

# *The Modernization of Swedish Credit Markets, 1840–1905: Evidence from Probate Records*

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This study estimates the size of the so-called “informal,” or unintermediated, credit market in one Swedish city through a period of economic transformation. In the early 1840s promissory notes accounted for more than half of the total credit market, and almost four times the value of credit channeled through the banking system. Even in the 1870s, the promissory-note market was twice the size of the loan volume of the banking system. By 1905 bank-based credit had finally surpassed the informal variety; but even then, outstanding promissory notes were almost three-fifths as great as total bank credits to noncorporate borrowers.

It is well known that the fundamental shift from agriculture to industry during the nineteenth century was accompanied by a transformation of the financial sector that was at least as revolutionary. For most of the past 50 years, however, research in economic history has been sharply focused on the new factory industries and their economic and social effects. The explosive development of financial markets during the 1980s and 1990s has once again directed the interest of historians to the financial sector and its role in the growth process. It can be argued that the emergence of industrial societies during the nineteenth century was actually the result of commercialization and monetization, as well as of new forms of savings, lending, and financial intermediation. These were necessary conditions for the divisions of labor and economies of scale that are at the heart of modern economic growth.

Sweden’s transition to a modern industrial society was a lengthy process, one punctuated by three major booms. The booms of the 1850s, the 1870s, and the two decades preceding World War I not only increased Sweden’s GDP and its investment ratio, they also had a profound impact on the political system and on incentive structures. Two closely linked developments

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unquestionably had revolutionary effects on economic behavior and performance. One was the transition from a predominately barter to a predominately money economy (monetization). The other was the replacement of a traditional, socially determined system of resource allocation and income distribution, based on membership in groups and corporate bodies, with a system where institutionalized markets were the principal mechanism of economic coordination (marketization).

There is an impressive scholarly unanimity that viable financial markets had existed long before the emergence of modern banking institutions in the nineteenth century. Recent research on Parisian notaries during the period 1660–1870, and on the workings of the “putting-out system” in the eighteenth and early nineteenth centuries, has emphasized the importance of credit at all levels of preindustrial society.<sup>1</sup> In Sweden, the nodes in the traditional financial network were the numerous urban dealers and brokers, together with prosperous farmers and peasants (many of whom were part owners of rural blast furnaces), merchant houses and innkeepers (who both made loans to and accepted deposits from the public), and national, regional, and local foundations and funds, established by the government or by private organizations such as craft or merchant guilds, which actively sought out income-generating investment opportunities.<sup>2</sup>

As with other countries, the general outline of the evolution of a modern capital market in Sweden during the nineteenth century is well known. The innovations included new banking institutions—savings, mortgage, and commercial banks—and new financial instruments. In 1864 interest-rate ceilings were abolished and joint-stock banking was legalized. Initially, the modern banks had great difficulty making headway against traditional financial institutions. These latter could offer higher interest rates on deposits, because until 1864 “informal” lenders were not as constrained by the legal maximum interest rate of 6 percent imposed on banks. In their competitive struggle with informal agents, the banks received support from national, as well as from local, authorities, who considered it to be very much in the public interest to encourage saving among the population at large. Merchant houses and private bankers, however, would not accept—much less pay interest on—small deposits. County governments and rural-economy associations took the initiative in the establishment of most savings banks during the period 1820–1850. The participation of local and regional officials in bank management was necessary in order to create the level of confidence required to attract deposits. The government charter required to carry on

<sup>1</sup> Hoffman, Postel-Vinay, and Rosenthal, *Priceless Markets*, pp. 273–300; Hildebrand, *Swedish Iron*, pp. 97–108; and Magnusson, *Den bråkiga kulturen*, pp. 234–47.

<sup>2</sup> Local Kalmar newspapers from the 1830s and 1840s reveal that various foundations and guild funds used advertising to market themselves as lenders. For examples see *Kalmar Läns och Ölands Annons-Blad* 1833, and *Kalmar-Posten* 1842–1845.

banking activity (which, in the case of the commercial banks, had to be renewed every ten years), together with other regulatory action, could be interpreted as a public recommendation, and indeed as a type of government solvency guarantee. The system of oversight that evolved during the 1860s and 1870s also had as its ultimate goal the strengthening of public confidence in the new banking institutions.<sup>3</sup>

It was in the interest both of the new banking institutions and of the national government to improve the public's access to information. Statistics on the new banking firms' financial positions began to be published. This was the beginning of a concerted statistical collection effort that eventually came to include all financial markets at the national level. Thus, the new and growing part of the capital market—the banking sector—is well documented. Our knowledge of the older, informal system of credit, however, is rudimentary.

Neither monetization nor marketization can easily be illustrated by historical data. Long-term structural change is notoriously difficult to quantify. If, for example, we follow common practice and measure financial-sector growth in terms of credit volumes, total assets, or any other variable originating from the upstart banking sector, then overstatement is an obvious danger. By the same token, the importance of the new banking institutions—savings, mortgage, and commercial banks, as well as rural credit associations—that came into being during the transitional phase of industrialization, will likely be exaggerated. Using the ratio of various financial measures to GDP is particularly problematic when the denominator includes estimates of nonmarket production in the so-called subsistence sector.<sup>4</sup>

According to Raymond Goldsmith's figures, Sweden was one of those small countries that built up a "full-fledged" financial system early in their development. Sweden's ratio of financial assets to GNP was 89 percent in 1880, surpassing Germany (73 percent), France (50 percent), and the United States (49 percent).<sup>5</sup> In a pair of articles published in this JOURNAL, Lars Sandberg has maintained that Sweden had an unusually large, well-developed and "sophisticated" financial sector in the middle of the nineteenth century. He bases this conclusion on the fact that Sweden ranked extremely

<sup>3</sup> Lindgren, "Swedish Historical Research," pp. 13–15.

<sup>4</sup> This is not to deny the usefulness of studies of key relationships among "financial" and "real" variables, nor to claim that they are obsolete. On the contrary, such studies have proved useful in a number of ways, being a natural outgrowth of the dominant Keynesian "aggregation" mindset of the 1960s and 1970s. Classic, although still thought-provoking studies from the borderland between economic history and historical economics are, for example, Cameron, *Banking in the Early Stages* and *Banking and Economic Development*; and Goldsmith, *Financial Structure*. Regarding Scandinavia and Sweden see Hansen, *Early Industrialization*; Sandberg, "Banking"; Nygren, "Transformation"; and Egge, "Transformation."

<sup>5</sup> Goldsmith, *Financial Structure*, pp. 209–12.

high on several measures of financial sophistication, including financial assets as a percentage of GNP.<sup>6</sup>

Using the best figures available, the ratio of the sum of the assets of all financial institutions (commercial, savings, and mortgage banks and credit associations) to GNP in Sweden was only 9 percent in 1835, but had reached 114 percent by 1910. Clearly, the absolute size of the modern credit market in Sweden grew much faster than did total output. At constant 1835 prices, the advances of all credit institutions increased over the same period from a paltry SEK 33 million to 2,404 million (see Figure 1), an annually compounded rate of 5.5 percent.<sup>7</sup>

These figures, however, probably exaggerate the growth of the entire Swedish credit market. There is good reason to believe that the modern bank-based credit market replaced to some (unfortunately unknown) degree the older, less formal, financial market.<sup>8</sup> The concept of the “informal sector” has been widely used in social anthropology and development economics to describe small-scale, private-sector industry and trade in developing countries. In the sense that “informal” markets are those markets that have evolved spontaneously outside the sectors of the economy that national governments or municipal authorities have subsidized, regulated, or in any way supervised, the term is highly appropriate in describing the financial markets that existed outside the banking system in nineteenth-century Sweden. It should be emphasized, however, that as used in this essay the term “informal” implies neither small size nor illegality.<sup>9</sup>

A sense of the overall importance of informal finance in nineteenth-century Sweden can be gleaned from some calculations concerning the capital assets and outstanding loans of public and nonpublic funds prepared as part of the work of the 1858 Finance Committee and contained in an 1863 parliamentary report. On the basis of information provided by the county governors, the committee calculated that these funds had outstanding loans amounting to SEK 37.5 million in 1834, a sum that had increased to 71.3 million by 1857. During these same years, the total credit provided by the

<sup>6</sup> Sandberg, “Banking,” pp. 661, 664–65, and 668–79; Sandberg, “Case,” p. 232; and Sandberg, “Sweden,” pp. 921–22.

