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Criteria | Financial Institutions | Request for Comment:

Request For Comment: Bank Capital Methodology And Assumptions

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Request For Comment: Bank Capital Methodology And Assumptions

*(**Editor's Note:** This Request For Comment was first published on July 6, 2016. We republished it on July 21, 2016 to insert this editor's note clarifying that we have corrected some errors that were contained in the original publication, listing these changes below, and adding a list of secondary contacts. The changes do not have analytical implications for the proposals but make it easier to read and provide comments on the article. We have corrected the references to "counterparty valuation adjustment (CVA)" in paragraphs 14, 15, and 93 to show instead the correct regulatory term of "credit valuation adjustment (CVA)". We have changed the formatting of the definition of the RAC ratio in Table 1 to make it clearer that TAC is the numerator and RWA is the denominator. In paragraph 73, we corrected the references to the basis under which derivatives are presented under both IFRS and U.S. GAAP to show them correctly as gross and net respectively (in line with the references already shown in paragraphs 91, 99, and 145). We also removed an asterisk beside the term "Credit cards" in Table 17 because there is no corresponding footnote to that term. We corrected two typographical errors in paragraph 208 (including correcting "subsidiary" to "subsidiaries" in the example for Bank H). The insertion of the secondary contacts had previously been made on July 6, 2016 (after the initial publication) without an editor's note, and the correction of the CVA term had previously been made on July 7, 2016, without a clarifying editor's note. We have also on July 21, 2016, reversed several changes that had been made on July 7, 2016, but that had not been accompanied by a clarifying editor's note. These changes, which have now been reversed, had previously replaced the term "to increase its reserves" in the first bullet point of paragraph 14 with "to post mark-to-market losses", and had replaced the term "additional provisions" in paragraph 88 and 93 with "marked-to-market losses".)*

1. S&P Global Ratings is requesting comments on proposed revisions to its criteria for evaluating the capital adequacy of bank and certain nonbank financial institutions worldwide.

2. The proposed criteria update is intended to capture enhanced bank disclosures subject to Basel III capital standards globally and to incorporate the experience of financial institutions as they navigated the aftermath of the global financial stress that began in 2008.

3. If we adopt the proposed changes, the new criteria would fully supersede "Bank Capital Methodology And Assumptions," Dec. 6, 2010, and "Revised Market Risk Charges For Banks In Our Risk-Adjusted Capital Framework," June 22, 2012. If the proposed changes are adopted, the new criteria will supersede paragraph 106 in "Banks: Rating Methodology And Assumptions," Nov. 9, 2011, paragraph 90 and table 11 in "Multilateral Lending Institutions And Other Supranational Institutions Ratings Methodology," Nov. 26, 2012, and box 3 in "Nonbank Financial Institutions Rating Methodology," Dec. 9, 2014.

SCOPE OF THE PROPOSAL

4. S&P Global Ratings uses its risk-adjusted capital framework (RACF) to assess capital adequacy for banks, multilateral development banks, and certain nonbank financial institutions that we consider bank-like (see "Nonbank Financial Institutions Rating Methodology" for further details). It does not apply to insurance companies.

SUMMARY OF THE PROPOSAL

5. RACF is the foundation of our capital analysis for a variety of financial institutions globally. We use it to arrive at a measure that is not affected by differences in jurisdictional definitions of capital, the various ways in which financial institutions define and calculate capital, and the various methods banks use to calculate regulatory risk-weighted assets. We use RACF to calculate a risk-adjusted capital (RAC) ratio by comparing our measure of capital--total adjusted capital (TAC)--to the risks a firm takes, as measured by S&P Global Ratings risk-weighted assets (RWAs), which differ from regulatory risk-weighted assets. We derive RWAs by multiplying a financial institution's main risk exposures by the relevant risk weights for various categories of exposure, stated as a percentage. Risk weights adjust the exposures to reflect our view of their relative degree of risk--meaning, the greater the risk we see, the higher the risk weight we apply and, consequently, the higher the resulting RWAs. For instance, we have observed that unsecured retail loans typically result in greater credit losses for lenders than single-family mortgages do, and so our risk weight on unsecured retail loans is higher.

6. In the current proposal, the building blocks to arrive at TAC and RWAs remain unchanged (see chart). Similarly, our proposal continues to reflect that our main objective in calculating RAC is to arrive at a capital measure that captures unexpected losses for banks in a substantial stress scenario (an 'A' stress level), as described in Appendix IV of "Understanding Standard & Poor's Rating Definitions," published June 3, 2009.

7. In this context, our proposal does not change the role of the RAC ratio in our ratings framework for financial institutions as one of the key measures that helps us form an opinion of a financial institution's relative level of capitalization in the context of the economic and industry risks the financial institution is exposed to. Capital, in combination with other factors (such as earnings and leverage), is one of the main entity-specific factors that we analyze in our determination of financial institutions' stand-alone credit profiles (SACPs), which is a component of the issuer credit rating (ICR). All references in this article to ICRs and ratings are global scale ratings.

8. Some of the changes we propose relate to new public disclosures made available by the 2011 revisions to the Basel capital framework, which banks have implemented over the past few years. However, the Basel Committee on Banking Supervision continues to consider additional enhancements to its capital framework. Some significant proposals it is considering include revisions to risk weights, a wider adoption of the standardized approach, and revisions to the trading risk framework. Our proposed changes do not incorporate any expectation that the committee's consultative papers will guide revisions to bank disclosures in the future. If those enhancements are made, we would consider their potential impact separately and could propose additional changes to our capital framework if the changes would affect our ability to measure capital consistently for financial institutions around the globe.

9. Here we list the specific changes proposed relative to the 2010 criteria, "Bank Capital Methodology And Assumptions" and the 2012 criteria, "Revised Market Risk Charges For Banks In Our Risk-Adjusted Capital Framework," and the rationale for the proposals. In the section "Proposed Methodology," we present the proposed new criteria, including these proposed changes.

10. In this criteria update we propose to:

- Modify some charges in light of the losses banks experienced since the criteria were published in 2010;
- Add some exposure categories to account for increased disclosure by financial institutions, and particularly banks, as a result of the Basel III framework; and
- Change some of the weights we use to calculate S&P Global Ratings RWAs to account for the recent default and transition studies and other published criteria, as well as the stress scenarios in Appendix IV of "Understanding Standard & Poor's Rating Definitions."

11. We propose to refine the criteria to:

- Clarify our approach to assessing whether an adjustment is sufficiently material to our measure of TAC and RWAs, which determines whether it would be made. Our ratings are forward looking, and our capital analysis focuses on projected or expected capital. As such, the incremental analytical value provided by extremely fine calculations may be limited in certain circumstances. We propose to only make adjustments when we believe they are material to the outcome of the RACF. For example, we may use a materiality threshold when determining the approach we take for investments in insurance subsidiaries (see paragraph 59), or when estimating a Banking Industry Country Risk Assessment (BICRA) when one is necessary but not available (see paragraph 25).

12. We propose to revise:

- The way in which we determine a country's BICRA when one is not available (see paragraph 25). We determine BICRAs for all countries where rated banks are domiciled, but many rated banks have exposures to countries and banking systems in which we have no rated banks. If these aggregate credit exposures are significant, or if we consider them relevant to our analysis, we propose to perform a standard but somewhat simplified BICRA analysis. If rated banks' aggregate exposure is not significant, we propose to use a BICRA proxy.
- Our treatment of investments in insurance subsidiaries and significant minority investments in financial institutions (see paragraphs 57-62). We propose to deduct investments in insurance subsidiaries and significant minority investments in financial institutions from capital. In the current methodology, the risk weight we apply to these exposures is 1,250%. This revision better reflects the relative risks of such exposures and will align our approach with that of certain regulators. Our proposal also includes capturing directly in the RAC ratio the risks for a parent bank associated with under- or over-capitalized insurance subsidiaries by applying a risk weight to the insurance subsidiary's shortfall or excess capital.
- Our charges on assets under custody (AUC) and assets under management (AUM) in paragraphs 135-139. In our proposal, we are simplifying our approach to risk weighting AUC and are lowering our risk charge for smaller custodians. We propose to cap S&P Global Ratings operational risk RWAs for the custody business at 10x regulatory risk-weighted assets. We also propose to eliminate the specific risk weight on non-money market mutual funds. While we saw ample evidence of institutions supporting their money market funds in the recent crisis, we did not see evidence of support to stock and bond funds. We expect to continue to capture operational risks arising from non-money market funds (such as the risk of miscalculating the impact of corporate actions on funds' net asset values) through our risk weight applied to the revenues the business generates.
- Our market risk charges in order to reduce the volatility of market-risk RWAs (see paragraphs 113-125). We use regulatory market risk disclosures as the foundation of our approach, and we have found that the regulatory value-at-risk (VaR) calculation can be volatile. Specifically, institutions can value historical experience very differently, with some giving more weight to recent periods and some giving equal weight to earlier periods. To reduce the volatility in market-risk RWAs, we propose to eliminate the multiplier on the VaR regulatory charge for institutions that report market risk using the Basel 2.5 framework in favor of a larger multiple on the stressed VaR (SVaR) regulatory charge. We expect the SVaR regulatory charge to be more consistent over time because it always considers a very stressful period for market risk parameters. Using SVaR, rather than a combined approach that also

included a charge to regulatory VaR, would lead to increased RAC RWA stability as well.

- Our risk weights for equity investments in listed and unlisted securities (see paragraphs 127-130). Our proposal includes detailing the principles that guide our determination of the four equity market groups (according to the degree of risk) that we classify these investments in and updating the capital charges we apply to exposures in each of these groups. The proposed updated risk weights are intended to take account, among other things, of the performance of this asset class in the recent financial crisis.
- Our treatment of Lombard (margin) loans (e.g., margin loans to retail investors) (see paragraphs 85 and 109 and text box 1). We have found that our charges for these loans backed by securities may be too lenient in some instances. An institution whose Lombard (margin) loan portfolio is well-collateralized on a consolidated basis (netting total collateral after haircuts against total loans across all clients) can still suffer losses because individual loans can be undercollateralized (because collateralization is not fungible across loans within the portfolio). To guard against that, we propose to institute a floor for the risk weights applied to institutions' securities loans. This floor would typically be binding in the case of Lombard loans in the U.S. given our views of typical collateralization for this type of exposure in the U.S. This would result in an increase of the risk weights for these exposures in the U.S. compared with our current approach.

