Danmarks Nationalbank 1818-2018
Webappendix
Predecessors of Danmarks Nationalbank

Besides Rigsbanken, there were other predecessors of Danmarks Nationalbank. The first banknote-issuing bank in Denmark was Kurantbanken (Den Kjøbenhavnske Assignations-, Veksel- og Laanebank), established in 1736. Originally, Kurantbanken was obliged to convert its banknotes to silver coins, but it was not subject to any banknote coverage rules, and the silver convertibility was abolished permanently in 1757. Kurantbanken had been established as a private limited liability company, but was taken over by the central government in 1773. In 1791, another private banknote-issuing bank was established, Den Dansk-Norske Speciesbank, which was intended to replace Kurantbanken over a period of many years. But the discontinuation of Kurantbanken and the withdrawal of its banknotes did not go according to plan. On the contrary, the circulation of Kurantbank banknotes and other money substitutes increased strongly in connection with the Napoleonic Wars.


Nielsen, Axel (1903), Danske Bankprojekter fra Tiden før Kurantbankens Oprettelse (Danish banking projects in the period before establishment of Kurantbanken – in Danish only), Danish Journal of Economics (Nationaløkonomisk Tidsskrift), Vol. 41, pp. 580-601.

Rasmussen, Erik (1950), Kurantbankens oprettelse (Establishment of Kurantbanken – in Danish only), Historisk Tidsskrift, Vol. 11(3), pp. 137-175.

Rasmussen, Erik (1955), Kurantbankens forhold til staten 1737-73 (Kurantbanken and the Danish state 1737-73 – in Danish only), Det Danske Forlag.

Wilcke, J. (1927), Kurantmønten 1726-1788 (Kurant coin 1726-1788 – in Danish only), Gads Forlag.

The state bankruptcy in 1813

The currency reform of 1813 introduced a new currency unit in Denmark, the rigsbankdaler (1 rigsbankdaler = 96 rigsbankskilling). Already in 1811-12, the state had ceased to pay interest and repayments in silver on part of its debt. Instead, it was paying in banknotes not convertible to silver. That is why the currency reform is often called the “state bankruptcy”.

The reform meant exchange of existing banknotes in the old currency unit (kurantdaler) for new banknotes at an exchange rate of 6 kurantdaler to 1 rigsbankdaler. During the period of high inflation up to the reform, the kurantdaler’s value had dropped markedly relative to silver. The exchange rate of 6:1 was intended to ensure that the substitution would essentially reflect the relationship between the silver value of banknotes in kurantdaler and rigsbankdaler, respectively. Consequently, the losses of holders of monetary claims in kurantdaler were not caused by the actual substitution – but by the erosion of wealth in the preceding years due to high inflation.

The currency reform contained a number of complicated provisions on redemption of private debt raised in kurantdaler. The purpose was to ensure that the creditors were repaid amounts with the same value in silver as the debt at the time it was raised. For example, as a general rule, private debt in kurantdaler raised in 1808 was to be repaid with a larger number of rigsbankdaler than debt raised in 1812 for the same amount in kurantdaler.

With the currency reform, government debt in kurantdaler was to be converted at the same exchange rate as banknotes (6:1) if the creditor called in the debt immediately. If a creditor was willing to declare his government bonds as interminable and accept a temporary interest rate cut, the debt was converted 1:1.

Hansen, Leo (1985), Danmarks officielle Pengesedler 1713-1983 (Denmark’s official banknotes 1713-1983 – in Danish only), Dansk Numismatisk Forening.

Hansen, Svend Aage (1972), Danske penge gennem tiderne (Danish money through the ages – in Danish only), in: Mette Koefoed Bjørnsen and Evan Bogan (eds.), Penge, Politikens Forlag.

Hansen, Svend Aage (1969), Kreditmarkedsstatistik (Credit market statistics – in Danish only), Statistics Denmark Statistical Inquiries, No. 24.

Hansen, Svend Aage (1990), Pengereformen 1813 – holdninger og vurderinger (The monetary reform in 1813 – perspectives and assessments – in Danish only), in: Ole Feldbæk and Erik Lund (eds.), Presse og
Establishment of Danmarks Nationalbank in 1818 and its activities in the first half of the 19th century

Danmarks Nationalbank (Nationalbanken i København) was born in 1818 by a restructuring of Rigsbanken. The aim was to restore people’s trust in the monetary system in the wake of the period of high inflation and the massive government finance problems during the Napoleonic Wars.

Danmarks Nationalbank was to continue Rigsbanken’s work of reducing the circulation of banknotes to enable a price increase up to the official silver value. The instrument applied was a restrictive lending policy. This meant that the banknotes received as repayment of loans were not just paid out again as new loans. Moreover, Danmarks Nationalbank’s earnings were used to reduce the circulation of banknotes. The banknotes related to the earnings were not just used automatically to buy e.g. securities; but were cancelled instead, causing Danmarks Nationalbank’s equity to rise. It took many years to restore the monetary system.

Hansen, Svend Aage (1960), *Pengevæsen og kredit 1813-1860* (Monetary system and credit 1813-1860 – in Danish only), Forlaget Arnkrone.

Hansen, Svend Aage and Knud Erik Svendsen (1968), *Dansk pengehistorie 1700-1914* (Monetary history of Denmark 1700-1914 – in Danish only), Danmarks Nationalbank.


Rubow, Axel (1918), *Nationalbankens historie 1818-1878* (History of Nationalbanken i København 1818-1878 – in Danish only), Nationalbanken i København.

An international perspective on the establishment of Danmarks Nationalbank – the history of other central banks

Danmarks Nationalbank was established in 1818, which makes it one of the oldest existing central banks in the world. The oldest one is Sveriges Riksbank, established in 1668, followed by the Bank of England, which is from 1694. The central banks of Finland, the Netherlands, Norway and Austria were all established in the years 1811-16. Most central banks in the world did not come into being until the 20th century, including the Federal Reserve in the USA, which was established in 1913. One of the most recent – and probably best prepared – central banks is the European Central Bank (ECB), established in 1998.