<sup>7</sup> Krantz, “Swedish Historical National Accounts,” pp. 12–18; and Nygren, “Transformation,” pp. 37, 49, 60. Nygren’s article is based on a more complete report in “Kreditformer och kreditinstitut.”

<sup>8</sup> In their recent study on the Parisian credit market in the eighteenth and nineteenth centuries, Hoffman, Postel-Vinay, and Rosenthal (*Priceless Markets*, p. 283) provide an illustrative example of the importance of considering institutional change when evaluating data on credit-market expansion. If the older forms of mortgage lending (channeled by the Parisian notaries) are ignored, then the 21-percent annual growth of the new mortgage bank, the *Crédit Financier de France*, during the years 1853–1869 seems almost miraculous. In fact, however, if notarial credit is included (starting with its peak years during the 1840s), the growth rate of mortgage debt is reduced to a highly reasonable 4 percent per annum.

<sup>9</sup> For an operational definition of the concept of “informal” as used in development economics to describe the nonregulated, self-employed part of the economy, see King, “Introduction.”

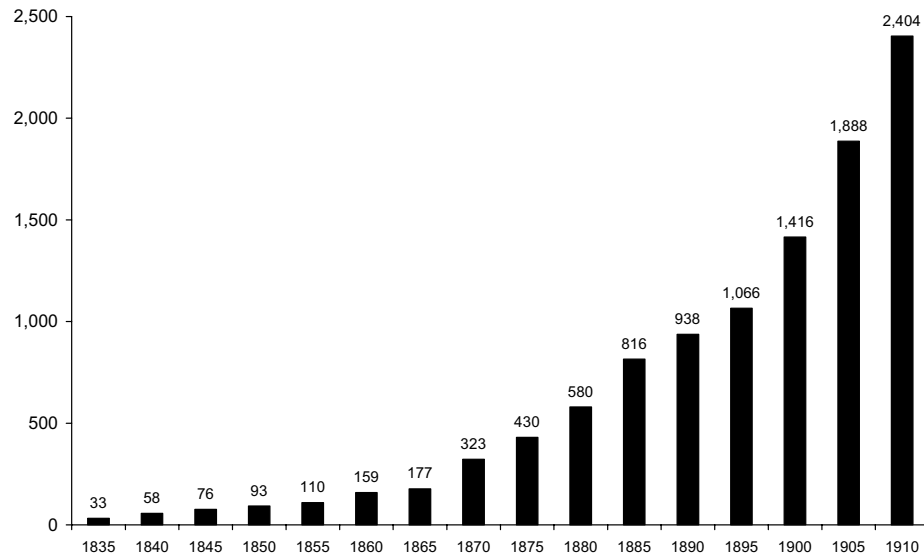


FIGURE 1  
THE GROWTH OF SWEDEN'S MODERN "BANK-BASED" CREDIT MARKET, 1835–1910  
(financial advances, in millions of constant [1835] SEK)

Source: Nygren, "Transformation," pp. 37, 49, 60.

modern private and public banks amounted to SEK 33 million and SEK 151 million, respectively.<sup>10</sup> These figures give cause for reflection, especially since the share of these public and private funds in the informal market was probably not very large. Everything indicates that the market was totally dominated by private promissory notes (*reverser*). These were executed between individuals, usually secured by mortgages or co-signers, and they could even be used as a means of payment.

The ultimate goal of this study is to generate realistic estimates of the size of the traditional market in promissory notes, and how its size changed relative to that of the modern, bank-dominated, credit market as Sweden evolved from an agricultural to an industrial society. Getting there, however, initially requires a closer examination and evaluation of the banks and estate inventories on which the study is based. Following a sketch of Kalmar and its banks, I analyzed the "rules of the game" of probate. How were estate inventories compiled? What were the fees and taxes levied? To what extent were the legal requirements followed? And what implications do such insights have for the aims of the study? Estimation is then confronted with reality. The lending of the Kalmar Savings Bank, as calculated from the estate inventories, is compared to its actual lending. The resulting close

<sup>10</sup> *Betänkande*, pp. 71–78.

correspondence indicates that it is indeed possible to correct for the biases contained in the estate material. Finally, my conclusions follow.

#### KALMAR AND ITS BANKING SYSTEM: A BRIEF PORTRAIT

During the Middle Ages, the Baltic port of Kalmar was one of Sweden's leading cities. As late as the first half of the nineteenth century, Kalmar was southeastern Sweden's principal commercial and shipping center. Its 6,000 inhabitants made it the country's seventh most populous city. The export of wood products and bar iron was both substantial and growing. In terms of exports the city was in fourth place, behind only Stockholm, Göteborg, and Gävle. By the dawn of the twentieth century, Kalmar's population had grown considerably, amounting in 1905 to almost 14,000 souls. Compared to other cities, however, this represented a substantial relative decline. Kalmar now occupied a more modest twentieth place among Swedish cities. The Kalmar region was one of Sweden's major emigration zones during the late nineteenth century. The negative trend, however, was broken after 1900, and during the following decade the city grew at the same rate as Sweden's other cities.<sup>11</sup>

The choice of Kalmar for this study was to a large extent dictated by the available source material. The extensive records of the local savings bank make it possible to compare the bank's loan volume as estimated from estate inventories with its actual loan volume. The Kalmar Savings Bank opened its doors to the public on 7 June 1831. By 1837 Kalmar had acquired another "modern" banking institution, a branch office of Smålandsbanken, a commercial bank which, in the spirit of the times, partially financed its activity by issuing banknotes.

The number of savings and commercial banks operating in Kalmar had risen to four by the year 1900. A cooperative savings association, the Savings and Annuity Institution of Kalmar County, had been established in 1854. It had one division devoted to life insurance and pension saving, and another that acted as a regular savings bank. This savings division came to engage in a deposit and lending on a considerable scale. Throughout the period studied here, however, its activities remained more modest than those of the local savings bank.<sup>12</sup>

During the 1850s one additional competitor appeared on the local credit market, Filialbanken i Kalmar. In 1867 it was reorganized into Kalmar Enskilda Bank, an unlimited-liability, joint-stock bank with note-issuing privileges; at the same time, this new bank acquired Smålandsbanken's existing branch office in the city. Twenty-two years were to pass before Smålandsbanken returned to

<sup>11</sup> Hagstedt, "Sjöfart, handel," pp. 95–106, 131, 149–50; and Nilsson, *Historisk tätortsstatistik*, pp. 9–32.

<sup>12</sup> Kock, *Smålands Bank*, pp. 133, 142–43, *FSK*, Besparings- och livränteanstalten Minutes 1894, Kalmar Stads Sparbank Auditor's Report 1894.



