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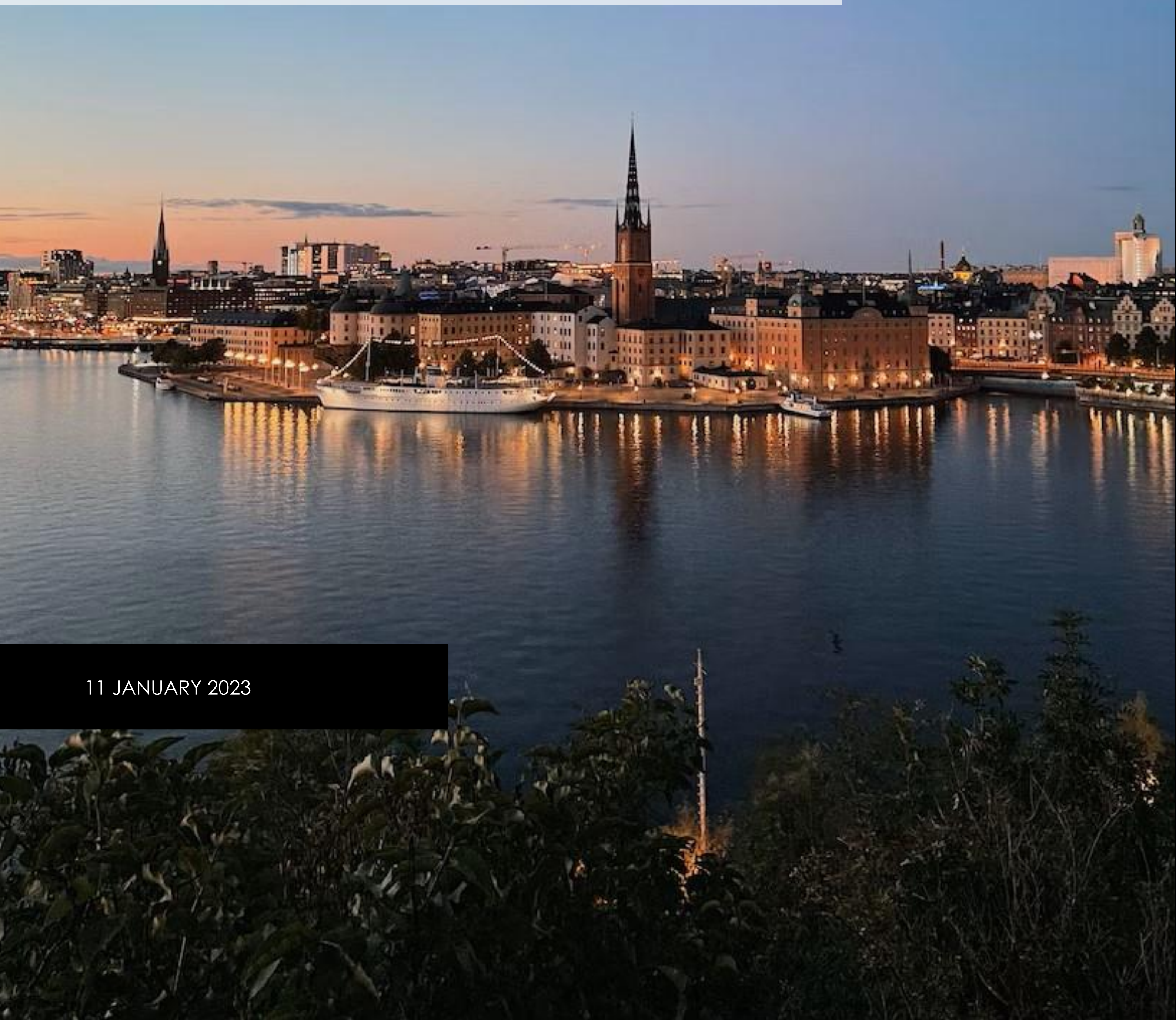
FINAL BASEL III

