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# Denmark Loan Bills Temporary Credit Facility<sup>1</sup>

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Yale Program on Financial Stability Case Study  
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## **Abstract**

The loan bills temporary credit facility was first implemented in May 2008, before the Global Financial Crisis had truly hit Denmark. It continued to be utilized as part of a broader effort to increase interbank lending after the collapse of Lehman Brothers in September 2008. The objective of the loan bills scheme was to facilitate lending among financial institutions. Each week, loan bills could be pledged as collateral for a seven-day loan from Denmark's central bank, Danmarks Nationalbank. One banking institution could borrow from another institution by issuing a loan bill, and the institution buying the bill could raise liquidity by using it as collateral for a loan from Danmarks Nationalbank. The buying institution could also count the loan bill toward its statutory liquidity, as required by section 152 of the Danish Financial Business Act. While reports show that the program may have helped improve money market liquidity for some financial institutions, loan bills were not widely used. On February 26, 2011, the credit facility for loan bills expired.

**Keywords:** Denmark, loan bill, temporary credit facility

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<sup>1</sup> This case study is part of the Yale Program on Financial Stability (YPFS) selection of New Bagehot Project modules considering the responses to the global financial crisis that pertain to market liquidity programs.

Cases are available from the *Journal of Financial Crises* at <https://elischolar.library.yale.edu/journal-of-financial-crises/>.

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# Denmark Loan Bills

## At a Glance

The loan bills temporary credit facility was first implemented in May 2008, before the Global Financial Crisis had truly hit Denmark, and continued to be utilized during the interbank market freeze after the collapse of Lehman Brothers. The objective of the loan bills scheme was to facilitate lending among the institutions. Each week, loan bills could be pledged as collateral for a seven-day loan from Denmark's central bank, Danmarks Nationalbank. A bank or mortgage credit institute could borrow from another institution by issuing a loan bill, and the institution buying the bill could raise liquidity by using it as collateral for a loan from Danmarks Nationalbank. The buying institution could also count the loan bill toward its statutory liquidity, as required by section 152 of the Danish Financial Business Act.

## Summary Evaluation

While reports show that the program may have helped improve money market liquidity for some financial institutions, loan bills were not widely used. The International Monetary Fund (IMF) and others have gone so far as to consider the loan bills scheme a failure in addressing the needs of the Danish banking sector. However, both the Danish government and critics agree that the lack of usage of temporary credit facilities in Denmark was in part due to the more successful and more widely used bank rescue packages that guaranteed interbank loans, five months later.

Summary of Key Terms	
Purpose: To facilitate lending amongst financial institutions to support liquidity for banks	
Announcement Date	May 23, 2008
Operational Date	May 23, 2008
End of Issuance Window	May 21, 2009 (initial) Sep. 30, 2010 (second) Feb. 26, 2011 (final)
Legal Authority	N/A
Peak Utilization	DKK 6 billion (\$1 billion) in loan bills issued; little to no borrowing against loan bills (exact number pending)
Participants	Several (exact number pending)
Administrators	Danmarks Nationalbank

<b>Loan Bills Temporary Credit Facility: Denmark Context</b>	
<b>GDP (SAAR, Nominal GDP in LCU converted to USD)</b>	\$355.62 billion in 2008 <i>Source: Bloomberg</i>
<b>GDP per capita (SAAR, Nominal GDP in LCU converted to USD)</b>	\$64,322 per capita in 2008 <i>Source: Bloomberg</i>
<b>Sovereign credit rating (5- year senior debt)</b>	As of Q4 2008: Fitch: AAA Moody's: AAAu S&P: AAAu <i>Source: Bloomberg</i>
<b>Size of banking system</b>	\$750.5 billion in total assets <i>Source: Bloomberg</i>
<b>Size of banking system as a percentage of GDP</b>	211.04% in 2008 <i>Source: Bloomberg</i>
<b>Size of banking system as a percentage of financial system</b>	<i>Data not available for given year</i> <i>Source: World Bank Global Financial Development Database</i>

<p><b>5-bank concentration of banking system</b></p>	<p>89% of total banking assets in 2008  <i>Source: World Bank Global Financial Development Database</i></p>
<p><b>Foreign involvement in banking system</b></p>	<p>18% of total banking assets in 2008  <i>Source: World Bank Global Financial Development Database</i></p>
<p><b>Government ownership of banking system</b></p>	<p>1% of banks owned by the state in 2008  <i>Source: Call et al. "Bank Ownership – Trends and Implications"</i></p>
<p><b>Existence of deposit insurance</b></p>	<p>100% insurance on deposits up to \$133,333 in 2010  <i>Source: World Bank Deposit Insurance Dataset, OECD</i></p>

