 | 7.575 |
| 1941 | | | | | | | | |
| 1942 | | | | | | | | |
| 1943 | 9865.398 | 6401.669 | 496.11 | 2232.469 | 735.15 | 82.794 | 652.356 | |
| 1944 | | | | | | | | |
| 1945 | | | | | | | | |
| 1946 | 11853.32 | 7970.58 | 566.732 | 2665.886 | 650.123 | 50.387 | 595.781 | 3.955 |
| 1947 | | | | | | | | |
| 1948 | 12732.8 | 7451.223 | 756.669 | 3247.208 | 1277.695 | 119.9 | 1155.5 | 2.29 |
| 1949 | | | | | | | | |
| 1950 | | | | | | | | |
| 1951 | 13402.71 | 6841.4 | 1248 | 3853.4 | 1459.914 | 103.571 | 1354.12 | |
| 1952 | | | | | | | | |
| 1953 | | | | | | | | |
| 1954 | 18472.34 | 10781 | 1220.8 | 4674.4 | 1796.137 | 143.295 | 1650.66 | 2.17 |
| 1955 | 19070.1 | 11366.1 | 1255.7 | 5151.2 | 1297.1 | | | |
| 1956 | 20165.5 | 11387 | 1386.8 | 5571.8 | 1819.9 | | | |
| 1957 | 21578.3 | 12056.3 | 1340 | 6287 | 1895 | 221 | 1674 | |
| 1958 | 23018.2 | 12685.8 | 1386 | 7004 | 1942.4 | | | |
| 1959 | 25463.2 | 14433.4 | 1330.9 | 7743.7 | 1955.2 | | | |
| 1960 | 27302.6 | 15165.7 | 1414.8 | 8639.1 | 2083 | 250 | 1835 | |
| 1961 | 27912 | 14402 | 1465 | 9986 | 2059 | | | |
| 1962 | 31514 | 14639 | 1693 | 12146 | 3036 | | | |

| | Total | Gov. | Municip. | Financial | Corp. | Railway | Industry | Oth. corp |
|---|---|---|---|---|---|---|---|---|
| 1963 | 35668 | 16517 | 1976 | 13707 | 3468 | | | |
| 1964 | 39288 | 16628 | 2342 | 16385 | 3933 | | | |
| 1965 | 42020 | 16339 | 2542 | 18806 | 4333 | | | |
| 1966 | 46811 | 16199 | 2686 | 23127 | 4799 | | | |
| 1967 | 54125 | 17400 | 2860 | 27834 | 6031 | | | |
| 1968 | 62932 | 19552 | 3026 | 33199 | 7155 | | | |
| 1969 | 73048 | 21388 | 3214 | 40844 | 7602 | | | |
| 1970 | 80870 | 22117 | 3382 | 47289 | 8082 | | | |
| 1971 | 93093 | 24778 | 3646 | 55218 | 9451 | | | |
| 1972 | 105912 | 29339 | 3974 | 61978 | 10621 | | | |
| 1973 | 123728 | 37291 | 4303 | 70400 | 11734 | | | |
| 1974 | 141185 | 43336 | 4609 | 80600 | 12640 | | | |
| 1975 | 164030 | 52718 | 4817 | 91795 | 14700 | | | |
| 1976 | 185213 | 60741 | 4984 | 102456 | 17032 | | | |
| 1977 | 204778 | 65914 | 4983 | 114849 | 19032 | | | |
| 1978 | 245245 | 89551 | 5033 | 130025 | 20636 | | | |
| 1979 | 282963 | 110064 | 4987 | 145434 | 22478 | | | |
| 1980 | 320971 | 134090 | 4839 | 159680 | 22362 | | | |
| 1981 | 397096 | 187636 | 4721 | 181954 | 22785 | | | |
| 1982 | 480040 | 223174 | 6939 | 212443 | 37484 | | | |
| 1983 | 588296 | 298384 | 7516 | 240612 | 41784 | | | |
| 1984 | 679605 | 350019 | 8004 | 274709 | 46873 | | | |