Impact on capital costs and prices for European banks



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PREFACE: FINAL BASEL III IS TAKING SHAPE

The European Commission released Banking Package 2021 a year ago with a proposal on how to implement the Final Basel III agreement in the EU. Although the commission proposal has a smaller impact on capital requirements than previous proposals, the package will still have a significant impact on many institutions. However, the implications of the package go further; given the heterogenous impact among institutions, the package can have ramifications for the competitive dynamics in the national banking markets. Market leaders in certain segments could see a significant increase in capital costs, while their competitors have unchanged capital costs. This could push institutions away from passing on capital costs 1-to-1 to their customers.

In this paper, based on previous work on the topic, we set out to explore these dynamics. Concretely, we will outline 1) the impact of the package on a country level, 2) the dispersion in impact among institutions, and 3) the implications for capital costs, pricing and competitive dynamics.

1) LARGE INCREASE IN CAPITAL REQUIREMENTS REMAIN IN SOME COUNTRIES

Since the Commission's proposal on implementation was put forward a year ago, the package has been subjected to negotiation among member countries and in the EU Parliament. It is now entering the final stages, with only minor changes expected, implying that we now have a clear picture of what the final package will look like.

Overall, we expect the final package to be quite like the EU Commission's proposal, i.e.:

- The output floor imposes a minimum level of risk weight for institutions using internal models (IRB).[1] When the output floor is binding, capital requirements should be 72.5% of what the capital requirements would have been if the institution used the standardised approach.
- A transition period with preferential risk weights, e.g., mortgages and unrated corporates (given banks can demonstrate low loss rates).
- Lower capital requirements for corporates with an external rating from, e.g., Fitch, Moody's or Standard & Poor's under the standardised approach. For example, corporate exposures with Credit Quality Step 1 would receive a risk weight of 20%, whereas unrated corporates would receive a risk weight of 100%.

Overall, we assess that the package will lead to an increase in capital requirements for European banks of around 12% compared to end 2020.[2] However, the average EU impact is not reflective of how the individual financial institutions will be impacted, as it covers great dispersion among countries and institutions.

Starting at the country level, we find that markets like Denmark and the Netherlands, which have had historically low loss rates and where most banks today use the IRB approach, will experience an increase in capital requirements of around 25%, cf. Figure **1**. The Swedish market has similar structures but already has a risk-weight floor for mortgages, leading to a smaller impact on the output

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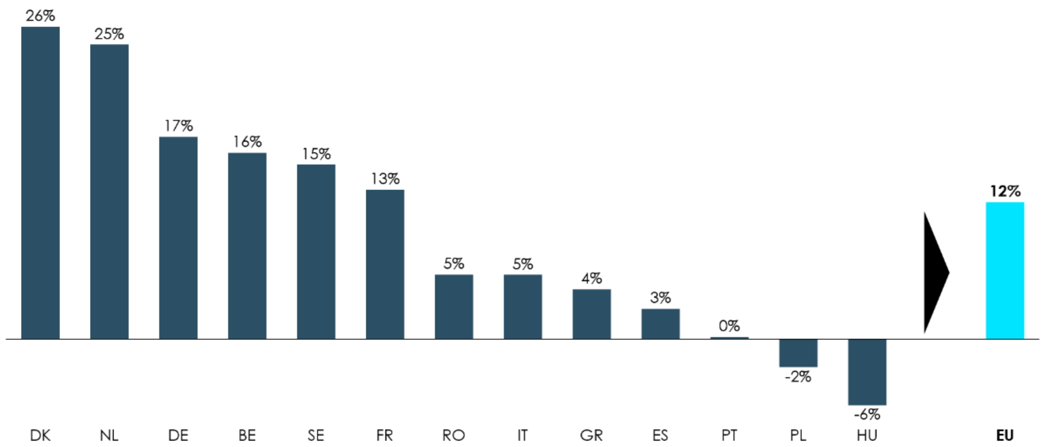
1 The output floor is based on the standardised approach. Concretely, capital requirements for IRB lenders cannot go below 72.5% of what the capital requirements would have been if the lenders had used the standardised approach.