# I. Overview

## Background

The loan bills temporary credit facility was first implemented in May 2008, before the Global Financial Crisis and the interbank market freeze had truly hit Denmark. Confidence among the institutions was still relatively high. However, financial institutions had become more reluctant to lend to each other. Observing this phenomenon, Denmark's central bank—Danmarks Nationalbank—chose to approve a new type of security, the loan bill, as eligible collateral for loans at the central bank.

This marked the first time Danmarks Nationalbank's framework for credit operations was adjusted in response to the Global Financial Crisis; however, it would be followed by more changes in the next few months. During the interbank market freeze of September 2008, Danmarks Nationalbank used additional monetary policy instruments to increase market liquidity. These included adding a second temporary credit facility (the excess-capital temporary credit facility, also known as the solvency scheme) and an expansion of the collateral base to include more securities than were normally eligible as collateral for loans from Danmarks Nationalbank.<sup>3</sup> These steps were taken to "prevent solvent banks from experiencing difficulties due to insufficient liquidity" (*Financial Stability 2009*, 1st Half, 18). By the end of October 2008, the government would guarantee all bank liabilities, including borrowing in the interbank market.

## Program Description

The objective of the loan bills scheme was to facilitate lending among institutions. Every Friday, loan bills could be pledged as collateral for a seven-day loan from Danmarks Nationalbank. One banking institution could borrow from another institution by issuing a loan bill, and the institution buying the bill could raise liquidity by using it as collateral for a loan from Danmarks Nationalbank. The buying institution could also count the loan bill toward its statutory liquidity, as required by section 152 of the Danish Financial Business Act.

The introduction of loan bills was followed by the temporary expansion of the accepted collateral base for loans from Danmarks Nationalbank to banking institutions and mortgage-credit institutes. The loan bills had to meet Danmarks Nationalbank's standard terms. These included requiring that loan bills were zero-coupon securities issued by banking institutions in the Kingdom of Denmark. In addition, the maximum maturity for loan bills was set at one year. The loan bills also had to be issued with VP Securities, Denmark's central securities depository, as the account controller. The collateral value was calculated as the nominal value of the bills minus a haircut of 10 percent.

Initially, the interest rate for lending against loan bills was fixed as Danmarks Nationalbank's usual lending rate plus one percentage point. On October 7, 2008, the interest rate for loan bills at Danmarks Nationalbank was changed to Danmarks Nationalbank's usual lending rate

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<sup>3</sup> During the financial crisis, the collateral base for loans from Danmarks Nationalbank to financial institutions was temporarily expanded to include special loan bills, quoted and unquoted shares, investment fund shares, bank bonds with government guarantee, as well as SPV bonds issued on the basis of government-guaranteed loans to the institutions (*Financial Stability 2010*, 66).

plus two percentage points. The purpose of this adjustment was to align the terms and conditions with the other temporary credit facilities. On March 13, 2009, the interest rate was reduced to Danmarks Nationalbank's usual lending rate plus one percentage point, a decision influenced by a downward trend in interest rates overall. On July 17, 2009, loan bills were included in the temporary collateral basis, and the interest rate was abolished. The purpose was to align the terms and conditions for pledging of unquoted unsecured debt with government guarantees and loan bills.