| 1985 | 737622 | 357330 | 8274 | 319645 | 52373 | | | |
| 1986 | 843474 | 364597 | 9715 | 402377 | 66785 | | | |
| 1987 | 891768 | 356198 | 9834 | 454022 | 71714 | | | |
| 1988 | 976435 | 335628 | 9175 | 556500 | 75132 | | | |
| 1989 | 1172353 | 387468 | 8720.5 | 695722 | 80442 | | | |
| 1990 | 1229422 | 349994 | 8266 | 793111 | 78051 | | | |
| 1991 | 1318788 | 365635 | 7670 | 873651 | 71832 | | | |
| 1992 | 1548253 | 477842 | 9884 | 990395 | 70132 | | | |
| 1993 | 1967784 | 766800 | 15205 | 1109728 | 76051 | | | |
| 1994 | 2038072 | 898233 | 16643 | 1057070 | 66126 | | | |
| 1995 | 2205419 | 1148273 | 16002 | 979002 | 62142 | | | |
| 1996 | 2382695 | 1292540 | 15242 | 1004197 | 70716 | | | |
| 1997 | 2468302 | 1345374 | 21821 | 1003381 | 97726 | | | |
| 1998 | 2618402 | 1387627 | 20380 | 1099356 | 111039 | | | |
| 1999 | 2475229 | 1219693 | 16981 | 1099214 | 139341 | | | |
| 2000 | 2375010 | 1119622 | 15779 | 1041526 | 198083 | | | |
| 2001 | 2232228 | 951710 | 15570 | 1013929 | 251019 | | | |
| 2002 | 2340892 | 1002564 | 17160 | 1051650 | 269518 | | | |
| 2003 | 2518692 | 1030961 | 20831 | 1171105 | 295795 | | | |
| 2004 | 2586853 | 1135631 | 19789 | 1166901 | 264532 | | | |
| 2005 | 2969082 | 1101868 | 22871 | 1524110 | 320233 | | | |

| | *Total* | *Gov.* | *Municip.* | *Financial* | *Corp.* | *Railway* | *Industry* | *Oth. corp* |
|---|---|---|---|---|---|---|---|---|
| 2006 | 3126179 | 1042814 | 28679 | 1746186 | 308500 | | | |
| 2007 | 3400659 | 977361 | 28476 | 2036811 | 358011 | | | |
| 2008 | 4022687 | 965438 | 23574 | 2605304 | 428371 | | | |
| 2009 | 4521365 | 970288 | 28731 | 3010207 | 512139 | | | |
| 2010 | 4698908 | 1011258 | 30816 | 3187239 | 469595 | | | |
| 2011 | 5016389 | 1037672 | 44277 | 3435388 | 499052 | | | |
| 2012 | 5092410 | 969461 | 61491 | 3501124 | 560334 | | | |
| 2013 | 5389602 | 1007624 | 76744 | 3691048 | 614186 | | | |
| 2014 | 5780915 | 1050944 | 105131 | 3941610 | 683230 | | | |
| 2015 | 6014888 | 1078876 | 132435 | 4070860 | 732717 | | | |
| 2016 | 6373498 | 1137840 | 141290 | 4302042 | 792326 | | | |
| 2017 | 6419270 | 1079899 | 150193 | 4230701 | 958477 | | | |
| 2018 | 6382252 | 1103280 | 160506 | 4056007 | 1062459 | | | |
| 2019 | 6681535 | 951650 | 178504 | 4334130 | 1217251 | | | |
| 2020 | 6719305 | 955912 | 192585 | 4253327 | 1317481 | | | |

**Table A4.3:** *External debt (foreign currency denomination)*

| | *New bond issues* | | | | *Bonds in circulation* | | | |
