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Danish Capital Injections Scheme 2009 (DK GFC)[1]

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Yale Program on Financial Stability Case Study
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Abstract

Both the international financial system and Denmark were experiencing challenges in 2007 and 2008, and they came to a head in Denmark when Roskilde Bank experienced liquidity pressures in June 2008. As it became clear that Roskilde Bank was insolvent and no private solutions would be found, and as the global financial crisis worsened leading to the bankruptcy of Lehman Brothers, the Danish government decided to take stronger action. To ensure the short-term survival of Roskilde Bank, the national bank issued a non-limited credit facility. After it passed a deposit guarantee scheme in 2008 and established a Financial Stability Company, the Danish government established a capital injections program in February 2009. This program was intended primarily to support solvent credit institutions so that they could stimulate the supply of credit to viable businesses and households. The injections took the form of subordinated debt, which Danish regulators considered a form of Tier 1 capital. The program recapitalized institutions up to a Tier I capital ratio of 12%. In 2009, 43 institutions received DKK 46 billion in capital injections at an average yield to maturity of 10.08%.

Keywords: Bank Rescue Package I, Bank Rescue Package II, Capital Injections, Denmark, Global Financial Crisis, Guarantee Scheme

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[1] This case study is part of the Yale Program on Financial Stability (YPFS) selection of New Bagehot Project modules considering broad-based capital injection programs. Cases are available from the *Journal of Financial Crises* at https://elischolar.library.yale.edu/journal-of-financial-crises/.

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Danish Capital Injections Scheme 2009

At a Glance

Denmark's economy first began to slow in 2007, due to tight monetary conditions, labor shortages, and rising energy prices, and these problems were exacerbated by the Global Financial Crisis (GFC) of 2008. This manifested in liquidity pressures on Roskilde Bank in June 2008, and the Danish national bank decided to intervene by issuing a non-limited credit facility. As it became clear that Roskilde Bank was insolvent and no private solutions would be found, and as the global crisis worsened leading to the bankruptcy of Lehman Brothers, the Danish government decided to take stronger action. In October 2008, the Danish government, Financial Supervisory Agency (FSA), national bank, and private bank consortium (Finansrådet) passed the first of six Bank Packages creating an unlimited deposit guarantee (see Sabath) and a new state-controlled organization to take over the assets of troubled banks called Finansiel Stabilitet.

Summary of Key Terms	
Purpose: To support solvent credit institutions so that they can stimulate the supply of credit to businesses and households.	
Launch Dates	Announcement: February 3, 2009
Wind-down Dates	Minimum three years after injection; no specified maximum
Program Size	Up to DKK 100 billion ($15.84 billion)[3]
Usage	DKK 46 billion ($7.29 billion)
Outcomes	
Ownership Structure	Government-owned
Notable Features	Recapitalized to a Tier 1 capital ratio of 12%, above the required 9%