2 The analysis is based on banks included in the EBA transparency exercise for 13 of the largest banking markets in the EU: Germany, France, Spain, Italy, Denmark, Sweden, the Netherlands, Belgium, Hungary, Greece, Portugal, Poland, and Romania.

floor. The two largest markets, Germany and France, will also see significant increases of 13%-17%. On the other end of the scale, some markets might on average see a small relief in capital requirements, as all banks today are on the standardised approach.

Figure 1
Increase in capital requirements
% of original CET1 requirements



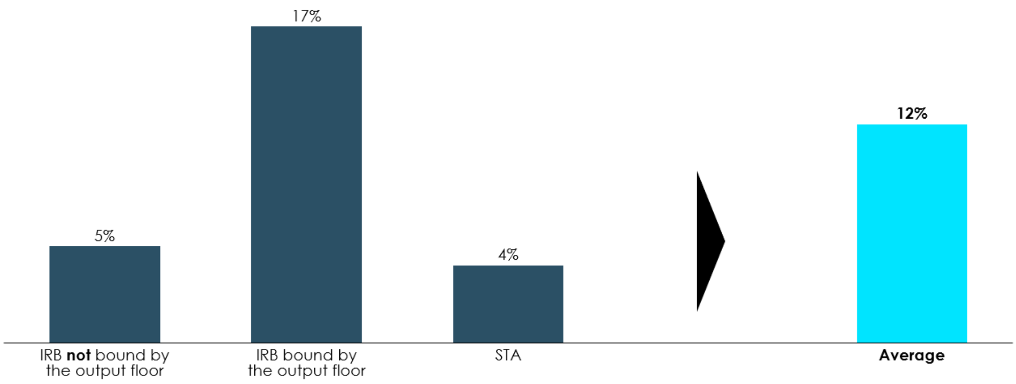
Note: Increase in CET1 is computed as the increase in REA for each country in the sample, and the EU average across the sample. The large French banks will be bound by the output floor but only *just* bound. Several French banks today already use the STA approach for a large part of their assets. Lower risk weights for, e.g., public institution exposures under Banking Package 2021 will counteract some effects of the output floor on corporates, leading to an increase of 'only' 13%.

Source: Copenhagen Economics based on EBA transparency exercise and publicly available data.

2) A VERY DISPERSED IMPACT ON CAPITAL REQUIREMENTS AMONG INSTITUTIONS

As the output floor is the main driver of impact, the impact of Banking Package 2021 for the individual financial institution depends heavily on whether they use the IRB or the standardised approach to determine capital requirements. The EU average increase in capital requirements for banks bound by the output floor is 17%, whereas the increase is a modest 5% for IRB banks not bound and 4% for STA banks, cf. Figure **2**.

Figure 2
EU average impact on capital requirement depending on whether the output floor is binding
% of original CET1 requirement



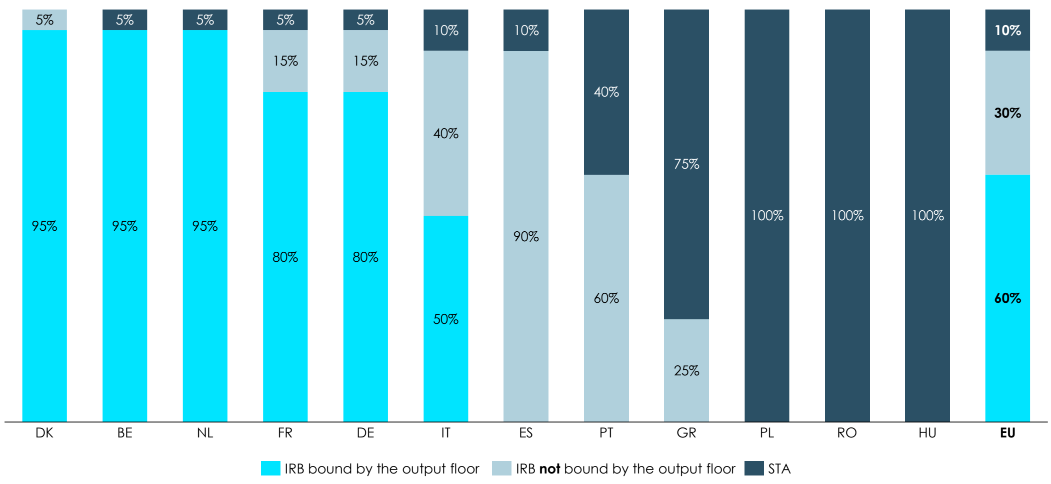
Source: Copenhagen Economics based on EBA transparency exercise and publicly available data.