|---|---|---|---|---|---|---|---|---|
| | *Gov.* | *Mun.* | *Fin.* | *Corp.* | *Gov.* | *Mun.* | *Fin.* | *Corp.* |
| 1835 | | | 6 | | | | 6 | |
| 1836 | | | 0 | | | | 5.88 | |
| 1837 | | | 0 | | | | 5.762 | |
| 1838 | | | 0 | | | | 5.647 | |
| 1839 | | | 8 | | | | 13.534 | |
| 1840 | | | 0 | | | | 13.264 | |
| 1841 | | | 0 | | | | 12.998 | |
| 1842 | | | 0 | | | | 12.738 | |
| 1843 | | | 0 | | | | 12.484 | |
| 1844 | | | 0 | | | | 12.234 | |
| 1845 | | | 0 | | | | 11.989 | |
| 1846 | | | 13.333 | | | | 25.083 | |
| 1847 | | | 0 | | | | 24.581 | |
| 1848 | | | 0 | | | | 24.089 | |
| 1849 | | | 6.667 | | | | 30.274 | |
| 1850 | | | 1.872 | | | | 31.541 | |
| 1851 | | | 17.733 | | | | 48.643 | |
| 1852 | | | 14.839 | | | | 62.509 | |
| 1853 | | | 0 | | | | 61.259 | |
| 1854 | 0.282 | | 7 | | 0.282 | | 67.034 | |
| 1855 | | | 0 | | 0.276 | | 65.693 | |
| 1856 | | | 0 | | 0.271 | | 64.379 | |
| 1857 | | | 0 | | 0.265 | | 63.092 | |
| 1858 | 21.841 | | 16.62 | | 22.101 | | 78.45 | |
| 1859 | | | 0 | | 21.659 | | 76.881 | |
| 1860 | 26.667 | | 5.333 | | 47.893 | | 80.677 | |
| 1861 | | 2 | 31.988 | | 46.935 | 2 | 111.051 | |
| 1862 | | | 31.806 | | 45.996 | 1.96 | 140.636 | |
| 1863 | | | 0 | | 45.076 | 1.921 | 137.823 | |
| 1864 | 9.891 | | 1.109 | | 54.066 | 1.882 | 136.176 | |
| 1865 | | 1.2 | 0 | | 52.985 | 3.045 | 133.453 | |
| 1866 | 26.486 | | 0 | | 78.411 | 2.984 | 130.783 | |
| 1867 | | | 0 | | 76.843 | 2.924 | 128.168 | |
| 1868 | 20.7 | 0.25 | 0 | | 96.006 | 3.116 | 125.604 | |
| 1869 | | 3.114 | 0 | | 94.086 | 6.167 | 123.092 | |
| 1870 | | | 0 | | 92.204 | 6.044 | 120.631 | |
| 1871 | | | 0 | | 90.36 | 5.923 | 118.218 | |
| 1872 | | | 0 | | 88.553 | 5.804 | 115.854 | |
| 1873 | | 0.25 | 0 | 13 | 86.782 | 5.938 | 113.536 | 13 |
| 1874 | | | 38.417 | 1 | 85.046 | 5.819 | 149.683 | 13.61 |
| 1875 | 36.882 | 0.6 | 0 | 0 | 120.227 | 6.303 | 146.689 | 13.202 |

| | New bond issues | | | | Bonds in circulation | | | |
|---|---|---|---|---|---|---|---|---|
| | Gov. | Mun. | Fin. | Corp. | Gov. | Mun. | Fin. | Corp. |
| 1876 | 36.62 | 0.9 | 0 | 1 | 154.443 | 7.077 | 143.755 | 13.806 |
| 1877 | | 0.25 | 0 | 0 | 151.354 | 7.185 | 140.88 | 13.391 |
| 1878 | 27.24 | 2.35 | 113.562 | 0 | 175.567 | 9.392 | 251.625 | 12.99 |
| 1879 | | 2 | 6.469 | 0 | 172.055 | 11.204 | 253.062 | 12.6 |
| 1880 | 118.746 | 17.6 | 8.173 | 0.045 | 287.361 | 28.58 | 256.173 | 12.267 |
| 1881 | | | 5 | 0 | 281.613 | 28.008 | 256.05 | 11.899 |
