
The Transformation of Bank Structures in the Industrial Period

THE CASE OF DENMARK

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I.

The topic of the links between industrialisation and the development of the Danish credit system is one with which, using the same quantitative methods as Rondo Cameron,¹ I have already dealt with in my book *Early Industrialisation in Denmark* (1970).

My exposition there concentrated mainly upon Danish industrialisation of the 1890s, being concerned only peripherally with the development of the credit system during the preceding period. It lacks some of the prerequisites for an understanding of the special structure of the Danish banking system and its original financing functions.

The account that follows is intended to fill these gaps. Its point of departure is the structure of the institutional credit system, whose distinctive features it explains in terms of a situation where, until the middle of the 1890s, it was chiefly serving the needs of agriculture and trade as the two most important sectors of the economy. Thus, the adaptation of the banking system to

¹ *Banking in the Early Stages of Industrialization*, Oxford University Press 1967.

the requirements of industrial society was a relatively late phenomenon in Denmark.

Chronologically the exposition is constructed *in three sections*, the first of which, covering the period down to 1875, is the formative phase of the institutional credit system. The second phase (1875-1895) is one of consolidation, characterised particularly by the enlargement of the supply of agrarian credit. The third phase (1875-1914) is the period of the real expansion of the banking system, and coincides with an intensification of the process of industrialisation.

II.

The period from 1813 to 1875 was the Danish credit system's experimental epoch. A diverse range of circumstances set its impress upon this formative period.

Firstly, political events had a decisive impact upon the pattern of development. One of the most notable of them was the currency reform of 5 January 1813, later termed the 'national bankruptcy'. The collapse of the Danish monetary system was due to many years of deficit budgeting by the state. This financial policy had been embarked upon firstly in order to spare the economy, especially agriculture, the burden of increased taxation during the reform period after 1784, and secondly in order to finance the heavy expenditures arising from the war with England after 1807. With these objects in view, the national debt was run up during the years prior to 1813 to a level corresponding to double the government's current annual revenue. Of this, the paper money issues formed more than half. These developments generated a galloping inflation that rendered a reduction of the note issue imperative.

The currency reform of 1813 provided for the *Courantbank* notes in circulation to be written down by being exchanged for new *Rigsbank* notes in the ratio of 6 to 1. The event was to mark

a clear watershed in economic policy. The earlier firm conviction of the blessings flowing from deficit budgeting was now matched by an equal conviction of the necessity of a balanced financial policy and the continued withdrawal of banknotes. This deflationary line of monetary policy was persisted in right through to 1838, since it was not until the latter year that success was achieved in bringing the exchange value of the new notes to par with silver coin.

This long period of restrictive monetary policy naturally set narrow limits on the development of the banking system. The note-issuing bank, the Nationalbank (from 1818), was Denmark's only bank until 1846. This meant that the provinces particularly felt the shortage of bank credit. As early as the 1820s demands were frequently raised for the establishment of branches by the Nationalbank in the most important provincial towns. However, the Bank rejected this on the ground that it did not have sufficient capital as long as parity of exchange had not been achieved.

This goal was in sight by the mid-1830s, so that the Nationalbank was under less constraint in its lending policy. The Bank has never been so little burdened by its function as a note-issuing bank as in the ensuing period, the decade 1835-45. Lending for business purposes increased substantially, and it was another manifestation of the active attitude of the Bank when it opened a couple of branches in the provinces in 1837 and 1844.

This increase of activity was also linked with the budding influence of political liberation. Until 1848 Denmark was still living under an absolutist system of government. Power lay in the hands of a coterie of older politicians who were fundamentally opposed to reform. But in the Nationalbank itself, whose status was that of a private joint stock company, Liberal leaders managed to gain ground relatively early. This influence was employed to swing the Bank's support behind a general economic expansion through more abundant credit.

When the Liberals came to power in 1848 openings presented

themselves for a number of other reforms of the credit market. While the Nationalbank had hitherto regulated the money market by quantitative means, the approach after 1857 was one of guiding the pattern of credit by means of a flexible discounting policy on Bank of England lines. It was also decided at about the same time to ease the maximum interest-rate regulations, which had existed almost ever since the Reformation.

The new order also meant fewer obstacles to the founding of private monetary institutions as the *laissez faire* views of the Liberals gradually supplanted mercantilistic pressure for controls. Thus it swiftly became an established practice that private banks could be set up freely without permission from the state. The same liberalising process characterised the approach to mortgage credit. Under absolutism the government had prevented the establishment of institutions for making loans against the security of real property (credit associations). But shortly after the Liberal political victory the obstacles to this were demolished by an Act of 1850, which at once brought about the founding of several such associations.

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In the second place it was characteristic that the shaping of the Danish credit system during the period up to 1875 was aimed mainly at meeting the demand for credit emanating from agriculture and trade. But the volume of industrial financing was very limited even at the end of the period.

The government had abandoned its mercantilistic policy with regard to manufacturing as early as 1797 and acknowledged agriculture and trade to be Denmark's main natural economic sectors. In consequence of this, a more liberal approach was adopted to tariff policy, and this approach was retained in subsequent statutes of 1837 and 1863. At the same time a start was made on dismantling the administration of the state manufactories, the last of the workshops being disposed of in 1817. The Danish

people's requirements of textiles and other manufactured goods were thenceforth satisfied for the most part by means of domestic production or else imports from England.