13. We propose to update:

- Our treatment of deferred tax assets (DTAs) to take advantage of enhanced regulatory disclosures in certain jurisdictions and align our treatment of certain assets with the approach regulators use under Basel III (see paragraphs 49-52 and table 3). We propose to deduct DTAs related to tax-loss carryforwards net of deferred tax liabilities (DTL), rather than gross, when regulators permit such netting. In these instances, if there is a net DTL, we make neither a deduction nor an addition to arrive at TAC. When an institution is not regulated or subject to Basel capital standards, we expect to continue to deduct gross DTAs related to tax loss carryforwards, unless the institution can demonstrate that it has the right to offset DTLs against DTAs for a given jurisdiction. We also propose to apply a 375% risk weight to DTAs (including DTAs due to timing differences) when we do not deduct them from adjusted common equity (ACE), whether or not the asset can be converted to a claim on the government that can be settled with liquid assets.
- Our risk weights for sovereign exposures to better align our assumptions with other S&P Global Ratings' criteria and incorporate more recent data and experience, as well as to add granularity in the lower parts of the ratings scale (see paragraphs 68-69 and table 5). Specifically, we propose to revise our loss given default assumption to 45% from 40% for sovereign exposures, which better aligns our risk weights for the exposure category with other asset classes, academic studies, and other S&P Global Ratings' criteria. We also propose to revise our risk weights for sovereigns rated below 'B-'. Our current criteria assign the same risk weight to all sovereigns rated 'B-' and below, but we propose to add differentiated risk weights for lower-rated sovereigns based on our default and transition studies.
- Our risk weights for certain financial institutions (see table 6 and paragraphs 70, 71, and 75-77). We propose to revise our risk weights for financial institutions in countries assessed under our BICRA as group '8', '9', and '10' to reflect the average bank rating in those respective BICRA groups over time. In accordance with "Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions," published Nov. 19, 2013, we propose to establish a floor on the risk weight applied to financial institutions exposures at the level of the relevant sovereign risk weight. The floor would recognize that banks are rarely rated above sovereigns in which they are domiciled, and bank defaults are highly correlated with sovereign defaults.
- Charges for mortgages to incorporate updated information based on financial institutions' loss experience and the information gleaned from regulatory stress tests performed on banks over the past few years (see paragraphs 83 and 87 and table 8). Specifically, we propose to recalibrate the risk weights for mortgage exposures throughout the economic risk spectrum, reflecting our analysis of historical and stress test information and suggesting that our

current risk weights for mortgages in economies with economic risk scores (as defined in our BICRA) of '6' to '10' may be too lenient.

14. We propose to introduce:

- Risk weights for credit valuation adjustments (CVA) (see paragraphs 93-99 and table 9). The Basel III framework introduced a new charge to capture the risk of mark-to-market losses due to counterparty risk arising from over-the-counter (OTC) derivatives. A financial institution may have to increase its reserves if the creditworthiness of its counterparties deteriorates, even if they have not defaulted, and this charge seeks to capture this risk. We are proposing to introduce a charge to better align the regulatory charge with our confidence interval (to scale the charge to a one-year, 99.9% confidence level, like our market risk charges, rather than the one-year, 99% charge that regulators have generally chosen) and to account for counterparty exemptions that some jurisdictions have introduced (such as those within the EU).
- Risk weights for exposures to central counterparties (CCPs) (see paragraphs 72-74). The Basel III framework introduced new disclosures and charges to detail firms' exposures to CCPs through trade exposure, initial margins, and default fund contributions. Regulatory changes are also forcing greater reliance on CCPs, and we expect CCP exposures for financial institutions will increase over time.

SPECIFIC QUESTIONS FOR WHICH WE ARE SEEKING A RESPONSE

15. S&P Global Ratings is seeking market feedback on its proposed methodology and responses to the following questions:

- What is your view of our proposal to deduct investments in insurance and other "significant" holdings in unconsolidated financial institutions subsidiaries from our core measure of capital rather than apply a risk weight of 1,250% to them?
- What is your view of our proposal to scale up the regulatory charge for credit valuation adjustments to better align it with other areas of our methodology and to neutralize the impact of the exemptions granted in some jurisdictions?
- What is your view of our proposal to risk weight trade exposures to central counterparties at the risk weight corresponding to the foreign currency rating on the domestic sovereign minus two notches? What is your view of our proposal to risk weight guarantee fund contributions at 375%?
- What is your view of our proposal to eliminate the scaling factor on the regulatory VaR charge in favor of a larger multiplier on SVaR for institutions adhering to Basel 2.5 market risk rules?
- What is your view of our proposal to eliminate the charge on non-money market assets under management?

IMPACT ON OUTSTANDING RATINGS

16. We expect the immediate impact on ratings of the proposed criteria, if implemented, to be limited. We expect that the proposed changes would negatively affect a significant proportion of RAC ratios for rated financial institutions. However, we expect, in many instances, that the proposed changes in the criteria will lead to the RAC ratios reflecting factors that we currently take into account elsewhere in our ratings analysis, such as risk position, and therefore already incorporated in current ratings. In some other cases, where the proposed changes highlight new risk factors for a firm, or put greater emphasis on risk factors than the ratings incorporated previously, the implementation of the proposed criteria could lead to a rating impact.

RESPONSE DEADLINE

17. We encourage interested market participants to submit their written comments on the proposed criteria by Sept. 14, 2016, to http://www.standardandpoors.com/en_US/web/guest/ratings/rfc (you may need to log in or register first). We will review and take such comments into consideration before publishing our definitive criteria once the comment period is over. S&P Global Ratings, in concurrence with regulatory standards, will receive and post comments made during the comment period to www.standardandpoors.com/en_US/web/guest/ratings/ratings-criteria/-/articles/criteria/requests-for-comment/filter/all#rfc. Those providing comments may choose to have their remarks published anonymously or they may identify themselves. Generally, we publish comments in their entirety, except when the full text, in our view, would be unsuitable for reasons of tone or substance.

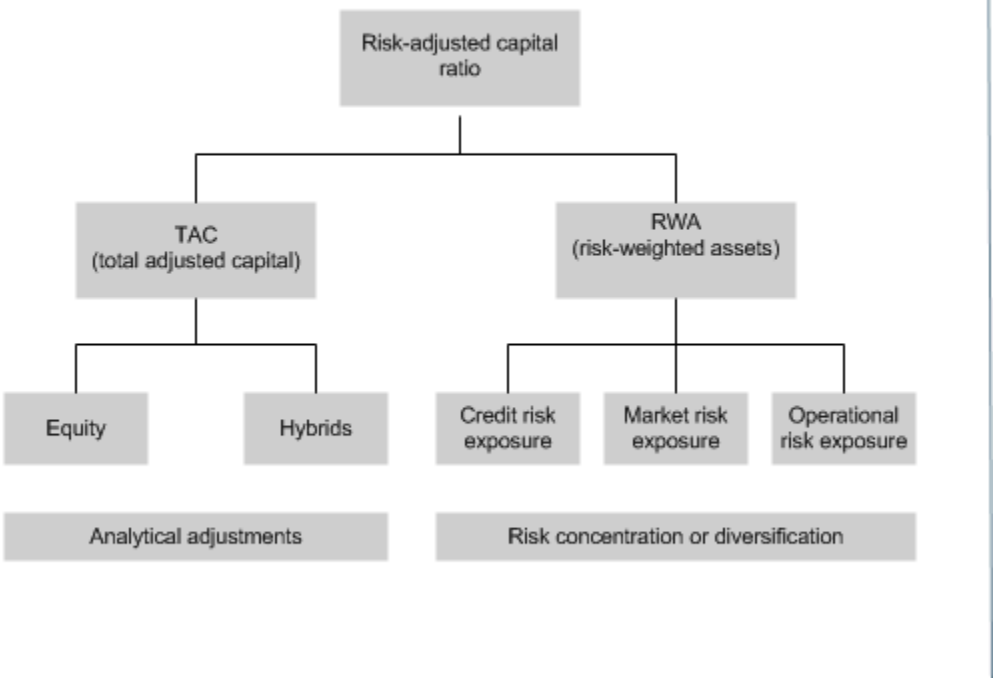
PROPOSED METHODOLOGY

18. Financial institutions face risks that arise from their balance sheets and operations. They manage these through their risk management and governance, and they shield senior bondholders from these risks using their capital and earnings. We expect that during relatively benign periods of economic or market cycles that firms will have earnings sufficient to absorb normal (or expected) losses. In the more stressful periods of the cycle, we expect earnings will not be sufficient and capital will be called upon to absorb unexpected losses. We use the total losses we expect through a cycle, including both the benign and stressful periods, to calibrate the metrics we use in our quantitative analysis of financial institutions.

19. The RACF is the foundation of our capital analysis for financial institutions. We calibrated the RACF so that a RAC ratio of 8% means that an institution should have just sufficient capital to withstand a substantial stress scenario in developed markets, which we typically equate to an 'A' stress, as defined in Appendix IV of "Understanding Standard & Poor's Rating Definitions." We use the main output of the RACF, the RAC ratio, as a starting point in our capital analysis, which we complement with other capital measures. It is not a substitute for other capital measures, including regulatory ratios, but rather, it enables us to reach a more informed opinion of a financial institution's capital adequacy relative to peers.

20. We expect financial institutions to price their products and services such that they can provision for the losses we expect in benign periods of the cycle and still generate positive earnings. We refer to the losses we expect, on average, throughout a typical cycle as "normalized losses" (see paragraphs 158-160). Normalized losses are calibrated through observations of credit losses during past economic cycles and are used in our company-specific analysis of earnings.

