How Much Will U.S. Businesses Pay for Loans?
Translating a Basel Accord Into a U.S.
Regulation

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Abstract

Over the next year, U.S. banking regulators will be making significant changes to U.S. bank capital requirements, with important implications for the availability and cost of credit to American businesses, large and small, and therefore for the future U.S. economy. This note is an introduction to the Basel Accord that will shape those changes, how the European Commission proposed recently to implement that Accord, and what the prospects are for U.S. implementation. This note focuses only on one aspect of the Accord: capital charges on loans made to businesses, the price of which will vary significantly based on how U.S. regulators implement the Accord. In summary, European regulators have interpreted, and derogated from, the Accord in a way that will allow capital charges to more closely follow true credit risk and avoid an otherwise punitive treatment for the large majority of businesses (i.e., those that lack an external rating). It is now up to U.S. regulators to determine whether they will follow suit.

Key words: Capital requirements, credit availability, bank lending, Basel Accord

JEL classifications: G18, G21, G28.
The Basel Accord

Introduction

The most recent Basel Accord was agreed upon by global bank regulators in 2017.¹ It covers capital requirements for various aspects of bank risk, but the focus of this note is on credit risk and, in particular, the risk weights used to determine risk-based capital requirements. Risk-based requirements require banks to maintain capital in an amount determined by multiplying a bank’s risk-weighted assets by a fixed percentage (the capital requirement). Risk-weighted assets are calculated by multiplying the dollar amount of each loan or other asset by a “risk weight” that increases with the risk of the asset. Consequently, risk-based capital requirements require a bank with riskier assets to hold more capital than a bank with less risky assets.

Of course, capital requirements are a major factor in determining whether a bank will lend to a given business and, if so, at what interest rate. The amount by which a bank must fund a loan with equity depends directly on the risk weight. If the risk weight is twice as high, the bank must fund the loan with twice as much equity. Equity is a much more expensive funding source than deposits or other bank borrowings. The Basel Committee frequently makes use of the numerous economic analyses that show that higher capital requirements result in higher loan interest rates and reduced credit supply, with a direct effect on economic growth.”²

² BCBS, An assessment of the long-term economic impact of stronger capital and liquidity requirements (Aug. 2010), https://www.bis.org/publ/bcbs173.pdf; Ingo Fender and Ulf Lewrick, BIS Working Papers No 591, Adding it all up: the macroeconomic impact of
Assessment of Credit Risk to Businesses

The 2017 Basel Accord establishes two options for determining the credit risk of a given business, which is to say the risk that it will default on a loan, for capital purposes.

*Internal Ratings.* The first option under the Accord, known as the Internal Ratings-Based (IRB) approach, requires each bank to use the internal risk models that it uses for managing credit risk to determine default risk for capital purposes, subject to two important limitations: first, that those models be reviewed and approved by bank examiners on an ongoing basis and informed by constant back-testing of the models; second, that those models not produce risk-weighted assets on a bank-wide basis that are lower than 72.5 of the risk-weighted assets produced by a so-called “standardized approach.”

This minimum risk weight is known (somewhat confusingly) as the “output floor.” The standardized approach described below assigns standardized risk weights to different types of loans, grouped very broadly — so, for example, a high-quality sovereign bond might receive a 0 percent risk weight, residential mortgage exposures might receive a 50 percent risk weight, and a corporate loan might receive a 100 percent risk weight. The standardized approach does not involve any assessment of the default risk of a given loan, but rather groups loans into extremely large buckets and makes the same default assumption for all of them. The Basel Accord uses the standardized approach as a floor designed to reduce excessive variability of

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1 Basel at 137, para 4.
2 See, e.g., Basel at 4, para 7; Basel at 21, para 64; Basel at 13, para 40-42; see also 12 CFR 217.32.
risk-weighted assets and enhance the comparability of risk-weighted capital ratios across banks.\textsuperscript{5}

For loans made to large and mid-sized corporates and other banks, less flexibility in the Internal Ratings-Based approach is tolerated. Banks generally are permitted to estimate the probability of default, but regulators themselves determine the two other key elements of credit risk: the loss given default and exposure at default.\textsuperscript{6}

*Standardized Risk Weights.* The second option lets banks use fixed risk weights for different types of exposures and varies based on jurisdictions that allow the use of external ratings for regulatory purposes and those that do not. Banks in jurisdictions that permit external credit assessment institutions can base the risk weight on the external credit rating assigned to a business by one of the major credit rating agencies (S&P, Moody’s, Fitch). This option has significant benefits for businesses that have credit ratings, as they can receive a much lower risk weight (e.g., 20 percent) than under Standardised Credit Risk Assessment Approach where ratings are not permitted for corporate exposures, discussed below.\textsuperscript{7}

However, in practice, most businesses are not externally rated and therefore would receive a 100 percent risk weight.