Kalmar, as a result of acquiring Oskarshamns Enskilda Bank (which had a branch office in Kalmar). Around 1900 Smålandsbanken and Kalmar Enskilda Bank were similar in size; but the latter, with its headquarters in Kalmar, almost totally dominated the local banking market.<sup>13</sup>

#### THE SWEDISH LAW OF PROBATE

In the Kingdom of Sweden—including those provinces that later became Finland—the obligation of heirs to compile an inventory of the estate was formalized in a Royal Ordinance of 1687 and was reiterated in the general Civil Code of 1734.<sup>14</sup> All estates, rural as well as urban, were assessed an inventory fee (the “poor percentage”) equal to 0.25 percent of gross assets. It was introduced as early as the Beggary Ordinance of 1698, and was intended to finance the obligation of the local parishes to care for their poor. The fee was forwarded to the local parish or the municipal relief fund by the local court.<sup>15</sup>

Starting in 1734 estate inventories became of greater concern to the urban than to the rural authorities. The town courts were made responsible for assuring that the inventory was carried out, and each one appointed two assessors for that purpose. The city councils acted on information they received from the local clergy who were responsible for maintaining the population registers. Either quarterly or semiannually, the parson would report deaths to the magistrates.<sup>16</sup> It was the duty of the assessors to summon the decedent’s heirs and inventory the estate, and then to certify that proper procedure had been followed.

In their zeal to guarantee that the rules concerning estate inventories were followed, the city councils were motivated by more than a general respect for the majesty of the law. In addition to the revenue received for poor relief, there were other financial incentives for the municipal authorities: the city was entitled to a special fee (the “magistrate’s fee”) upon completion of the estate inventory. As of 1756 this fee amounted to 1 percent of the estate’s gross assets.<sup>17</sup> The right of the city councils to organize and receive compensation for the compiling of estate inventories was successively abolished in

<sup>13</sup> *FSK*, Kalmar Stads Sparbank Auditor’s Report 1905; and Söderlund, *Skandinaviska Banken*, p. 68.

<sup>14</sup> Royal Ordinance 28.5.1687, Stiernman, *Samling*, p. 135; Inheritance Section, Law of 1734, ch. 9, para. 5–7, pp. 44–45. At that time, Finland was part of the Swedish kingdom. When in 1809 Finland was absorbed into Imperial Russia, it was as a Grand Duchy enjoying a substantial degree of internal autonomy. Generally speaking, existing laws were retained, and the probating practices were the same in Finland as in Sweden during the nineteenth century; see Markkanen, “Use of Probate Inventories,” pp. 67–68.

<sup>15</sup> Commerce Section, ch. 17, para. 4, *Law of 1734*, p. 193, Royal Ordinance 29.4.1761, Uggla, *Samling*, pp. 29–30.

<sup>16</sup> Royal Ordinances 11.7.1806, 23.3.1807 and 18.2.1846, Lilienberg, *Svensk Lagsamling*, p. 42.

<sup>17</sup> Royal Ordinance 10.12.1756, Lilienberg, *Svensk Lagsamling*, p. 42.; compare Gadd, *Järn och potatis*, pp. 66–68.

city after city beginning in 1868. When the city of Kalmar lost the right to appoint assessors in 1873, the fees due to the city also ceased.<sup>18</sup>

Certain urban estates were subject to further fees when the estate inventory was submitted to the local court system. All of these fees were assessed on *net* assets, i.e., after deduction of all debts. The estates of “persons of rank” or members of the “burgher estate” paid a fee of 0.25 percent of net assets designated for the support of the court system. Estates lacking direct heirs were assessed a 2 percent wealth tax to the state and, at least starting in 1830, a special stamp tax (the “*charta sigillata*”) when the estate inventory was delivered to the court to be registered. This fee was universal, applying to the estates of both commoners and nobles and regardless of urban or rural domicile. The rate was low, and the minimum net asset level required for liability was substantial.<sup>19</sup>

The stamp tax had the character of a wealth tax collected at the time of death. It could, however, also be viewed as a transaction tax on the transfer of accumulated wealth from one generation to the next. It was therefore natural to utilize it as the base for the succession tax that was introduced in Sweden during the 1890s. This was especially the case since the obligation to inventory estates “had fully saturated the public consciousness.”<sup>20</sup> The principal innovation was that the tax obligation now was placed on the heir, not the estate. The succession tax had other ties to the previous system. The exemption level was based on the previous taxable minimum, and the rate of tax on small inheritances by direct heirs was the same as that of the earlier stamp tax. The principle of progressivity, however, was new. The highest tax rate, limited to fairly distant relationships and large inheritances, was 6 percent.<sup>21</sup>

#### THE PROBLEM OF REPRESENTATIVENESS

The usefulness of Sweden’s rich endowment of estate inventories has been discussed for years in various academic disciplines. As is true of all historical sources, the value of the inventories depends on what questions are posed to them.<sup>22</sup> Much discussion has concerned the question of how comprehensive and accurate they are in listing and valuing individual assets.<sup>23</sup> In this study, however, the focus is on financial debts, listed at their

<sup>18</sup> Royal Ordinances 1.5.1868 and 6.12.1872, *Svensk Författningssamling*.

<sup>19</sup> Royal Ordinance 18.8.1871 and 2.10.1874; compare Royal Ordinance 16.11.1841 and 14.11.1845, *Svensk Författningssamling*.

<sup>20</sup> Government Bill 1894, No. 43, p. 50, *Riksdagstrycket*.

<sup>21</sup> Royal Ordinance 9.8.1894, *Svensk Författningssamling*.

<sup>22</sup> For the source-critical discussion of the 1970s see Kuuse, “Probate Inventory,” pp. 22–24; and Markkanen, “Use of Probate Inventories,” pp. 66–71.

<sup>23</sup> Personal physical property, for example, has been found undervalued by roughly 25 percent (Isacson, *Ekonomisk tillväxt*, pp. 210–25).



nominal amounts. Since the accurate recording of financial items in a given inventory is not in doubt, the question is simply one of how representative the surviving inventories are of the underlying population of assets and liabilities. This problem exists at two levels. The first concerns the extent to which the preserved estate inventories are representative of all persons dying during the period. Several studies demonstrate that it was a very long time, at least in the Swedish countryside, before the 1734 law's requirement of estate inventories was applied to a majority of deceased adults. In the rural areas of Stockholm County, which can be taken as representative of central Sweden, as late as 1770 only 10 percent of deceased adults had estate inventories that were registered with the county court and have been preserved in its archives. Thereafter, however, the share of inventoried estates rose rapidly: by the beginning of the nineteenth century it had reached 42 or 43 percent; by the 1830s, it regularly exceeded 50 percent.<sup>24</sup>

It is extremely tempting to conclude that the poor coverage of estate inventories indicates a disregard for the law. After all, both the trouble of compiling an estate inventory and the resulting fees and taxes could be avoided through an informal division of the estate. Indeed, such might have been the case on occasion. At the same time, it is important to recall that eighteenth- and nineteenth-century Sweden (and Finland) was a tightly organized, constitutional state with well-functioning central and local administrations.

My work on the urban estate inventories of Kalmar has caused me to conclude that the greater frequency of estate inventories during the nineteenth century was more a result of increasing household wealth than of greater respect for the law. This conclusion is based on three important economic incentives, reinforcing the requirements of law, for the drawing up of estate inventories: First, the City Council had a clear interest in seeing to it that the estate inventory requirement was met, as the fees levied on gross and net wealth were important sources of income to support the local court and municipal poor relief.<sup>25</sup> Second, the heirs themselves had important incentives to follow the legal procedure. If there was more than one heir, there was the question of a fair division. In cases where a surviving spouse (who had no inheritance rights) was best informed about the contents of the estate, it was important for the legal heirs to have the estate inventoried quickly. Third, when an estate had debts, both creditors and heirs had

<sup>24</sup> There are several studies indicating that an increased share of decedents were subjected to probate in the early 1800s, for example Gadd, *Järn och potatis*, pp. 56–59; Isacson, *Ekonomisk tillväxt*, pp. 211–12; Lindgren, “Preliminär rapport”; Markkanen, “Use of Probate Inventories,” p. 73; and Peterson, *Jordbrukets omvandling*, pp. 206–07.