Building Blocks For The Risk-Adjusted Capital Framework



I. Calculating The RAC Ratio

21. TAC is the numerator of the RAC ratio. We calculate TAC by adding preferred stock and hybrid instruments that we qualify as having at least "intermediate" equity content to ACE, our measure of core capital. We determine the equity content of hybrids according to our criteria "Bank Hybrid Capital And Nondeferrable Subordinated Debt Methodology And Assumptions," published Jan. 29, 2015. Under the criteria for RACF, we calculate ACE by adjusting reported common equity to our global standard. These adjustments are outlined in section "A. Standard adjustments to capital."

22. Our figure for RWAs is the denominator of the RAC ratio. Under RACF, we derive a financial institution's total RWAs by multiplying the financial institution's main risk exposures by the relevant risk weights, stated as a percentage. Risk weights adjust the exposures to reflect our view of their relative degree of risk. The greater the risk we see, the higher the risk weight we apply and the higher the resulting RWAs. The main exposure categories in our computation are credit risk, market risk, and operational risk. RACF uses regulatory and financial accounting data to capture the risk exposures and translate them into RWAs by applying the relevant risk weight. Product pricing and provisioning can typically absorb an average, or "normal," level of losses, which we refer to as "normalized losses" (see paragraphs 158-160), but financial institutions must hold capital to absorb unexpected losses. We arrive at our risk weights by considering the total losses we expect for a given asset class in an 'A' stress scenario (our idealized losses), and then subtracting the normalized losses that we expect an institution to absorb using earnings.

23. We capture the risk of a parent's potential unexpected losses arising from investments in insurance subsidiaries by deducting these investments from reported shareholder funds in arriving at our calculation of ACE. We do, however, reflect in our calculation of RWAs the potential additional impact on a parent bank's capital position of under- or over-capitalization of its insurance subsidiary to sustain an 'A' stress level.

24. Credit risk exposures differ according to asset classes--that is, whether they are retail, corporate, sovereign, or financial institution exposures. The risk weights for the financial sector exposures may increase, depending on our BICRA. A BICRA reflects the risks that an individual financial institution faces operating in a banking industry (see "Banking Industry Country Risk Assessment Methodology And Assumptions," Nov. 9, 2011). We assess that risk on a scale from '1' to '10', ranging from the lowest-risk banking systems ('1') to the highest-risk banking systems ('10'). The risk weights for corporate and retail banking exposures also vary depending on how we assess economic risk in our BICRA analysis, for which we also use a '1' to '10' scoring scale.

25. Countries for which we do not perform a BICRA are assigned estimates or proxies (depending on the magnitude of exposure to issuers in these jurisdictions globally) for the purpose of computing RAC ratios. These estimates are performed using a simplified BICRA analysis for jurisdictions that rated banks have significant global exposure to--typically aggregate exposure of US$5 billion or more (across all the entities we rate). We may also perform a BICRA estimate if rated banks' global exposure is not significant, but we consider it appropriate to assign an estimate. Our BICRA "proxies" are usually calculated for jurisdictions for which global exposure is not very significant (i.e., typically below US$5 billion). The proxies are based on our foreign currency sovereign rating on the country for which we estimate the BICRA and economic and industry risk scores. Countries with a foreign currency sovereign rating of 'B' and lower are assigned an economic risk score proxy of '10' and a BICRA group proxy of '10'.

26. RACF applies risk weights to government and securitization exposures based on the rating on the sovereign or securitization. Market risk exposures are a combination of trading book risk and price volatility risk on equity exposures. RACF applies risk weights to regulatory capital requirement figures for trading risk as well as to institutions' equity investments, the latter based on our estimate of the volatility of stock prices in the different countries. RACF applies risk weights to revenue or AUM and AUC to account for operational risks.

27. The calibration of the risk weights takes into account not only the stress scenarios presented in Appendix IV of "Understanding Standard & Poor's Rating Definitions," published June 3, 2009, but also the losses we have observed across various asset classes in the last crisis, and in particular since 2010. We have also tested our risk weights against the results of stress tests that regulators began to administer in the years since the recent financial crisis.

28. RACF also quantifies the potential impact of risk concentration or diversification on RWA (see Appendix II). This quantitative adjustment helps inform our analytical conclusions about the additional risks associated with concentration and the benefits of risk diversification. Our framework takes into account nonfinancial corporate single-name concentration (the aggregate of large exposures to a single nonfinancial corporate borrower or counterparty), as well as the correlation of risk by geography, sector, and business line.

Table 1

Computing Risk-Adjusted Capital

	Risk-adjusted capital (RAC)	**=**	**Total adjusted capital (TAC)/Risk-weighted assets (RWA)**
where			
	Total adjusted capital (TAC)	=	See table 2
	Risk-weighted assets (RWA)	=	RWA credit risk + RWA market risk + RWA operational risk
	RWA credit risk	=	RAC charges x 12.5 x adjusted exposure
	RAC charges	=	Unexpected losses that we define as losses incurred beyond normalized losses in a given stress scenario
	Adjusted exposure	=	Amount S&P Global Ratings anticipates will be the bank's exposure at the point of a debtor's default. This amount may not be the same as the amount outstanding at a particular reporting date. (For Basel III* institutions, it is the same as the regulatory exposure at default with a few exceptions.)
	Normalized loss	=	Average "through the cycle" annual loss rates that are expected to occur for a given class of exposure (and a given country)--see Appendix III

*Basel III refers to the requirements set out under the Bank for International Settlement's December 2010 publication of regulatory frameworks for capital and liquidity.

II. Deriving The RAC Ratio Components

1. Total Adjusted Capital (TAC)

29. TAC is our main capital measure. Under RACF, TAC is a globally consistent measure of the amount of capital a financial institution has available to absorb losses. TAC includes hybrid capital components that are, in our view, of somewhat weaker quality than those included in ACE, our measure of consolidated core capital. This reflects our view of the equity content of hybrid capital instruments (for details, see "Bank Hybrid Capital And Nondeferrable Subordinated Debt Methodology And Assumptions," published Jan. 29, 2015).

30. ACE reflects a narrow definition of core capital that does not include capital components that we classify as relatively weaker than common equity. ACE is based on common equity and elements of capital reserves that can be used to absorb losses in all circumstances. It is a measure of tangible equity (although it can differ from regulatory measures of tangible common equity). We exclude all hybrid capital instruments from ACE.

31. We make various adjustments to a financial institution's reported shareholders' funds to calculate ACE and TAC (see table 2). Our adjusted ACE and TAC figures therefore differ from accounting and regulatory measures of capital.

Table 2

Calculation Of Total Adjusted Capital

Common shareholders' equity	See paragraphs 34-36
Add "Minority interests: Equity"	See paragraphs 37-39
Deduct dividends not yet distributed	See paragraph 40
Deduct revaluation reserves	See paragraphs 41-43
Deduct goodwill and nonservicing intangibles	See paragraphs 44-47
Deduct interest-only strips	See paragraph 48

Table 2

Calculation Of Total Adjusted Capital (cont.)	
Deduct deferred tax assets	See paragraphs 49-52
Add or deduct postretirement benefit adjustments	See paragraphs 53-54
Add or deduct cumulative effect of credit-spread-related revaluation of liabilities	See paragraph 55
Deduct investments in insurance subsidiaries and significant minority investments in financial institutions	See paragraphs 57-62
Add or deduct other equity adjustments	See paragraph 63
= Adjusted common equity (ACE)	See paragraph 30
Add preferred stock and hybrid capital instruments (subject to limits)	See paragraph 29
=Total adjusted capital (TAC)	See paragraph 29

32. We typically assess factors that could restrict the flow of capital within a group to absorb losses as part of our analysis of the quality of capital and not as a quantitative adjustment to our capital measures. Such constraints may include ownership issues, regulations, and legal or tax matters.

33. In determining our analytical adjustments, we consider how regulators generally treat capital, but our capital ratios are likely to be different from those of regulators. Regulators focus on issues at a national or regional level when defining their capital measures, whereas our goal is to produce capital measures that are globally comparable to enhance ratings comparability as much as possible.

A. Standard adjustments to capital

34. ***Shareholders' equity:*** Common shareholders' equity is the starting point for our capital calculation. The components of common shareholders' equity include common stock, additional paid-in capital, capital surplus, retained earnings, and various revaluation and other reserves. It excludes any preferred stock, preferred securities, other hybrid capital instruments, and minority interests that are reported in total shareholders' equity.

35. If a financial institution reports treasury stock as an asset, we deduct this figure from total shareholders' equity to produce a consistent measure of the resources available to absorb losses.

36. We include warrants in our definition of common shareholders' equity, adding them to the reported figure if the financial institution has excluded them. We do this whether the warrants are issued with preference shares or on a stand-alone basis.

37. ***Minority interests:*** ACE includes the holdings of minority investors (so-called "non-controlling interests") associated with consolidated operating financial subsidiaries (which excludes insurance subsidiaries). The reason for this is we typically view the investment of minority investors in consolidated subsidiaries as a component of equity supporting group activities.

38. ACE does not include any hybrid capital instruments reported under "minority interest: equity" on a bank's balance sheet. Subject to our criteria for the equity content of hybrids, we may include these instruments in our definition of TAC.

39. In some circumstances, we reflect factors restricting the flow of capital within a group as a quantitative adjustment. We would exclude from "minority interest: equity" the portions of capital that we consider unavailable to absorb losses, and instead, we would classify them as "minority interest: non-equity." An exception to this is hybrids that we regard as having equity content. For example, we would reclassify as "non-equity" the minority interests in a fully consolidated

insurance subsidiary whose resources are not available to absorb non-insurance-related losses within the group. This includes minority interests in certain special-purpose entities or joint ventures that do not represent operating banking subsidiaries, large minority interests in fully consolidated property companies, and minority interests in industrial or commercial companies controlled under private-equity operations.