Central banking issues related to the Danish Monarchy (Norway, Schleswig-Holstein and Iceland)

Denmark and Norway were in a personal union until the Peace Treaty of Kiel in 1814. The separation of Denmark and Norway reduced the circulation area for the new rigsbankdaler, impacting both Rigsbanken’s issuance of banknotes and the size of the bank mortgage.


Hansen, Svend Aage and Knud Erik Svendsen (1968), *Dansk pengehistorie 1700-1914* (Monetary history of Denmark 1700-1914 – in Danish only), Danmarks Nationalbank.

Rubow, Axel (1918), *Nationalbankens historie 1818-1878* (History of Nationalbanken i Kjøbenhavn 1818-1878 – in Danish only), Nationalbanken i Kjøbenhavn.


Iceland was part of the Danish currency area until the Act of Union between Iceland and Denmark in 1918. However, sometimes during this period there were banknotes in circulation with special Icelandic features or special Icelandic banknotes – similar to the system of Faroese banknotes today. Iceland could conduct its own foreign exchange policy from 1918. The Icelandic króna (ISK) was introduced in 1918 on a 1:1 basis with the Danish krone (DKK). The parity between the Icelandic króna and the Danish krone existed until the spring of 1922, when the Icelandic króna fell by around 25 per cent against the Danish krone. In the 4th quarter of 1924, the average exchange rate was 1.09 ISK per DKK. In the autumn of 1925, the Icelandic króna was pegged to the pound sterling (GBP) at ISK 22.15 per GBP. The Icelandic króna was generally stable against the pound until April 1939, when it was devalued by around 20 per cent (to ISK 27.00 per GBP). When World War II broke out, the Icelandic króna was pegged to the dollar instead of the pound. Iceland and Denmark ceased to be a united monarchy in 1944, when the Republic of Iceland was established.


The West Indies

The Danish-West Indian National Bank was established by an Act of 29 March 1904 with a view to creating a stable monetary system in the Danish West Indian Islands (now the US Virgin Islands) and promoting economic development in the Islands. Danmarks Nationalbank and three private banks each contributed one fourth of the share capital. Denmark sold its West Indian Islands to the USA in 1917. The Danish-West Indian National Bank continued operating until the mid-
1930s. Its right to issue banknotes expired in 1934, when the dollar was introduced as the Islands’ currency. The retail banking activities of the Danish-West Indian National Bank ceased in 1935.


Danmarks Nationalbank’s head office and branches
Ever since its establishment, Danmarks Nationalbank has had its head office in Copenhagen. Previously, it had branches in Aarhus (1837-1989), Aalborg (1881-1972), Nykøbing Falster (1882-1964), Odense (1901-89) and Kolding (1902-68). The branches played an important role in connection with lending and cash supply.


Märcher, Michael (2005), “i Jylland ... findes faa Capitalister”. Et studie i det jyske Bank-Contoir i Aarhus’ etablering og virke 1837-1848 (“In Jutland ... there are but few capitalists”. A study of the establishment and operation of the Jutland bank branch in Aarhus 1837-1848 – in Danish only), Erhvervshistorisk Årbog, Vol. 54, pp. 91-114.

Price stability and central bank independence in a historical perspective
Based on historical experience, there is now consensus that the best foundation for stable prices is achieved when the central bank is independent.


The Danmarks Nationalbank Act of 1936

Extension of the Charter of Danmarks Nationalbank in 1907 and the Danmarks Nationalbank Act of 1936
Danmarks Nationalbank’s Charter of 1818 was in force for 90 years and was extended by another 30 years in 1907 with a few minor adjustments. An actual new legal basis did not come about until the Danmarks Nationalbank Act of 1936 which is still the legal basis for Danmarks Nationalbank’s activities today.

Christensen, Bent (1985), Nationalbanken og forvaltningsret (Danmarks Nationalbank and administrative law – in Danish only), Jurist- og Økonomforbundets Forlag.


Hansen, Svend Aage and Knud Erik Svendsen (1968), Dansk pengehistorie 1700-1914 (Monetary history of Denmark 1700-1914 – in Danish only), Danmarks Nationalbank.

Hoffmeyer, Erik and Erling Olsen (1968), Dansk pengehistorie 1914-1960 (Monetary history of Denmark 1914-1960 – in Danish only), Danmarks Nationalbank.

Rubow, Axel (1920), Nationalankens historie 1878-1908 (History of Nationalbanken i Kjøbenhavn 1878-1908 – in Danish only), Nationalbanken i Kjøbenhavn.

History of central bank objectives and tasks
A central bank’s core task can best be characterised as contributing to the provision of public goods in the form of stable prices, safe and secure payment systems and financial stability. The weighting of the individual tasks varies across countries and has followed economic and political developments over time.


Central bank openness and transparency in a historical perspective
Recent decades have seen a general evolvement of more openness and transparency among the world’s central banks. Basically, monetary policy in a country with a fixed exchange rate policy is highly transparent, because the public can easily check in the daily news media whether the fixed exchange rate is adhered to.


Low inflation for 200 years – with a few exceptions

**Historical development of prices and inflation**

In several countries, it is possible to track price and wage developments all the way back to the Middle Ages. Inflation was often high in periods of war, as the costs of war were financed by printing more money and the supply of goods was reduced. If periods of war are disregarded, the high inflation in the first three to four decades after the end of World War II stands out.


Qvigstad, Jan F. (2005), 500 years of price history: Price stability is the norm. What distinguishes the abnormal?, *Norges Bank Staff Memo*, No. 7.


**Hyperinflation in Germany in the early 1920s**

History has witnessed many examples of how monetary financing of government budget deficits has led to high inflation. One of the most famous examples is the hyperinflation in Germany in the early 1920s, when money almost lost its value. A currency reform was implemented at the end of 1923 as part of the battle against inflation in Germany, and no less than 12 zeros were removed from the banknotes.