More specifically, the risk weight for a corporate exposure in a jurisdiction that uses external ratings for regulatory purposes falls into one of following buckets based on the rating of the counterparty and reported in the second row of the table.

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\textsuperscript{5} Basel at 137, para 1.  
\textsuperscript{6} In Basel speak, the general approach is known as the advanced Internal Ratings approach, and the more restrictive approach for large corporates and banks is known as the foundation Internal Ratings Based approach. The Basel Accord also includes PD floors for both the F-IRB and A-IRB and LGD and EAD floors for the A-IRB approach.  
\textsuperscript{7} Of course, this option requires blinding oneself to the historical performance of the credit rating agencies.
<table>
<thead>
<tr>
<th>Rating of counterparty</th>
<th>AAA to AA-</th>
<th>A+ to A-</th>
<th>BBB+ to BBB-</th>
<th>BB+ to BB-</th>
<th>Below BB-</th>
<th>Unrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECAI Jurisdictions</td>
<td>20 percent</td>
<td>50 percent</td>
<td>75 percent</td>
<td>100 percent</td>
<td>150 percent</td>
<td>100 percent or 85 percent if SME</td>
</tr>
<tr>
<td>SCRA Approach</td>
<td>65 percent</td>
<td></td>
<td></td>
<td></td>
<td>100 percent</td>
<td></td>
</tr>
</tbody>
</table>

Banks in jurisdictions that do not allow the use of external ratings for regulatory purposes, such as the U.S., can assign a 65 percent risk weight to loans that meet a set of “qualitative standards” corresponding to an investment grade rating (see the last row in the table above). In addition, and more significantly, the Basel Accord provides that the business (or its parent) must have securities outstanding on a recognized securities exchange in order to qualify for the 65 percent risk weight. Businesses that do not meet both of these standards are assigned a 100 percent risk weight.

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8 The Basel Accord provides: “An investment grade” corporate is a corporate entity that has adequate capacity to meet its financial commitments in a timely manner and its ability to do so is assessed to be robust against adverse changes in the economic cycle and business conditions. When making this determination, the bank should assess the corporate entity against the investment grade definition taking into account the complexity of its business model, performance against industry and peers, and risks posed by the entity’s operating environment. Moreover, the corporate entity (or its parent company) must have securities outstanding on a recognised securities exchange.” Basel at 13, para 42. This basically corresponds to the definition of “investment grade” in the U.S. banking rules. 12 CFR 1.2(d).
In the United States (and, as we shall see, in Europe), only a small fraction of businesses meet the recognized securities-listing standard and would be eligible to receive the 65 percent risk weight, even if rated investment grade by a bank. Thus, under this approach, despite the Basel Accord’s stated goal of enhanced risk sensitivity, most investment grade corporate loans would continue to receive a 100 percent risk weight in the United States.

**Small Businesses.** The Basel Accord includes provisions to benefit small businesses. Small businesses almost by definition do not qualify for public ratings, and do not have securities that trade on an exchange. Rather than allowing small business loans to default to the 100 percent risk weight, the Basel Accord generally assigns them a risk weight of 85 percent.10

**The European Application**

The European Commission recently released its proposed regulation implementing the Basel Accord. Several features of the proposal are quite notable.

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9 See, e.g., Basel at 1, para 4 ("The revisions to the regulatory framework set out in this document will help restore credibility in the calculation of RWAs by: (i) enhancing the robustness and risk sensitivity of the standardised approaches for credit risk and operational risk, which will facilitate the comparability of banks’ capital ratios..."); BCBS, High-level summary of Basel III reforms at 2 (Dec. 2017), https://www.bis.org/bcbs/publ/d424_hisummary.pdf ("The Committee’s revisions to the standardised approach for credit risk enhance the regulatory framework by: improving its granularity and risk sensitivity."). The Federal Reserve has also previously expressed enhancing risk sensitivity as a goal in implementing earlier Basel III reforms. See, e.g., Federal Reserve Board, Press Release, Federal Reserve Board approves final rule to help ensure banks maintain strong capital positions (July 2, 2013), https://www.federalreserve.gov/newsevents/pressreleases/bcreg20130702a.htm ("The final rule also improves the methodology for calculating risk-weighted assets to enhance risk sensitivity.").