40. ***Dividends (not yet accrued or distributed):*** ACE excludes any dividends not yet accrued, including dividends to minority interests in subsidiaries retained in equity (see paragraphs 37 and 39), that are likely to be distributed if reported equity does not reflect imminent dividend distributions. If a bank has not formally announced a dividend, or the information is otherwise unavailable, we deduct our estimate based on such factors as the company's stated dividend policy or historical payout. We also deduct dividends that will be paid in the form of ordinary shares, unless there is a clear strategy not to eliminate the dilutive effect. We do not deduct dividends not yet accrued in situations where the owners have clearly stated their intention to reinject dividends into the institution.

41. ***Revaluation reserves:*** We adjust reported capital to remove the impact of revaluation reserves associated with post-tax unrealized gains/losses on available-for-sale (AFS) securities and deferred gains/losses related to cash flow hedges. If the revaluation reserves are positive, then we deduct them from reported equity (that is, exclude them from ACE and TAC). If the revaluation reserves are negative, then we add them back to reported equity. In this way, we attempt to neutralize the impact of marking to market the value of cash flow hedges as well as debt and equity securities reported as AFS. As a result, our capital measures do not reflect a benefit or loss if fair value changes. RACF accounts for the unrealized gains or losses on AFS equities by netting them against the associated RAC charge.

42. We do not make adjustments for the impact of foreign exchange translation gains or losses recorded within equity and included under other comprehensive income under U.S. generally accepted accounting principles (GAAP). These gains or losses are reflected in ACE and TAC.

43. We do not adjust capital for property revaluations included within reported capital reserves, except in circumstances described in paragraph 63 (other adjustments).

44. ***Goodwill and non-servicing intangibles:*** We make several adjustments to reflect goodwill and non-servicing intangibles:

    - We deduct reported goodwill and non-servicing intangible assets from reported equity to calculate ACE, net of any related deferred tax (i.e., by adding back the associated deferred tax liability);
    - We do not adjust capital for servicing assets that are included in the reported goodwill or intangible assets figures; and
    - We deduct the value of intangibles created through mergers and acquisitions (M&A) from reported capital. Such intangibles include the premium to acquire core deposits and credit card relationships.

45. ACE excludes the goodwill on acquired businesses to reflect a consistent treatment of the market value of a bank's business units, which does not depend on whether the bank acquires the businesses (in which case, goodwill is reported as an asset) or develops them internally (no goodwill).

46. We distinguish mortgage servicing rights (MSRs), which are servicing-related intangible assets, from non-servicing intangible assets. This is because MSRs are written contractual obligations that can be sold. Rather than deducting a portion of the MSRs from our equity measures, as some regulators do, we reflect the risk of fluctuating MSR values by applying a RACF capital charge to servicing intangibles (see paragraph 105).

47. We do not adjust reported capital if an M&A transaction generates negative goodwill, but we consider the implications of such a transaction when we assess a bank's business position and earnings capacity.

48. We deduct from reported equity (on an aftertax basis) the credit-enhancing interest-only strips that arise in the U.S. from securitization sale accounting. This is because under U.S. GAAP, the securitization sale leads to an upfront recognition of future earnings, although the transaction does not represent a full transfer of risk.

49. ***Deferred tax assets:*** For banks in jurisdictions where Basel III is implemented, to arrive at ACE, we first deduct from reported equity the net DTAs that are deducted from common equity Tier 1 regulatory capital (CET1). We deduct net DTAs to reflect the regulatory approach that allows institutions to offset their DTAs against their DTLs. In these instances, if there is a net DTL, we make neither a deduction nor an addition to arrive at TAC. The amount we deduct to arrive at ACE includes DTAs that rely on future profitability (including tax loss carryforwards) and the portion of DTAs arising from timing differences that are deducted from regulatory capital. We deduct the full amount of these DTAs from ACE, irrespective of any Basel III transitional arrangements that regulators may apply.

50. For financial institutions in jurisdictions where Basel III is not implemented, to compute ACE, we first deduct from reported equity the gross amount of DTAs that rely on future profitability (including tax loss carryforwards), unless we are satisfied that the institution has a right to offset these DTAs against DTLs (in which case we deduct the net amount). We also deduct from reported equity the amount of DTAs due to timing differences that the relevant regulator deducts in arriving at regulatory capital measures.

51. For all institutions (both in jurisdictions where Basel III applies and in those where it doesn't), we then deduct from reported equity the amount of DTAs that arise due to timing differences that we have not deducted according to paragraphs 49 and 50 and the amount that exceeds 10% of ACE. (For this, we use ACE after the deduction described in paragraphs 49 and 50.) This is unless the DTAs are "readily convertible"--meaning convertible into claims against the government to be settled in the form of liquid assets (for example, cash or government bonds) without delay at the time the institution incurs a loss--and we expect the government to be able and willing to deliver the liquid assets. For instance, DTAs that can only be netted against other taxes due over time or that are only converted in the event of liquidation are subject to the 10% limit.

52. Net DTAs that are not deducted from reported equity to arrive at ACE (either because they do not exceed 10% of ACE, per paragraph 51, or because they are eligible beyond the 10% limit) are subject to a RACF capital charge in accordance with table 3. When netting DTAs and DTLs, we exclude DTLs related to goodwill and intangibles and pensions because they are already accounted for when adjusting for such items (see paragraph 44).

Table 3

Summary Of Treatment Of Different Types Of DTAs

Item	Treatment
1. Portion of DTA that is deducted from regulatory capital ratios	Deduct from reported equity in arriving at ACE
2. Portion of DTA that exceeds 10% and is not “readily convertible”	Deduct from reported equity in arriving at ACE
3. Portion of DTA that is not “readily convertible,” but does not exceed 10% of ACE	Apply a 375% risk-weight
4. Portion of DTA that is “readily convertible”, whether it exceeds 10% of TAC or not	Apply a 375% risk-weight

Note: Not “readily convertible” for the purpose of this table means DTAs that are either not convertible into claims against the government to be settled in the form of liquid instruments (e.g., cash or bonds) without delay at the time a bank incurs a loss, or for which we do not expect the government to be sufficiently able and willing to deliver the liquid assets. DTA--Deferred tax assets.

53. ***Postretirement benefits:*** We assess the surplus or deficit of an institution's various employer-sponsored defined-benefit pension and other postretirement benefit plans (collectively, PRB) and adjust for the tax-affected net position (see table 4). The adjustment depends on how the net position is reflected in the reported capital figures. We view deficits and surpluses under PRB as amounts that should be included in the net assets of the sponsoring financial institution. Accordingly, if, in our view, an institution does not fully reflect these deficits or surpluses in its financial statements, we may make an adjustment when calculating ACE and TAC.

Table 4

Adjustments For Postretirement Benefit Obligations

Status	Net deficit	Net surplus
No unrecognized amounts; all are on the balance sheet	No adjustment is necessary because the net deficit is already fully reflected in equity	No adjustment is necessary because the net surplus is fully reflected in equity. We will, however, reduce capital by that amount of the surplus that we view as unrealizable. This is typically the amount that the relevant regulator does not recognize in its assessment of capital (on an aftertax basis). We only include the surplus to the extent that there is evidence that it is realizable.
Unrecognized off-balance-sheet losses	Reduce equity by the amount of unrecognized losses, after tax	Reduce equity by the amount of unrecognized losses, after tax. This adjustment adds the surplus to reported capital when calculating ACE and TAC. We deduct from capital that amount of the surplus that we view as unrealizable. This is typically the amount that the relevant regulator does not recognize in its assessment of capital (on an aftertax basis). We only include the surplus to the extent that there is evidence that it is realizable.
Unrecognized off-balance-sheet gains	Increase equity by the amount of unrecognized gains, after tax, only when this approach is consistent with that of the relevant regulators	Add the amount of unrecognized gains, after tax, when calculating ACE and TAC. Nevertheless, the adjustment for unrecognized gains would be reduced by the amount of the surplus that we view as unrealizable. This is typically the amount that the relevant regulator does not recognize in its assessment of capital. We only include the surplus to the extent that there is evidence that it is realizable.

54. We only include the surplus on PRB in our calculation of ACE to the extent that the relevant regulator recognizes the surplus in its measure of capital. This is because we take this as an indication that the institution has access to the assets in the fund and we believe that it can use the surplus. Otherwise, we exclude the surplus from our calculation of ACE.

55. ***Cumulative effect of credit-spread-related revaluation of liabilities:***To arrive at ACE, we deduct from reported equity the tax-affected cumulative gains or losses resulting from valuing liabilities, including derivative liabilities, at fair value that are due to changes in the institution's credit standing. These are often referred to as "own credit adjustment" and "derivatives valuation adjustment."

56. ***Mark-to-market gains or losses reported on financial assets and liabilities:*** In computing ACE, we do not adjust reported equity for other mark-to-market gains or losses reported on financial assets and liabilities such as trading securities, fair value hedges, derivatives, and any other item recognized at fair value through earnings under the fair value accounting option. This is because we consider that these other gains and losses reflect the way these financial instruments are managed.

57. ***Investments in insurance subsidiaries and minority interests in financial institutions:*** To arrive at ACE, we deduct from reported shareholder funds investments in insurance subsidiaries and "significant" unconsolidated minority investments in financial institutions. RACF defines unconsolidated minority investments in financial institutions as "significant" if one of the following conditions is met: the ownership rate is greater than 10%, or, it is lower than 10%, but S&P Global Ratings views the investment as sufficiently important for the entity's business operations.

58. For the purposes of these criteria, we consider all capital investments in insurance subsidiaries, and, thus, we deduct capital instruments, including common equity and subordinated debt (all regulatory Tier capital instruments, as long as

they are issued out of the insurance subsidiary and held by the banking group). See Appendix V for more details on the key factors determining how we calculate investments in subsidiaries.