**Hyperinflation in Zimbabwe in the 2000s**

Zimbabwe is the most prominent example of hyperinflation in the 21st century. Annual inflation in Zimbabwe reached 89.7 sextillion per cent during 2008, meaning that prices doubled in less than 25 hours.


**Deflation in a historical light**

Deflation is when prices in general fall year after year. Like high inflation, persistent deflation may have serious economic implications.


**Index-linked bonds**

In 1974, in the light of the higher inflation, a working group was established to look into the pros and cons of inflation-indexed savings and funding. Danmarks Nationalbank participated in this working group, which submitted its report in 1975 ("Redegørelse fra arbejdsgruppen vedr. indeksering af pengefordringer december 1974" (Report by the working group on indexation of monetary claims December 1974 – in Danish only), betænkning (Report) No. 732). In 1982, mortgage banks were allowed to grant index-linked loans based on issuance of index-linked bonds, the outstanding debt of which was increased by the rate of inflation, resulting in a real yield on these bonds. However, index-linked loans never came to constitute any significant share of home financing in Denmark. Index-linked loans were introduced at a time when annual inflation was around 10 per cent and bond yields around 20 per cent, but both inflation and long-term yields fell substantially over the next decade. In a low-inflation economy, the need for inflation hedging was less pronounced among both borrowers and investors. In 2012, the Danish central government began to issue inflation-indexed bonds, but only to a limited extent.


A fixed exchange rate has provided for stable prices

The silver and gold standards before World War I

Danmarks Nationalbank introduced convertibility of its banknotes to silver coins in 1845, meaning that Denmark joined the silver standard. The Danish Coinage Act of 1873 replaced the silver-based currency system with a gold-based one. Many of Denmark’s trading partners also followed the gold standard in the late 1800s and early 1900s. During the gold standard period, it was possible to move capital more or less freely across national borders, and the system provided for fixed exchange rates among the participating countries. The international gold standard system was suspended on the outbreak of World War I in 1914.


Hansen, Svend Aage and Knud Erik Svendsen (1968), Dansk pengehistorie 1700-1914 (Monetary history of Denmark 1700-1914 – in Danish only), Danmarks Nationalbank.

Wilcke, J. (1929), Specie-, Kurant- og Rigsbankdaler. Møntvæsenets sammenbrud og genrejsning 1788-1845 (Speciedaler, kurantdaler and rigsbankdaler. The collapse and recovery of the currency system 1788-1845 – in Danish only), Gads Forlag.

Wilcke, J. (1930), Selv- og guldømfod 1845-1914 (The silver and gold standards 1845-1914 – in Danish only), Gads Forlag.

The Scandinavian Currency Union

In 1872, Norway, Sweden and Denmark concluded an agreement on the Scandinavian Currency Union. The agreement contained common standards for the gold content of the countries’ main coins, and from the mid-1870s until the outbreak of World War I, a Danish, a Swedish and a Norwegian krone coin had the same gold content.


Nielsen, Axel (1917), Den skandinaviske møntunion – Et Historisk Rids (The Scandinavian Currency Union – a historical outline – in Danish only), Børsens Forlag.

LITERATURE FOR CHAPTER 4
The currency systems of the interwar years

The international gold standard system was suspended at the outbreak of World War I in 1914, but re-established during the 1920s. The Danish krone returned to the gold standard in 1927 at the 1913 parity. The UK abandoned the gold standard again in September 1931, and Denmark followed suit shortly after.


Ussing, Carl Theodor (1926), *Nationalbanken 1914-24* (Nationalbanken i Kjøbenhavn 1914-24 – in Danish only), Gads Forlag.

The Exchange Control Office

In the first half of the 1930s, international trade was an extensive web of bilateral trade agreements – in Denmark visualised by the establishment of the Exchange Control Office (Valutacentralen) in 1932. The bilateral trade agreements made it necessary to import foreign goods in return for exports of Danish products, so the Exchange Control Office was tasked with distributing the given imports to the Danish business sector via a system of import licences with the aim of ensuring the highest possible employment.


The European Payments Union

The European Payments Union (EPU) was established in 1950 in order to promote the re-introduction of foreign exchange convertibility, i.e. free convertibility of national currencies to other currencies. This was achieved in December 1958 when most EPU countries, including Denmark, re-introduced convertibility.


The Bretton Woods system

After World War II, Denmark participated in the dollar-based fixed exchange rate system which was established under the auspices of the International Monetary Fund (the Bretton Woods system). This system collapsed in the early 1970s.

Andersen, Bodil Nyboe and Henning Holten (1978), Udviklingen i det internationale valutasystem siden 1945 (Developments in the international currency system since 1945 – in Danish only), *Danish Journal of Economics (Nationaløkonomisk Tidsskrift)*, Vol. 116, pp. 6-22.


**The International Monetary Fund**
The International Monetary Fund (IMF) was established in 1944 with a view to promoting international monetary cooperation. Denmark joined the IMF in March 1946.


**European exchange rate arrangements**
After the collapse of the Bretton Woods system in the early 1970s, the krone joined the European exchange rate arrangements, first the Currency Snake and from 1979 the European Exchange Rate Mechanism (ERM and ERM2).

The general principles for ERM2 were adopted at the European Council in Amsterdam in June 1997. For each currency participating in ERM2, a central rate is set in relation to the euro, as well as a fluctuation band around the central rate, normally +/- 15 per cent. However, it is possible for a country to negotiate a narrower band. If a currency reaches one of the limits of the fluctuation band, the ECB (provided that this is compatible with the ECB’s monetary policy) and the relevant national central bank must keep the currency within the fluctuation band by buying the weak currency and selling the strong one. Non-euro area member states may choose whether or not to participate in ERM2, but they must participate in ERM2 for two years before they can join the euro area.

Denmark succeeded in negotiating an ERM2 agreement with a narrow fluctuation band of +/- 2.5 per cent.


