

ECONOMIC COMMENTARIES

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NO. 3 | 2017

LARS-TORE TURTVEIT



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ISSN 1504-2596 (online)

Branches of foreign banks and credit supply

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Branches of foreign banks have experienced more volatile lending growth than Norwegian banks in the past ten years. Although foreign branches are not subject to independent capital requirements, the banking group must comply with capital requirements in its home country. Volatility in lending growth may to some extent reflect the flexible allocation of capital within banking groups. In a crisis isolated to Norway, foreign branches can make a positive contribution to maintaining overall credit supply in Norway, while their impact can be negative in an international crisis. Norwegian banks are subject to high capital requirements in the interest of financial stability. Norwegian banks are required to be robust and capable of absorbing large loan losses while maintaining lending capacity during downturns. Foreign branches with lower capital requirements in their home countries have, in isolation, a regulatory competitive advantage but also weaker loss-absorbing capacity. Over time, this could lead to high lending growth and higher market share, but also to higher volatility in foreign branch lending. Foreign branches have increased their market share in the corporate market in the past ten years. The conversion of Nordea Bank Norge into a branch will considerably increase the market share of foreign branches.

1. Foreign banks in the Norwegian banking market

The Norwegian banking market is dominated by Norwegian-owned banks. At the end of the first half of 2016, these banks had gained a 79 percent share of the retail market and a 65 percent share of the corporate market (see Table 1). If Norwegian subsidiaries owned by foreign banking groups are included, these market shares increase to 91 percent and 79 percent, respectively. The remaining share is held by branches of foreign banks.

Subsidiaries of foreign banks are independent legal entities and are regulated by the host country in line with other domestic banks. Branches of foreign banks, on the other hand, are not independent legal entities and are regulated by their home countries.

The majority of foreign branches in Norway are branches of Nordic banks, with higher market shares in the corporate market than in the retail market. The market share of foreign branches in the corporate market has grown by about six percentage points in the past ten years,

¹ The views and conclusions expressed in this publication are those of the authors and not necessarily those of Norges Bank and must not be reported as Norges Bank's views. We thank Bent Vale, Arild J. Lund, Henrik Borchgrevink, Sindre Weme and Torbjørn Hægeland for insightful input and comments.

while changes in the retail market have been smaller.² Nordea converted its Norwegian subsidiary into a branch of the Swedish parent bank on 2 January 2017. If the conversion of the Nordea Bank subsidiary had occurred at the end of the first half of 2016, the foreign branch market share would have increased to 1/5 of the retail market and 1/3 of the corporate market.

Table 1: Banks' and mortgage companies' market shares in Norway. At 30 June 2016. Percent

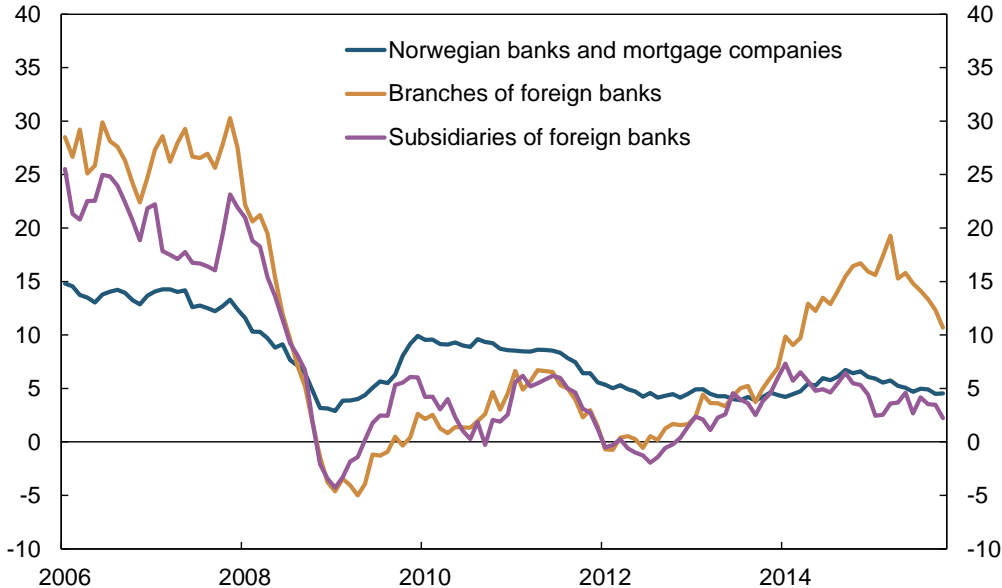
	Retail market	Corporate market
Norwegian banks and mortgage companies ¹	78.9	64.6
Subsidiaries of foreign banks in Norway ²	12.2	14.3
Branches of foreign banks in Norway ³	8.9	21.1