59. Whenever insurance risks represent a substantial part of a group's risk profile, we would typically take into account not only the parent exposure to the insurance subsidiary's capital instruments (as described in paragraph 58), but also the degree of over- or under-capitalization of the insurance subsidiary relative to what we believe it would need to weather an 'A' level of stress. To reflect this, we will typically calculate the deficit or surplus, and then apply a 375% risk weight to the figure and add it to or deduct it from, respectively, S&P Global Ratings RWAs. This approach takes into account in the capital analysis of the parent bank:

- The potential additional capital needs of insurance subsidiaries in an 'A' stress scenario when the insurance subsidiaries have a capital shortfall, and
- The potential availability of excess capital at the insurance subsidiary level in a stress scenario (when it exists) to absorb unexpected losses arising elsewhere within the group when capital may be sufficiently fungible within the group.

60. In determining whether insurance risks are substantial to a group, we undertake an entity-specific analysis that considers several factors, including both quantitative metrics and qualitative factors. One of the quantitative metrics we typically use is the comparison between the RAC RWAs before and after incorporating the RWA equivalent of the investment in capital instruments invested by the parent in insurance subsidiaries (derived by multiplying the invested amount in capital instruments of insurance subsidiaries by 1250%). Our assessment of the strategic importance of the subsidiary is one of the qualitative factors we may consider relevant for the analysis of the materiality of the insurance risks to a group. See Appendix V for examples of the analysis of materiality of insurance subsidiaries.

61. When assessing the level of capitalization of a material insurance subsidiary relative to an 'A' stress scenario, we typically rely on our own assessment of the insurance subsidiary's level of capitalization in accordance with our criteria (including "Refined Methodology And Assumptions For Analyzing Insurer Capital Adequacy Using The Risk-Based Insurance Capital Model," June 7, 2010). When we do not have the information to calculate the shortfall of or excess capital of the insurance subsidiary to withstand an 'A' stress scenario according to our risk-based insurance capital (RBC) model, we will typically take the following steps:

- Calculate an estimate of the insurance subsidiary's current level of TAC (in accordance with the relevant criteria) based on public and/or confidential information,
- Assume the subsidiary is capitalized to sustain, at best, a 'BBB' stress scenario, and
- Calculate the amount of additional capital that would be needed for the insurance subsidiary to be able to sustain an 'A' stress as inferred from the general parameters of our RBC model.

62. To compute ACE, we also deduct from reported shareholder funds "significant" equity investments in unconsolidated financial institutions, while non-significant investments are applied our equity charges defined in paragraphs 126-131 and table 13. We apply our FI risk weights, as defined in paragraphs 71 and 75-77 and table 6, to investments in debt-like instruments issued by unconsolidated financial institutions.

B. Other adjustments

63. We aim to apply a reasonably consistent definition of ACE and TAC, but specific circumstances or reporting differences may require additional adjustments to reported common shareholders' equity. When we make these adjustments, we typically describe them in our full analysis reports and provide our view of the major accounting issues that affect the entity's financial statements and their significance to our analysis. Adjustments may, for instance, apply when we assess that some transactions artificially inflate reported equity, such as unseasoned revaluation of the entity's own premises, reciprocal cross holdings, or the issuance of capital instruments that are indirectly funded by the bank through a related party, such as a holding company or a sister company. When adjusting for unseasoned property revaluations, the regulatory approach may guide the amount we deduct. Similarly, we could consider deducting more than just the equity investment in unconsolidated minority investments in financial institutions if regulatory capital measures deducted other types of exposures to such institutions and we considered it appropriate to reflect the full extent of potential unexpected losses given the nature of the risks involved. In some instances, we may reflect unrealized losses on AFS debt securities into ACE based on the nature of the underlying risk, if we believe such losses reflect a sustainable deterioration in credit risk, as opposed to interest rate fluctuations.

2. Risk-Weighted Assets (RWAs)

64. To determine an institution's RWAs--in a globally consistent manner--we multiply the exposure amount by the associated risk weight. The sources of the exposure amounts include data from Basel Pillar 3 disclosure (Basel banks), if available, or data from the published accounts of institutions that don't use the Basel framework or don't publish sufficient detail in their Pillar 3 disclosures (non-Basel banks). For U.S. banks, we generally use nonoperating holding companies' regulatory reports as the source. For nonbank financial institutions, we typically rely on financial statements. We may complement these data sources with additional information. We use a consistent format to capture adjusted exposure. The risk weights align with our stress scenarios for developed markets, as explained in the "Risk Calibration" section.

65. In our general classification of asset classes and corresponding risk weights, we aim to accurately differentiate the risks generally on banks' balance sheets on a globally consistent basis. But occasionally, a financial system or institution may have unique risks that we choose to capture by reclassifying exposures to alternative asset classes than the ones we typically use. We do this to reflect our expectation of materially and consistently higher or lower losses for that unique set of exposures for a system or a bank than likely would be the case for the typically corresponding asset class in the given BICRA, economic risk, or rating category. When we reclassify exposures for an entire system or an institution, we typically describe them in our articles.

66. We obtain the risk weights by dividing the RAC charge by 8%, which is equivalent to multiplying the RAC charge by 12.5. We chose to calibrate our framework so that a bank with a RAC ratio of 8% has just enough capital to absorb unexpected losses in an 'A' stress scenario. We use the risk weights to adjust the value of an institution's exposure amounts relative to our view of their riskiness and potential for default, in a method similar to that broadly used in the banking industry globally. This helps us make comparisons between the RAC ratio and regulatory-based capital ratios, where available.

A. Credit risk and associated risk weights

67. RACF breaks credit risk down into six categories: governments, financial sector, corporate sector, retail and personal sector, counterparty risk, and securitizations. It then accounts for the impact of collateral and other risk mitigation.

68. ***Governments:*** We classify government-related risks in two categories--central governments and regional and local authorities--and apply different risk weights according to the rating on the sovereign issuer (see table 5). Our risk weights for sovereign, regional, and local authority exposures are based on our foreign currency credit rating on the sovereign. An exception to this is domestic securities issued by a central government in local currency. In this case, if we know the amount the bank holds, then the risk weight is based on the local currency rating.

Table 5

Risk Weights For Government Exposures (%)

Long-term foreign currency sovereign credit rating	Sovereign	Local government/public sector entities
AA- and above	3	4
A+	5	6
A	9	11
A-	15	18
BBB+	26	31
BBB	40	48
BBB-	57	68
BB+	76	92
BB	99	119
BB-	125	150
B+	153	184
B	185	222
B-	219	263
CCC+	257	308
CCC	297	356
CCC-	340	408
CC	386	428
D	428	428

69. Central government includes direct exposure to the sovereign, as well as to central banks, the government's administrative bodies, noncommercial undertakings, multilateral development banks, and international organizations. However, central bank exposure does not include cash. We believe a more severe stress scenario than we have calibrated our risk charges for would be required to cause cash to become valueless, not including the effects of inflation. We, therefore, consider cash (in hand or at the central bank) as akin to a risk-free asset in the context of RACF.

70. ***Financial sector:*** Financial exposures fall into three categories: financial institutions, clearinghouses, and covered bonds. For financial institutions and covered bonds, RACF applies risk weights according to our BICRA for the country in which the exposures are domiciled (see table 6).

Table 6

Risk Weights For Financial Sector Exposure

	--Risk weight (%)--	
BICRA group	**Financial institutions**	**Covered bonds**
1	15	10
2	17	11
3	23	16
4	33	22
5	48	32
6	68	45
7	103	68
8	144	96
9	192	128
10	248	165

71. The "Financial institutions" column in table 6 includes exposures to all credit institutions, investment firms, and finance companies. Reflecting the typical granularity of disclosures, credit exposure to insurance companies and asset managers is included under corporate exposures.

72. Exposures to clearinghouses include trade exposures, initial margins, and contributions to guarantee funds. The risk weight we apply to trade exposures and initial margins is the one we apply to sovereign exposures but at a level typically two notches below the foreign currency rating on the sovereign in which the CCP is domiciled. We risk weight guarantee fund contributions at 375%, which is similar to the risk weight we apply in other cases when factoring in uncertainties about the timing, liquidity, and recovery value of an exposure (see the treatment of mortgage servicing rights in paragraph 105, for example). Finally, we cap the total RAC charge on exposures to CCPs (resulting from adding the RAC charges for trade exposures, initial margins, and contributions to guarantee funds) at the level of the financial institutions risk weight applied to trade exposures only. This cap reflects our view that it is not riskier for banks to clear transactions with CCPs than to have exposures uncleared.

73. Whenever exposures to clearinghouses excluding guarantee funds contributions are not disclosed, we typically use either regulatory risk-weighted assets or accounting information available to determine the level of these exposures. Thus, we may determine these exposures as a percentage of derivatives receivables (asset side of the balance sheet), with multipliers calibrated conservatively on a sample of representative banks. We use two multipliers, one for entities in jurisdictions for which derivatives are presented on a gross basis (as in IFRS) and one for entities in jurisdictions for which derivatives are presented on a net basis (as in U.S. GAAP). Alternatively, we may also infer the level of exposures from the regulatory risk-weighted assets pertaining to these exposures. For example, in jurisdictions where CCP exposures (excluding guarantee funds contributions) carry generally a 2% regulatory risk weight, we may infer exposures as 50x the regulatory risk-weighted assets.

74. Whenever guarantee funds contributions are not disclosed separately, we typically determine these exposures as a flat percentage of trade and initial margins exposures, with a multiplier calibrated conservatively on a sample of representative banks.

75. RACF applies the standard financial institution risk weight to exposures to financial institutions that we consider government-related entities (GREs) under our criteria.

76. In our view, the creditworthiness of financial institutions is generally lower than the creditworthiness of the sovereigns in which the financial institutions are domiciled. To reflect this, the RAC risk weight pertaining to financial institutions is generally the higher of the RAC risk weight derived from table 6 or the RAC risk weight corresponding to the foreign currency rating on the sovereign in which the entity is domiciled (derived from table 5). For example, financial institutions exposures in a country in BICRA group '5' with a 'BB+' foreign currency rating will be applied a risk weight of 76%, as reflected in table 5, and not 48%, as reflected in table 6.