During the 1840s and 1850s a number of new industrial ventures were put in train. But even after the expansion during the booms of the 1850s and 1870s industry remained a sector modest in scale and accounting for no more than 5% of Denmark's gross factor income in 1875.

The limited significance of the industrial sector was due mainly to the fact that the structure of the Danish economy was still based upon a division of labour between home agriculture and English industry. Agricultural production developed a market orientation at an early stage, and this was based on a high and steadily growing export quotient. Between 15 and 20% of the aggregate production value of agriculture was exported even in the 1820s; by the end of the 1830s the quotient had risen to 25%, by the middle 1850s to 30% and by the end of the 1870s to 40%.

This vigorous commercialisation of agricultural production created a considerable demand for credit in order to finance the enlargement of herds, the construction of outbuildings, soil improvement and the buying out of the freeholds of former tenant farms. Another condition of this development was the financing of a very considerable commercial sector, whose proportion of gross factor income rose from 8% in 1835 to no less than 13% in 1875.

The meeting of the credit requirements of these two sizeable sectors was accomplished in the case of agriculture chiefly through the medium of the savings banks and credit associations. But the satisfying of the credit needs of commerce was very intimately bound up with the formation of the private banking system.

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The third significant line of development is the growing institutionalisation of the Danish credit system that took place du-

ring the period. As late as the 1840s no more than 5-7% of total investments were financed via the institutional credit market. By the 1870s the proportion had risen to 35-40%.

This pattern of development marks the shift away from a primitive financial structure characterised by loans from person to person, loans of trust capital and by merchant houses, and diverse forms of bills of exchange and banking operations.

Direct loans from person to person still predominated in Denmark in the 1830s. Trust funds also belong in this category of credit operations. These accumulations of capital were tied to estates with majorat status and therefore inherited undivided. Thanks to this organisational form capital funds remained intact, and in the period prior to the emergence of the institutional banking system they remained one of the most important sources of credit. It was primarily agriculture that benefited from them - not merely, it should be noted, the great estates but also the peasant farms, whose conversion to freehold ownership was partly financed from this source. Furthermore these capital funds frequently took a part in the financing of early industrialisation as well as being of vital importance in the founding of a number of banks from the mid-1850s onwards.

The need of commerce for finance through the discounting of trade bills was particularly pressing. In Copenhagen, apart from the Nationalbank, this could be met through a number of billbroking firms and banking houses, most of them Jewish. Examples of such houses were Henriques and Hambro (the last house from 1837 in London), which had been founded at the beginning of the century, and the firms of G. A. Gedalia and D. B. Adler, which dominated the market in the period 1850-75.

There were few similar houses in the provincial towns. To a very large extent, therefore, the holders of bills, especially in Jutland, were forced to discount them via whichever of the Hamburg merchant houses they had business connections with. Western Jutland particularly enjoyed constant credit accommodation

from Hamburg and was thus dependent to a marked degree upon the business life of that city.

Denmark's primitive credit structure was altered as a result of numerous innovations from the middle of the 1840s onwards. All of the most important types of institution still characterising the Danish credit system today had been introduced before the end of the 1850s. And by about 1875 the banks, savings banks and credit associations had established themselves as important components of the total market.

III.

The emergence of the private banking system constitutes the central element in the institutionalisation of the credit market. As already mentioned, the efforts to foster the establishment of banking activities in the provinces were mainly directed towards getting the Nationalbank to open branches there. However, from the mid-1840s onwards the introduction of somewhat restrictive rules with regard to the backing of banknotes forced the Nationalbank to refuse all urgings to open new branches.

One such refusal led to the founding in 1846 of a private banking firm, Fyens Discontokasse, in Odense, in the province of Funen. The discounting operations of the new bank were originally meant to be based upon its fairly sizeable share capital, but on the other hand not many deposits were expected. The special type of bank represented by Fyens Discontokasse appears to have been of somewhat mixed origin. The organisation of the Nationalbank served as a model, and the influence of the continental banking system exhibited itself more clearly than did the English element.

The expansion of the province's banking system that ensued gathered momentum during the boom period 1854-57, when no fewer than 13 provincial banks were established, all designed to the same model as Fyens Discontokasse.

However, in the long run the public preferred to entrust their money to the banks in the form of deposits rather than by contributing to their share capital, and English and Scottish banking practice had already gained ground among these banks by the end of the 1850s.

One significant factor contributing to this development was that in 1857 Denmark had got its first real credit-creating bank, the Privatbank of Copenhagen. The Privatbank considered it important to obtain deposits, and in order to encourage the public to make them it allowed interest not only upon deposits at notice but also on demand deposits. In order to attract customers, moreover, it introduced the account current, i.e. an account in credit and debit by turns. Finally, the Privatbank brought the cheque to Denmark. This created scope for an expansion of credit capable of satisfying the burgeoning economy's demand for finance.