10 Basel at 13, para 43. Under Basel, this risk weight is for small and medium entities (SMEs) defined as corporate exposures where the reported annual sales for the consolidated group is less than or equal to €50 million for the most recent financial year. See id. In addition, certain regulatory retail SMEs receive a 75 percent risk weight; SMEs also receive special treatment under the IRB approaches. Basel at 17, para 54-55; at 54, para 8; at 64, para 54; see also BCBS, Second consultative document, Standards Revisions to the Standardised Approach for Credit Risk at 7 (Dec. 2015), https://www.bis.org/bcbs/publ/d347.pdf (explaining how the SME risk weight may be supported by the following: (1) Unrecognised collateral: SMEs typically provide more physical collateral than other large corporates. This collateral, despite not being recognised under the SA’s credit risk mitigation framework, may offer protection against credit losses and result in lower average losses given default compared to other large corporate exposures. (2) Low correlation: The IRB approach also includes a firm size adjustment for SME exposures to reflect the lower asset value correlation, which results in lower risk weights for such exposures.).
**Internal Ratings.** First, Europe will allow use of the Internal Ratings-Based Approach, and the full impact of the output floor will not take effect until 2030 under the proposal.\(^{11}\) Moreover, as we will describe below, the transition period for corporate exposures is even longer. Thus, for the foreseeable future (the next decade or more), bank internal ratings will determine risk weights for banks that elect this option. (And, of course, if that period proves uneventful, it appears extremely likely that this treatment will continue *ad infinitum.*)

**Standardized Risk Weights.** Second, Europe will allow use of external credit ratings. Thus, large European businesses may receive risk weights as low as 20 percent, though the average risk weight is likely to be considerably higher.\(^{12}\) In addition, Europe will also allow the Basel option of assigning a 65 percent risk weight to unrated corporates with an investment grade rating, but effectively waive the Basel Accord’s securities listing standard that disqualifies most businesses from the 65 percent risk weight.\(^{13}\) At least through the end of 2032 (11 years), the 65 percent risk weight will apply to corporate exposures for which no credit assessment by a credit rating agency is available, if the bank estimates that the probability of default on the loan is no higher than 0.5 percent.\(^{14}\) (That probability of default corresponds to the threshold of an investment grade credit rating.) In short, for the indefinite future, European regulators will waive the securities listing requirement that disqualifies most businesses from the 65 percent risk weight; a bank’s assessment of whether a borrower is investment grade will govern whether a loan receives a 65 percent risk weight. Europe adopted this approach to avoid

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12 EU proposal at 73.
13 As a general rule, the EU proposal provides that exposures for which a credit assessment is not available shall be assigned a risk weight of 100 percent. EU proposal at 73; see also EU 575/2013, Art. 122.
14 EU proposal at 203. In the draft proposal, this transition period was through the end of 2029 with the possibility of a three-year extension. In the proposal issued a week later, the three-year extension was granted through 2032.
disruptive impacts on bank lending to unrated corporates because most businesses do not seek external credit ratings due to the cost of establishing a rating.15

Note that this option would not immediately appear significant because European banks will employ the Internal Ratings Based approach, and therefore European businesses will be able to qualify for a risk weight below 65 percent. But the standardized approach determines the output floor, or minimum average risk weight under that approach. Thus, the EU’s rationale for expanding use of the lower 65 percent risk weight is tied to preventing the minimum requirement from binding too often: as the proposal explained, “With the implementation of the [output floor], institutions using internal models to calculate own funds requirements for exposures to corporates would also need to apply the [standardized approach] which relies on external ratings to determine the credit quality of the corporate borrower. Most EU corporates, however, do not typically seek external credit ratings, due to the cost of establishing a rating and other factors.”16

Small Businesses. Third, Europe already has special rules (which they label “supporting factors”) to lower the risk weight for small businesses. The supporting factor on exposures up to €2.5 million is 0.7619; for the exposure above that threshold of €2.5 million, the risk weight is 85 percent.17 In addition, because of the transitional treatment for corporates mentioned above, some small businesses that meet the 0.5 percent probability-of-default requirement would qualify for a 65 percent risk weight.18