77. The only exception to the approach described in paragraph 76 is for banks domiciled in countries that have defaulted on their foreign currency obligations. For these banks, the RAC risk weight is the higher of: the risk weight derived from table 6, the risk weight corresponding to the transfer and convertibility (T&C) assessment on the sovereign in which the entities are domiciled (derived from table 5), or the risk weight for a sovereign rated 'CC' (from table 5). This reflects that banks may not default despite the foreign currency default--or near default--of the relevant sovereign.

78. ***Corporate sector:*** Corporate exposures fall into two categories: corporate, and construction and real estate development (see table 7). RACF applies risk weights according to the economic risk score from our BICRA analysis.

Table 7

Risk Weights For Corporate Sector Exposures

Economic risk group	Corporate (%)	Construction and real estate development (%)
1	60	180
2	66	198
3	75	225
4	87	261
5	102	306
6	121	363
7	142	426
8	167	501
9	194	582
10	225	675

79. RACF uses regulatory credit conversion factors (CCF) to translate off-balance-sheet commitments into adjusted exposures. For institutions that do not report Pillar 3 data, we use a CCF of 50% for identified corporate off-balance-sheet commitments.

80. Because of inconsistencies in data reported by institutions in different jurisdictions, RACF applies a single risk weight for a wide variety of corporate risks. The broad category for corporate exposure includes direct exposure to corporate entities, income-producing commercial real estate, object finance, purchased receivables, and project finance. RACF does not differentiate between large, blue chip corporates, and small and midsize enterprises (SMEs).

81. RACF applies the standard corporate risk weight to exposures to corporate entities that we consider GREs under our criteria.

82. RACF applies greater risk weights to construction loans and exposures to real estate developers, based on historical evidence that these assets tend to produce more losses in adverse economic conditions. In cases where we cannot ascertain the entity-specific amount of construction and real estate development exposures within the corporate exposure, but where system data (such as central bank statistics on sectoral lending) are available, we may use the system-level figure. Where there is insufficient information for us to distinguish construction and real estate development exposures from corporate exposures and there are no system-level figures available, we consider 5% of the corporate exposures as relating to construction and real estate development.

83. ***Retail and personal:*** We classify retail exposures into six categories: prime residential mortgages, auto loans, credit cards, self-certified and non-U.S. non-prime mortgages, other unsecured/retail lending to SMEs, and Lombard (margin) loans (see table 8). RACF risk weights for exposures for each of these categories are determined according to the economic risk assessment in the BICRA for the country in which the exposures are located.

Table 8

Risk Weights For Retail And Personal Exposures

Economic risk group	Prime residential mortgages (%)	Self-certified and non-prime non-U.S. mortgages (%)	Credit cards (%)	Auto loans (%)	Other unsecured/SME retail (%)	Lombard (%)*
1	20	81	89	48	60	12
2	23	93	96	51	66	13
3	29	115	105	56	75	15
4	37	146	118	63	87	17
5	47	187	134	71	102	20
6	60	239	153	81	121	24
7	75	299	176	93	142	28
8	92	370	201	107	167	33
9	113	450	230	122	194	39
10	135	540	263	139	225	45

*The risk weights for Lombard (or margin) loans in this table are the floor risk weights we apply to this kind of exposures. The floor is applicable when the result of applying RACF haircuts to financial collateral in table 11 result in a RAC risk weight below the risk weights in this table.

84. We convert undrawn credit card commitments into adjusted exposures by applying a CCF of 10%. For example, a bank with €10 billion of drawn credit card exposures and €50 billion of undrawn commitments has an adjusted credit card exposure in RACF of €10 billion plus 10% of €50 billion, which equals €15 billion. The credit card category includes all other forms of qualifying revolving credit lines, such as overdrafts, that carry exposure limits similar to those used for credit cards.

85. Other unsecured exposures refer to consumer loans, excluding credit card-type exposures and including the uncovered part of Lombard (margin) loans--that is, the exposure amount net of financial collateral after the RACF haircut (see table 11).

Text Box 1: Example Of The Risk-Weighting Approach To Lombard (Margin) Loans

The following example shows how we compute RAC risk weights on Lombard (margin) exposures. Bank A has $100 million of Lombard (margin) exposures in country X for which we assess the economic risk to be '5', according to our BICRA. These exposures are backed by $150 million of stocks. After applying the 40% haircut pertaining to stocks in table 11, we break down the $100 million exposure into a fully covered part (for $90 million) and an uncovered part for $10 million. The uncovered part receives a 102% risk weight according to table 8 (while the covered part does not carry any risk from a RAC perspective). This puts RAC RWAs, before applying the floor, at $10.2 million. The floor for Lombard (margin) loans in a country with an economic risk score of '5' is 20% (see table 8), putting total risk-weighted assets on the portfolio at $20 million. The floor is binding in this example.

86. SME retail refers to granular exposures to SME that Pillar 3 banks report as retail. For institutions that do not publish Pillar 3 reports, these exposures are classified as corporate exposures.

87. We apply a specific 188% risk weight to non-prime residential mortgages in the U.S. When the split between prime and non-prime mortgages is not available, RACF treats 10% of the U.S. mortgage exposure as non-prime and 90% as prime.

88. ***Counterparty risk:*** Under RACF, we differentiate between the risk of posting losses due to the default of counterparties and the risk of having to post additional provisions due to a deterioration of the creditworthiness of derivatives counterparties, absent any default.

89. The risk of posting losses due to the default of derivatives counterparties is captured in RACF through the charges applicable to the type of counterparties (sovereign, corporates, or financial institutions).

90. If a bank reports aggregate counterparty risk as an exposure separately from the reported exposure on any specific asset class, RACF would consider 50% of the aggregate exposure as exposure to financial institutions and 50% as exposure to corporates.

91. For entities that do not report counterparty risk exposures according to Basel standards (e.g., securities firms or banks that do not publish a Pillar 3 or a Y9 report), we determine derivatives exposures as a percentage of derivatives receivables (asset side of the balance sheet), with multipliers calibrated on a set of representative banks. We use two multipliers, one for entities in jurisdictions for which derivatives are presented on a gross basis (as in IFRS) and one for entities in jurisdictions for which derivatives are presented on a net basis (as in U.S. GAAP).

92. For U.S. banks, RACF classifies exposures to over-the-counter (OTC) derivatives according to their regulatory risk weight, which vary based on counterparty according to regulatory definitions. OTC derivatives for which we don't know the type of counterparty are viewed as 50% exposures to financial institutions and 50% to corporates. There are separate risk weights in RACF for counterparty risks associated with securities lending, sale and repurchase agreements (repos), reverse repos, and Lombard (margin) loans, reflecting the collateralization we typically observe for this kind of exposure in the U.S.

93. The risk of having to post additional provisions due to a deterioration of the creditworthiness of derivatives

counterparties, absent any default, is captured in RACF by a separate charge: the RAC credit valuation adjustment charge (RAC CVA).

94. Whenever the bank is domiciled in a Basel III jurisdiction--and subject to a regulatory CVA charge--the RAC CVA charge is defined as the regulatory CVA charge times a 1.3 multiplier.

95. The 1.3 multiplier scales up the regulatory CVA charge to fit the core RACF assumptions for market risk: one-year horizon and 99.9% confidence level

96. In jurisdictions that exempt sovereign and corporate exposures from the regulatory CVA charge, the 1.3 multiplier defined in paragraph 94 is replaced by a different multiplier that varies based on the proportion of a bank's financial institutions counterparties (see table 9) within the total OTC derivatives counterparties. In the absence of detailed information about the composition of counterparties, we apply a 3.5 multiplier, which is based on the average proportion of financial institutions counterparties from a large sample of banks. The adjustment of the multiplier ensures a level playing field with banks domiciled in jurisdictions that do not apply the exemptions.

Table 9

Multipliers Applied To Regulatory CVA Charges

Proportion of exposure to financial institutions	Multiplier applied to regulatory CVA charge
Below 33%	6.0
Between 33% and 50%	4.0
Between 50% and 70%	3.0
More than 70%	2.0
Absence of detailed information or unspecified	3.5

97. We only apply the RAC CVA charge defined in paragraphs 93-96 when OTC derivatives exposures represent a substantial part of the balance sheet and when we expect the RAC CVA charge to represent a significant part of total RAC risk-weighted assets. We would typically consider this the case when:

- Derivatives receivables represent more than 3% of total assets for entities reporting under IFRS (or under local GAAP similar to IFRS for the accounting of derivatives) and are domiciled in countries for which our BICRA group is '1' to '4'.
- Derivatives receivables represent more than 5 % of total assets for entities reporting under IFRS (or under local GAAP similar to IFRS for the accounting of derivatives) and are domiciled in countries for which our BICRA group is '5' and above.
- Derivatives receivables represent more than 0.5% of total assets for entities reporting under U.S. GAAP.

98. The RAC CVA charge is zero when derivatives receivables are lower than the thresholds defined in paragraph 97.

99. For entities that do not publish the Basel III regulatory CVA charge (for example because they are not domiciled in Basel III jurisdictions) but exceed the thresholds defined in paragraph 97, we compute the RAC CVA charge either as a percentage of the Basel exposure at default (EAD) on OTC derivatives when such EAD is available, or as a percentage of derivatives receivables (asset side of the balance sheet), with multipliers calibrated on a set of representative banks. In the latter case, we use two multipliers, one for entities in jurisdictions for which derivatives are presented on a gross basis (as in IFRS) and one for entities in jurisdictions for which derivatives are presented on a net basis (as in U.S.

GAAP).

100. ***Securitization:*** Under RACF, we apply the risk weights to different tranches of securitizations according to the global scale rating on the tranche (see table 10).

Table 10

Risk Weights For Securitizations

Securitization rating	Risk weights (%)
AAA	20
AA	20
A	50
BBB	100
BB	626
B	1,250
CCC-C*	1,250
Not rated or deducted from regulatory capital	1,250

*This risk weight applies when we have received a breakdown by rating or regulatory risk weight, but some exposures are unrated or deducted from regulatory capital. When we do not have a breakdown by rating or regulatory risk weight for any of the exposure, paragraph 102 applies.