There was further development on these lines during the next great boom period in the 1870s, when the two principal Danish banks, the Landmandsbank (1870) and the Handelsbank (1871), were founded. This completed the structure which the Danish banking system retained until the First World War, viz. a number of provincial banks serving provincial trade and agriculture along with banks serving the needs of large-scale commerce and industry.

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The first Danish savings bank was founded in 1810, and by 1830 there were already 30 such institutions. Until that time, however, these monetary institutions had made no positive contribution to the meeting of the credit requirements of commerce and industry, since their method of earning a return on their deposits consisted largely of placing them at interest in the treasury.

By this practice the savings banks helped instead to curtail

the local supply of credit, which as things were left much to be desired. The practice drew increasing criticism from the Liberal opposition during the 1830s, and after the abolition of absolutism in 1848, investments in the treasury by the savings banks stopped altogether: during the course of the 1840s and 1850s the savings banks became the most important lending institutions in Denmark alongside the Nationalbank. The proportion of aggregate lendings by Danish monetary institutions furnished by them was usually around 35-45 %.

Mortgage loans were the savings banks' preferred form of lending during this period. The extensive buying-out of freeholds that characterised the period was assisted by these loans. Some of the remaining funds were utilised for the discounting of commercial bills of exchange, an activity soon taken up by the savings banks since there were still no commercial banks to do so. Moreover, there are examples of participation by the savings banks in the financing of industry. Thus, the lending operations of the savings banks in the 1840s and 1850s were quite varied and, in not inconsiderable measure, of true banking character. These tendencies were undoubtedly connected with the heavy representation of the business classes of the provincial towns on the boards of the savings banks.

Because of the growing prosperity of agriculture the savings banks increased sharply in number from the middle 1860s onwards, so that the network of savings banks became relatively dense during these years. The figure went up from 73 in 1865 to 376 in 1875. The reason for this dramatic rise in numbers is that the period was distinguished primarily by the emergence of large numbers of small parish savings banks. The tendency was strengthened in the political sense by the growing opposition of the peasantry to the original National Liberal and landowner-orientated attitude of the savings banks in the provincial towns. The development marks a swing of the savings banks' financing operations in the direction of more agriculture-orientated functions.

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The last important innovation in the Danish credit system consisted of the credit associations (mortgage banks), which, as already remarked, owed their genesis to a statute of 1850, a couple of years after the establishment of representative government. The mortgage institutions in question were debtor-controlled, along the lines of the German *Landschaften*. The associations financed their mortgage lending by issuing bonds quoted on the stock exchange, which borrowers themselves had to sell at market rates.

One of the principal problems of the credit associations at first was getting the bonds sold at reasonable rates. Attempts to interest foreign capital markets in the new bonds met with no success in the early years. And on the home market the lack of confidence in the new securities must have limited the circle of purchasers. Even ten years after the start of the first associations, their bonds were quoted substantially lower than government bonds.

Thus the fact that the effective rate of interest of the credit associations was relatively high prevented them from gaining ground, especially in localities where the savings banks were pursuing an active lending policy. This was most particularly the case in farming circles. On the other hand the credit associations' first decade was notable for the much more extensive use made of this new source of credit by urban landowners, and therefore by the building industry, than had been foreseen. As well as this, urban businessmen certainly used mortgage credit as a more general source of credit.

During the period up to 1875 the credit associations won widespread support, and their bonds were increasingly utilised as cash reserves by banks and savings banks. These monetary institutions now accepted more and more demand deposits and so found themselves forced to find investment opportunities combining a regard for high liquidity with good returns. In this way

links were gradually forged between the credit associations and the other sectors of the institutional credit market.

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All in all there took place in Denmark a quite substantial reorganisation of financing into institutional forms prior to 1875. In 1845-50 the financing quotient (i.e., the increase in lending in relation to the growth of gross investments) was a mere 7%. In 1870-75 financing by the institutions had risen to 37%.

Viewed in relation to national income, lending by institutions doubled during the same period from 1845 to 1875, cf. Table 1. However, relatively little progress was made in the part of the period prior to 1855, especially by the banks. This was because the Danish private banking system came into operation comparatively late and was still in no position to offset the limitations placed on advances by the Nationalbank about 1845.

It is difficult to determine the significance of the first wave of bank establishments, since the account books of both banks and industry have either not survived or are not available to a sufficient extent. The provincial banks had indisputable agrarian links when they started up. It was generally believed that the capital for founding these banks must be sought among the peasantry. In their operation, too, these bank enterprises were orientated towards agriculture. It was essentially the growing need of this sector for working capital, the trade in its produce for sale, its raw materials and its consumer requirements, that furnished a *raison d'être* for the banks. Their managements indeed were usually in the hands of the provincial urban wholesale dealers, whose field of business was very closely associated with agriculture. These conditions gave the provincial banks their own character of mixed commercial and agricultural banks, reflected for example in the fact that their acceptance credits were relatively speaking much more important than for the Copenhagen banks.

TABLE I

CREDIT INSTITUTIONS' ADVANCES 1845-1875. MILL. KR.

	National- bank	Commercial banks	Savings banks	Mortgage institutions	Others ¹	Total credit volume
1845	38	—	5	12	30	85
1850	38	1	10	13	36	98
1855	39	4	24	36	43	146
1860	41	19	41	62	48	211
1865	43	30	60	69	56	258
1870	46	40	86	91	51	314
1875	48	109	138	136	63	494

¹ Insurance companies and government institutions.