**Ground rules for the fixed exchange rate policy**
The fixed exchange rate policy requires a clear distribution of responsibility for economic policy. In a fixed exchange rate regime, a central bank uses its interest rates for exchange rate control. This means that they cannot also be used for management of the
domestic cyclical situation. This requires that fiscal and other economic policies are oriented towards a stable economy to avoid periods of overheating or high unemployment.

Callesen, Per, Steen Lohmann Poulsen and Rasmus Degn (2008), *Har fastkurspolitikkens option en positiv eller negativ værdi?* (Is the value of the option of a fixed exchange rate policy positive or negative?), paper presented in Danish at the Danish Economic Society’s conference, Koldingfjord, 11-12 January.


**Fixed exchange rate policy and trade gains**

A fixed exchange rate policy has some very specific gains over floating exchange rates. A fixed exchange rate policy eliminates uncertainty about the exchange rate against the currency anchor. This benefits exporters, who save currency risk hedging costs. A fixed exchange rate policy also entails efficiency gains from increased trade with the countries in the currency anchor. Analyses have shown that the fixed exchange rate policy has enabled Denmark – unlike Sweden and the UK – to harvest many of the trade gains that the euro area member states have enjoyed as a result of the single currency.

Danmarks Nationalbank’s toolbox: Interest rates and foreign exchange reserves

Danmarks Nationalbank’s toolbox since the 1970s
Interest rate adjustments and purchase and sale of foreign exchange are Danmarks Nationalbank’s most important monetary and foreign exchange policy instruments. From the mid-1960s until the early 1980s, ceilings on lending by deposit banks and mortgage banks and reserve requirements for deposit banks were included in the toolbox. As tools go, they were not very efficient.

Capital flows in connection with portfolio investments were almost fully liberalised in the mid-1980s, and the 1990s and 2000s were characterised by an increasing volume of cross-border capital flows. But Danmarks Nationalbank was still able to control the krone rate, since the effect on the exchange rate of portfolio flows diminished over time as the credibility of the fixed exchange rate policy increased.


Danmarks Nationalbank (1972), De penge- og valutapolitiske instrumenter i Danmark (Monetary and foreign exchange policy instruments in Denmark – in Danish only), Danmarks Nationalbank.

Danmarks Nationalbank (1978), De penge- og valutapolitiske instrumenter i Danmark (Monetary and foreign exchange policy instruments in Denmark – in Danish only), 2nd edition, Danmarks Nationalbank.

Danmarks Nationalbank (1999), Monetary policy in Denmark, Danmarks Nationalbank.

Danmarks Nationalbank (2003), Monetary policy in Denmark, 2nd edition, Nationalbank.

Danmarks Nationalbank (2009), Monetary policy in Denmark, 3rd edition, Danmarks Nationalbank.


Ministry of Business and Growth Denmark (2013), Den finansielle krise i Danmark – årsager, konsekvenser og læring (The financial crisis in Denmark – causes, consequences and lessons – in Danish only), Schultz.

Hoffmeyer, Erik and Leif Hansen (1978), Danish Monetary Policy During the Last Decade, Kredit und Kapital, Vol. 11(2), pp. 159-179.


Gold, Danmarks Nationalbank’s gold stock and its toolbox during the gold standard period
For historical reasons, many central banks hold stocks of gold, which previously played a key role in
banknote issuing. This is also reflected in the Danmarks Nationalbank Act of 1936. The Act specifies that Danmarks Nationalbank must possess gold covering 25 per cent of the value of banknotes in circulation, but since 1939 an exemption from the gold coverage provision has been granted. When the Act was written, it was expected that the gold standard would be reintroduced at a later date. The gold standard ensured more or less automatically fixed exchange rates among the participating countries.


Denta, Henrik (2015), Guld og bedrag (Gold and deception – in Danish only), Gads Forlag.


The history of official fixing of exchange rates
Official fixing of exchange rates in Denmark was introduced as early as in 1787. During its 200-year history, Danmarks Nationalbank has played a key role in connection with fixing and communication of exchange rates.


Foreign exchange crises, turmoil and pressures on the krone since the 1990s
Danmarks Nationalbank’s instruments are really called into action when the krone comes under pressure. They have proved to be robust and have stood the test through the foreign exchange crises of the 1990s, with downward pressure on the krone, as well as in recent years with upward pressure on the krone.


From savings banks to financial supermarkets

The bilateral credit market before 1800
Throughout most of the 18th century, no deposit banks or mortgage credit institutes existed in Denmark. Credit was mainly granted on a bilateral basis between individuals. There were a few royal loan funds and predecessors of Danmarks Nationalbank that lent money.


Hansen, Svend Aage and Knud Erik Svendsen (1968), *Danske pengehistorie 1700-1914* (Monetary history of Denmark 1700-1914 – in Danish only), Danmarks Nationalbank.

Jensen, Sigurd (1950), *Fra patriarkalisme til pengeøkonomi* (From patriarchalism to a money economy – in Danish only), Nordisk Forlag.


Møller, Michael and Niels Chr. Nielsen (1997), *Dansk realkredit gennem 200 år* (200 years of Danish mortgage credit – in Danish only), BRFkredit.


Savings banks
The establishment of Sparekassen for Grevskabet Holsteinborg og Omegn in 1810 is traditionally regarded as the arrival of the savings bank movement in Danish monetary history. The savings bank was founded by count Frederik Adolph Holstein and was located at his estate, Holsteinborg near Skælskør. It is indeed the first savings bank in Denmark if “Denmark” is taken to mean “the Kingdom of Denmark”. But at the time, Denmark was a monarchy that also included the duchies of Schleswig and Holstein, among other areas. And in Germany, savings banks had already been known for decades when the 19th century dawned. The first savings bank in the Danish monarchy was founded in Kiel back in 1796 and another one opened in Altona in 1801. In a way, there was also a savings bank in the Kingdom of Denmark before 1810. In 1795, the government established “Den almindelige Forsørgelsesanstalt” (the general charitable institution). This was primarily a life assurance company, but among its departments was also a “savings fund”. Here, people could make deposits that earned 3 per cent p.a. in interest.