| 1882 | | | 5 | 4 | 275.981 | 27.448 | 255.929 | 15.542 |
| 1883 | | 1.5 | 8.912 | 0 | 270.461 | 28.399 | 259.722 | 15.046 |
| 1884 | | 0.26 | 0 | 0 | 265.052 | 28.091 | 254.528 | 14.566 |
| 1885 | | 8 | 8.197 | 0 | 259.751 | 35.529 | 257.634 | 14.103 |
| 1886 | 64.546 | 3.4 | 52.33 | 0 | 319.102 | 38.219 | 304.812 | 13.655 |
| 1887 | 10 | 4 | 6 | 0 | 322.72 | 41.454 | 304.716 | 13.222 |
| 1888 | 26.667 | | 8.5 | 0 | 342.933 | 40.625 | 307.121 | 12.803 |
| 1889 | | 1.5 | 0 | 0 | 336.074 | 41.313 | 300.979 | 12.398 |
| 1890 | 35.556 | 5.4 | 0 | 0.6 | 361.547 | 45.886 | 294.959 | 12.607 |
| 1891 | | | 4.997 | 0.6 | 354.316 | 44.969 | 294.057 | 12.792 |
| 1892 | | | 0 | 0 | 347.23 | 44.069 | 288.176 | 12.356 |
| 1893 | | | 0 | 0 | 340.285 | 43.188 | 282.413 | 11.937 |
| 1894 | 18 | 0.673 | 8 | 0 | 351.48 | 42.997 | 284.764 | 11.533 |
| 1895 | | | 0 | 0 | 344.45 | 42.137 | 279.069 | 11.143 |
| 1896 | | | 0 | 0 | 337.561 | 41.295 | 273.488 | 10.768 |
| 1897 | | | 0 | 1.634 | 330.81 | 40.469 | 268.018 | 12.041 |
| 1898 | | | 1.135 | 14.689 | 324.194 | 39.659 | 263.793 | 26.333 |
| 1899 | 36 | 7.5 | 0 | 0 | 353.71 | 46.366 | 258.517 | 25.509 |
| 1900 | 36.32 | 25 | 0 | 0.02 | 382.956 | 70.438 | 253.346 | 24.732 |
| 1901 | | | 0 | 0.246 | 375.297 | 69.029 | 248.279 | 24.206 |
| 1902 | | 3.01 | 6.853 | 0.351 | 367.791 | 70.659 | 250.167 | 23.794 |
| 1903 | | 0.011 | 0 | 25.285 | 360.435 | 69.257 | 245.163 | 48.332 |
| 1904 | 36 | 0.012 | 67.206 | 0.127 | 389.226 | 67.884 | 307.466 | 46.226 |
| 1905 | | 26 | 1.39 | 10.973 | 381.442 | 92.526 | 302.707 | 55.072 |
| 1906 | 43.2 | 15.018 | 12.2 | 3.087 | 417.013 | 105.693 | 308.852 | 55.376 |
| 1907 | 46.8 | | 0 | 0.395 | 455.472 | 103.579 | 302.675 | 53.049 |
| 1908 | 54.48 | 44.613 | 10.798 | 0.078 | 503.12 | 146.121 | 309.841 | 50.975 |
| 1909 | | 38.416 | 7.693 | 0.194 | 495.574 | 181.614 | 313.817 | 49.128 |
| 1910 | | 2.912 | 122.4 | 13.03 | 488.14 | 180.893 | 432.451 | 60.217 |
| 1911 | | | 0 | 0 | 480.818 | 177.275 | 427.261 | 58.146 |
| 1912 | | | 0 | 0 | 473.606 | 173.73 | 422.134 | 56.177 |
| 1913 | | | 0 | 0 | 466.502 | 170.255 | 417.069 | 54.303 |
| 1914 | | | 0 | 0 | 459.504 | 166.85 | 412.064 | 52.52 |
| 1915 | | | 0 | | 452.611 | 163.513 | 407.119 | 50.821 |
| 1916 | | | | | 445.822 | 114.459 | 194.218 | 25.411 |
| 1917 | | | | | 439.135 | 80.121 | 97.109 | 12.705 |

| | *New bond issues* | | | | *Bonds in circulation* | | | |
|---|---|---|---|---|---|---|---|---|