15 EU proposal at 13-14.
17 Regulation (EU) 2019/876 amending Regulation (EU) No 575/2013 (May 20, 2019), Art. 501. This represents a 23.81 percent and 15 percent reduction in capital requirements, respectively, for SMEs.
18 The Q&A issued with the EU proposal, for example, says: “For example, structural features of the EU’s economy, such as the significant economic contribution of SMEs — most of which are currently not rated — will be taken into account.” EC Q&A; see also EC Impact Assessment at
Summary. To add it all up, the European Commission has proposed a set of changes to the Basel Accord designed to ensure that European businesses can continue to receive bank credit at appropriate interest rates, by minimizing the cases under which a 100 percent risk weight would be assigned to a business whose actual risk justifies a lower risk weight. The proposal maximizes the use of bank models, maximizes the use of external credit ratings, maximizes the pool of unrated corporates that will qualify for a 65 percent risk weight, and provides favorable capital treatment for small business lending.

Potential U.S. Application

Under the Accord negotiated by U.S. regulators, U.S. businesses may see significantly higher loan rates than their European peers.

Internal Ratings. First, the ongoing relevance of the Internal Ratings Based approaches in the United States depends on policy implementation choices by U.S. regulators in adopting the Basel Accord. U.S. regulators have already signaled they may rely exclusively on the revised Basel standardized approaches.\(^19\)

In any event, the Internal Ratings Based approach has been made less relevant under the current U.S. capital rules because the Federal Reserve has adopted a capital regime independent of the Basel Accord which emphasizes a stress testing regime not included in that Accord.\(^20\) Large U.S. banks must meet a U.S.-only capital requirement that consists of adding a 4.5 percent capital requirement using only the current U.S. standardized approach to


determine risk weights; plus any GSIB surcharge; plus any countercyclical capital buffer; plus a stress capital buffer that is calculated by estimating how much the bank would lose under a severely adverse economic stress scenario. Thus, to the extent that this extra-Basel requirement is the binding constraint for a U.S. bank, the capital requirement derived using internal ratings would be irrelevant nearly all the time. Furthermore, all of the nine banks required to use the Internal Ratings Based approach have significantly higher requirements under the standardized approach, either because their stress capital buffer exceeds the global 2.5 percent minimum, or as a result of risk-weighted assets being higher under the standardized approach (or both).

Moreover, implementation of the Basel Accord generally should not result in lower capital minimum requirements because U.S. law sets another potential lower bound on U.S. implementation. Section 171 of the Dodd-Frank Act, the so-called Collins Amendment,\textsuperscript{21} provides that minimum risk-based requirements “shall not be less than the generally applicable risk-based capital requirements, which shall serve as a floor for any capital requirements that the agency may require, nor quantitatively lower than the generally applicable risk-based capital requirements that were in effect for insured depository institutions as of July 21, 2010.”\textsuperscript{22} The “generally applicable risk-based capital requirements” are those established by the agencies “to apply to insured depository institutions under the prompt corrective action regulations implementing section 1831o …. regardless of total consolidated asset size or foreign financial exposure.”\textsuperscript{23} It is unclear how the Basel Accord’s output floor would operate alongside

\textsuperscript{22} 12 U.S.C. 5371. Similar provisions apply to leverage requirements.
\textsuperscript{23} See id.
the Collins Amendment in the U.S.: for example, the Basel Accord’s output floor applies to certain risk stripes and international regulatory buffers that are not covered by the Collins Amendment, which applies only to certain minimum capital requirements applied to all insured depository institutions.24

Thus, it appears that U.S. regulators have negotiated an Accord where the most significant option for a U.S. business to receive an accurate risk weight focused on its own merits, as opposed to industry averages, is foreclosed to U.S. businesses. The Basel Accord specifically provides that a jurisdiction that does not implement internal model approaches is compliant (we suspect with the U.S. in mind). This means that under an Accord that was advertised as providing greater risk sensitivity,25 U.S. regulators are free to adopt an approach that would leave U.S. businesses with only two risk weights and, perhaps as a practical matter, only one: 100 percent.