Bisgaard, H. L. (1910), *Vore Sparekasser gennem 100 Aar* (Our savings banks over 100 years – in Danish only), *Danish Journal of Economics (Nationaløkonomisk Tidsskrift)*, Vol. 48, pp. 177-99.

Eskesen, Lars (1989), *20 år i de danske sparekassers historie* (20 years in the history of Danish savings banks – in Danish only), in: Preben Kendal, H. Kruse Petersen and Niels Østergaard (eds.), *Festskrift til Direktør Laurits Ringgård*, Gads Forlag, pp. 87-94.


Hansen, Svend Aage (1960), *Pengevæsen og kredit 1813-1860* (Monetary system and credit 1813-1860 – in Danish only), Forlaget Arnkrone.


Lambert-Jensen, Aage (1960), *150 år med Sparekassen for Grevskabet Holsteinborg og Omegn* (150 years with Sparekassen for Grevskabet Holsteinborg og Omegn – in Danish only), P. Hansens Bogtrykkeri.

Commercial banks
Denmark’s first commercial bank, Fyens Diskonto Kasse, was established in Odense in 1846. Over the next few decades more commercial banks opened, including the three main banks (Privatbanken, Den Danske Landmandsbank and Handelsbanken) that were to dominate the banking structure for the next 100 years.

Cohn, Einar (1957), *Privatbanken i Kjøbenhavn gennem hundrede aar 1857-1957*, I. halvbind: *Tietgen-Tiden* (Pri-
vatbanken i Kjøbenhavn through 100 years 1857-1957, 1st half-volume: The Tietgen era – in Danish only), Privatebanken i Kjøbenhavn.

Cohn, Einar (1958), Privatbanken i Kjøbenhavn gennem hundrede år 1857-1957, II. halvbind: Efter aarhundredeskiftet (Privatbanken i Kjøbenhavn through 100 years 1857-1957, 2nd half-volume: After the turn of the century – in Danish only), Privatebanken i Kjøbenhavn.


Hansen, Per H. and Søren Mørch (1997), Den Danske Bank, Centrum.


Krogstrup, Erik (ed.) (1955), Bankerne og samfundet (Deposit banks and society – in Danish only), De Danske Provinbsbankers Forening.

Lunde, Jens (1996), Fyens Disconto Kasse – 150 års jubilaren fra smørhullet (Fyens Disconto Kasse – celebrating 150 years in the middle of the country – in Danish only), Finans/Invest, December, pp. 15-20.

Schovelin, Julius (1907), Privatbanken i Kjøbenhavn 1857-1907 (in Danish only), Jørgensen & Co.

Schovelin, Julius (1921), Den Danske Landmandsbank Hypotek- og Vekselbank 1871-1921 (in Danish only), Hertz’ Bogtrykkeri.

Thalbitzer, Carl (1946), Fyens Disconto Kasse 1846-1946 (in Danish only), Fyens Stiftsbogtrykkeri.

Cooperative banks

Besides commercial banks and savings banks, the Danish deposit-banking sector comprises cooperative banks. The first one was established in 1915. Originally the cooperative banks were based on receiving deposits from and granting loans to members. However, the cooperative banks never played any major role as lenders in the Danish economy.


Mortgage banks

The first Danish mortgage bank, Kreditkassen for Husejere i Kjøbenhavn, was established in 1797 following the fire of Copenhagen in 1795. The first mortgage credit act was passed in 1850 and created the basis for the large market for Danish mortgage bonds that still exists.


Bendix, Per (1974), Realkredittens 125 år – og de næste 5 (125 years of mortgage credit – and the next 5 – in Danish only), in: Association of Danish Mortgage Banks, Danske finansieringsproblemer – og realkreditten, Otto Teller, pp. 7-34.

Møller, Michael and Niels Chr. Nielsen (1997), Dansk realkredit gennem 200 år (200 years of Danish mortgage credit – in Danish only), BRFkredit.

Association of Danish Mortgage Banks (1997), Realkreditrådet i 25 år – jubilæumsskrift (25th anniversary of the Association of Danish Mortgage Banks – anniversary publication – in Danish only), Association of Danish Mortgage Banks.

Sørensen, Bjarne G. (1995), Konverteringsbølgen (The wave of remortgaging – in Danish only), Samfundsekonomen, No. 5, pp. 32-40.

Thalbitzer, Carl (1922), Kreditkassen for Husejere i Kjøbenhavn 1797-1922 (in Danish only), J. Jørgensen & Co.

Life insurance companies and pension funds

The early introduction of a tax-funded old age pension scheme in Denmark (in 1891) originally reduced the potential size of the private pension sector. But recent decades have seen the build-up of contribution-based labour market pensions, reflected in strong growth in the assets managed by pension funds.

Feldbæk, Ole, Anne Løkke and Steen Leth Jepsen (2007), Drømmen om tryghed. Tusind års dansk
forsikring (Dreaming about security. A thousand years of Danish insurance – in Danish only), Gads Forlag.

Green-Pedersen, Christoffer (2003), Det danske pensionssystems endelige udformning. Kampen om pensionssystemet under Schlüter-regeringerne (The final structure of the Danish pension system. The battle about the pension system under the Schlüter governments – in Danish only), Historisk Tidsskrift, Vol. 103(2), pp. 359-382.

Petersen, Jørn Henrik and Klaus Petersen (2014), atp fra grim ælling til smuk svane (atp = from ugly duckling to beautiful swan – in Danish only), Syddansk Universitetsforlag.


Investment funds
The lifting of restrictions on cross-border portfolio investments in the 1970s and 1980s produced an increase in the volume of assets managed by investment funds. But the balance sheets of investment funds did not begin to grow in earnest until the second half of the 1990s.

Andersen, Victor, Torben Groth Hansen and Kaj Preskou (1998), Trygge penge i 70 år (Secure money for 70 years – in Danish only), Danske Invest.