Overall, we find that 63% of the banking market[3] in the EU (measured by total assets) will be bound by the output floor.[4] Again, though, there is great dispersion across and within countries. In Denmark and the Netherlands, almost all banks in our sample will be bound. In contrast, in Spain, we find that no IRB banks will be bound, as all major IRB banks have large portfolios on the standardised approach that are unaffected by the output floor. In Italy, around half of the IRB banks would be bound, cf. Figure **3**.

3 Our sample covers 80 of the largest banks in the EU. See Box 1 for further details.

4 Banks which today uses the IRB approach, but that after implementation of Banking Package 2021, will be bound by the output floor, thereby required to use the STA approach, leading to significantly increases in their capital requirements.

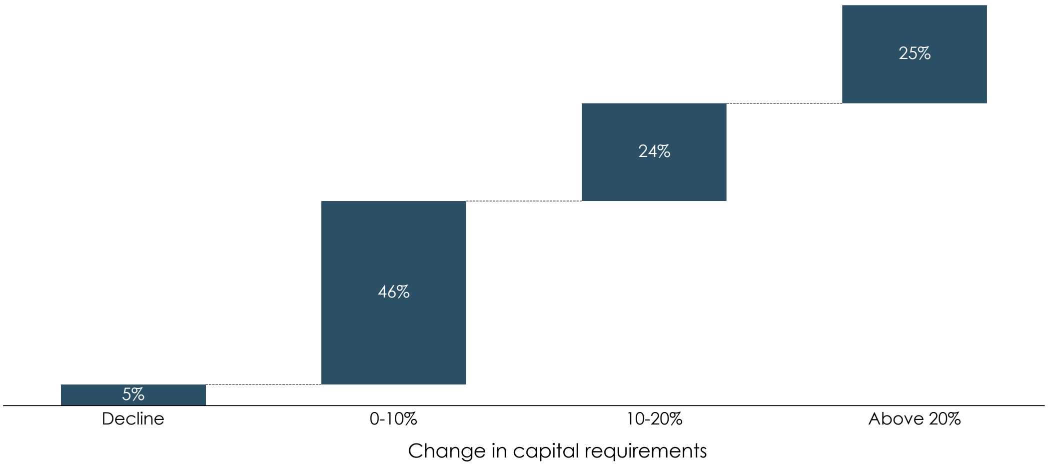
Figure 3
Share of banking markets bound by the output floor
% of total assets (rounded numbers)



Note: Share of banking market using the IRB approach and being bound by the output floor, using the IRB approach and not being bound by the output floor, and using the STA approach for each country and the EU average weighted by total assets. If a bank is IRB and is bound by the output floor, all assets, including the ones currently using the STA approach, are counted as IRB bound by the output floor.
Source: Copenhagen Economics based on EBA transparency exercise and publicly available data.

Looking at the distribution of impact provides a clear picture of how dispersed the impact is; Around half of the EU banking market will experience little to no increase in capital requirements. On the other hand, 25% of the market sees an increase in capital requirements above 20%, cf. Figure 4.

Figure 4
Distribution of increase in capital requirements
Share of banking market



Source: Copenhagen Economics based on EBA transparency exercise and publicly available data.