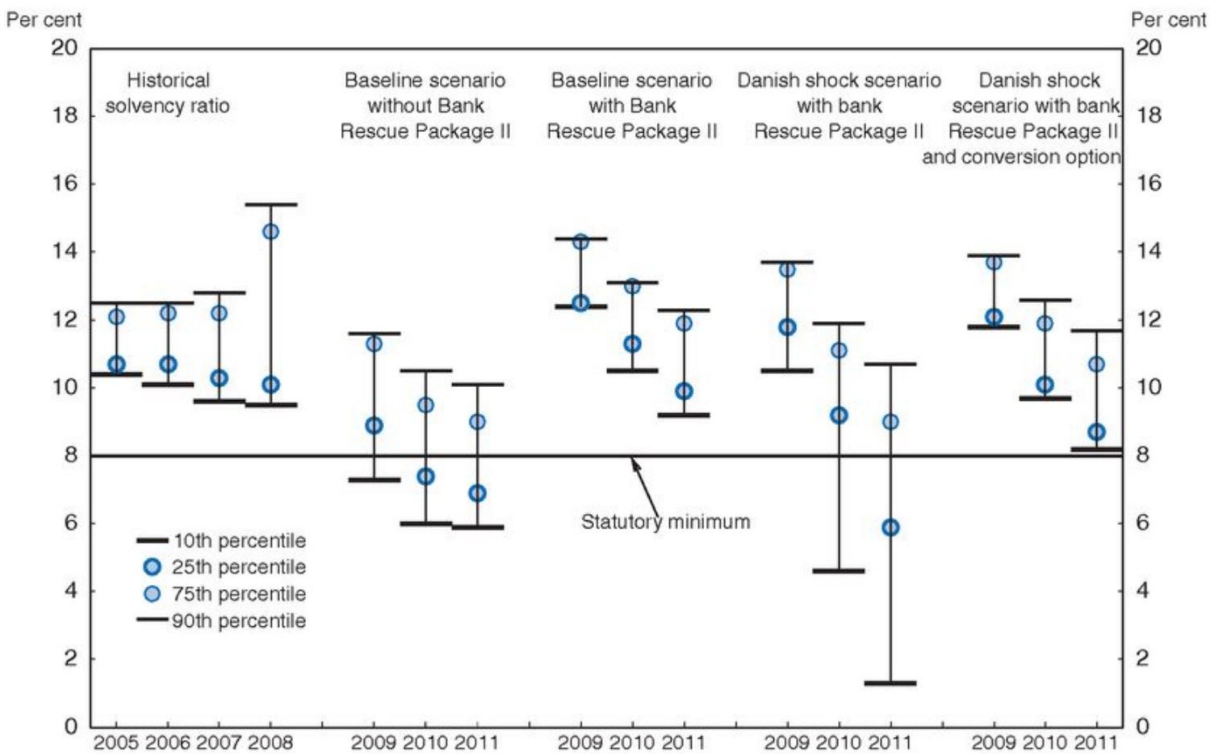
This paper focuses on the capital injections program, which is the second Bank Package of February 2009. The Danish Ministry of Economy and Commerce administered the program. The capital injection program was intended primarily to support solvent credit institutions so that they could stimulate the supply of credit to viable businesses and households. The injections took the form of subordinated debt, which the government considered acceptable as Tier 1 capital. The program recapitalized institutions up to a Tier 1 capital ratio of 12%. In 2009, 43 institutions received DKK 46 billion ($7.29 billion) in capital injections at an average yield to maturity of 10.08%. By the end of 2010, a total of 50 institutions had also received total support of DKK 193 billion with individual guarantees.

[3] Per Yahoo Finance $1 = DKK 6.31 on July 13, 2021.

Summary Evaluation

While it is difficult to isolate the effect of this particular policy as part of Denmark's larger response to combat the Global Financial Crisis, it is generally acknowledged that the capital injections scheme greatly improved the capital ratios of all participants. However, Danmarks Nationalbank acknowledged that the capital injections program, Bank Package II, could significantly improve banks' solvency if the subordinated debt were converted into share capital. Share capital is a higher quality form of capital than subordinated debt because it is more readily available to bear losses and does not require regular interest payments. The following figure displays this projection of bank solvency in 2009 after the capital injections scheme was announced.

Figure 1: Impact of Bank Package II on Bank Solvency Ratios



1. Solvency ratio is core capital plus supplementary capital (total capital base less statutory deductions) as a percentage of risk-weighted assets. The statutory minimum is 8%. Figures for 2009 to 2011 are based on the scenarios described in Table 1.2. The analysis was undertaken prior to the closure of applications for capital injections, so is based on estimates of the amount offered. The analysis covers the 14 largest banks.

Source: Danmarks Nationalbank (2009b).

StatLink http://dx.doi.org/10.1787/734551735043

Source: OECD 2009.

Denmark Context 2007–2008	
GDP (SAAR, Nominal GDP in LCU converted to USD)	$320.01 billion in 2007 $355.62 billion in 2008
GDP per capita (SAAR, Nominal GDP in LCU converted to USD)	$58,487 per capita in 2007 $64,322 per capita in 2008
Sovereign credit rating (Five-year senior debt)	As of Q4 2007: Fitch: AAA Moody's: Aaau S&P: AAAu As of Q4 2008: Fitch: AAA Moody's: Aaau S&P: AAAu
Size of banking system	$621.0 billion in total assets in 2007 $750.5 billion in total assets in 2008
Size of banking system as a percentage of GDP	194.1% in 2007 211.0% in 2008
Size of banking system as a percentage of financial system	Data not available for given years
Five-bank concentration of banking system	88% of total banking assets in 2007 89% of total banking assets in 2008
Foreign involvement in banking system	18% of total banking assets in 2007 18% of total banking assets in 2008
Government ownership of banking system	1% of banks owned by the state in 2008
Existence of deposit insurance	Data not available for the time frame in Denmark