101. In some instances, when the tranche ratings are unavailable, we may use the regulatory risk weight to infer a rating equivalent for the tranche, and then use the risk weight that pertains to that rating according to table 10 (see text box 2 for the use of regulatory risk weights).

102. Whenever we do not have the breakdown of securitization exposures by ratings, and we are not in a position to infer the rating equivalent for the tranche according to paragraph 101, we apply the following treatment:

- RACF typically applies a 150% risk weight, representing a rounded average of RACF securitization risk weights for a large sample of banks that report a detailed breakdown of their portfolios.
- In other cases, such as for exposures that we view as having higher or lower risk, we may apply a different risk weight. One example might be for exposures to securitizations that are guaranteed by GREs, for which we may apply the risk weight corresponding to the issuer rating.

103. In all instances, we apply our risk weights to the nominal value of exposures minus markdowns already reported in the bank's profit and loss account.

Text Box 2: Examples Of How We Infer The Rating Equivalent From The Regulatory Risk Weights For Securitization Exposures

1) Bank A domiciled in country X and Bank B domiciled in country Y report the breakdown of their securitization exposures by regulatory risk weights (and not by ratings). According to the regulation in country X, a regulatory risk weight of 20% corresponds to exposures rated 'AA' or higher (according S&P Global Ratings' global scale). In accordance with paragraph 101, a rating committee can decide, for Bank A, to view the entire pool of exposures classified in the 20% regulatory bucket as rated 'AA' and higher. In accordance with table 10, these exposures would be applied a 20% RAC risk weight.

2) According to the regulation in country Y, a regulatory risk weight of 20% corresponds to exposures rated 'AAA' by S&P Global Ratings' regional scale. Such exposures are rated 'BBB' on the global scale (according to the mapping between the global scale and the regional scale in this jurisdiction). In accordance with paragraph 101, a rating committee can decide, for Bank B, to view the entire pool of exposures classified in the 20% regulatory bucket as rated 'BBB' (global scale). In accordance with table 10, these exposures would be applied a 100% RAC risk weight.

104. ***Deferred tax assets not deducted from TAC:*** RACF applies a 375% risk weight to net DTAs that are not deducted from TAC. The risk weighting reflects the lack of certainty about the time horizon over which DTAs can be recovered. The risk weighting applies even when DTAs do not rely on future profitability.

105. ***Mortgage servicing rights:*** RACF applies a 375% risk weight to MSRs. A feature of the U.S. mortgage securitization market, MSRs represent the fair value of future cash flows for performing specified mortgage servicing activities for other parties. MSRs are either purchased from third parties or retained upon the sale or securitization of mortgage loans. The valuation of MSRs can fluctuate significantly and is subject to the bank's accounting assumptions on such factors as the level and volatility of future interest rates and the pace of prepayments.

106. ***Collateral and other credit risk mitigation:*** We account for financial collateral and other credit risk mitigation techniques through a combination of different risk weights, reduction of exposure amounts, recognition of credit substitution, and standard adjustments. We may lower our risk weights to reflect our view of the effects of credit risk mitigation, which may take the form of:

- Financial collateral,
- Guarantees from a financial institution or a sovereign, and
- Credit default swaps.

107. If financial collateral is available, we deduct the covered exposures--after haircuts--from the adjusted exposure of the relevant asset class. We apply this treatment in particular to Lombard (margin) loan exposures (loans secured by collateral in the form of securities).

108. For banks that report Pillar 3 disclosures using the standardized or foundation internal ratings-based (IRB) approach, RACF adopts the relevant regulatory haircuts on the collateral value and deducts the disclosed covered exposures from adjusted exposures. For banks using the advanced IRB approach and for other institutions, the haircuts are according to the type of financial collateral (see table 11).

Table 11

Haircuts On Financial Collateral

Collateral type	Haircut (%)
Cash or cash equivalent	0
Sovereign bonds, maturing in less than one year and rated 'AA-' or higher	1
Other sovereign bonds	10
Other securities	20
Gold	30
Equity	40
Unspecified financial collateral	30

109. Whenever table 11 applies, we establish a floor RAC risk weight on Lombard (margin) loans at one-fifth the RAC risk weight applicable to unsecured retail lending.

110. RACF does not adjust related exposures for nonfinancial collateral other than gold. This reflects our concerns about discrepancies among the valuation methodologies institutions may use and that we have already factored typical loan collateralization into our industry benchmarks for corporate exposures.

111. RACF regards a guaranteed exposure as a direct exposure to the guarantor, provided that the guarantee is eligible for this kind of substitution under regulatory guidelines. For example, a corporate exposure that is guaranteed by a bank is viewed in RACF as a direct exposure to that bank.

112. We lower by 50% the RACF corporate exposure hedged by credit derivatives, and we take into account a direct equivalent exposure to the credit-protection provider (usually a financial institution).

B. Market risk and associated risk weights

113. RACF is intended to capture market risk on a bank's trading activities and equity investments not accounted for in the trading business.

114. ***Trading activities:*** Our RAC market risk charges capture the risk of loss on a bank's trading portfolio at a one-year horizon and a 99.9% confidence level. This implies that, over a period of one year, trading losses should be statistically below the RAC market risk charges in 99.9% of the cases. We believe the one-year horizon reflects the illiquidity of many assets. This horizon also takes into consideration that, even if positions could be unwound in a matter of days or weeks, they would likely be replaced by new trading positions as the bank continues to take risks to support its income-producing activities.

115. Our RAC market risk charges factor in both general risk (such as potential losses stemming from a change in interest rates or a variation in stock indices) and specific risk (such as the potential losses stemming from swings in credit spreads, or from rating migrations and defaults) at the chosen time horizon and confidence level.

116. ***Entities that have regulatory-approved internal market risk models but are not domiciled in Basel 2.5 jurisdictions:***For banks with VaR models validated for general risk only, we apply a 3.0 multiplier to the regulatory capital requirement figure. This is to align the VaR charge with a one-year horizon and make it consistent with a 99.9% confidence level. The multiplier includes a 50% add-on to account for extreme (fat-tail) events in a hypothetical portfolio consisting of equities, interest rate positions, commodities, and foreign exchange.

117. For banks with VaR models validated for both general and specific risk, we apply a 4.0 multiplier to the regulatory

capital requirement figure. This higher multiplier, relative to paragraph 116, reflects our assessment that migration and default risks are poorly captured in VaR specific risk models.

118. We apply a multiplier of 1.5 to the regulatory capital requirement figure if it is derived from the Basel standardized approach. This reflects our opinion that the standardized approach is typically more conservative than VaR models regulators approved, particularly with regard to asset diversification.

119. ***Entities that are domiciled in Basel 2.5 jurisdictions and have regulatory-approved internal market risk models:*** We apply a multiplier of 1.0 to the incremental risk charge (IRC) and comprehensive risk measure (CRM) charges because they are already consistent with a one-year capital horizon and a 99.9% confidence level.

120. We apply a multiplier of 2.3 to the regulatory SVaR charge to get a proxy of a 99.9%, one-year stressed VaR. Unlike the 3.0 and 4.0 multipliers for banks that are not domiciled in jurisdictions subject to the Basel 2.5 market risk framework (see paragraphs 116-117), this multiplier includes no add-on for fat-tail events. This is because, in our view, the regulatory stressed VaR already captures periods of significant stress.

121. Under our RACF, we multiply by 1.5 any regulatory charge that has been computed using internal models (including VaR, SVaR, IRC, and CRM) when a bank does not disclose which model or which combination of models it has used. We apply this multiplier in particular when a bank reports the total of the regulatory charge, computed according to internal models, without providing any breakdown by component.

122. In line with paragraph 121, the RAC capital charges we apply are 1.5x the regulatory capital charges for positions outside the VaR model (and excluding securitization positions), which are treated according to the Basel standardized approach.

Table 12

RAC Charges For Market Risk Exposure From Trading Activities--Basel 2.5

Incremental risk charge, comprehensive risk measure	1.0 times regulatory charge
Stressed VaR	2.3 times regulatory charge
Standardized approach in the Basel framework	1.5 times regulatory charge

123. The RAC capital charges we apply to a bank's securitization positions in its trading book, excluding correlation trading positions (which are included in the CRM charge), are:

- When a bank discloses the breakdown of exposures by external ratings, the RAC risk weights we apply are in table 10.
- When a bank discloses the breakdown by regulatory risk weight range (but not by ratings), we may infer the ratings from the regulatory risk weights and then apply the RAC risk weight in table 10 that pertains to the inferred ratings (see also text box 2).
- When a bank does not disclose the breakdown by external rating or by regulatory risk weight range, we apply a 1.5 multiplier to the regulatory charge.
- We cap the RAC charge at 1.5x the regulatory charge for securitization exposures in the trading book that are not deducted from regulatory capital to ensure a level playing field.
- We apply a 1,250% RAC risk weight to securitization exposures in the trading book that are deducted from regulatory capital. This is consistent with our RACF treatment for securitization exposures in the banking book that are deducted from regulatory capital (see paragraph 100 and table 10).

124. ***Entities with no approved market risk internal models for regulatory purposes:***We apply a 1.5 multiplier to the regulatory capital requirement figure if it is derived from the Basel standardized approach. This is regardless of whether the entity is domiciled in a Basel 2.5 jurisdiction or not.

125. If the regulatory capital figure for market risk is not available, the market risk RAC charge is zero, and we treat securities in the trading book as if they were recorded in the banking book (i.e., in the AFS or held-to-maturity portfolios). For example, in our RACF, we classify stocks as equity holdings in the banking book, corporate bonds as corporate exposures, and collateralized debt obligations as securitization exposures, and the risk weights we apply are the same as those we apply to banking book exposures.

126. ***Equity investments:*** Our charges on equity investments (for equity exposures that are not captured elsewhere, such as equities that are classified in banks' trading books) capture the risk of loss at a one-year horizon in an 'A' stress scenario. They correspond to our estimates of potential losses in the stress scenario on the assumption of a "buy and hold" strategy.