<sup>25</sup> In Kalmar this requirement was satisfied by the clergymen in the two parishes submitting lists of the deceased to the administration every three months. The city council then determined whether an inventory supervisor had been designated; if not, two persons with legal training were appointed. See *VLA*, Kalmar rådhusrätt och magistrat J 12:3385.

a distinct interest in having the inventory carried out: the creditors to safeguard their claims, and the heirs to obtain exemption from personal responsibility for the estate's debts should its assets prove insufficient.

The second level of the representativeness problem concerns the degree to which the assets and debts of the deceased correspond to those of the living. This problem, in turn, has two dimensions, one systematic and one nonsystematic. The nonsystematic source of error is the most challenging and difficult to evaluate. Some people die quickly as a result of an accident or a relatively brief sickness. Others, however, expire after a long illness—a period during which they may, voluntarily or involuntarily, have rearranged their assets and debts. Invalidity itself may have forced them to sell assets, draw down their savings, or incur debts. The problem of financial erosion during the immediate pre-death period is obviously relevant to all studies utilizing estate inventories to illuminate the wealth status of the living population.

Certain types of debts had legal priority when estates were liquidated. First in line were funeral costs, followed by fees and taxes, and then “doctors fees, medications, and sustenance during the deceased’s final illness.”<sup>26</sup> As a result, any medical expenses incurred during the “final illness” were included in the estate inventory. This makes it possible to investigate if there were significant differences between the wealth (gross and net) of those estates that reported and those that did not report final medical expenses.

Fully aware of all the methodological problems involved in drawing definitive conclusions, I nonetheless have compared estates with and without reported medical expenses. This has been done separately for low-, middle-, and upper-class decedents (Table 1). For some groups, the number of observations is too small to make comparisons. It is, however, apparent that per capita gross wealth within each social group is not significantly lower for estates with reported medical costs. If anything, the opposite is true, indicating that no clear conclusion can be drawn from this evidence. It is actually quite possible that it was the better-off within each social group who felt able to spend money on medications and physicians.

A more systematic source of error is discrepancies in the distribution of persons with regard to age, sex, and social status between the probated deceased and the living population. Despite its systematic nature, the problem remains relatively unexplored. Such work as has been done, however, tends to confirm *a priori* expectations.<sup>27</sup> The biases introduced into the estate inventory material through an unrepresentative age distribution is both the most obvious and the most important problem. In time, death comes to

<sup>26</sup> Commerce Section, ch. XVII, para. 3–5, *Law of 1734*, p. 193.

<sup>27</sup> For example Di Matteo, “Determinants,” pp. 911–13; and Markkanen, “Use of Probate Inventories,” p. 76.

TABLE I  
GROSS WEALTH PER CAPITA IN KALMAR, BY SOCIAL GROUP, 1871–1875 AND  
1901–1905

Social group	Including Medical Costs		Excluding Medical Costs	
	<i>N</i>	Median (SEK)	<i>N</i>	Median (SEK)
	1871–1875			
Upper	23	4,361	33	4,000
Middle	9	454	77	189
Lower	4	129	108	253
	1901–1905			
Upper	20	25,130	33	15,208
Middle	44	3,608	149	2,491
Upper	18	703	153	461

*Note:* See the text for definition of social groups.

*Sources:* *VLA*, Kalmar rådhusrätt och magistrat, F I:790–94, 819–24; *GHA* Adliga bouppteckningar.

us all, but the likelihood of a visit varies substantially among different age groups. Social standing and sex also introduce bias, albeit on a lesser scale. Most scholars, including source-conscious historians who have worked with estate inventories, recognize these biases as a factor limiting the validity of their results. Rarely, however, has any attempt been made to correct for this problem.

#### THE STRUCTURE OF THE ESTATE INVENTORIES

The basis of my study is the 886 estate inventories drawn up during the years 1841–1845, 1871–1875, and 1901–1905 for deceased legal residents of Kalmar. In this section, the systematic biases in the estate material are explored by comparing the subgroup of decedents who left inventoried estates with all decedents. The characteristics compared between the two groups are gender, marital status, and age at death.

For the periods 1841–1845 and 1871–1875, estate inventories for less than 40 percent of deceased adult residents of Kalmar have been preserved (Table 2). For the period 1901–1905, the share rises to almost 52 percent. It is thus apparent that the revocation of the Kalmar magistrates' right to enforce the estate inventory requirement did not result in a reduction in the frequency of such inventories. Two interpretations are possible: either respect for the law increased, or else a growing fraction of estates included debts or assets worth recording.

For the purposes of this study, I have defined adults as all persons above age 14. Doubts certainly can be raised whether or not the age group 15–19 should be considered adult. Of the total of 80 deaths in this age group, only six resulted in estate inventories. (These included the estate of a wealthy man's 19-year-old wife, who died during her first delivery, and that of an

TABLE 2  
DEATH AND PROBATE IN KALMAR, BY AGE GROUP

Age Group	Deaths			Probated Estates			Percentage Probated		
	1841–1845	1871–1875	1901–1905	1841–1845	1871–1875	1901–1905	1841–1845	1871–1875	1901–1905
15–19	21	27	32	2	2	2	9.5	7.4	6.3
20–34	101	109	104	37	33	35	36.6	30.3	34.7
35–49	131	152	119	58	75	78	44.3	49.3	65.6
50–64	124	195	148	45	82	97	36.3	42.1	65.5
65–	146	196	412	60	69	211	41.1	35.2	51.2
Total	523	679	815	202	261	423	38.6	38.4	51.9

Sources: *VLA*, Kalmar stadsförsamling, Kalmar slotts församling and Mosaiska församlingen i Kalmar: Död- och begravningsböcker (F I, C:2, respectively); Kalmar rådhusrätt och magistrat, F I: 782–84, 790–94, 819–24; *GHA*, Adliga bouppteckningar.

unmarried noblewoman with virtually no property of her own, who died at age 18). For the age group 35–49, members of which were socially and economically well-established, the probate rate is close to 45, 50, and 66 percent for the three five-year periods. The younger adults (age group 20–34) have a probate rate that is slightly below the average rate for the entire sample. For the age group 50–64, the frequency of inventories increased markedly over time. In 1841 it was somewhat below the average, but by 1901–1905 had reached the same rate recorded for the 35–49 age group. The very old, those aged over 64, were probated at rates of 41, 35, and 51 percent.

As shown in Table 3, the frequency of probate did not differ significantly between the sexes. In 1841–1845 men were somewhat overrepresented, and women somewhat underrepresented, but in 1871–1875 the reverse was true, and in 1901–1905 there was virtually no difference. The breakdown by marital status, however, reveals a substantial overrepresentation of the married and underrepresentation of the unmarried. In 1841–1845, as in 1871–1875, only 14–15 percent of those who died unmarried left estates that were probated. This is in contrast to 56–60 percent for those who were married. The share of the previously married was only somewhat smaller in the estate inventory material than in the listing of all deceased persons. Most striking is the increase over time in the frequency of estate inventories for the unmarried deceased. This share grew from 15 percent in the 1870s to almost a third in the early years of the twentieth century.

Table 4 uses some broad criteria to present the social structure of two of the samples. The categorization is based on the decedent's occupational title, which is reported both in the estate inventories and in the clergy's listing of deceased persons. Women referred to as "wife," "Mrs," or "widow" have been placed in the social group associated with their husband's (or late husband's) occupational title.