| | *Gov.* | *Mun.* | *Fin.* | *Corp.* | *Gov.* | *Mun.* | *Fin.* | *Corp.* |
| 1918 | | | | | 432.548 | 56.085 | 48.555 | 6.353 |
| 1919 | | | | | 426.06 | 39.26 | 24.277 | 3.176 |
| 1920 | | | | | 417.7 | 27.482 | 12.139 | 1.588 |
| 1921 | | | | | 340 | 19.237 | 6.069 | 0.794 |
| 1922 | | | | | 310.6 | 13.466 | 3.035 | 0.397 |
| 1923 | | | | | 263.2 | 9.426 | 1.517 | 0.199 |
| 1924 | | | | | 354 | 6.598 | 0.759 | 0.099 |
| 1925 | | | | | 339.1 | 4.619 | 0.379 | 0.05 |
| 1926 | | | | | 332.5 | 3.233 | 0.19 | 0.025 |
| 1927 | | | | | 316 | 2.263 | 0.095 | 0.012 |
| 1928 | | | | | 305 | 1.584 | 0.047 | 0.006 |
| 1929 | | | | | 213.5 | 1.109 | 0.024 | 0.003 |
| 1930 | | | | | 149.45 | 0.776 | 0 | 0 |
| 1931 | | | | | 104.615 | 0.543 | | |
| 1932 | | | | | 73.231 | 0.38 | | |
| 1933 | | | | | 51.261 | 0.266 | | |
| 1934 | | | | | 35.883 | 0.186 | | |
| 1935 | | | | | 25.118 | 0.13 | | |
| 1936 | | | | | 17.583 | 0.091 | | |
| 1937 | | | | | 12.308 | 0.064 | | |
| 1938 | | | | | 0 | 0 | | |
| 1939 | | | | | | | | |
| 1940 | | | | | | | | |
| 1941 | | | | | | | | |
| 1942 | | | | | | | | |
| 1943 | | | | | | | | |
| 1944 | | | | | | | | |
| 1945 | | | | | | | | |
| 1946 | | | | | | | | |
| 1947 | | | | | | | | |
| 1948 | | | | | | | | |
| 1949 | | | | | | | | |
| 1950 | | | | | | | | |
| 1951 | | | | | | | | |
| 1952 | | | | | | | | |
| 1953 | | | | | | | | |
| 1954 | | | | | | | | |
| 1955 | | | | | | | | |
| 1956 | | | | | | | | |
| 1957 | | | | | | | | |
| 1958 | | | | | | | | |
| 1959 | | | | | | | | |

| | *New bond issues* | | | | *Bonds in circulation* | | | |
|---|---|---|---|---|---|---|---|---|
| | *Gov.* | *Mun.* | *Fin.* | *Corp.* | *Gov.* | *Mun.* | *Fin.* | *Corp.* |
| 1960 | | | | | | | | |
| 1961 | | | | 48 | 130 | | | 102 |
| 1962 | | | | | 130 | | | 102 |
| 1963 | | | | | 130 | | | 102 |
| 1964 | | | | | 130 | | | 102 |
| 1965 | | | | 368 | 130 | | | 470 |
| 1966 | | | | 176 | 130 | | | 646 |
| 1967 | | | | 155 | 130 | | | 724 |
| 1968 | | | | 60 | 130 | | | 779 |
| 1969 | | | | | | | | 816 |
| 1970 | | | | 336 | | | | 1113 |
| 1971 | | | | 421 | | | | 1463 |
| 1972 | | | 222 | 934 | | | 222 | 2328 |
| 1973 | | | 294 | 414 | | | 513 | 2659 |
| 1974 | | | | 233 | | | 511 | 2795 |
| 1975 | | 505 | 728 | 1753 | | 505 | 1234 | 4362 |
| 1976 | | 86 | 432 | 2392 | | 577 | 1647 | 6641 |
| 1977 | 3710 | 561 | | 1961 | 3710 | 1124 | 1610 | 8439 |
| 1978 | 1399 | 224 | 305 | 876 | 5091 | 1335 | 1854 | 9095 |