Source: Bloomberg, Call et al. "Bank Ownership – Trends and Implications.", World Bank Deposit Insurance Dataset, OECD, World Bank Global Financial Development Database,

Key Design Decisions

1. **Part of a Package: The capital injections program was the only program in the Bank Package II but there was a guarantee scheme (Bank Package I) already in place, and Bank Package II extended this guarantee further.**

Prior to the establishment of this capital injections scheme, Denmark passed Bank Rescue Package I in October 2008 (OECD 2009). This included a government scheme for participating banks that guaranteed domestic and foreign claims by depositors, debt holders, and creditors until September 30, 2010, though the guarantee was later extended to last until 2013. The guarantee covered all Danish banks that were members of the deposit insurance scheme and Danish branches of foreign banks that did not have such a scheme in their own countries. Participating banks could not pay dividends, engage in stock buybacks, or create new stock option arrangements. Ordinary deposits were also covered by an increased guarantee of DKK 750,000. Bank Package I also included a winding-up company, the Financial Stability Company, that could facilitate the takeover and resolution of insolvent banks where they could not find a private solution. The Financial Stability Company provided capital to help a new company wind up and take over a failed bank to protect debt holders and creditors; the private sector provided DKK 35 billion to cover losses in this winding-up company. Bank Package I also implemented a ban on short-selling shares of Danish banks.

Bank Package II was passed in February 2009 and established a capital injections scheme for which all solvent Danish credit institutions were eligible. To participate, banks issued subordinated debt to the government. Regulators considered subordinated debt a form of hybrid Tier 1 capital. Danmarks Nationalbank projected in 2009 that converting the subordinated debt into share capital would greatly improve the Danish banks' core capital ratios (OECD 2009). Bank Package II also authorized the authorities to provide a capital subscription guarantee to help non-participating banks attract private investors (Denmark 2009a).

The Bank Rescue Package II also amended the Danish Act on Financial Stability by enabling individual government guarantees for non-subordinated unsecured debt and for loans issued for financing top-up collateral for institutions issuing særligt dækkede obligationer and særligt dækkede Realkreditobligationer (SDOs and SDROs) which are covered bonds and covered mortgage bonds respectively, as well as Danish Ship Finance A/S (Denmark 2009). This individual government guarantee ran up to three years and included loans issued through December 31, 2010.

2. **Legal Authority: The Folketing (Danish Parliament) passed the law establishing the capital injections scheme, and the European Commission approved exemption from the State Aid Rules.**

The European Commission (EC) approved the capital injections scheme pursuant to their State Aid policies that aim to avoid distortions of competition that may result from government policies (EC 2009c). Policies that constitute state aid may be approved if they help to "remedy a serious disturbance in the economy of a Member State" (EC 2009a,). As with many similar capital injections schemes in Europe during the GFC, the EC considered that the program gave beneficiaries an advantage relative to their competitors. However, as the capital injections program was crucial to remedying liquidity access problems in the economy, and supported the banking system in Denmark, the EC approved it.

3. **Governance/Administration: The Ministry of Economic and Business Affairs was responsible for evaluating applications for the capital injections scheme and was enabled to detail requirements on applications, payments, or conversion of shares.**

The Ministry of Economic and Business Affairs could also pass more detailed rules governing the amount of interest to be paid on the capital injections (Denmark 2009a). The Ministry of Economic and Business Affairs also supervised credit institutions receiving capital injections, producing a report every six months on the activity of these institutions.

4. **Size, Timing: DKK 100 billion was the maximum budget for capital injections of hybrid core capital. A total of 50 institutions applied for DKK 63 billion, and 43 institutions ultimately received DKK 46 billion. The capital injection was extended through December 20, 2009.**

Through Bank Package II, Denmark made DKK 100 billion available for capital injections of hybrid core capital to solvent banks and mortgage lenders, allowing them to reach a Tier 1 capital ratio of up to 12% (Denmark 2009a). The use of the capital injections scheme by all eligible institutions to achieve a 12% Tier I capital ratio would have involved approximately DKK 100 billion (EC 2009a). A total of 50 institutions applied for DKK 63 billion in total (OECD 2009). In 2009, 43 institutions received DKK 46 billion in capital injections at an average yield to maturity of 10.08% (Danmarks Nationalbank 2011).