¹ Calculated as the total market excluding subsidiaries and branches
² Nordea Bank Norge, Santander Consumer Bank og Nordea Eiendomsrett
³ Danske Bank, Handelsbanken, Handelsbanken Eiendomsrett + 8 other branches + 1 mortgage company

Sources: Banks' websites and Norges Bank

Branches of foreign banks have reported higher lending growth than Norwegian banks and mortgage companies in the past two years (Chart 1). Just after the financial crisis, however, foreign branches reported lower and negative lending growth. Lending growth was less volatile and was lower towards the end of the period for foreign bank subsidiaries than for branches.³

Chart 1. Lending growth for Norwegian banks and mortgage companies and for subsidiaries and branches of foreign banks. 12-month change. Percent. 2006 Q4 – 2016 Q3



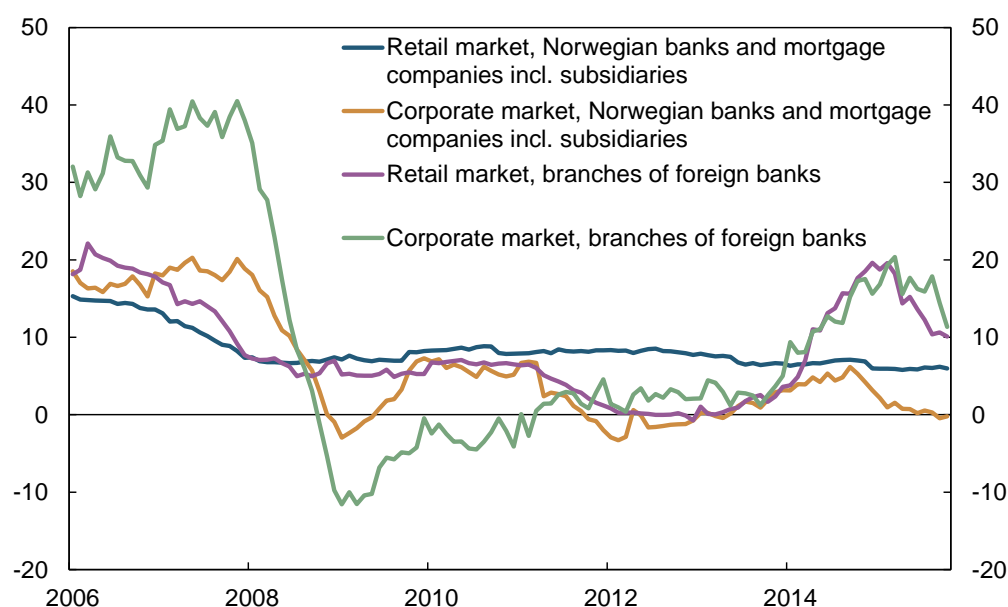
Source: ORBOF (banks' financial reporting to the Norwegian authorities)

² The changes in market share discussed here are a result of differences in lending growth. It is assumed in Charts 1 and 2 that there have been no changes in the status of banks as Norwegian banks, branches or subsidiaries in the period. In general, the status of Norwegian banks, branches and subsidiaries at the end of the period is assumed to apply for the entire period. Nordea Norge, for example, is a subsidiary in the period discussed.

³ Less volatile monthly, quarterly and (overlapping) annual lending growth as measured by the standard deviation.

The volatility in foreign branches' lending growth can to some extent be explained by their high share of lending to the corporate market. Lending growth is often more cyclical in the corporate market than in the retail market. Volatility in lending growth has nevertheless been higher for branches of foreign banks than for Norwegian banks in both the retail and the corporate market (Chart 2). In view of foreign branches' lending growth and high market share in the corporate market, the remainder of this commentary will focus on lending to the corporate market.

Chart 2. Corporate and retail lending growth for branches of foreign banks and for Norwegian banks and mortgage companies. 12-month change. Percent. 2006 Q4 – 2016 Q3



Source: ORBOF (banks' financial reporting to the Norwegian authorities)

2. Experience with foreign banks

2.1. International analyses

Foreign bank lending can influence credit growth in a host country. Gersl (2007) points out that in eastern Europe, foreign banks and increased foreign bank financing could add to the risk of cross-border contagion in the region. In their analysis of data from 40 countries, Ichiue and Lambert (2016) point out that regulatory tightening in the wake of the financial crisis reduced foreign bank lending and that tightening in home countries seems to have a more pronounced effect than changes in host countries.

A number of empirical studies have focused on the behaviour of international banks during crises. De Haas and Van Horen (2011) have examined over 100 000 lending portfolios worldwide in the period 2005-2009. They conclude that during crises, international banks continue to lend more to customers in countries that are geographically close to their home country. This is particularly the case if the banks are

integrated into a network of domestic co-lenders in nearby host countries where the banks have long-established relationships with borrowers.