The stronger increase in capital requirements for IRB banks also means that the business case of becoming an IRB bank deteriorates with the package. Today, we find that STA banks have on average around 24% higher capital requirements than the average for IRB banks.[5] With the package, this gap will narrow to around 15%.

5 Measured simplistically as equity as a share of total assets, not taking the risk profile of the assets into account.

Box 1 How we did it

We estimate the impact of Final Basel III on the European banking market, using data on banks covering the 80 banks from EBA's transparency exercise on 13 of the largest banking markets in the EU: Germany, France, Spain, Italy, Denmark, Sweden, the Netherlands, Belgium, Hungary, Greece, Portugal, Poland, and Romania.

The development in data on the banking sector in recent years made it possible for us to conduct these types of estimations based on public data: 1) the EBA transparency exercise gives us much of the data needed and 2) Pillar 3 reports and other publicly available information disclose information on, e.g., LTVs, classification of lending and average sizes of loans, which we used to estimate risk weights applicable to the different exposures.

As the output floor is binding on an aggregate level, we estimate capital requirements on a group level. We do so by first implementing measures not related to the output floor, e.g., changes to market risk, operational risk, and the standardised approach. Second, we estimate capital requirements under the output floor for the bank, thereby including all portfolios. Finally, we assess which of the two capital requirements is the highest; if the floored capital requirements are higher than unfloored, the lender would be bound by the output floor, and we apply floored risk weights to the mortgage portfolio.

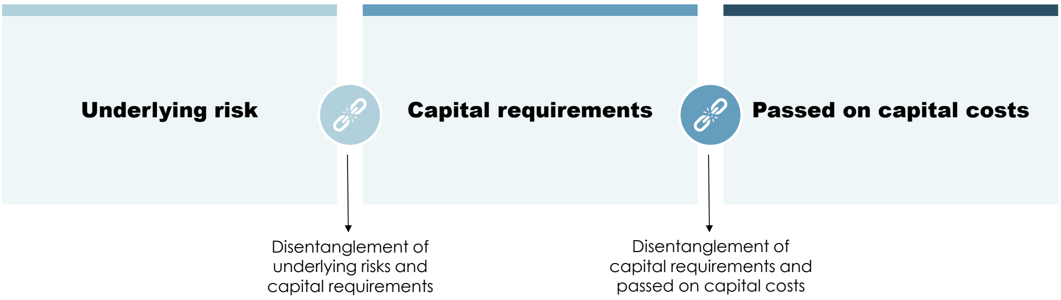
3) IMPACT ON CAPITAL COSTS ALLOCATION AND PRICING

Going back to basic banking, one would expect a clear relationship between the underlying risk of an asset, capital allocated, and capital costs passed on. In a world without regulation, this would be the case, as banks would allocate a greater capital buffer to riskier clients, a capital cost that the client would need to pay for.

The current IRB framework simulates this basic banking principle, although admittedly in a quite complex manner: When a client's fundamentals worsen, say lower revenue-to-debt, the client's PD will worsen in the bank's internal models, leading to higher risk weights. These higher risk weights would increase the capital costs for that customer.

Most large IRB-approved banks would have internal capital cost allocation models that distribute the higher capital costs to the client. Of course, a pricing decision involves numerous considerations, but on average we should expect coherency between capital costs for individual clients and the prices they pay.