Federation of Danish Investment Associations (2009), Fra sparegris til investeringsbevis (From piggy banks to investment fund shares – in Danish only), Federation of Danish Investment Associations.

Stock exchange and capital markets
The Copenhagen Stock Exchange was established in 1624. Originally, it was a commodity exchange where physical goods were exchanged. Trading in shares on the stock exchange can be traced back to the 1780s, and from the early 1800s government bonds were also traded.

economic growth – in Danish only), *Danish Journal of Economics (Nationaløkonomisk Tidsskrift)*, Vol. 139(1), pp. 77-93.


Hoffmeyer, Erik (1960), *Strukturændringer på penge- og kapitalmarkedet. En studie i anledning af spareræksernes 150 års jubilæum* (Structural changes in the money and capital markets. A study to mark the 150th anniversary of savings banks – in Danish only), Sparevirkes Forlag.


**Sector overlap, internationalisation and consolidation**

Until the mid-1980s, financial institutions were split into sectors with clear divides between banking, mortgage credit and insurance activities. From the mid-1980s, the first financial groups began to emerge, i.e. financial enterprises that operated in several financial subsectors at the same time, such as banking, mortgage credit, insurance, etc. Many of the mergers that took place in the Danish financial sector in the first part of the 1990s were characterised by the formation of domestic financial groups. In the late 1990s and after 2000, the sector was increasingly also affected by globalisation, with mergers and acquisitions across borders.


**The industrialisation of Denmark and its financing**

The last quarter of the 19th century and the first decade of the 20th are normally regarded as the period when the first wave of industrialisation hit Denmark. In this period, the major commercial banks participated actively in the establishment of companies within industry and transport and helped to raise investment capital (via share issues) and working capital (via lending). A mortgage bank (Kreditforeningen for industrielle Ejendomme) was also set up that was specifically aimed at supplying the industrial sector with mortgage finance.

When history repeats itself: banking and financial crises

Banking crises before 1920
The banking crises before 1920 were far less serious than the great interwar banking crisis. The crises before 1920 were predominantly liquidity crises for individual banking institutions, rather than crises with major losses in the financial system overall.


Cohn, Einar (1957), Privatbanken i Kjøbenhavn gennem hundrede år 1857-1957, 1. halvbind: Tietgen-Tiden (Privatbanken i Kjøbenhavn through 100 years 1857-1957, 1st half-volume: The Tietgen era – in Danish only), Privatbanken i Kjøbenhavn.

Hansen, Svend Aage and Knud Erik Svendsen (1968), Dansk pengehistorie 1700-1914 (Monetary history of Denmark 1700-1914 – in Danish only), Danmarks Nationalbank.

Hoffmeyer, Erik (1960), Strukturændringer på penge- og kapitalmarkedet. En studie i anledning af sparekassernes 150 års jubilæum (Structural changes in the money and capital markets. A study to mark the 150th anniversary of savings banks – in Danish only), Sparevirkes Forlag.


Rubow, Axel (1918), Nationalbankens historie 1818-1878 (History of Nationalbanken i Kjøbenhavn 1818-1878 – in Danish only), Nationalbanken i Kjøbenhavn.

Rubow, Axel (1920), Nationalbankens historie 1878-1908 (History of Nationalbanken i Kjøbenhavn 1878-1908 – in Danish only), Nationalbanken i Kjøbenhavn.

The Alberti scandal and Den Sjællandske Bondestands Sparekasse
In 1908, former Minister for Justice Peter Adler Alberti gave himself up to the police and admitted that while he was the manager of Den Sjællandske Bondestands Sparekasse and the Farmers of Denmark’s Butter Export Association, he had committed fraud. Den Sjællandske Bondestands Sparekasse had to be restructured by an act of parliament in May 1909, and Mr Alberti was sentenced to eight years’ imprisonment in 1910.

Skou, Kaare R. (2016), Magtens forblændelse. Hvordan justitsminister P.A. Alberti endte som danmarkshistoriens største svindler (Dazzled by power. How Justice Minister P.A. Alberti ended up as the greatest fraudster in the history of Denmark – in Danish only), People’s Press.


The banking crisis of 1920-33
In the period from 1920 to 1933, 59 commercial banks were wound up or acquired by other banks, and 22 commercial banks were restructured at least once. By comparison, the total number of commercial banks was around 200 in 1920. The crisis was far milder for Denmark’s 500 or so savings banks, which fared relatively well in a period with lack of trust in the commercial banks. The crisis landed all the 5 largest banking institutions in Denmark in difficulties:

- Landmandsbanken – which was the largest commercial bank in Scandinavia at that time – was restructured several times during the period 1922-28 with help from the Danish government and Danmarks Nationalbank.
- In 1922, a vain attempt was made to restructure Københavns Disconto og Revisionsbank with help from Danmarks Nationalbank and a number of large private commercial banks. The bank had to be wound up in 1924.
- Den danske Andelsbank was wound up in 1925.
Privatbanken had to suspend payments in 1928 and was restructured with help from Danmarks Nationalbank and a number of private commercial banks.

Handelsbanken experienced liquidity problems in 1931 and received help from Danmarks Nationalbank via a liquidity support statement.


Hansen, Per H. (1996), På glidebanen til den bitre ende. Dansk bankvæsen i krise 1920-1933 (On a slippery slope to the bitter end. Danish banking in crisis 1920-1933 – in Danish only), Odense Universitetsforlag.

Hoffmeyer, Erik and Erling Olsen (1968), Dansk pengehistorie 1914-1960 (Monetary history of Denmark 1914-1960 – in Danish only), Danmarks Nationalbank.

Mørch, Søren (1986), Det store bankkрак. Landmandsbankens sammenbrud 1922-1923 (The great bank crash. The collapse of Landmandsbanken 1922-1923 – in Danish only), Gyldendal.

Financial stability in the decades after World War II
After the many bank failures of the interwar years, the period from the end of World War II until the beginning of the 1980s was remarkably calm in the Danish banking sector. The same applied in many other countries.