Adams-Kane et al (2014) examined lending growth in a sample of 361 banks in the period 2006-2009. For the banks that were affected by a crisis in their home country, non-home country lending growth was 41 percent for the period. By comparison, for the banks that were not affected by a crisis in their home country, non-home country lending growth was 56 percent in the same period. The difference is substantial and statistically significant. The presence of foreign banks can thus contribute to spreading a crisis through a reduction in credit. Adams-Kane et al also suggest that a foreign bank can have a stabilising effect on emerging economies during a crisis if the bank's home country is not affected by the crisis.

Peek and Rosengren (1997) distinguish between subsidiaries and branches of foreign banks. Subsidiaries of Japanese banks showed no significant reaction in the US when their parent banks faced problems during the Japanese crisis in the 1990s. Branches, however, responded strongly to parent bank problems. The difference can be explained by the fact that branches are integral parts of Japanese parent banks, while subsidiaries are separately capitalised and behave more in line with domestic US banks. In addition, Peek and Rosengren (2000) also point out that reduced lending by Japanese banks in the US during this period had measurable adverse effects on the US real economy. Albertazzi and Bottero (2013) find that in Italy during the financial crisis, procyclical lending growth was largely a reality for branches rather than for subsidiaries of foreign banks. Hoggarth et al (2013) find that lending growth for branches of foreign banks in the UK was more cyclical than for domestic banks and subsidiaries of foreign banks around the time of the financial crisis. The organisational structure of banks can thus influence lending behaviour.

On the basis of these studies, it seems that branches of foreign banks can increase the cyclicity of lending and amplify cross-border contagion. At the same time, these studies also indicate that geographical proximity to home countries and strong relationships between foreign banks and customers in host countries can reduce these effects. In a crisis isolated to a host country, it is possible that foreign banks could dampen these effects.

The international analyses would seem to be relevant for the Norwegian market. Low foreign branch lending growth just after the financial crisis may be a sign of cross-border contagion, while high lending growth following the fall in oil prices in 2014 may indicate that foreign branches can dampen the effects of a crisis that is isolated to the host country (Chart 1).

2.2. Norwegian analyses

Norwegian banks' ability to compete with foreign banks will depend on relative cost levels and any differences in regulatory regimes. Ulltveit-Moe et al (2013) examined the competitiveness and regulation of Norwegian banks and concluded that Norwegian banks were cost-efficient and more profitable than banks in most other countries. They also pointed out that wage levels in the Norwegian banking sector are considerably higher than in other sectors. This suggests that Norwegian banks will be able to compete with foreign banks. Ulltveit-Moe et al (2013) also argued that perfect competition was not a feature of the Norwegian banking market. As long as substantial regulatory differences are not made permanent, they argued, customers will not switch in large numbers from Norwegian banks to branches of foreign banks.

3. Effects of regulatory differences in the Norwegian banking market

Banking regulation is complicated and some simplifications have been made in this commentary. The description focuses on the effects of the most important differences in regulations on bank lending between branches of foreign banks and other banks.

3.1. Regulation of branches of foreign banks

Branches of foreign banks are part of the same legal entity as the foreign parent bank. According to EU regulations, the government authorities in parent banks' home countries have regulatory and supervisory responsibility for the foreign branches of these banks. The home country also has this responsibility during a crisis.

Even though the bank's home country is responsible for the regulation of the bank's foreign branches in Norway, there are nevertheless possibilities for the Norwegian government authorities to influence the behaviour of these branches. As host country authorities, the Norwegian authorities can require branches of foreign banks to comply with national rules intended to safeguard the general good on the assumption that there are no similar EU-level rules.⁴ Section 5-4 of the Act on Financial Undertakings and Financial Groups specifies the statutory provisions that apply to foreign branches. These include compliance with the regulation on requirements for new residential mortgage loans⁵, which regulates loan-to-value ratios, debt-servicing capacity and principal payments. This regulation can influence foreign branches' mortgage lending behaviour.