TABLE 3  
DEATH AND PROBATE IN KALMAR, BY SEX AND MARITAL STATUS

	1841–1845		1870–1875		1901–1905	
	Deaths	Percentage Probated	Deaths	Percentage Probated	Deaths	Percentage Probated
By sex:						
Men	250	40.8	310	36.8	389	51.4
Women	273	36.6	369	39.8	426	52.3
By marital status:						
Unmarried	151	13.3	198	15.2	242	32.2
Married	211	60.2	297	55.9	317	72.9
Widowed	161	34.2	184	35.3	256	44.5
Total	523	38.6	679	38.4	815	51.9

Sources: See Table 2.

As expected, the higher social groups display a higher probate rate than do lower ones. Almost 70 percent of deceased persons in the top category were subject to probate; the “middle” group is also overrepresented among the estate inventories. By contrast, the “lower” class is seriously underrepresented in the probate material. They account for almost 60 percent of the deceased but only 27 percent of the estate inventories.<sup>28</sup> Even so, this is a surprisingly high rate of probate. There are numerous inventories of the very modest assets of deceased seamen, shipyard workers (or their spouses), and maids. A detailed analysis of erosion in the highest social category indicates that the nonprobated deceased consistently belonged to the youngest and oldest age groups. The prevalence, for example, of old and very poor widows of clergymen in nineteenth-century Sweden is a well-known phenomenon. Thus, the estate inventories provide no grounds for doubting the assumption that the nonprobated deceased had very few assets. Even more so, there is absolutely no reason to believe that they had any debts worthy of a creditor’s attention.

Working with these source materials has in various ways confirmed the reasonableness of the view that decedents without probated estates did not have any notable assets, much less any debts, worth recording. The authorities, given their financial interest in having estates with assets registered, made sure that the rules were followed. As to debts, the law required an inventory to be prepared whenever there was a creditor making a claim against an estate. Failure to do so would make the heirs personally responsible for paying the debt. The existence of petitions from survivors requesting exemption from probate on the grounds that the estate lacked assets is an

<sup>28</sup> Only a few persons listed among the deceased are referred to as “farmer” or “crofter.” Even though many inhabitants of Kalmar rented land on the defensive embankments from the city for use as garden plots or for animal pasturage, or had other agrarian interests, it is apparent that very few could be considered primarily to be farmers. Nonetheless, in the interest of completeness, even this category is included in Table 4.

TABLE 4  
DEATH AND PROBATE IN KALMAR, BY SOCIAL GROUP

Social Group	1841–1845		1901–1905	
	Deaths	Percentage Probated	Deaths	Percentage Probated
Upper <sup>a</sup>	41	68.3	65	81.5
Middle <sup>b</sup>	168	52.4	273	70.7
Farming <sup>c</sup>	2	0.0	8	75.0
Lower <sup>d</sup>	312	27.2	469	36.4
Total	523	38.6	815	51.9

<sup>a</sup> High officials, professionals, and important businessmen, including what in the Swedish population statistics are referred to as “persons of rank” (*ståndspersoner*), who could be either noble or common. This category includes military officers, vicars, pharmacists, physicians, and ship captains, as well as city councilors (high-ranking burghers regardless of occupation), surveyors, postal inspectors, customs officials and school principals.

<sup>b</sup> Minor officials and burghers. This category includes retailers, small manufacturers, craftsmen, and various other small businessmen.

<sup>c</sup> Farmers working their own or rented land. This category thus includes both landowning farmers and tenants.

<sup>d</sup> Factory and handicraft workers, seamen, and household employees. This is the category then referred to as the “nonpropertied” (*obesuttna*).

Sources: See Table 2.

indication that the controls had teeth. In addition, there are the many notations by parish clergymen in the death register—“Died in the poor house,” “utterly poor,” “a pauper,” “died in prison,” or “died in the county jail”—indicating that nonprobated decedents had no assets worth noting.

#### ESTIMATES VERSUS FACTS

My study of debt accumulation by the living population of Kalmar was carried out in four steps. The first step was to divide estate debts into three categories: debts to individuals (“personal debts”), debts to banks and other financial institutions (“institutional debts”), and debts to various levels of government (“tax debts”). Personal debts, in turn, were divided into two subcategories: current-account debts (known as *leveratörskrediter* or *kontokrediter*), and debts secured by longer-term promissory notes (*reverslån*). Institutional debts were subdivided into savings-bank debts, commercial-bank debts (including debts to the Riksbank, which were common during the 1840s), and debts owed to other institutions (including any of numerous local guilds and associations, funeral societies, scholarship funds, and, decreasingly over time, to the local Seamen’s Fund).<sup>29</sup>

<sup>29</sup> The Seamen’s Fund was an important national institution that had existed in every city with staple rights since the seventeenth century, and which administered substantial amounts of donated funds.



In the second step, decedents whose estates were probated were treated as a sample of that portion of the living population that would have left an estate worthy of probate had they, in fact, died. Since all estates where creditors were acting to safeguard their interests were in fact registered with the courts, it can be reasonably assumed that nonprobated estates did not have any debts. On the basis of this assumption, the debts of decedents with probated estates are treated as a sample of the debts of the entire population.

This sample, however, is clearly biased. Unquestionably the most important of the biases, and the only one addressed in this study, is age. Death rates in Kalmar were calculated for five age groups: 15–19, 20–34, 35–49, 50–64, and over 64 (Table 5). The inverted mortality rates for these five age groups were used to convert the debts of estates into an estimate of the total debts of the city's entire living population. Of course, with a sufficiently large sample, it would be possible to adjust the debt figures not just for variations in death rates among age groups, but also for gender and class differences.<sup>30</sup>

In step three, the hypothesis that the age-adjusted probate data provides a reasonable picture of Kalmar's local credit market was tested by comparing the estimated and the actual outstanding loans of the Kalmar Savings Bank during the years 1840–1845 and 1871–1875. Since the bank also made loans to persons living outside the city, producing an appropriate comparison required a time-consuming effort to identify, and to eliminate, loan-takers from the surrounding countryside. Around the turn of the twentieth century, the preserved source material lost the required level of detail. Thus the period 1901–1905 was excluded. Finally, in step four, the estate inventory valuations were used to draw conclusions concerning the structure of the local credit market during the period 1840–1905, as well as concerning the relative sizes of the bank-based and the older, informal components.

In contrast to the local commercial banks (specifically, Smålandsbanken in the 1840s and Kalmar Enskilda Bank in the 1870s), the savings bank could not finance its lending by issuing its own banknotes. The level of outstanding loans was dictated totally by the level of deposits, which tended to slow its rate of growth. Especially during the 1860s, both deposits and loans stagnated. The early 1840s and the early 1870s, however, were two periods of substantial expansion. During the first of these periods, outstanding loans increased from SEK 59,258 to SEK 94,783, and during the second period from SEK 273,021 to SEK 487,300. A nontrivial part of these loans were granted to persons not resident in Kalmar. Loans granted within the city were both smaller and of shorter term than were the rural loans. The management's emphasis on pru-

<sup>30</sup> Inspiration has been drawn from the work of Alice Hanson Jones. As early as the 1970s, she introduced this method of "inflating" wealth data contained in estate inventories to reconstruct the physical wealth of the living population in the British North American Colonies. See Hanson Jones, "Fortune privée," pp. 240–43, and "Wealth Estimates for the New England Colonies," pp. 98–100.