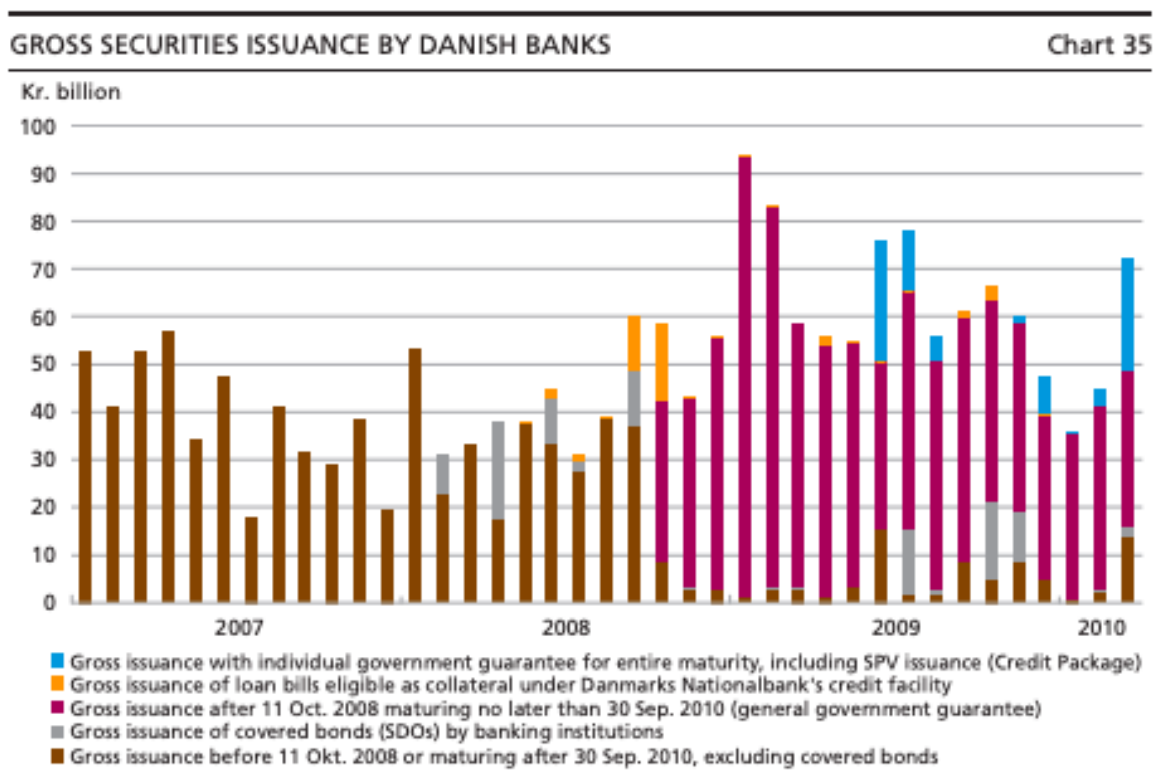
The loan bills credit facility was initially set to expire on May 21, 2009. On November 11, 2008, the credit facility for loan bills was extended until September 30, 2010. The purpose of this adjustment was to align the expiry dates of the temporary credit facilities. In April 2010, the temporary expansion of collateral basis (including loan bills) was extended to February 26, 2011. On February 26, 2011, the credit facility for loan bills expired.

### **Outcomes**

Loan bills were not widely issued. A 2009 Financial Stability report showed low issuance in the facilities' initial year of operation. Between DKK25 and DKK30 billion in loan bills were issued overall; issuance peaked in October 2008, when about DKK16 billion were issued. (See Figure 1) At the end of April 2009, Danish banking institutions had issued a total of DKK6 billion in loan bills to other institutions (21).

Also by April 2009, no institutions had borrowed against loan bills from the central bank. The 2009 report notes that this was part of a broader trend where securities eligible as part of the temporary expanded collateral base were not used. Although the temporary facilities (and corresponding expanded collateral policies) were supposed to help Danish institutions meet liquidity requirements through alternative collateral, the use of these unconventional collateral types was limited. Usual eligible assets continued to account for the vast majority of the DKK332 billion in assets pledged as collateral for loans from Danmarks Nationalbank.

Figure 1: Comparison of securities by issuance types (loan bills in bright orange).



Source: Danmarks Nationalbank.

Source: *Financial Stability 2010*, p. 65

The Danish government attributed this relative lack of temporary-credit-facilities usage to the success of the Original Guarantee Scheme under Bank Package I. As a result of Bank Rescue Package I, which guaranteed interbank loans, the “banking institutions started lending to each other in the money market again” and the “need to borrow from Danmarks Nationalbank [became] modest” (*Financial Stability 2009*, 1st Half, 21).

After the temporary expansion of collateral (including loan bills) expired in February 2011, a partial reintroduction of the temporary collateral expansion was put into place on August 10, 2011. It allowed banks and mortgage-credit institutes to pledge certain shares in jointly owned corporations as collateral with Danmarks Nationalbank. This new temporary expansion of collateral expired on July 1, 2014.



## II. Key Design Decisions

### 1. **May 23, 2008, Danmarks Nationalbank established its first temporary credit facility in response to the Global Financial Crisis via the creation of loan bills.**

Danmarks Nationalbank created this credit facility by expanding the collateral basis to include a new type of security, the loan bill, which could be pledged as collateral to Danmarks Nationalbank for loans on a weekly basis. Banks and mortgage-credit institutes were eligible to participate in this seven-day loan.