⁴ See the Capital Requirements Directive (2013/36/EU) Article 36, cf preamble no (21). <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013L0036>

⁵ See <https://www.regjeringen.no/no/dokumenter/forskrift-om-krav-til-nye-utlan-med-pant-i-bolig/id2417408/> (Norwegian only)

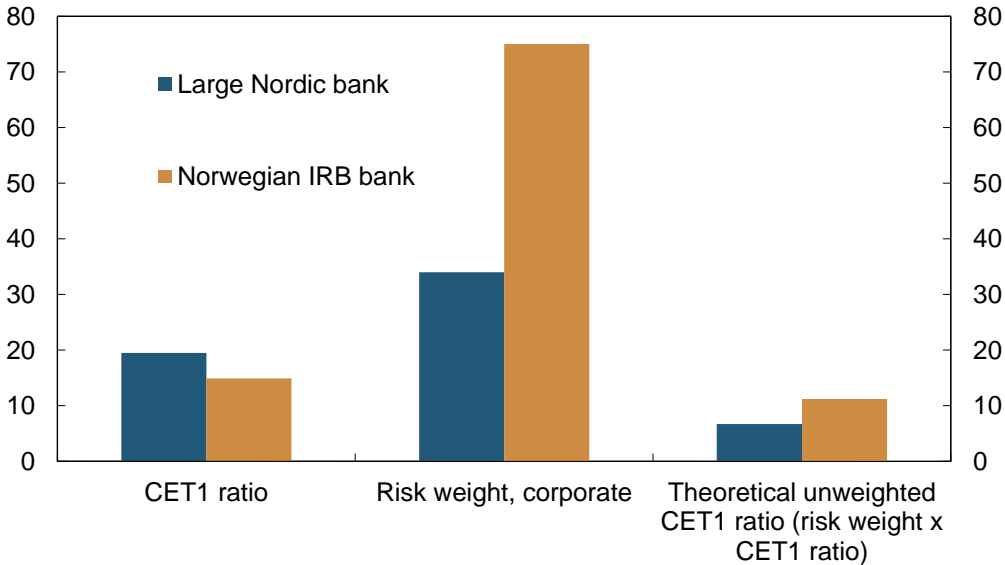
3.2. Regulation and competitive differences

A number of regulations can influence banks' lending behaviour. This is particularly the case for capital adequacy regulation. The amount of Common Equity Tier 1 (CET1) capital that banks must hold is determined, in simple terms, by the ratio of total CET1 capital to risk-weighted assets. Large Nordic banks are generally subject to higher CET1 ratio requirements than Norwegian banks, although the requirements vary across countries and banks. Some capital buffer requirements are based on reciprocity, which means that foreign banks in Norway must comply with Norwegian buffer requirements. An example is the EU CRD IV framework, which provides for reciprocity for countercyclical capital buffers up to 2.5 percent.

Owing to higher credit risk weights, Norwegian banks must hold more capital than large Nordic banks to support their corporate loans, despite lower buffer requirements (Chart 3). Large banks often use the Internal Ratings-Based (IRB) approach to calculate risk weights. There are different floors and minimum requirements that can override risk weights computed by IRB models. IRB risk weights are often lower than those permitted under the Norwegian interpretation of the Basel I floor. At the end of 2016 Q2, most large Norwegian banks were bound by the Basel I floor. This floor is implemented differently in Norway and the EU. In the Norwegian implementation of the Basel I floor, risk-weighted assets for Norwegian banks that use the IRB approach to calculate capital requirements (IRB-banks) must be at least 80 percent of the level that would have applied under Basel I. The Norwegian implementation of the Basel I floor permits higher risk weights for Norwegian IRB banks than for Danish and Swedish banks that are not bound by the Basel I floor as interpreted by the EU.⁶

⁶ Under the EU interpretation of the Basel I floor, the minimum capital requirement under the Basel I framework is only 6.4 percent (Borchgrevink 2012), which is too low to be binding unless IRB risk weights are very low.

Chart 3. CET1 ratio, risk weights and theoretical unweighted CET1 ratios, corporate loans. Large Nordic and Norwegian IRB banks. Percent, 2016 Q2



Sources: Banks' financial reporting, Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