Figure 5
Disentangling of risk, capital requirements and pricing



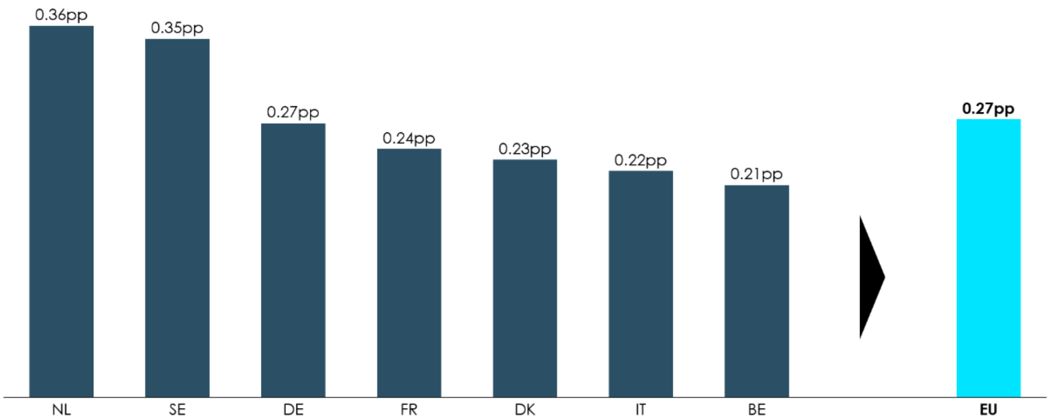
Source: Copenhagen Economics

The Final Basel III could break this coherency in two ways (also see Figure **5** above):

First, for IRB institutions where the output floor is binding, floored risk weights will be applied based on the standardised approach, where LTV is the only input factor. As a result, a higher risk of default for the underlying asset will not have any implications for capital requirements. For example, when bound by the output floor, a large renowned unrated corporate with billions in revenue and a 50-year history of no default could have the same capital requirements as a newly started online retailer.

Second, given the large dispersion in impact among institutions in each market, lenders might be reluctant to pass on capital costs directly to the consumer. Corporates in banks bound by the output floor will experience a strong increase in the cost of capital (see Figure **6**), whereas the impact will be limited for banks not bound by the output floor. This implies that there will be situations where one large bank in a given market will see their capital costs for corporates double whereas their main competitor will have more or less unchanged capital requirements. This could lead to a situation where a bank with doubled capital costs for corporates would be reluctant to pass on these costs as it could make their pricing uncompetitive.

Figure 6
Increase in cost of capital for the corporate portfolio for IRB banks bound by the output floor
Percentage point change from current cost of capital



Note: Only shown for countries with banks bound by the output floor. The increase in the cost of capital is measured for corporates not including SMEs.
Source: Copenhagen Economics based on EBA transparency exercise and publicly available data.

Further, this switch in competitive dynamics can have knock-off effects:

- It will change lenders' strategic choices of which customer groups to pursue, with larger incentives, all else being equal, to pursue high-risk customers, as their capital requirements will not increase with higher PD.
- On average, large banks will become less competitive in servicing large corporates, which might look for funding elsewhere, e.g., issuing debt on capital markets. It is not given that large corporates are willing to pay the price for the higher capital requirements if passed on, as these are out of sync with risk fundamentals.

CONCLUDING REMARKS

The Final Basel III has been in process for more than six years. Initially, the focus was on the expected sector-wide strong increase in capital requirements. The effect of the package has on *average* been watered down in the regulatory process, although a strong impact on some institutions remains. However, in this process, a new challenge has emerged: the extremely diverse impact means the competitive playing field between institutions is altered. Therefore, banks should investigate a broader range of implications that needs to be addressed across different business areas.

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Jonas Bjarke Jensen is head of Copenhagen Economics' Financial Services. He has more than 10 years of experience in financial economics, regulatory impact assessments and macro-finance, and helps clients understand what drives changes within the financial sector and how to respond to these changes. Examples of his work include advising the European Commission on how to improve the EU equity markets, advising major European banks on the impact of capital requirement regulation, as well as assessing risk and opportunities within the transition to a carbon-neutral economy.

Contact information:
Phone: +45 2619 4178 | Mail: jbj@copenhageneconomics.com

Astrid Leth Nielsen is an expert in prudential regulation and policy and has worked with numerous clients, including the European Banking Federation and the European Mortgage Federation, on analysing the impact of Basel III's final implementation in the EU.

Contact information:
Phone: +45 6064 2433 | Mail: ale@copenhageneconomics.com

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