CREDIT INSTITUTIONS' ADVANCES AS PERCENTAGE
OF NATIONAL INCOME

	Nationalbank and commercial banks	Ditto including savings banks	Ditto including mortgage institutions	Total advances
1845	14	16	20	32
1850	12	15	20	31
1855	9	14	22	31
1860	13	22	35	45
1865	13	23	35	45
1870	13	26	39	47
1875	19	37	53	61

In contrast to the existing provincial banks, the Privatbank from its foundation aimed at establishing relations with large-scale business and production, evolving under the management of C. F. Tietgen towards a form of mixed banking largely reminiscent of German banking practice.

In the Privatbank under Tietgen, the actual formation of enterprises (the founding function or promotional aspect) is found united with assistance on the part of the bank in assembling the fixed share or debenture capital (the issuing or funding aspect) along with the granting of general working credits to the firms

started up by the bank (the working credit function). The guiding hand of the bank, moreover, was to be observed in the directorships held by Tietgen in industrial companies (the management function) and in the efforts to limit competition that manifested themselves in those sectors of industry where it had interests (the concentration function).

Thus, under the guidance of Tietgen and the Privatbank, such important new creations and amalgamations came into being as Det Forenede Dampskibsselskab (the United Steamship Company) of 1866, Store nordiske Telegrafelskab (the Great Northern Telegraph Company) of 1866 and Københavns Telefon A/S (the Copenhagen Telephone Company) of 1881. In the industrial field it was the good offices of the Privatbank that created a number of equally large and still dominant firms, viz. De danske Sukkerfabrikker (the Danish Sugar Mills) of 1872, Burmeister & Wain of 1872, De danske Cikoriefabrikker (the Danish Chicory Factories) of 1872, Tuborgs Fabrikker (Tuborg Breweries) of 1873, De danske Spritfabrikker (the Danish Distilleries) of 1881 and Faxø Kalkbrud (Faxø Limestone Quarries) of 1883.

It is this impressive array of enterprises that has been mainly instrumental in shaping the view held hitherto of a broad industrial revolution occurring in Denmark in the 1870s; it has likewise helped to consolidate the idea of the Privatbank as a true mixed bank of the German type. The grounds for such far-reaching conclusions are hardly present, however. Industrialisation as a whole in the 1870s, as has already been remarked, took place within quite a narrow framework despite the heavy concentration of power represented by Tietgen's activities. Neither was the Privatbank founded with specific industrial objectives in mind, although it did swiftly evolve into a connecting link to important sectors of industry. Despite undeniable common features with the German banking system, the founding and funding functions never became predominant in the bank's business operations.

On the other hand it is palpable that the Privatbank found itself actively engaged in the industrial development of the 1870s and that this, though admittedly in a more subdued form, also applied to the two other Copenhagen principal banks, the Landmandsbank and the Handelsbank, both of which were established during the boom of the 1870s. In the case of the last two banks to be formed it is obvious that they were founded too late to become very deeply involved before the boom was over, and that the losses which they afterwards suffered on their industrial commitments caused them to adopt a more cautious policy until some measure of consolidation of their actual banking operations had been achieved.

IV.

The period 1875-95 was a period of consolidation for the Danish credit system, when the volume of lending was growing steadily in relation to gross factor income. But there was no question of decisive innovations comparable to those of the preceding period. At the same time the comparatively slower growth accompanying the falling prices of these years meant that the establishment of new credit institutions slackened. This is particularly noticeable in the banking field, which was quite severely hit by the business slumps after 1875. Not until the mid-1880s did the number of banks again begin to rise above the figure of 40 which it had reached in 1875.

But matters still moved slowly until the first half of the 1890s, when the number reached 59. It was the provincial banks especially that found themselves trapped during this period in a tight situation of almost stationary deposits. This coincided with a steady growth of the savings banks both in numbers (from 376 to 514) and in volume of deposits, cf. Table 2.

It is tempting to view this difference in speed of growth as reflecting the political struggle of that era between the Conser-

TABLE 2

CREDIT INSTITUTIONS' ADVANCES 1875-1895. MILL. KR.

	National- bank	Commercial banks	Savings banks	Mortgage institutions	Others ¹	Total credit volume
1875	48	109	138	136	63	494
1880	34	92	154	232	78	590
1885	40	151	215	365	98	869
1890	25	157	272	481	133	1068
1895	23	203	334	626	149	1335

¹ Insurance companies and government institutions.

INSTITUTIONS' ADVANCES AS PERCENTAGE OF NATIONAL INCOME

	Nationalbank and commercial banks	Ditto including savings banks	Ditto including mortgage institutions	Total advances
1875	19	37	53	61
1880	15	33	61	70
1885	23	50	94	106
1890	19	47	97	121
1895	22	54	114	129

vatives, the party of the landed classes, and the Liberals, the peasant's party, over the constitution, since the peasants, opposed as they were to the Conservative-orientated business interests of the towns, were endeavouring to create their own monetary institutions in the country districts. This policy did indeed lead to intense competition over deposit terms, which was a factor in the raising of the level of interest rates by the savings banks and in their becoming involved in higher-risk transactions. Inspection of savings banks was introduced because of these developments, and at the same time more specific solvency requirements were imposed. Similar protective legislation was not adopted for the commercial banks until 1919. The latter thus enjoyed much less restrictive conditions of business than the savings banks for a considerable period.