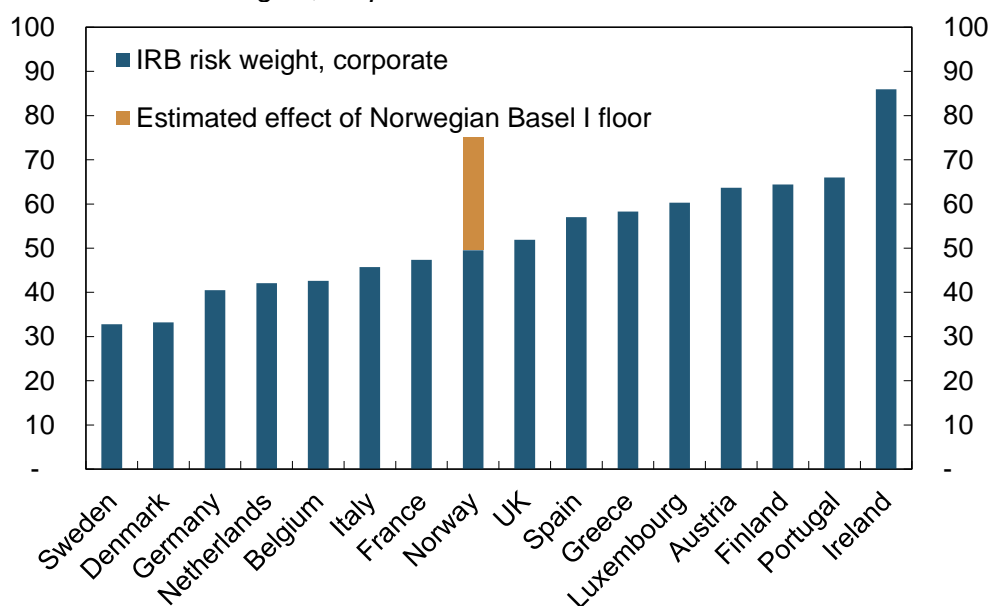
Smaller Norwegian banks use the standardised approach with standardised risk-weights. Under Basel I and the standardised approach under Basel III, the main rule defines a 100 percent risk weight for corporate loans. Capital requirements for operational risk were introduced following Basel I. The Basel I floor applies to risk-weighted assets. The most important components are credit risk, operational risk and market risk. Without capital requirements for operational risk and market risk, the average risk weight could have been 80 percent as the Basel I floor implicitly requires the average risk weight to be at least 80 percent of the Basel I risk weight of 100 percent for corporate loans. With the introduction of capital requirements for operational risk, the risk weight can be somewhat lower. It is therefore assumed that the average risk weight for Norwegian IRB banks' corporate loans is 75 percent. The CET1 ratio for Norwegian banks was 14.9 percent at the end of the first half of 2016. If applied to corporate loans only, this capital ratio, multiplied by a 75 percent risk weight, would have resulted in a theoretical unweighted CET1 ratio of 11.2 percent for Norwegian IRB banks (Chart 3).⁷

Norwegian banks' risk weights and capital requirements are intended to promote financial stability by increasing banks' resilience and therefore their stability as credit providers. Danish and Swedish banks have some of the lowest risk weights in the EEA (Chart 4). Under regulatory changes proposed by Finansinspektionen (Sweden's financial supervisory authority) in 2016, risk weights will increase somewhat, to an average risk weight of at least 30 percent for corporate loans issued by large Swedish banks. The average for the five largest Nordic banks, excluding DNB, was around 34 percent at the end of the first half of

⁷ In the calculations used in Chart 3 and Table 2, capital requirements for operational risk and market risk are disregarded since these are only a small component of total capital requirements.

2016.⁸ With the regulatory changes in Sweden, the average may increase somewhat ahead.

Chart 4. IRB risk weights, corporate loans. Percent. 2016 Q2



Sources: European Banking Authority's 2016 EU-wide transparency exercise and Norges Bank

For large Nordic banks, CET1 ratios averaged 19.5 percent. If applied to corporate loans only, this capital ratio, multiplied by a 34 percent risk weight, would have resulted in a theoretical unweighted CET1 ratio of 6.7 percent. This is 4.5 percentage points lower than the estimate for Norwegian IRB banks. Norwegian banks therefore have more capital and greater loss-absorbing capacity to support corporate lending than large Nordic banks. As a result, Norwegian banks are better able to maintain their lending capacity when loan losses are high than large Nordic banks, which have a higher risk of volatility and a reduction in lending.

The differences in theoretically calculated CET1 ratios can be used to make a simplified calculation of competitive differences under different regulatory regimes. Competitive differences can be calculated on the basis of average funding costs for banks that exclusively lend to the corporate market. Funding costs are a weighted average of equity capital costs and debt costs. Higher capital requirements and higher risk weights on loans require banks to hold more equity capital.⁹ As equity capital is the form of capital that must absorb losses first, it involves higher costs than debt. Prevailing market pricing suggests that debt costs do not fall when equity capital is increased. An increase in equity capital therefore results in higher total funding costs.

⁸ The risk weight at the end of 2015 has been used for Danske Bank. The five banks are Nordea, SEB, Swedbank, Handelsbanken and Danske Bank. Risk weights and CET1 ratios are reported as unweighted averages.

⁹ It is assumed that CET1 capital corresponds with equity capital even though CET1 capital may be lower than equity capital.