TABLE 5  
LIFE AND MORTALITY IN KALMAR  
(annual averages)

Age Group	Adult Population			Adult Deaths			Inverted Mortality Rate		
	1841–1845	1870	1901–1905	1841–1845	1870	1901–1905	1841–1845	1870	1901–1905
15–19	629.5	924	1,211.0	4.4	3	6.4	143.1	308.0	188.3
20–34	1,652.0	2,359	3,103.5	20.2	18	20.8	81.8	131.1	148.6
35–49	1,103.0	2,053	2,387.5	26.2	35	23.8	42.1	58.7	100.0
50–64	598.0	1,264	1,706.5	24.8	41	29.6	24.1	31.1	57.4
65–	245.0	477	1,172.0	29.2	35	82.4	8.4	13.6	14.2
Total	4,227.5	7,077	9,580.5	104.6	132	163.0	40.4	53.6	58.8

*Note:* The information for 1870 is drawn from the census of that year and includes the city of Borgholm. The primary material on age distribution does not distinguish between the two cities. Borgholm, however, was a very small city. In 1870, its population (including children under age fifteen) amounted to only 817, compared to 9,275 for Kalmar.

*Sources:* *VLA*, Kalmar stadsförsamling, Kalmar slotts-församling and Mosaiska församlingen i Kalmar: Död- och begravningsböcker (F I, C:2, respectively, and G III:3; *RA*, SCB Micro film 0046 2/9 and 0156 2/10; *RA*, Arninge SCB Population Census 1870 H1b:5; Population Census 1900 and 1910 H1aa:29B.

dence and low administration costs explains why long-term rural loans, overwhelmingly in the form of agricultural credits, received priority.<sup>31</sup>

In order for a comparison between estimated and actual savings bank lending to be useful, rural lending must be excluded. Table 6 displays the savings bank's outstanding loans on an annual basis for the periods 1841–1845 and 1871–1875. On average, urban loans amounted to SEK 54,157 during the years 1841–1845, and SEK 141,461 during the years 1871–1875. As indicated by the table, the probate-based estimates of Savings Bank lending correspond very well with the actual numbers. Corrected for age bias, the estimates based on the inventories fall approximately 9 and 7 percent short of the true figures for the periods 1841–1845 and 1871–1875, respectively. Thus the tentative conclusion can be drawn that the margin of error of our estimates does not exceed  $\pm 10$  percent. This comparison strengthens the assumption that it is useful to treat decedents with probated estates as a sample of the entire living population, so long as regard is paid to the variations in death rates among age groups. The “age-adjustment” method seems sufficiently reliable to yield a reasonably true picture of the debts of the living population based on probate records.

#### HOUSEHOLD DEBT IN KALMAR, 1840–1905

In the great majority of cases, the estate inventory was both standardized and extremely detailed. Thus I encountered no difficulty in devising suitable

<sup>31</sup> *FSK*, Direktionsprotokoll 30.12.1845, § 1.

TABLE 6  
KALMAR SAVINGS BANK'S ACTUAL AND ESTIMATED FINANCIAL ADVANCES  
(annual averages, SEK)

Year(s)	Actual Advances		Age-Adjusted Estimate
	Total	Urban	
1841	64,378	49,919	
1842	69,354	52,945	
1843	70,328	52,919	
1844	77,897	56,414	
1845	89,567	58,586	
1841–1845	74,305	54,157	59,401
1871	294,797	81,804	
1872	326,172	109,304	
1873	353,322	129,775	
1874	384,449	158,700	
1875	442,663	227,720	
1871–1875	360,281	141,461	151,997

Sources: FSK, Register över Spar-Bankens Säkerhets Handlingar 1831–1882; Revers- och Intresseräkning 1848–54; Huvudbok 1870–75.

subcategories of debt. Loans from various banks and other financial institutions, as well as tax debts and debts to individuals, were very precisely listed. It was possible to divide the personal loans into two main categories: promissory notes secured either by co-signature or by mortgage, and current-account debts. As a general rule, promissory notes were of longer maturity than current-account debts. Sometimes, though by no means always, listed debts included accrued interest. Current-account debts included all types of debts to providers of goods and services, as well as wages owed to employees and outstanding medical fees.<sup>32</sup>

Table 7 reports the results of the study, corrected for age bias. Measured in current prices, total household debt in Kalmar increased from around SEK 4 million during the 1840s to SEK 5.7 million in the early 1870s, and to SEK 23 million at the turn of the century. In constant prices, there was only a minor expansion of credit between 1841–1845 and 1871–1875 (from SEK 4.1 million to SEK 4.3 million), but the increase from 1871–1875 to 1901–1905 was substantial. Corrected for changes in the cost of living, household debt more than tripled during this period. Measured in per capita terms and constant prices, debts of the adult population decreased during the first interval from SEK 969 to SEK 583, but then increased rapidly to SEK 1,678.

<sup>32</sup> A few minor items have been excluded for convenience, namely those debts that arose after the time of death, including funeral costs and the various fees discussed previously. These payments are listed explicitly. They were occasionally included under “debts and debts,” but in the great majority of cases they were reported separately. It therefore has been simpler to consistently ignore these obligations, and to always compute financial debts exclusive of funeral and probate costs.

TABLE 7  
ESTIMATED TOTAL DEBTS OF THE LIVING POPULATION OF KALMAR  
(annual averages)

	1841–1845		1871–1875		1901–1905	
	SEK	%	SEK	%	SEK	%
Personal debts	3,308,114	80.7	4,359,714	76.0	10,402,966	44.8
On current account	1,217,055	29.7	2,154,537	37.5	3,334,323	14.4
Promissory notes	2,091,059	51.0	2,205,177	38.4	7,068,643	30.5
Institutional debts	777,027	19.0	1,309,343	22.8	12,758,998	55.0
Banking sector	540,535	13.2	875,679	15.3	11,793,732	50.8
Savings banks	59,401	1.4	246,695	4.3	1,601,011	6.9
Commercial banks	235,566	5.8	618,660	10.8	9,477,768	40.9
National Bank of Sweden	245,568	6.0	10,324	0.2	714,953	3.1
Other financial institutions	236,492	5.8	433,664	7.5	965,266	4.2
Tax debts	13,921	0.3	69,579	1.2	39,149	0.2
Total debts	4,099,062	100	5,738,636	100	23,201,113	100
Total debt per adult resident, in constant (1841–1845) SEK	969		583		1,678	

Sources: See Table 2.

At current prices, the per capita debt of the entire Kalmar population (including children) was SEK 676 in the 1840s, SEK 597 in the 1870s, and SEK 1,742 in the early 1900s. Compared to the earnings in cash and kind of Swedish semiskilled workers (at blast furnaces), this per capita debt amounted to almost four years' wages during the 1840s, and to more than two years' wages around 1900. Excluding short-term lending on personal account, the average debt of every man, woman, and child in Kalmar still amounted to almost three years' wages during the 1840s and to almost two years' wages during 1901–1905.<sup>33</sup>

The structure of household debt was “modernized” over these six decades, especially during the latter half. Personal debt amounted to over 80 percent of the total in the early 1840s, and 75 percent in the early 1870s. It decreased rapidly thereafter, to less than 50 percent at the start of the new century. It should be noted, however, that the first two percentages include most of the city's business debts. At that time, virtually all of Kalmar's business enterprises were either individual proprietorships or partnerships.<sup>34</sup>

<sup>33</sup> These comparisons are based on annual wage data (including estimates of wages in kind) provided by Larsson in *Arbete och lön*, p. 211. Hoffman, Postel-Vinay, and Rosenthal (*Priceless Markets*, p. 273) conclude that, at its peak during the 1780s, long- and medium-term notarial lending per capita in Paris only somewhat exceeded the annual earnings of an unskilled worker. Thus the results for Kalmar presented here tend to confirm my supposition that while the loans intermediated by the notaries were an important part of the Parisian credit market, they were by no means the dominant part.