### 2. **The interest rate for the loan bills facility varied over time.**

The interest rate was initially fixed as Danmarks Nationalbank's usual lending rate plus one percentage point. On October 7, 2008, the interest rate for loan bills at Danmarks Nationalbank changed to Danmarks Nationalbank's usual lending rate plus two percentage points. The purpose of this adjustment was to align the terms and conditions for all of Denmark's temporary credit facilities (the loan bills facility, the excess-capital facility, and the other temporary expansion of collateral basis). On March 13, 2009, the interest rate was reduced to Danmarks Nationalbank's usual lending rate plus one percentage point. A general downward trend in interest rates influenced this decision. On July 17, 2009, loan bills were included in the temporary collateral basis, and the interest was abolished.

### 3. **The collateral value of loan bills was calculated as the nominal value of the bills minus a haircut of 10 percent.**

### 4. **The Danish Financial Supervisory Authority permitted loan bills to be included as part of an institution's statutory liquidity.**

Because the institution buying the loan bill could later raise liquidity by using it as collateral for a loan from Danmarks Nationalbank, the buying institution was permitted to include the bill in its statutory liquidity under Section 152 of the Danish Financial Business Act, until one month before the expiry of the facility.

### 5. **The expiration date for the loan bills facility was extended twice.**

The loan bills credit facility was initially set to expire on May 21, 2009. On November 11, 2008, the credit facility for loan bills was extended until September 30, 2010. The purpose of this adjustment was to align the expiry dates of the temporary credit facilities. In April 2010, the option of pledging loan bills as collateral was extended to February 26, 2011.

## III. Evaluation

The central bank said that the purpose of the loan bills facility was to spur interbank lending rather than inject central bank liquidity: "Extensive use of the credit facility was not a criterion of success" (Overview of Temporary Facilities, 1). Roughly DKK25-30 billion in loan bills were issued in 2008-09. The IMF and other observers concluded that loan bills were not widely used (Carstensen 2011, 108). In September 2008, just a few months after the loan bills scheme was first implemented, the government created the excess-capital facility in

part because of the failure of the loan-bill scheme to meet banking needs that were intensified after the fall of Lehman Brothers. In October, the government guaranteed bank debt, including interbank debt, obviating the need for the program.

A 2009 report from Danmarks Nationalbank elaborates on its disappointment with the program, noting that the loan-bill scheme “assume[d] that the banking institutions want to lend to each other,” however, “confidence among the banking institutions weakened during the summer of 2008 as the scope of the problems in the financial sector became more apparent” (Financial Stability 2009, 1st Half, 19). The purpose of the excess-capital facility in particular was to prevent banking institutions with adequate capital from incurring liquidity problems as a result of insufficient assets, which could be pledged as collateral to Danmarks Nationalbank. Unlike the loan-bill scheme, the excess-capital scheme was meant to help institutions access loans raised directly from Danmarks Nationalbank—not from other banks. To achieve this, the excess-capital facility allowed Danmarks Nationalbank to offer uncollateralised credit in the form of credit line, the value of which depended on the applying institutions’ excess capital adequacy (Financial Stability 2009, 1st Half, 20). The credit line could be counted toward the institution’s statutory liquidity requirement (Financial Stability 2010, 66).

The International Monetary Fund (IMF) has noted that the loan bills scheme was unsuccessful in part because “it failed to address banks’ strong liquidity preference and aversion to counterparty risk” (IMF 2008, 12-13). Others have argued that the temporary credit facilities in general had limited usage because Denmark was simultaneously experiencing a currency crisis. The combination of not being a Eurozone member and having a fixed exchange rate regime may have led to high demand for euro and dollar liquidity by Danish banks, and increasing pressure on the Danish krone (Woll 2014, 158). As a result, monetary policy instruments used by the Danish central bank had less of an impact on the banking industry than the instruments used in the United States or UK (Woll 2014, 158). The Danish government has also attributed this relative lack of temporary-credit-facilities usage to the success of the Original Guarantee Scheme under Bank Package I. They argue that as a result of Bank Rescue Package I, the “banking institutions started lending to each other in the money market again” and the “need to borrow from Danmarks Nationalbank [became] modest” (Financial Stability 2009 1<sup>st</sup> half, 21).

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