| 1979 | 4918 | 339 | 87 | 61 | 9992 | 1642 | 1669 | 8872 |
| 1980 | 6738 | 877 | 1109 | 288 | 16712 | 2465 | 2545 | 8478 |
| 1981 | 2881 | 503 | 1957 | 1017 | 18941 | 2875 | 4254 | 9014 |
| 1982 | 9013 | 359 | 7996 | | | | | |
| 1983 | | | | | | | | |
| 1984 | | | | | | | | |
| 1985 | | | | | | | | |
| 1986 | | | | | 98597 | 3715 | 42377 | 19785 |
| 1987 | | | | | 90198 | 3834 | 45022 | 16714 |
| 1988 | | | | | 80628 | 3175 | 64500 | 15132 |
| 1989 | | | 1000 | 1300 | 144468 | 2720.5 | 94722 | 27442 |
| 1990 | | | 400 | | 116994 | 2266 | 108111 | 21051 |
| 1991 | | | 2125 | 300 | 96635 | 3670 | 110651 | 7832 |
| 1992 | | | 150 | | 140842 | 7884 | 137395 | 8132 |
| 1993 | | | 1000 | 500 | 309800 | 12205 | 172728 | 4051 |
| 1994 | | | | | 382233 | 13643 | 151070 | 11126 |
| 1995 | | | | 150 | 469273 | 12002 | 124002 | 6142 |
| 1996 | | | | 500 | 546540 | 8242 | 270197 | 5716 |
| 1997 | | 900 | | | 543414 | 13884 | 328908 | 29311 |
| 1998 | | | | 300 | 579412 | 12165 | 356778 | 25628 |
| 1999 | | | | | 423754 | 8508 | 425359 | 40306 |
| 2000 | | | | | 400898 | 9306 | 457496 | 74943 |
| 2001 | | | | | 328728 | 7516 | 477006 | 105285 |

| | *New bond issues* | | | | *Bonds in circulation* | | | |
|---|---|---|---|---|---|---|---|---|
| | *Gov.* | *Mun.* | *Fin.* | *Corp.* | *Gov.* | *Mun.* | *Fin.* | *Corp.* |
| 2002 | | | | | 342856 | 4512 | 477433 | 169142 |
| 2003 | | | | | 299355 | 6845 | 513725.3 | 192793 |
| 2004 | | | | | 363831 | 6975 | 472614.5 | 170380 |
| 2005 | | | | | 327658 | 7162 | 678135 | 199738 |
| 2006 | | | | | 272417 | 9147 | 803236.9 | 191138 |
| 2007 | | | | | 247996 | 7798 | 930505 | 215385 |
| 2008 | | | | | 249410 | 5259.94 | 1283230 | 264867 |
| 2009 | | | | | 266514 | 10860.4 | 1614577 | 342648 |
| 2010 | | | | | 243467 | 12808 | 1714682 | 284061 |
| 2011 | | | | | 275626 | 13937 | 1804223 | 306896 |
| 2012 | | | | | 236648 | 21334 | 1901031 | 350254 |
| 2013 | 47791 | 0 | 79282 | 350 | 206179 | 12264 | 1876111 | 371009 |
| 2014 | 6516 | 0 | 54274 | 2533 | 256551 | 11546 | 2059695 | 394395 |
| 2015 | 14708 | 0 | 97659 | 1266 | 293868 | 20948 | 2113031 | 395176 |
| 2016 | 0 | 0 | 18649 | 395 | 313594 | 24810 | 2259791 | 408179 |
| 2017 | 0 | 0 | 8210 | 630 | 281311 | 27776 | 2108114 | 514471 |
| 2018 | 10366 | 0 | 46599 | 3248 | 276259 | 30221 | 1895005 | 563689 |
| 2019 | 39419 | 0 | 48818 | 1987 | 212566 | 28794 | 1924743 | 670100 |
| 2020 | 0 | 0 | 28465 | 1756 | 174556 | 26555 | 1721786 | 725297 |