Table 2: Weighted funding costs for corporate lending. By type of bank.¹⁰
Percent. 2016 Q2

	Large Nordic bank	Norwegian IRB bank	Norwegian standardised approach bank
CET1 ratio	19.5%	14.9%	14.9%
Corporate risk weights	34 %	75 %	100 %
Unweighted CET1 ratio	6.7%	11.2%	14.9%
Unit cost, CET1 capital (equity capital)	16 %	16 %	16 %
Weighted cost, CET1 capital	1.1%	1.8%	2.4%
Debt ratio	93.3%	88.8%	85.1%
Unit cost, debt	1.4%	1.4%	1.4%
Weighted cost, debt	1.3%	1.2%	1.2%
Total weighted funding cost	2.3%	3.0%	3.5%
Difference from large Nordic bank		0.66%	1.20%
Difference from Norwegian IRB bank			0.54%

Sources: Banks' financial reporting, Finanstilsynet and Norges Bank

Table 2 shows estimated funding costs by type of bank. "Large Nordic bank" can represent branches of foreign banks in the Norwegian market. Compared with large Nordic banks, Norwegian IRB banks have a competitive disadvantage in corporate lending of 0.6-0.7 percentage point, while Norwegian banks that use the standardised approach have a competitive disadvantage of around 1.2 percentage points. Over time, competitive differences may contribute to higher lending growth and higher market shares for branches of foreign banks.

4. Effects of organisational differences

Branches of foreign banks are not independent legal entities, but are part of the same legal entity as their parent bank. This provides room for flexible allocation of capital within the banking group.

4.1. Flexible allocation of capital

As evidenced in the literature reviewed in Section 2, international banks can experience more time-varying lending growth in host countries than banks with lending in only one country (see Charts 1 and 2 for developments in Norway). This phenomenon may be understood on the basis of banks' theoretical lending capacity. If capital ratios and average risk weights are constant, a bank's lending capacity will be determined by retained earnings and raised equity. Retained earnings can be defined as the after-tax return on equity minus dividends. Under these assumptions, a bank with a 12 percent return on equity and 50 percent dividends will increase its equity by six percent. The bank can then increase its lending by six percent without raising fresh equity capital.¹¹

¹⁰ "Large Nordic bank" is the unweighted average for Nordea, SEB, Swedbank, Handelsbanken and Danske Bank. The equity capital cost (unit cost) is 16 percent before tax, or 12 percent after tax based on the steady state described by Aronsen et al (2014). The cost (unit cost) of debt funding is set at 1.4 percent for all banks based on an implicit government guarantee and its estimated level for Norwegian banks at the end of 2016 Q2. The CET1 ratio is the ratio of CET1 capital to risk-weighted assets in the corporate market. The debt ratio is "1 - CET1 ratio". "Weighted cost" is the share of capital (CET1 capital or debt) multiplied by the unit cost (CET1 capital or debt). "Total weighted funding costs" is the sum of "weighted cost, CET1 capital" and "weighted cost, debt". Market and operational risks are disregarded.

¹¹ With constant capital ratios and constant average risk weights, changes in equity here correspond to changes in lending. It is assumed that the change in equity corresponds to the change in CET1 capital.

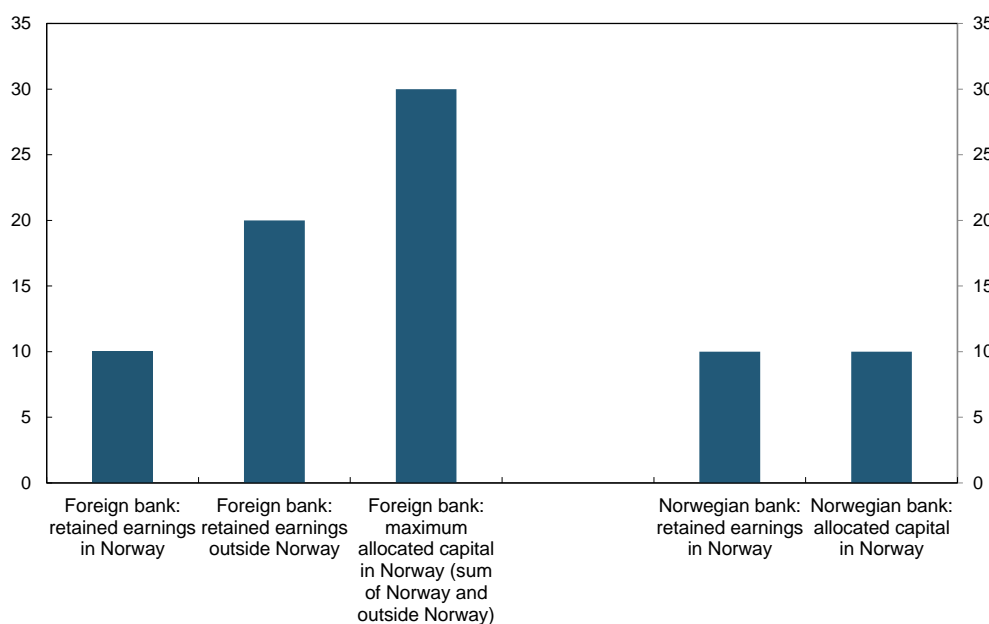
The differences between branches of foreign banks and Norwegian banks are particularly related to the allocation of retained earnings. International banking groups can potentially allocate substantial retained earnings to smaller branches to increase their lending capacity. Retained earnings from several countries can, for example, be transferred to increase the lending capacity of one branch. This allocation can lead to high lending growth for the branch. For Norwegian banks, sources of equity are often limited to domestic retained earnings and equity issues. Equity issues often involve high explicit and implicit transaction costs. The latter can, for example, include lower equity prices. In practice, Norwegian banks raise little fresh external equity in normal times, and lending capacity is limited by retained earnings in Norway.¹²