<sup>34</sup> In the early 1840s there were two small tobacco factories, together employing about ten people, and a sugar refinery with five or six employees. The one really large business was the shipyard. It was an unlimited-liability joint-stock company (Hagstedt, “Sjöfart, handel,” pp. 159–62; *Kalmar Läns och Ölands Annons-Blad* 1834:40, 51, 101).

Industrial statistics for 1875 reported 16 firms in Kalmar, with a total of 670 employees. Four of these were partnerships; the rest were individual proprietorships. The largest places of employment

By the early 1900s business had to some degree adopted limited-liability joint-stock organization, thus complicating comparisons with the two earlier periods. The rise of novel organizational forms (including also economic associations, cooperatives, and government organizations) meant that an increasing share of borrowing was done by legal, rather than physical, persons. The former, of course, do not leave estates. Thus, for the last sample period, it is important to stress that my observations refers to the non-corporate sector of the economy only.<sup>35</sup>

Even if the vast short-term debts to merchants and other suppliers is excluded, there still remains a substantial private promissory-note market. In the Kalmar of the 1840s, the volume of relatively long-term credit provided through unintermediated private lending on the promissory-note market was almost four times as large as the credit channeled through the banking system, and accounted for over half of the total credit market. The importance of the promissory-note market declined with the rise of the modern lending institutions. Still, as late as the 1870s the volume of promissory notes was more than twice the banking sector's lending. Although the absolute level of promissory-note lending increased substantially between the early 1870s and first years of the twentieth century, its relative importance declined. Still, it is surprising how important it continued to be: even in 1901–1905 more than 30 percent of the debts of Kalmar's inhabitants were loans from private persons, guaranteed either by mortgages or by co-signers.

The growth of the modern banking sector only began to accelerate after 1870–1875. A single generation later, however, commercial and savings-bank credits had replaced private promissory note as the dominant form of lending. In 1901–1905 the banking sector accounted for over 50 percent of the total debts of Kalmar's citizenry. Within the banking sector, in Kalmar (as in the rest of Sweden) commercial-bank lending replaced state loans channeled through the Riksbank between the 1840s and the 1870s. During these decades, lending by the savings banks increased faster than lending by the commercial banks, a situation which was reversed after 1875.

The size of the older, informal credit market relative to the newly emerging modern market is actually underestimated if the former is limited to private promissory notes. The category "Other Financial Institutions" in

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were the shipyard (106 employees) and the three match factories, which employed a total of 483 men, women, and children (*RA*, Kommerskollegium, Fabriksberättelser Micro fiche S5810 1/25).

<sup>35</sup> In 1905, 38 firms (with 961 employees) were registered in the city. Ten of these were joint-stock companies, reporting a total of 518 employees, while 28 were partnerships or single proprietorships (443 employees). The shipyard (AB Kalmar Varv) had been demoted to a repair facility, employing only 33 persons, and the match producers, now owned by an English firm (The Swedish Match Co Ltd, London), had been reduced to two factories with 194 employees. The single largest workplace, with 122 employees, was the then-expanding cereal-milling company (Kalmar Ångvarns AB). It was incorporated in 1889, but was still family owned (*RA*, Kommerskollegium, Avd. för näringsstatistik, H1aaa, Vol. 67 Micro fiche S5810 1/25).

Table 7 obscures a major structural change involving a reduction in the importance of debts to local guilds and associations, funeral societies, and other types of public and private funds, which, with the evolution of modern banking, were able to invest their balances without direct participation in the credit market. In the Kalmar of 1841–1845, interest-bearing loans from such funds were similar in volume to those from the Riksbank. Nonbank institutional lending had by no means ceased by the early 1900s, but it had changed character and become somewhat more modern. Loans from guilds and associations had to a large degree been replaced by insurance-company loans backed by life policies.

#### SOME IMPLICATIONS

The goal of this study has been to estimate the size and structure of the informal financial sector during the transition from agriculture to industry, by using estate inventories. It was based on four working assumptions: that nonprobated estates contained no debts; that, within a given age group, death was a random event; that only minimal changes in assets and debts occurred during the lengthy illnesses that often preceded death; and that children lived under the guardianship of an adult, and hence had no assets or debts to speak of. If each of these assumptions holds true, then probate inventories constitute a useful sample of the living population. This sample, of course, still suffers from biases of age, social standing, and gender. It has only been feasible to compensate for the first of these.<sup>36</sup> Nonetheless, on the basis of these assumptions it has been possible to estimate the level and the structure of the living population's debts by utilizing appropriate age-adjustment coefficients. This was done by weighting the summed debts in each age group by the inverse of that group's mortality rate, and then summing over age groups. A comparison between the estate inventory based estimate of savings bank loans with the actual lending by the Kalmar Savings Bank confirms the reliability of this approach.

How is our picture of the nineteenth-century Swedish credit market and its expansion affected by a micro study of this type? It is utterly apparent that a very large, but gradually diminishing, share of total credit provision occurred outside the scope of the modern, institutional credit market. Aside from various types of ledger and supplier loans, the informal Swedish credit

<sup>36</sup> A larger sample of estate inventories would naturally increase both the precision of the estimates and permit correction for the bias introduced by differences in age-specific death rates among social groups and between men and women. The recent expansion of demographic research has resulted in the availability of social-group-adjusted, age-specific mortality tables for several areas within Sweden. Thus, the recent contributions from demographic history research make it possible to correct for social-group bias with a reasonable degree of effort, if a substantially larger sample of estate inventories is utilized.



market included a large private promissory-note segment. In addition, there was a smaller segment consisting of nonbank institutional loans. This market involved a diverse group of guilds and associations, as well as communal, state, and private funds, which earned interest by lending their accumulated resources to private persons and enterprises.

If the informal credit market is defined as the private promissory-note market plus loans from financial institutions other than banks, this market supplied over 80 percent of the total credit available in Kalmar in the early 1840s, 74 percent in the early 1870s, and fully 40 percent even in the early 1900s. Hypothetically, if conditions in Kalmar were typical of Sweden as a whole, the story implied in Figure 1 would require substantial revision.<sup>37</sup> An approximate measure of the broader Swedish credit market, exclusive of short-term ledger and supplier loans but including promissory notes, yields SEK 355 million for 1841–1845, 1,544 million for 1871–1875, and 2,775 million for 1901–1905. As was the case with the lending of the modern banking sector, the total supply of credit grew more rapidly during the earlier than during the later period, even if the difference between the two periods is reduced. For the entire period 1840–1905, the growth of the overall Swedish credit market is certainly impressive, although less spectacular than indicated by measures limited to the modern credit institutions. Based on the estimates for Kalmar, the average annual rate of growth of total credit over this 60-year period was approximately 3.5 percent.

In conclusion, it should be emphasized that this study concerns the specific question of the size of the informal credit market during the transition from an agricultural to an industrial society. Other interesting questions, such as the life-cycle pattern of asset and debt accumulation, and the division of wealth and debts among social classes and between men and women, will be the subject of future micro studies based on the same Kalmar material. It is also tempting to expand the breadth of the study to the regional, or even the national level. The fact that estate inventories were filed with the local court makes the judicial district the proper building-block of such an undertaking. At the end of the nineteenth century, Sweden was divided into approximately 390 judicial districts, 300 of them rural. A stratified selection of districts based on economic and geographic considerations would increase the efficiency of the study and the precision of the results. It also would make it easier to justify the effort required.

<sup>37</sup> Of course this conclusion is highly speculative. Even if there is no reason to believe that Kalmar differed greatly from other Swedish urban areas in the early 1900s, nothing is yet known concerning private loans in the rural areas. As late as 1910, only one-fourth of the Swedish population were living in urban cities or towns (Hofsten, *Svensk befolkningshistoria*, p. 87).