The amount of capital provided was decided based on the individual institution's capitalization and risk profile along criteria such as basis capital, deposit deficit, liquidity risk, and quality and earning of credit (EC 2009a).

Applications for the capital injections were initially accepted until June 30, 2009. On July 10, 2009, the Danish authorities extended the time frame to perform capital injections until December 20, 2009, as they needed more time to review the 50 applications they had received (EC 2009b).

5. **Source of funding: The funds for capital injections come from the central government account at Danmarks Nationalbank.**

The Minister of Economic and Business Affairs, upon making an agreement with an institution to perform a capital injection, could use the government account at Danmarks Nationalbank to fund the capital injection (Denmark 2009a).

6. **Eligible institutions: The bank recapitalization scheme was voluntary and available to all solvent credit institutions.**

Eligible institutions were primarily bank and mortgage credit institutions that fulfilled the solvency requirements established by the Danish Financial Supervisory Authority (EC

2009a). Subsidiaries of foreign banks in Denmark were also eligible if they used the capital injection to ensure consolidation and increase lending in Denmark (Denmark 2009a).

Applications for capital injections required explanations of the financial institution's economic situation, capital adequacy, and future projections, with an independent audit (EC 2009a).

7. Individual participation limit: Institutions were recapitalized until they reached a Tier 1 capital ratio of 12%.

For institutions that met the prior Tier 1 capital ratio of 9% or more, the capital injections scheme offered a maximum increase in Tier 1 capital of 3% up to a ratio of 12% Tier 1 capital (Denmark 2009a; EC 2009a). Credit institutions with a Tier 1 capital ratio between 6% and 9% were offered a capital injection to achieve a 12% Tier 1 capital ratio. Institutions below a 6% Tier 1 capital ratio were required to individually negotiate with Danish Authorities prior to applying for the capital injections scheme.

The 12% Tier 1 capital ratio target was supported by a stress test prepared by the Danish National Bank based on three scenarios for the 15 largest Danish banks. This was decided on the basis of the Danish National Bank concluding that a Tier 1 capital ratio of 13.5% would allow those 15 banks to individually meet their capital needs (EC 2009a). The central bank said that the target 12% level would increase banks' ability to get capital market funding and support the real economy.

The stress test considered three scenarios. In the first scenario, the financial crisis would lead to a deep international recession, entailing lower demand for Danish products; central banks worldwide would adopt a more expansionary monetary-policy stance, and interest rates would fall. In the second scenario, the financial crisis would prompt the Danish banks to significantly reduce their lending; the Danish economy would experience a credit crunch. The third scenario was a combination of the first two scenarios, in which a deep international recession would coincide with a credit crunch in Denmark, causing a historical decline in economic activity (EC 2009a). The stress test accounted for the fact that banks could not pay dividends for two years due to the State guarantee issued in October 2008, and that the banks had to contribute to the guarantee scheme. The stress test modelled the pressure on bank earnings and capital adequacy that would result from the scenarios modeled.

8. Capital characteristics: The program injected noncumulative, perpetual subordinated debt; the authorities later gave banks the option of converting the debt into equity.

The capital injections took the form of perpetual subordinated debt with no voting rights (Denmark 2009a). Interest payments were noncumulative. Reimbursement of the injected capital could start after the third year at 100% of the face value plus interest but was subject to step-up provisions after five and seven years. After the fifth year, the instrument was callable at 105% of the face value plus interest, and as of the seventh year at 110%.

The government had no conversion rights, but the subordinated loans were transferable (EC 2009a).

On July 10, 2009, the Danish authorities extended the time frame to perform capital injections until December 20, 2009, as they needed more time to review the 50 applications they had received. In addition, they made it possible for participating banks to convert their subordinated debt into share capital within five years of the initial injection. This was to enhance the quality of capital issued by participating banks under the program. The initially issued subordinated debt, as notified on January 23, 2009, did not fully meet markets' and rating agencies' expectations in terms of quality of capital issued and did not satisfy rating agencies' standards for core Tier 1 capital. With the conversion option, the debt would qualify as core Tier 1 capital. Therefore, by introducing this conversion option, Danish authorities were hoping to ensure that participating banks could maximize the use of capital injection for external rating purposes while minimizing changes to the authorized original plan (EC 2009b).