The following example can serve as an illustration. A foreign banking group and a Norwegian bank can have the same level of profitability, yet their capacity to lend can differ. The foreign bank can have 10 in retained earnings in Norway and 20 in retained earnings outside Norway. The Norwegian bank only has 10 in retained earnings in Norway. The Norwegian bank's lending capacity will be determined by retained earnings, which provide 10 in extra equity. If the foreign bank allocates all its retained earnings to Norway, its lending capacity will be $10 + 20 = 30$ in extra equity, resulting in three times' greater lending capacity for the foreign bank than for the Norwegian bank.¹³ The opportunity for active allocation of capital thus increases the potential for volatility in foreign bank lending (Chart 5).

¹² Winje and Turtveit (2014) illustrated that total dividends exceeded total equity issues in the period 2009-2013 for the six largest Norwegian banking groups. The net effect for these banks implied no equity issues.

¹³ Assuming that lending growth for the foreign bank outside Norway is not negative. Applies to the discussion of Charts 5, 6 and 7.

Chart 5: Lending capacity for foreign branch and Norwegian bank. Retained earnings, equity



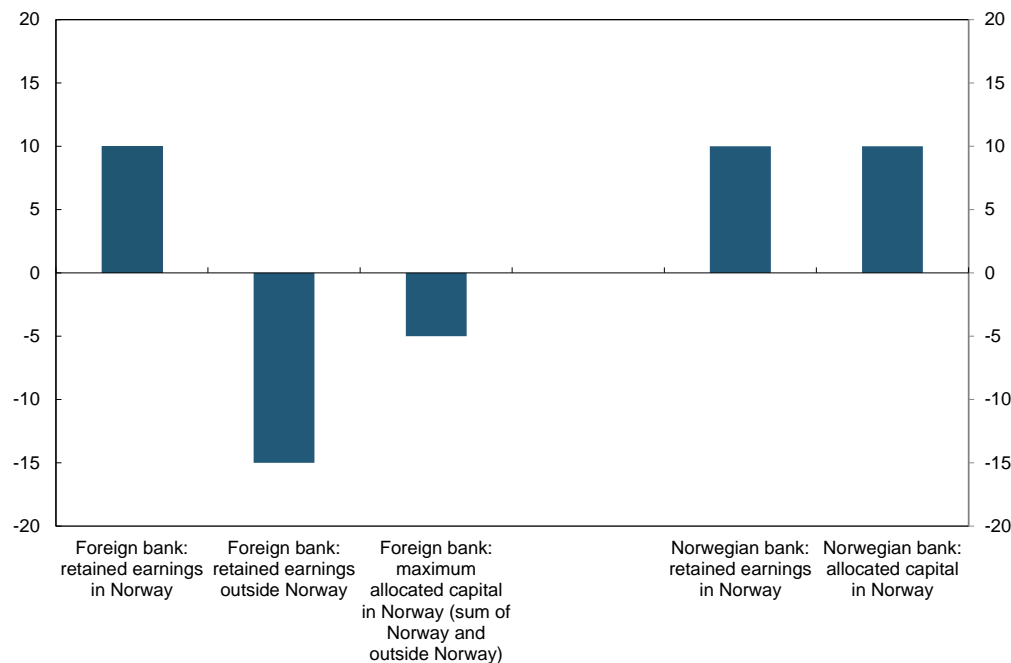
Source: Norges Bank

The opportunities for active capital allocation are, in practice, lower for subsidiaries than for branches of foreign banks. This is because subsidiaries and the parent bank must meet capital requirements individually and as a whole. If a bank breaches the capital requirements, subsidiaries may be subject to dividend restrictions and recapitalisation requirements. This could curb active capital allocation within the banking group. With a branch structure, capital requirements only have to be met by the group as a whole. A branch structure thus provides more flexibility in capital allocation.