The banking crises in the 1980s and early 1990s
Towards the end of 1984, Denmark’s seventh largest commercial bank, Kronebanken, became distressed, and the years until the mid-1990s were characterised by a number of serious crises in the Danish financial sector. Danmarks Nationalbank was directly involved in finding solutions for six deposit banks in financial difficulties. They were: Kronebanken (1984-85), 6’ Juli Banken (1987-88), C&G Banken (1987-88), Unibank (1992), Varde Bank (1992-93) and Himmerlandsbanken (1993). In many cases, acquisition of the ailing institutions by other banks was part of the solution and in several cases there was money left over for the shareholders. Danmarks Nationalbank also provided bridge financing in connection with the Faroese banking crisis in the early 1990s.


Mikkelsen, Richard (2001), Færøerne i bankkrisens tegn (The Faroe Islands under the impact of the banking crisis – in Danish only), Handelsøjskolen's Forlag.

Ministry of Economic Affairs (1994), Den danske pengeinstitutsektor (The Danish banking sector – in Danish only), Schultz.

Ministry of Economic Affairs (1995), Redning af pengeinstitutter siden 1984 (Bank rescue actions since 1984 – in Danish only), Schultz.


Vastrup, Claus (2009), How did Denmark avoid a banking crisis?, Chapter 8 in: Lars Jonung, Jaakko Kainder and Pentti Vartia (eds.), The Great Financial Crisis in Finland and Sweden, Edward Elgar.

The financial crisis of 2007/08-13
During 2008, the world economy was hit by the most severe downturn in peacetime since the Great Depression in the 1930s. The crisis was triggered by turmoil in the US financial markets following the downturn in the US housing market, which spread to the financial markets in Europe in the 2nd half of 2007. Initially it was a liquidity crisis for the banking system, but during 2008 it became clear that the losses of some of the world’s major financial enterprises were so severe that solvency and financial stability were at risk. In Denmark, the deposit banks’ loan impairment charges soared in 2008, and several of the medium-sized institutions encountered difficulties. The Danish government had to step in with extensive guarantees and capital injections, and Danmarks Nationalbank established temporary loan facilities to support the liquidity of the deposit banks and mortgage banks.

Bech, Morten L. and Jesper Berg (2009), Finansernes fald (The fall of the finances – in Danish only), Gyldendal.


Ministry of Business and Growth Denmark (2013), Den finansielle krise in Danmark – årsager, konsekvenser og læring (The financial crisis in Denmark – causes, consequences and lessons – in Danish only), Schultz.

Reinhart, Carmen M. and Kenneth S. Rogoff (2009), This time is different, Princeton University Press.

**Historical developments in the regulation of the banking sector**

Banking and financial crises have often been followed by new regulatory initiatives aimed at making the financial system more resilient. The savings bank crisis of 1876-78 led to the first Danish savings bank act in 1880, and the construction and banking crisis in 1907-09 resulted in the first commercial banking act in 1919. After the most recent financial crisis, requirements for bank capital and liquidity have been tightened.

Hansen, Per H. (2001), Bank Regulation in Denmark from 1880 to World War Two: Public Interests and Private Interests, Business History, Vol. 43, pp. 43-68.

Hansen, Per H. (2010), Finansielle krisers efterspil i (Danmarks)historien, 1857-1930 (Consequences of financial crises in (Denmark’s) history, 1857-1930 – in Danish only), Samfundsøkonomen, No. 1, pp. 23-28.
Credit and house price bubbles

Economic costs of banking crises
Banking crises have considerable negative consequences for the economy in the short and medium term. This underscores how important it is to pursue economic policy aimed at ensuring a stable economy so that we avoid periods of massive build-up of imbalances, followed by a crisis when the “bubble” bursts.


Credit and house price bubbles
International analyses indicate that the most serious banking crises often follow in the wake of credit-financed property price bubbles. This diagnosis also broadly fits the two periods of banking crises seen in Denmark since the early 1980s. In both cases, the pre-crisis years were characterised by an overheated economy and soaring property prices.


Dam, Niels Arne, Tina Saaby Hvolbøl, Erik Haller Pedersen, Peter Birch Sørensen and Susanne Hougaard Thamsborg (2011), Developments in the market for owner-occupied housing in recent years – can house prices be explained?, Danmarks Nationalbank Monetary Review, Vol. 50(1,2), pp. 1-81.


Reinhart, Carmen M. and Kenneth S. Rogoff (2009), This time is different, Princeton University Press.
From coins to mobile apps – means of payment over 200 years

**Coins and banknotes**
From the early times in Danish history, the King (and later the Danish state) had a monopoly on issuing coins, and according to the Coinage Act, the government is still responsible for minting coins. In 1975, the Royal Danish Mint was transferred from the government to Danmarks Nationalbank. Since then, production and administration tasks related to minting of coins have been delegated to Danmarks Nationalbank, including the obligation to redeem coins. All coins issued after 1875 with a value of kr. 0.50 or higher are still legal tender and can be exchanged for new coins.

The first banknotes in Denmark were issued in 1713. Since its establishment in 1818, Danmarks Nationalbank has had a monopoly on issuing banknotes. All banknotes issued by Danmarks Nationalbank after 1945 are legal tender in Denmark. However, it is up to retailers whether they are willing to accept old banknotes. If they refuse to do so, it is possible to exchange the banknotes at banks or at Danmarks Nationalbank.


Andersen, Michael and Tine Bonde Christensen (eds.) (2018), Denar til daler. Danmarks mønthistorie indtil 1550 (Denar to daler. A coin history of Denmark until 1550 – in Danish only), Aschehoug.

Danmarks Nationalbank (1999), The Coins and Banknotes of Denmark, Danmarks Nationalbank.

Danmarks Nationalbank (2005), The Coins and Banknotes of Denmark, 2nd edition, Danmarks Nationalbank.