The downward trend of prices during the period reduced the degree of self-financing by business firms and thus the local financing opportunities. This meant quite naturally that the main weight of financing had to be shifted from local banks and savings banks onto the general bond market. The development of the financing structure also confirms this tendency. During the course of the 20 years that elapsed between the crisis of 1874 and the new boom from the middle of the 1890s, lending by the banks rose by just over 90 million *kroner* and by the savings banks by over 200 million *kroner*, while the outstanding debts of the credit associations alone went up by 390 million *kroner*. The distribution of the latter - about 230 million *kroner* on properties in country districts and 160 million on urban properties - illustrates the importance of this form of lending to the process of readjustment then going on in agriculture.

The period's growing dependence on lending through the credit associations led to the expansion of this system in various fields where new functions were to be financed. Thus, two smallholders' credit associations were formed in 1880 with the government guaranteeing the interest yield. These associations became an active element in the financing of the reorganisation of agricultural production into more industrial forms. Moreover they performed a function connected with the parcelling out and establishment of new smallholdings.

The smallholders' credit associations assumed further significance for the capital market inasmuch as their government-guaranteed, two-currency bonds were suitable for export. By placing them on foreign stock exchanges, advantage could be taken of the fall in European interest rates. Indeed there was a need for such imports of capital, since the drop in prices of farm produce had led to a permanent deficit on the balance of payments that had eaten up Denmark's quite considerable reserves of foreign currency and brought the country into a debtor situation *vis-à-vis* other countries by about the beginning of the 1890s.

The interest-reducing effects of the capital imports were in fact making themselves felt while at the same time the government, in close concert with the Nationalbank, was carrying through a series of conversion operations in 1886, 1894 and 1897. As a result of this and of the somewhat limited economic activity of the period, it was possible to hold a low and generally falling level of interest rates. Whereas the market rate of interest around 1875 was about $4\frac{1}{2}\%$, by the mid-1890s it was down to $3\frac{1}{2}\%$.

V.

The period 1875-95 was marked by a wide-ranging reorganisation of agriculture in the direction of livestock products, triggered off by the fall in corn prices after 1875. The reorganisation, which involved a far-reaching industrialisation of agricultural production, gathered momentum in the 1880s particularly, when the first cooperative dairies (1883) and slaughterhouses (1887) were established. By 1890 there were 679 cooperative dairies and 10 cooperative slaughterhouses in operation.

The benefits yielded by this process in the shape of increased outputs of livestock and rising export quotients did not manifest themselves immediately. During the entire period 1875-90, the agricultural export quotient, reckoned as a percentage of production value, was stable at about 40% without showing any tendency to change. Not until the beginning of the 1890s was Danish agriculture in a position to push its export quotient up to 45%, rising to over 50% in the closing years of the century.

The switchover to livestock production engendered a need for investment both on the farms themselves and in the cooperative sector. The growing use of artificial fertilisers, the enlargement of herds and the more intensive feeding all demanded increasing working capital. Necessary extensions or renewals of outbuildings, the installation of liquid manure tanks, the purchase of machinery

and the establishment of dairies and slaughterhouses likewise required investment capital.

However, investments in the establishment of dairies and slaughterhouses did not, comparatively speaking, demand large amounts of capital even during the periods of intensive development in the 1880s and 1890s. These establishments seldom accounted for more than 3-4 million *kroner* per year, which was equivalent to less than 5% of the annual capital outlays of agriculture.

Agriculture had had little scope for financing itself during the period of falling prices, so that the bulk of the capital requirement had been met from foreign sources. The savings banks are known to have financed the majority of the cooperative societies, and as already mentioned, the lending operations of the credit associations also assisted actively in the process of agricultural reorganisation.

The investments of the period took the form of the enlargement of the Danish productive apparatus on a broad front. The fact that agriculture continued to be the dominant productive sector indirectly marked the investment pattern in many of its aspects. The development of the communications sector as a prerequisite of the effective division of labour between Danish agriculture and English industry was to some extent a reflection of this. Even in the adverse years at the close of the 1870s and in the next decade, considerable sums were invested in the expansion of the railway system. Investments in the economic life of the towns were orientated mainly towards fostering the exchange of goods necessary to enable the agricultural sector to fit into the division of labour within Denmark. These functions, like agricultural production itself, were not very capital-intensive and help to explain why the investment rate of the period, construed as net investments in relation to national income compared with the level during a real industrialisation process, was relatively low and constant, staying at about 3-5%.

Industrial development came to an abrupt standstill during

the business depression after 1874. Profits were small, and shareholders suffered heavy losses through falls in share prices. These factors must have brought most industrial activity to a standstill and put a damper on economic advance generally. Danish industry still consisted of small firms, locally isolated and scattered among many individual sectors. This state of affairs changed very little prior to the middle 1890s. Tendencies to concentration were not marked, and new industrial activities of the more conspicuous sort were but few.