4.2. Different behaviour during crises

Flexible allocation of capital to enhance lending capacity can also result in low lending growth in the host country. If the international bank posts a deficit as a result of, for example, high loan losses in the home country or in several countries during an international crisis, it may be difficult for the bank to meet capital requirements. The bank can then decide to give priority to the home market and reduce lending in one or more of the host countries. Such a scenario is outlined in Chart 6, where the international bank now has a score of 15 in deficit outside Norway. In spite of 10 in surplus in Norway, the bank has minus five in retained earnings and lending capacity. Branches of foreign banks can thus amplify the effects of international crises on Norway. Low earnings internationally may have contributed to low lending growth for foreign branches in Norway in the years immediately following the financial crisis (Chart 1).

Chart 6: International crisis, foreign bank. Retained earnings, equity

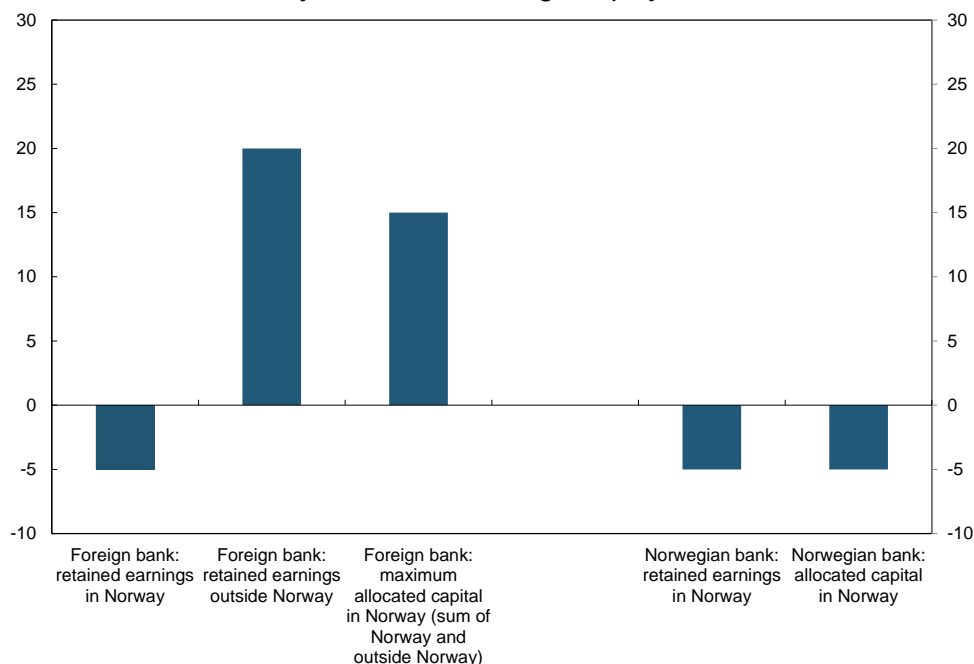


Source: Norges Bank

On the other hand, international banks can be affected to a lesser extent than domestic banks in a single host country by a crisis that is isolated to that country. The bank's earnings outside the crisis country can compensate for losses in that country. This scenario is illustrated by Chart 7, where both the foreign branch and the Norwegian bank in Norway have a deficit of five, while the international bank has 20 in retained earnings outside Norway. The international bank then has 15 in maximum lending capacity in Norway, while the Norwegian bank has minus five. International banks can thus have a positive influence on the credit supply in Norway if the crisis or downturn is isolated to Norway. At the same time, the priority international banks will give to lending capacity in Norway in a crisis isolated to Norway is uncertain. The incentive to give priority to lending growth in countries where profitability seems highest could have a negative impact on the priority given to Norway. Geographical proximity to the bank's Nordic home country and long-established relationships with borrowers, as discussed by De Haas and Van Horen (2011), could have a positive effect.

Lending capacity can turn negative if banks incur large losses. In the event of a downturn and large bank losses, the authorities can lower the countercyclical capital buffer rate to prevent tighter bank lending from amplifying the decline. Banks can also issue new equity to improve capital ratios and lending capacity after large losses.

Chart 7: Crisis in Norway. Retained earnings, equity



Source: Norges Bank

5. Conclusion

Norwegian banking regulation places emphasis on financial stability. Banks are required to be robust and capable of absorbing losses while maintaining lending capacity during downturns. As a result, Norwegian banks hold more capital with higher loss-absorbing capacity for their corporate loans than branches of foreign banks. In isolation, this gives branches of foreign banks a regulatory competitive advantage over Norwegian banks. Over time, this could lead to an increase in foreign branches' market share, but also to higher volatility in foreign branch lending. Foreign branches' market share in the corporate market has risen in the past ten years and will increase considerably with the conversion of Nordea Bank Norge into a branch on 2 January 2017.

In a crisis isolated to Norway, branches of foreign banks can make a positive contribution to maintaining overall credit supply in Norway. In a crisis in these banks' home countries or during an international crisis, foreign branches' contribution to the credit supply in Norway can be negative. Foreign branches in Norway reported lower and negative lending growth just after the financial crisis.

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