Hansen, Leo (1985), Danmarks officielle Pengesedler 1713-1983 (Denmark’s official banknotes 1713-1983 – in Danish only), Dansk Numismatisk Forening.

Jensen, Jørgen Steen (2001), Danmarks mønter og sedler. Krone og øre fra 1875 til i dag (Coins and banknotes of Denmark. Krone and øre from 1875 to date – in Danish only), Aschehoug.

Lange, V. (1918), Beskrivelse af de af Nationalbanken udstedte pengesedler (Description of banknotes issued by Nationalbanken i Kjøbenhavn – in Danish only), in: Axel Rubow (1918), Nationalbankens historie 1818-1878 (History of Nationalbanken in Kjøbenhavn 1818-1878 – in Danish only), Nationalbanken i Kjøbenhavn, pp. 183-263.


Other means of payment
In 1818, there were no private banks, and the entire money stock consisted of coins and banknotes. Since then, other and more convenient means of payment have emerged. Nowadays, payments are most often made electronically via online banking, card or mobile telephone.

Bakkegaard, Jesper (2010), New Payment Instruments, Danmarks Nationalbank Monetary Review, Vol. 49(1), pp. 91-100.

Carlsen, Maria and Johanne Dinesen Riishøj (2006), Brug af kontanter i Danmark (The use of cash in Denmark – in Danish only), Danmarks Nationalbank Working Papers, No. 41.

Danish Payments Council (2013), Report on new payment solutions, November.

Danmarks Nationalbank (2005), Payment systems in Denmark, Danmarks Nationalbank.

Means of payment in the Faroe Islands and Greenland
All parts of the Danish Monarchy – Denmark, the Faroe Islands and Greenland – share the same currency, the Danish krone, and Danmarks Nationalbank supplies the Faroe Islands and Greenland with banknotes. The coins in the Faroe Islands are the same as in Denmark, but since 1951, the Faroe Islands have had their own banknotes with Faroese motifs. Danish banknotes and coins are used in Greenland.


From counterfeiting to cybercrime

Cash supply
Danmarks Nationalbank puts cash into circulation via the banks.


Danmarks Nationalbank (2017), *The supply of cash in Denmark*, Danmarks Nationalbank.

Counterfeiting
It is key to upholding the trust in the currency system that the number of counterfeit banknotes in circulation is low. Consequently, counterfeiting has always been severely punished.


Märcher, Michael (2012), *De kongelige møntsteder i Altona og København 1813-1873* (Royal Mints in Altona and Copenhagen 1813-1873 – in Danish only), Syddansk Universitetsforlag.

Payment and settlement systems
Danmarks Nationalbank plays a key role in the payment system as banker to the banks. Today, interbank payments are made electronically via accounts at Danmarks Nationalbank in a payment system.

Danmarks Nationalbank (2005), *Payment systems in Denmark*, Danmarks Nationalbank.


Oma, Lindis (2017), Danes are front-runners in electronic payments, *Danmarks Nationalbank Analysis*, No. 6, March.

Physical acts of terrorism, breakdown and cybercrime
Today, the financial sector depends heavily on complex IT systems, and it is important in relation to upholding trust in the financial system that they always work and are secure.

Danmarks Nationalbank (2005), *Payment systems in Denmark*, Danmarks Nationalbank.

The money changeover in 1945
Denmark was occupied by the Germans during World War II, and many of the occupation forces’ expenses were financed by drawing on accounts at Danmarks Nationalbank, supported by guarantees from the government. This led to a strong increase in banknotes in circulation and it was necessary to substitute them after the war.

200 years with a rising standard of living – despite fluctuations

Development in standard of living and economic structures
The standard of living has improved substantially over the last 200 years. This improvement is in stark contrast to developments before 1800. Back then, good years made way for bad years, and basically real annual wages did not improve from 1500 to 1800.

Abildgren, Kim (2017), Trends in real wages in Denmark since the Late Middle Ages, Historical Methods, Vol. 50(2), pp. 67-78.

Agersnap, Flemming and Carl Erik Andresen (1989), Dansk erhvervshistorie 1880 til vore dage (Danish business history 1880 until today – in Danish only), Nyt fra Samfundsvidenskaberne.

Boje, Per (2014), Vejen til velstand – marked, stat og utopi: Om dansk kapitalismes mange former gennem 300 år. Tiden 1730-1850 (The road to welfare – market, state and utopia: On the many facets of Danish capitalism over 300 years. The period 1730-1850 – in Danish only), Syddansk Universitetsforlag.

Christoffersen, Henrik (1999), Danmarks økonomiske historie efter 1960 (An economic history of Denmark after 1960 – in Danish only), Systime.


Feldbæk, Ole (1993), Danmarks økonomiske historie 1500-1840 (An economic history of Denmark 1500-1840 – in Danish only), Systime.


Hyldtoft, Ole (1999), Danmarks økonomiske historie 1840-1910 (An economic history of Denmark 1840-1910 – in Danish only), Systime.

Johansen, Hans Chr. (1987), The Danish Economy in the Twentieth Century, Croom Helm.

Johansen, Hans Chr. (1979), En samfundsorganisasion i opbrud 1700-1870. Bind 4 i Dansk Socialhistorie (Upheavals in the organisation of society 1700-1870. Volume 4 of A social history of Denmark – in Danish only), Gyldendal.

Olsen, Erling (1962), Danmarks økonomiske historie siden 1750 (An economic history of Denmark since 1750 – in Danish only), Gads Forlag.

Pedersen, Jan (2009), Danmarks økonomiske historie 1910-1960 (An economic history of Denmark 1910-1960 – in Danish only), Forlaget Multivers.

Productivity growth
The economic growth seen over the last 200 years is attributable to production of still more goods and services with the same input of labour. In other words, productivity has risen significantly. There are many reasons for this, including a larger and still more efficient capital stock, a higher level of education and generally smarter ways of organising production, including increased division of tasks.

Business cycles and financial crises
Historically there has been a clear tendency for downturns with banking crises to be deeper or longer than downturns without banking crises.