VI.

The years from the middle of the 1890s onwards were the period of the Danish bank system's greatest growth. The primary contribution made by the development of urban industries was to shift the emphasis away from the savings banks, whose main footing was in agriculture, and over to the banking institutions of the market and railway towns. While the savings banks only managed to double their lending between 1895 and 1913, advances by the commercial banks quadrupled. The result was that in 1905 the volume of lending by the banks overtook that of the savings banks for the first time.

At the same time the banking structure underwent significant changes. In Copenhagen there evolved alongside the three principal banks a group of medium-sized building banks, and in the provinces numerous banks were founded, bringing the number up from 51 in 1895 to 75 in 1900 and 119 in 1908. It was this denser coverage that enabled the banks to wrest from the savings banks a relatively larger proportion of total deposits. A contemporary commentator noted that whereas Denmark had lagged behind for many years in the use made of the banks, matters had now gradually 'developed surprisingly considering our small-scale situation'.

During this expansion the three principal Copenhagen banks

TABLE 3

CREDIT INSTITUTIONS' ADVANCES 1895-1913. MILL. KR.

	National- bank	Commercial banks	Savings banks	Mortgage institutions	Others ¹	Total credit volume
1895	23	203	334	626	149	1335
1900	48	306	394	803	180	1731
1905	48	490	491	1170	202	2401
1910	38	677	600	1637	230	3182
1913	52	792	658	1906	250	3658

¹ Insurance companies and government institutions.

CREDIT INSTITUTIONS' ADVANCES AS PERCENTAGE
OF NATIONAL INCOME

	Nationalbank and commercial banks	Ditto including savings banks	Ditto including mortgage institutions	Total advances
1895	22	54	114	129
1900	27	57	117	131
1905	35	66	141	154
1910	40	68	154	166
1913	37	65	148	159

- the Privatbank, Landmandsbank and Handelsbank - had grown into institutions on a par with or exceeding the Nationalbank in terms of capital strength. The superiority of the great banks was the consequence of their capacity to attract Denmark's available capital, precisely because in the general consciousness they inspired confidence by virtue of their reassuringly massive share capital. Through their active business the large banks had intimate connections with the nation's large-scale industrial and shipping concerns. These links with big business are particularly reflected in two types of banking activity: the open credit, especially in the cash credit form, which was reduced time after time through the issue of shares and debentures.

It is instructive in this respect that the Copenhagen banks'

cash credits, which were roughly equal in volume to acceptance credits in the early 1880s, had risen to an amount three times that of the latter by about 1907. The figures for the issue of debentures, which had reached an annual sum of about 5-10 million *kroner* by about the turn of the century, also confirm the extent to which this system, imported from the United States, had become a firmly-entrenched feature of Danish industrial banking practice. The activity of the banks in this field was so extensive that the industrial credit association business established in 1898 was virtually confined to the provinces, where the banks were not orientated towards the financing of industry in the same measure.

The significant growth of the principal banks and their increasing influence on the rest of the bank and savings bank sector gave them at the same time a more independent position in relation to the Nationalbank. This process was aided by the growing use of cheques from the mid-1890s onwards. This change of payment habits reduced the banks' dependence upon the Nationalbank for creating credit.

The hectic and innovatory pattern of development around the turn of the century also contained elements conducive to more intensive concentration on the credit market. It is true that compared with other countries, this tendency did not assume overwhelming proportions. However, a few provincial banks were taken over by Copenhagen banks and turned into branches, while in Copenhagen itself the process of concentration manifested itself in the taking over by the larger bank of some of the private bankers and smaller commercial banks.

Viewed in geographical terms, strong local reactions seem to have eliminated the more long-term effects of the not specially vigorous process of concentration. Where a principal Copenhagen bank took over a provincial bank, local feeling were usually strong enough for a new bank to be formed. The penetration of the provinces by the principal banks provoked in 1905 the establish-

ment by the large savings banks of a collaborative body under the title of 'The Savings Banks' Standing Committee'. In the same year the provincial banks united to form the Danish Provincial Banks' Association, impelled not least by the need to strengthen their competitive position *vis-à-vis* the principal banks.

VII.

A variety of numerical indicators suggest that the 1890s marked the beginning of a process of intensive industrial development in Denmark.

I have tried to lay the foundations for an assessment of this industrialisation in my book *Early Industrialisation in Denmark*. I shall merely point here to two or three main indicators the effect of which is to locate the industrial revolution in the 1890s. The three factors are 1) the size of self-generated industrial growth, 2) the proportion of total national income accounted for by industry and 3) total investment activity.

Self-generated industrial growth in 1895-1900 was very high, in fact at around 7% per year. But similar high levels of industrial growth have also been discovered previously during periods of boom conditions (e.g. 1852-57 and 1869-74) and are therefore not sufficient in themselves to determine the issue. However, the other two indicators bring us nearer to a solution.

The importance of industry, reckoned as a proportion of aggregate gross factor income, is extremely modest throughout the entire period prior to 1890, corresponding to only 4-6% of total economic activity. It seems clear that industrialisation proceeding within such narrow limits can have left no kind of impress on Danish society. But the period 1890-1900 is notable for the fact that the contribution made by industry to total gross factor income now rose from 7% to 10%, which in fact was caused by a number of other drastic structural economic changes.