Alternatively, the Federal Reserve could revisit its decision to base its alternative capital regime on the standardized approach rather than the Internal Ratings Based approach in adopting the Basel Accord. (It is worth noting that it already does so with respect to market risk.) Currently, pursuant to an extraordinarily extensive system of regulation and examination, bank models used to assess credit risk go through a laborious review by independent risk and audit staff at the banks and then by dedicated teams of examiners who analyze the models on a substantive basis and back-test them to assess their performance. Moreover, the Basel standard, which U.S. regulators negotiated on behalf of the United States, specifically allows

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24 See Basel at 137-38.
25 See supra note 10 and accompanying text.
the Internal Ratings Based approach. Indeed, in the rule finalizing its alternative regime, the Federal Reserve recognized the value of internal ratings, saying that large firms should be subject to more risk-sensitive capital requirements commensurate with their risk profiles.\textsuperscript{26}

Furthermore, if U.S. regulators believe that their examiners are not capable of evaluating those models and the results of back-testing in order to ensure that the models are accurate, new tools are available to assist in that process. For example, many large banks now participate in a benchmarking exercise that is provided by a company called Credit Benchmark, which collects data on one-year probability of defaults of corporates from 40 global financial institutions, including 15 global systemically important banks (GSIBs). Consensus ratings are available on Bloomberg. Using these or similar data, for businesses that are assigned a probability of default by multiple banks, examiners could cross check the probability of default assigned by any one bank against the PDs assigned by other banks to determine whether a given bank was systematically understating risk weights, or the risk weight could depend on the average probability of default assigned by reporting banks for that business.\textsuperscript{27}

\textit{Standardized Risk Weights.} Second, U.S. banks will be disqualified from using external ratings, as section 939A of the Dodd-Frank Act prohibits “any reference to or requirement of reliance on credit ratings.”\textsuperscript{28} Thus, U.S. businesses are left with only a 65 percent and 100 percent risk weight, with all but certain of the largest businesses disqualified from the former. That said, U.S. regulators certainly could allow the 65 percent risk weight for firms that meet the U.S. regulatory requirement for investment grade but drop the requirement that the firm

\textsuperscript{26} 85 Fed. Reg. at 15,587
\textsuperscript{27} Based on the number of businesses, Credit Benchmark’s sample includes 10x more corporate entities with a consensus rating than those with an external rating provided by S&P or Fitch.
\textsuperscript{28} Pub L. 11-203, 124 Stat. 1376 (2010) § 939A.
have securities listed on an exchange – just as Europe has effectively done. Banks already have a process to determine investment grade under OCC rules issued in 2012, examiners already monitor it.  

29 Forthcoming research will show that the Basel standard for registration on an exchange does not result in a more accurate internal investment grade rating. Absent such action, as noted earlier, only a small fraction of firms have securities listed on an exchange, so most businesses would be assigned the 100 percent risk weight, regardless of their credit quality. Waiving the securities listing standard also would prevent a bias against small businesses, which almost by definition do not have securities listed on an exchange.

Small businesses. SMEs could receive an 85 percent risk weight consistent with the Basel Accord or 65 percent risk weight like other corporate exposures, if they qualify as investment grade and the securities-listing standard is not adopted as a requirement under U.S. implementing rules. This weighting would be consistent with the approach taken in Europe (but where SMEs also have supporting factors and favorable IRB approaches). Basically, the goal would be to ensure the cost of credit for small and medium U.S. businesses is more consistent with their risk and no worse than large U.S. businesses of comparable credit quality in order to promote lending to small businesses.

Conclusion

Absent a reasonable interpretation of the Basel Accord, loans to U.S. businesses will face capital charges that are multiples of what is appropriate, and multiples of what any other bank in the world would incur.

29 See 77 Fed. Reg. 35,253 (June 13, 2012). This rule was directly responsive to section 939A of the Dodd-Frank Act.
Of course, capital requirements that are disproportionate to risk also disadvantage banks vis-a-vis nonbank lenders, which have no regulatory capital requirements. As we saw in 2009 and 2020, those market-funded firms react to stress, and a loss or increase in the cost of their funding, by doing precisely what regulators have equipped banks not to do: slow or stop lending. At a time when the regulated banking system represents a smaller and smaller percentage of various types of lending, one wonders whether regulators will recognize that an overly stringent application of Basel will produce higher capital at firms that matter less and less for economic growth. Something about geese and eggs….

It is worth noting that the Basel Accord is not a treaty, and each country retains sovereignty to adopt its own version. The European Commission has very certainly exercised this option and done much to adopt a version a of Basel that reflects the actual risk of business loans in every way permitted, and in some ways not, under the Accord. The Bank of England has recently announced that it will delay implementation to “post March 2023,” which would seem to signal that a non-literal interpretation of the Accord is in the offing. U.S. regulators have ample opportunity to adopt a version of the Accord that better reflects credit risk and allows U.S. businesses to receive credit on terms commensurate with their global peers.