The conversion option was available for five years after issuance and could be exercised to avoid the step-up provisions related to interest rates and reimbursement prices; the conversion option was thus an incentive for banks to convert the subordinated debt into ordinary shares to avoid higher payments (EC 2009b).

Several criteria had to be met in order for a bank to exercise its conversion option and benefit from the higher capital quality (EC 2009b). First, the banks' shares had to be trading in a regulated market. Second, the issuing bank's total hybrid Tier 1 capital had to be more than 35% of its total Tier 1 capital. Third, the conversion amount at any given time could not exceed 20% of the original capital injection received by the bank.

The conversion price included a 5% discount from the average share price derived over three working days from the conversion date, limiting the ability of issuers to use the conversion option to entirely avoid the step-up clauses. For the conversion option, banks had to pay an additional annual fee of 20 to 60 bps, as per European Central Bank (ECB) recommendations, to align it with the range of remuneration set up for ordinary shares. The European Commission (EC) verified appropriate fee levels of convertible hybrid capital on a case-by-case basis. The EC considered these conditions appropriate to safeguard the use of the capital injections scheme and avoid undue distortions of competition as required by the State Aid policy.

9. Interest/Dividend: The rate charged on the capital injection was determined by a bank's capitalization and risk profile.

According to their capitalization and risk profiles, potential recipient credit institutions were divided into three categories which determined their interest rate (EC 2009a). Credit institutions in Group I (ratings of AA- or above) qualified for an interest rate of approximately 9%; Group II (ratings between A- and A+) qualified for an interest rate of approximately 9.55%; and Group III (ratings at or below BBB+) qualified for interest rates of approximately 11.25%. Institutions without a rating were manually sorted into one of these three groups based on the criteria above.

Four years after the capital injection, interest rates would be fixed at the greater of the fixed interest rate or 125% of the dividend payments to ordinary shareholders.

The expected yearly return of these capital injections was approximately 10%, but the interest was noncumulative.

10. Allocation of losses to stakeholders: In the case of bankruptcy, losses would first be covered by equity, then the injected subordinated debt, followed by other debt holders and creditors (EC 2009a).

In the case of bankruptcy, losses would first be covered by equity, then the injected subordinated debt, followed by other debt holders and creditors (EC 2009a). No further materials relating to the motivation behind this design were found.

11. Fate of management: There were no explicit requirements for management changes, although there were restrictions on management compensation.

Executives could not receive additional share compensation even through the extension of previous programs (Denmark 2009a). Variable salary compensation for executive board in financial companies could not exceed 50% of the total basic salary including pension.

12. Other conditions: Recipients of capital injections had to commit to promoting lending to the real economy and were banned from paying dividends until 2010.

Credit institutions benefitting from capital injections also had to produce reports on their lending every six months that would later be consolidated and published (EC 2009a). These reports included information on the loans made, including the industry of the recipient, the share of credit to households and companies, the size of loans, and credit conditions. Subsidiaries of foreign credit institutions based in Denmark had to commit not to transfer their capital injections to their parent companies.

Institutions receiving capital injections were banned from making dividend payments in 2009 and 2010. They could only pay out dividends covered by their annual profits thereafter (EC 2009a). Until the recipient exited the capital injection program, they were also banned from creating stock option programs for management and from repurchasing stock.

13. Exit strategy: The capital injection could be paid back after the third year at 100% of the face value plus interest; the callable value was stepped up afterwards.

The injected capital was callable at 100% starting the fourth year. After five years, it was callable at 105% face value plus interest, and after seven years, it was callable at 110% face value plus interest (EC 2009a). The Danish authorities did not have any conversion rights, and the recipient institutions could not reimburse their capital before the beginning of the fourth year. However, the Danish state could transfer the capital. The minimum waiting period of three years before exiting the capital injections was intended to create stability for recipient institutions and provide a clear incentive to lend, addressing the credit squeeze of the financial crisis.

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