This draws attention to the 1890s as the period when Den-

mark's most important early industrialising boom took place. A consideration of the vigorous investment activity of the period lends further support to this view.

In the latter half of the 1890s the net investments of urban industries grew from the previously-customary 5% of the national income to more than 10%. In other words, Rostow's trigger-point for self-sustained growth had been passed.

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An evaluation of the significance of the credit market viewed in isolation from the industrial revolution is of course difficult. The positive importance of the principal banks in the industrialisation process is perhaps the most conspicuous feature. The roles played by Tietgen and the Privatbank in the pre-industrial development of the 1870s have already been discussed. The two principal banks that came into existence later, the Landmandsbank (1871) and the Handelsbank (1873), did not leave any appreciable mark on this initial phase of industrialisation.

Right from the start, however, there were one or two structural features of the two new principal banks that were to make them particularly suited to taking a part in bringing about the forthcoming industrialisation. The first of these concerned their use of the branch system. While the Privatbank had never availed itself of branches, the other two principal banks employed this form of banking right from the start. As a result of this, the two new Copenhagen principal banks had already established themselves at 15 locations in the provinces prior to the industrialisation of the 1890s, which was particularly brisk there. Not the least of the reasons why this branch-banking practice was important, was the slender part played by the provincial banks in mustering industrial capital.

In addition to this, both the banks (but especially the Landmandsbank) engaged in effective competition with the savings

banks for the latter's more stable deposit funds and in this way managed to create a firmer deposit foundation, which opened possibilities of undertaking the sort of relatively long-term commitments that industry needed.

Thus the banking system itself was in several ways better adapted to the arranging of industrial finance than had been the case during the boom of the 1870s, a fact further illustrated later on during the industrial revolution of the 1890s itself.

However, too much cannot be made of the features referred to in adducing a direct connection with industrialisation. There too, in fact, we have to rely upon more casuistical statements until such time as sufficiently detailed information about industrial financing is unearthed from the books of industrial firms themselves.

The most detailed knowledge we have of the influence of the banking system on the industrial revolution of the 1890s is supplied by the case of the Landmandsbank. The big business concerns of the period were not infrequently promoted by this bank, which now for the first time became intensively involved in company formation and issuing activities. Thus the bank took part in the establishing of such important concerns as Frihavnsselskabet (the Free Port Company) (1891), Det danske Kulkompagni (The Danish Coal Company) (1896) and Det Østasiatiske Kompagni (the East Asiatic Company) (1897). In the directly industrial field there were such firms as De Forenede Papirfabrikker (United Paper Mills) (1889), A.M. Hirschsprung & Sønner (A.M. Hirschsprung & Sons) (1896), Københavns Flydedok og Skibsværft (Copenhagen Floating Dock and Shipyard) (1897) and Nordiske Kabel- og Trådfabrikker (Nordic Cable and Wire Works) (1898). Through all these activities Isac Gluckstadt, head of the Landmandsbank, placed on the industrial development of the 1890s an impress almost comparable to that set by Tietgen and the Privatbank on that of the 1870s.

At the same time too, the Privatbank, under Tietgen and his

successor, Axel Heide, continued to be an active participant in the processes of company flotation and concentration in the industrial field. This activity reached its zenith around and immediately after the turn of the century, when two grandiose operations of industrial concentration to which the Privatbank lent its assistance resulted in the creation of De Danske Bomuldsspindrierier (The Danish Spinning Mills) and Københavns Taendstiksfabrikker (the Copenhagen Matchworks).

There are indications that as these events were unfolding, the provincial banks were to some extent relinquishing their role, not particularly important in the first place, as purveyors of industrial finance, or else being supplanted in it by the principal banks.

It is typical of relations between the principal banks and industry in the period around the turn of the century that the banks maintained fairly continuous relations with those industrial firms with which they had once established contacts, assisting them with cash credits during periods of depression, for example. Nevertheless, here too the connection between the banking system and industry was somewhat less solid than that which characterised conditions in Germany, for instance. In these relationships, however, certain shades of difference can be discerned between the approaches of the various principal banks. Thus, the Privatbank appears to have been somewhat more inclined than the others to follow the firms launched under its auspices during their subsequent life.

It is plain that this form of banking assistance will not infrequently have been crucial to the survival of industrial concerns in the poor market conditions of the 1880s. On the other hand the pressure on bank credit was relieved via the capital market organised on the stock exchange when the stocks-and-bonds mechanism for raising capital came into use in the more favourable conditions that emerged during the course of the 1890s.

Here too, however, there are numerous indications that the banks retained significant proportions of the securities issued or else made advances to their customers against deposit of the shares with them. This may suggest an appreciable degree of industrial dependence upon the banks.

The management and concentration functions of the principal banks *vis-à-vis* Danish industry are touched upon in a more or less contemporary appraisal by Jacob Lindberg, then editor of the journal *Industriberetningen* (Industrial Report) and subsequently governor of the Nationalbank.