## REFERENCES

- Betänkande angående Sveriges ekonomiska och finansiella utveckling under åren 1834–1860*, published by 1858 års Finanskommitté on February 9, 1863. Stockholm: P.A. Norstedt & Söner, 1863.
- Cameron, Rondo, ed. *Banking in the Early Stages of Industrialization: A Study in Comparative Economic History*. New York: Oxford University Press, 1967.
- \_\_\_\_\_, ed. *Banking and Economic Development: Some Lessons of History*. New York: Oxford University Press, 1972.
- Di Matteo, Livio. "The Determinants of Wealth and Asset Holding in Nineteenth-Century Canada: Evidence from Micro-Data." *This JOURNAL* 57, no. 4 (1997): 907–34.
- EGGE, Åsmund. "Transformation of Bank Structures in the Industrial Period: The Case of Norway 1830–1914." *Journal of European Economic History* 12, no. 2 (1983): 271–94.
- FöreningsSparbankens i Kalmar arkiv (FSK), Box 933, S-391 29 Kalmar.
- Gadd, Carl-Johan. *Järn och potatis. Jordbruk, teknik och social omvandling i Skaraborgs län 1750–1860*. Göteborg: Meddelanden från Ekonomisk-historiska institutionen vid Göteborgs Universitet no. 53, 1983.
- Goldsmith, Raymond W. *Financial Structure and Development*. New Haven: Yale University Press, 1969.
- Göta Hovrätts arkiv (GHA), Box 2223, S-550 02 Jönköping.
- Hagstedt, Rolf. "Sjöfart, handel, hantverk och industri under 1800-talet." In *Kalmar stads historia III. Från 1700-talet till det moderna Kalmar*, edited by Ingrid Hammarström, 95–198. Kalmar: Kulturnämnden, 1984.
- Hansen, Svend Aage. *Early Industrialization in Denmark*. Institut for Ökonomisk Historie, Copenhagen: Copenhagen University & Gads forlag, 1970.
- Hanson Jones, Alice. "La fortune privée en Pennsylvanie, New Jersey, Delaware, 1774." *Annales E.S.C.* 24, no. 2 (1969): 235–49.
- \_\_\_\_\_. "Wealth Estimates for the New England Colonies About 1770." *This JOURNAL* 32, no. 1 (1972): 98–127.
- Hildebrand, Karl-Gustaf. *Swedish Iron in the 17th and 18th Centuries: Export Industry before the Industrialization*. Jernkontorets Bergshistoriska Skriftserie, 29. Stockholm: Jernkontoret, 1992.
- Hoffman, Philip, Gilles Postel-Vinay, and Jean-Laurent Rosenthal. *Priceless Markets: The Political Economy of Credit in Paris, 1660–1870*. Chicago: University of Chicago Press, 2000.
- Hofsten, Erland. *Svensk befolkningshistoria. Några grunddrag i utvecklingen från 1750*. Stockholm: Rabén & Sjögren, 1986.
- Isacson, Maths. *Ekonomisk tillväxt och social differentiering 1680–1860. Bondeklassen i By socken, Kopparbergs län*. Stockholm: Almqvist & Wiksell International, 1979.
- Kalmar Läns och Ölands Annons-Blad*, 1833–34.
- Kalmar-Posten*, 1842–1845.
- King, Kenneth. "Introduction." In *Jua Kali Kenya. Change & Development in an Informal Economy 1970–95*, edited by Kenneth King, xiii–xvii. London: James Currey, 1996.
- Kock, Karin. *Smålands Bank, 1837–1937. Minnesskrift*. Stockholm: Ivar Haeggström, 1937.
- Krantz, Olle. "Swedish Historical National Accounts, 1800–1990—Aggregated Output Series." Mimeo, Department of Economic History, Umeå University, July 1995 (slightly revised in March 1997).
- Kuuse, Jan. "The Probate Inventory as a Source for Economic and Social History." *Scandinavian Economic History Review* 22, no. 1 (1974): 22–31.

- Larsson, Mats. *Arbete och lön vid Bredsjö bruk. En studie av löneprinciper och lönenivåer för olika yrkeskategorier vid Bredsjö bruk 1828–1905*. Stockholm: Almqvist & Wiksell International, 1986.
- Law of 1734*, Sveriges Rikes Lag gillad och antagen på Riksdagen år 1734. Stockholm: Hartwig Gercken 1736.
- Lilienberg, G. R., ed. *Svensk Lagsamling. II. Sveriges Rikes Lag*. Stockholm: P. A. Norstedt & Söner, 1875.
- Lindgren, Håkan. "Preliminär rapport. Utvärdering av bouppteckningsmaterial i Stockholms län 1750–1860," Mimeo, Department of Economic History, Uppsala University, 1977.
- \_\_\_\_\_. "Swedish Historical Research on Banking during the 1980s: Tradition and Renewal." *Scandinavian Economic History Review* 39, no. 3 (1991): 5–19.
- Magnusson, Lars. *Den bråkiga kulturen. Förläggare och smideshantverkare i Eskilstuna 1800–1850*. Stockholm: Författarförlaget, 1988.
- Markkanen, Erkki. "The Use of Probate Inventories as Indicators of Personal Wealth during the Period of Industrialization: the Financial Resources of the Finnish Rural Population 1850–1911." *Scandinavian Economic History Review* 26, no. 1 (1978): 66–83.
- Myhrman, Johan. *Hur Sverige blev rikt*. Stockholm: SNS Förlag, 1994.
- Nilsson, Lars. *Historisk tåtortsstatistik. I: Folkmängden i administrativa tåtorter 1800–1970*. Stockholm: Stads- och kommunhistoriska institutet, 1992.
- Nygren, Ingemar. "Kreditformer och kreditinstitut i Sverige 1840–1910." In *Utviklingen av kredit och kreditinstitutioner i de nordiske land ca. 1850–1914*, edited by Grethe Authén Blom, 1–32. University of Trondheim: Tapir, 1978.
- \_\_\_\_\_. "Transformation of Bank Structures in the Industrial Period. The Case of Sweden 1820–1913." *Journal of European Economic History* 12, no. 1 (1983): 29–68.
- Ohlsson, Per T. *100 år av tillväxt*. Stockholm: Brombergs, 1994.
- Peterson, Gunilla. *Jordbrukets omvandling i västra Östergötland 1810–1890*. Stockholm: Almqvist & Wiksell International, 1989.
- Riksarkivet, National Archives of Sweden (RA), Box 12541, S-102 29 Stockholm. *Riksdagstrycket* 1894.
- Sandberg, Lars G. "Banking and Economic Growth in Sweden before World War I." *This JOURNAL* 38, no. 3 (1978): 650–80.
- \_\_\_\_\_. "The Case of the Impoverished Sophisticate: Human Capital and Swedish Economic Growth before World War I." *This JOURNAL* 39, no. 1 (1979): 225–41.
- \_\_\_\_\_. "Sweden as an 'Impoverished Sophisticate': A Reply." *This JOURNAL* 42, no. 4 (1982): 921–22.
- Stegö, Cecilia. *Systemskiftet*. Stockholm: Nerenius & Santérus, 1993.
- Stiernman, Anders Anton. *Samling utaf Kongl. Bref, Stadgar och Förordningar .... Ang. SweaRikes Commerce*. Stockholm: n.p., 1760.
- Svensk Författningssamling (SFS) 1841–1894*.
- Söderlund, Ernst. *Skandinaviska Banken i det svenska bankväsendets historia, II, 1914–1939*. Uppsala: Almqvist & Wiksell, 1978.
- Uggla, Samuel. *Samling av Kungl. Maj:ts brev och förklaringar 1760–1766*. Stockholm: Henrik Fougte, 1776.
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