Lindberg's account, written in 1908, lays stress on the influence exerted over industrial companies by the principal banks including efforts to restrain competition. It is his impression 'that in many sectors of the economy the principal banks have ensured that unsound enterprises have not come into being', so that large-scale industry in Denmark 'has for this reason been largely spared from major catastrophe during the past years of crisis'.

These judgments, which can be supplemented with specific examples of intervention by banks in industrial situations, reinforce the impression that the banks did exercise certain managerial functions during the industrialisation of the 1890s, though never very powerful ones. Such an interpretation is also confirmed by information concerning the banks' representation on the boards of industrial concerns. In 21 cases — i.e. 11-12% of Copenhagen industrial companies — the banks were represented among the board appointments. In 15 of these instances it was principal banks that were represented, the names occurring most frequently being those of Isac Glückstadt and Axel Heide, directors in chief of the Landmandsbank and the Privatbank, respectively.

The material brought to light gives the impression that relations between the banking system and industry in Denmark had certain features in common with German conditions, although

they never displayed the same determined quality, nor was the connection as intimate. The looser form of the relationship in the Danish case manifests itself particularly in the fact that, as far as can be discerned, the banks were seldom involved in the actual function of company formation; as far as investment capital was concerned, their presence was felt more in connection with the concentration of firms, or else in instances where some other reason such as expansion or modernisation brought a need for issuing functions to be undertaken. This more aloof approach is reflected especially in the fact that the working credit function appears to have been the most significant point of contact between industry and the banks, whose industrial influence seems to be rooted much more in this than in the financing of investment and the direct managerial functions often associated therewith.

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In attempting an overall estimate of the impact of credit conditions on the development of Danish industry, account has to be taken not only of the importance of the banks as I have just tried to define it but also of direct lending, self-generated finance and the efficiency of the credit market in more general respects.

It is precisely during industry's formative phase that the available evidence indicates that the bulk of the capital emanated from private sources, mainly from two particular occupational groups, viz. the landowners and the great merchants.

Landowners appear to have played a particularly prominent role during the industrialisation of the 1850s and 1870s, when conditions for agriculture were favourable and landed wealth formed a decisive factor in economic life.

The fortunes of merchants just as naturally must have played a vital role in industrial financing in an era when the mercantile sector was so weighty. A number of industrial firms, notably distilleries, breweries and sugar refineries, were run by merchant

houses, the largest of which during the period of the financial revolution also had influence on the running of the new banks or else functioned directly themselves as banking houses or bill brokers.

As far as it is possible to trace the pattern of development, in the 1880s and 1890s it was still chiefly private firms that had to be resorted to when industrial ventures were to be launched. It is obvious, however, that in contrast to the situation twenty years previously, merchant capital formed the major element in the financing of industry, the role of agricultural capital being more modest.

This shift is a natural result of the economic readjustments that had been going on. The share taken by agriculture in industrial financing was bound to be on the wane, firstly as a reflection of that sector's own rising investment activity following from the switchover to higher-cost livestock production and secondly in consequence of lower agricultural net incomes during the era of falling prices after 1875.

The commercial sector, on the other hand, had been strengthened by the trend of events. The partial industrialisation of agriculture formed a foundation for a steady demand for the wares of provincial merchants. Growing day-to-day consumption of bought goods was followed by a steep rise in the numbers of rural dealers. This development further stimulated the specialisation of commerce in the market towns, whose former mixture of wholesale and retail trade was gradually replaced by wholesale trade pure and simple. An additional manifestation of the widening scope of commerce was the specialisation that also took place in the ranges of merchandise offered by wholesalers, whereby trade in a single commodity largely supplanted the former mixed wholesale dealing in colonial goods, corn, butter, timber, iron and coal.

In itself this specialisation reflects a growing volume of turnover and income, and thus also furnishes evidence of tendencies

towards the accumulation of larger fortunes. Increasing commodity specialisation for its part encouraged the dealer to undertake for himself the production of the article of which he could now more easily acquire detailed knowledge — and to assemble himself the requisite investment capital for doing so.

Such a financing function undertaken by wholesalers can be traced most particularly in a whole succession of cases where new sectors of production gained ground on the Danish market during the 1890s. Margarine, the cable and cement industries, cotton mills and the timber industry are highly typical examples.

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It is very difficult to isolate the importance of the financial sector in the interaction that was going on between many growth-promoting factors during the 1890s. It is clear, however, that the general monetary policy laid down by the government and the Nationalbank included a number of features favourable to the achievement of an optimal rate of expansion. The Bank, in fact, came quite close to attaining its ideal goal of combining full exploitation of resources with reasonable price stability. The aim was achieved by means of a model coordination of the efforts of Bank and state in matters of monetary policy. This teamwork reveals itself with particular clarity in connection with capital imports and other elements of the cheap money policy that was the dominant feature of the Danish capital market of the 1890s. The Nationalbank then lent very purposeful support to the government's sympathetic capital-market policy, which could only have a stimulating effect on industry. It is true that very little of this foreign capital was invested in industry, but indirectly it provided the setting for a general growth-promoting cheap money policy on which industry too was floated upwards. These closing reflections may serve to exemplify the difficulty of making exact pronouncements on the links between the forms of the credit system and the industrialisation process.