127. RACF applies risk weights to two different types of equity investments: listed securities and unlisted securities. RACF classifies listed equity investments into four equity market groups by country, based on several factors such as the volatility we have observed in that country's main stock market index over the past 30 years, the level of stress in the economy experienced in the worst one-year performance of the domestic index, the BICRA capital markets assessment, the foreign currency sovereign rating, and the inclusion of the country in one of the MSCI world indices. Group 1 is the least risky and group 4 is the most risky. Our risk weights on unlisted equity investments depend on the equity market group for the listed investments (see table 13).

Table 13

Risk Weights For Equity Investment Exposures

Equity market group	Listed securities (%)	Unlisted securities (%)
1	625	750
2	750	875
3	875	1000
4	1,000	1,125

128. For unlisted equities, we add 10% (equivalent to a 125% risk weight add-on) to the charge we apply for listed equity investments (see table 13). This reflects our view of the higher average risk profile of unlisted stocks, owing to their generally higher leverage, as well as their illiquidity.

129. The RAC charges apply to the fair value of equity holdings. Under RACF, we then subtract 100% of net unrealized gains or add 100% of net unrealized losses against the RAC charge. If we do not know the fair value of equity holdings, but we know the EAD (or the carrying value for nonbanks and banks that do not report Pillar 3 figures), RACF applies risk weights to the EAD (or the carrying value) and does not recognize any potential unrealized gains (or unrealized losses).

130. We establish a floor RAC charge of zero for each equities group to ensure that unrealized gains cannot lower the risk weight below zero.

131. RACF applies a 688% risk weight to investments in mutual funds and other collective investment undertakings if the

underlying exposures are not disclosed. This risk weight is the average of risk weights for listed securities in equity market groups 1 and 2, reflecting that mutual funds tend to invest in reasonably liquid markets. When the underlying investments are available, RACF treats stocks as equity, sovereign bonds as central government exposure, and corporate bonds as corporate exposure.

C. Operational risk and associated risk weights

132. RACF applies risk weights to all business lines according to either their revenue contribution or the size of AUM or AUC.

133. ***Revenue-based risk weights:*** Our risk weights to account for operational risk for different business lines are based on the revenue these businesses generate (see table 14). RACF applies risk weights based on the highest annual revenue of the past three years. This is intended to accommodate recent activities and growth momentum and to avoid providing capital relief to entities that experienced a recent drop in revenues as a consequence of operational or trading losses.

Table 14

Risk Weights For Business Lines By Revenue

Business line	Risk weight to be applied to revenue (%)
Retail banking and retail brokerage	150
Commercial banking, asset management and custody	188
Payment and settlement	225
Corporate finance, trading and sales	313
Other or no details to allocate in the first four buckets	188

134. If a breakdown of revenues by business line is not available, RACF applies a 188% risk weight to the highest annual revenue of the past three years, net of revenues from insurance subsidiaries (if any).

135. ***Assets under management:*** Asset managers are exposed not only to legal, reputational, and operational risks, but also to credit risk within their cash and money market funds. In addition to the risk weight based on revenues by business line, RACF applies a risk weight of 6.25% to cash and money market AUM. This is because, in our view, a number of asset managers may be led to support their monetary funds during a crisis to prevent a loss in value for investors.

136. We assume that 20% of total AUM pertains to monetary funds when the breakdown by type of funds is not available.

137. ***Assets under custody:*** RACF applies risk weights on AUC for a bank acting as a custodian. The higher the value of AUC, the lower the marginal risk weight (see table 15). Smaller custodians tend to be more concentrated on a few key customers than larger custodians, so an operational mistake for one key client could have a much bigger impact.

138. If disclosed separately in the total revenue breakdown, we deduct revenues from the agency services business line from the revenues applied in table 14 to prevent double counting.

139. In all instances, we cap the RAC operational risk charge for custodians at 10x the regulatory capital charge. This is because typically, our operational risk charges are substantially higher than regulatory charges, and we cap our charge in order to not be excessively punitive.

Table 15

Risk Weights For Assets Under Custody

Assets under custody (US$)	Risk weights (%)
Up to $750 billion	0.40
Next $250 billion	0.20
Next $1,000 billion	0.10
Next $3,000 billion	0.05
Next $5,000 billion	0.03
More than $10,000 billion	0.02

140. ***Other items:*** RACF applies a further risk weight to exposures not covered anywhere else in the analysis. We refer to these exposures as "other items," and they consist of the residual amount of total adjusted exposure that has not been captured elsewhere in RACF.

141. The risk weight for "other items" is 50% higher than the corresponding risk weight for unsecured retail lending, except when "other items" are more than 5% of total exposures. In such cases, RACF applies the following rules:

- Checks in transit are direct exposures to financial institutions.
- Cash exposures are assigned a 0% risk weight.
- On fixed assets and other elements not already deducted from TAC, such as residual value risk for leasing, we apply a risk weight that is 50% higher than the corresponding risk weight for unsecured retail lending.

142. ***Risk concentration and diversification:*** RACF calculates an adjustment to RWAs to reflect either the increased risk from concentration or reduced risk from diversification (see Appendix II).

3. Data Sources And Standard Adjustments

143. Here we explain the data sources that RACF uses and standard adjustments we may make to that data. Generally, we capture data on a bank's risk exposures from Basel reporting, published accounts, or regulatory reports (see table 16).

Table 16

RACF Data Sources For Risk Exposures

Description	Application
Banks reporting Basel Pillar 3 data	When available, RACF uses Basel Pillar 3 data as a source of information. Basel Pillar 3 disclosures contain additional data and information beyond that normally presented in audited financial statements.
U.S. financial institutions	The principal data source for measuring risk exposures is U.S. bank holding companies' quarterly regulatory reports, for example FR Y-9C.
Other financial institutions	In countries where Basel 3 is not yet implemented and for nonbanks, RACF uses data from published accounts (notably on- and off-balance-sheet data).

144. RACF applies risk weights to the combination of outstanding amounts on a bank's balance sheet and other commitments to derive total RWAs. The criteria use the term "adjusted exposure," as defined in table 1. This builds upon the term "exposure at default" (EAD), stated in the Basel II framework in the paper, "Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework--Comprehensive Version," published in November 2005 and in subsequent amendments. The adjustments to EAD and other financial data under RACF are intended to improve global consistency.

145. The methodologies described for calculating TAC and determining RWAs are based on the typical Pillar 3 or U.S. GAAP disclosures for financial institutions around the globe. When Pillar 3 reports are not available outside the U.S. we typically find published accounts that follow IFRS, but some firms may present their accounts in a generally accepted format that is governed by their home jurisdictions and that may differ from both IFRS and U.S. GAAP standards. One difference in reporting exposures may arise in the presentation of derivatives, which could be presented on a net counterparty basis, like they are in U.S. GAAP, could be presented on a gross basis like they are under IFRS, or could be presented in some other way that has characteristics of both disclosures. When we need to rely on disclosures that are not Pillar 3 or US GAAP as the basis for our RAC methodology, we may be required to adjust certain exposures before calculating TAC or applying risk weights in an effort to ensure comparability of our RAC ratios.

146. In countries where comprehensive Pillar 3 reports are not published (including the U.S.), RACF computes adjusted exposures as a combination of on-balance-sheet and off-balance-sheet exposures. We then net specific provisions for losses from adjusted exposures.

147. For banks that publish comprehensive Pillar 3 reports, our adjusted exposures generally coincide with regulatory EAD. The only two exceptions are:

- Credit cards, and
- Equity holdings in the banking book.

148. Credit conversion factors (CCFs) are multipliers to translate banks' off-balance-sheet exposures into adjusted exposures. The premise is that only a fraction of off-balance-sheet exposures will be realized because borrowers do not always fully draw on available credit facilities.

149. For undrawn credit card commitments, we use a CCF of 10%. RACF defines adjusted exposures as the drawn amounts plus 10% of undrawn committed amounts (whether they are cancellable without notice or not), net of specific provisions. For banks that do not disclose the undrawn amount of credit cards commitments, we define adjusted exposures as the reported EAD.

150. RACF applies a CCF of 50% for corporate undrawn lines of credit (excluding letters of credit), other undrawn credit facilities, and other off-balance-sheet commitments. We believe this 50% is appropriate because it takes into consideration the amount of off-balance-sheet commitments but acknowledges that part will remain undrawn. It also reflects our goal to increase the consistency and comparability of our RAC ratio because 50% is also an estimated average of the CCF level used by banks that have adopted the Basel advanced approaches.

151. We use a CCF of 100% for exposure to letters of credit for banks that do not provide a comprehensive Pillar 3 report because these facilities are most likely to be totally drawn, in our view.

152. In some cases, Pillar 3 reports include the breakdown of their exposures by regulatory risk weights, without explicitly declaring which asset classes the exposures refer to. For the exposures treated according to the standardized approach, we infer the asset classes from the various regulatory risk weights.

153. RACF is intended to capture the adjusted exposure data by geography as well as by risk type. For Pillar 3 banks, we

use the geographic breakdown of EAD by asset classes. If the Pillar 3 breakdown is not available, we use the geographic breakdown of on-balance-sheet and off-balance-sheet exposures displayed in the published accounts. We then use the same geographic breakdown for all asset classes.

154. The BICRAs, economic risk scores, equity market groups (see paragraph 127), and long-term foreign currency sovereign credit ratings that we assign to groups of countries and to regions represent the GDP-weighted average of BICRAs, economic risk scores, equity market groups, and long-term foreign currency sovereign credit ratings on the countries in these groups and regions.

4. Risk Calibration

155. We have calibrated RACF so that an 8% RAC ratio means that a bank should, in our view, have enough capital to withstand substantial stress ('A' type) in developed markets. This calibration intends to make our criteria for assessing bank capital consistent with those for rating structured finance transactions and issuers from other corporate and government sectors. There are five key steps to this calibration:

- We use idealized loss rates for particular credit risk assets from a substantial economic stress in developed markets.
- We determine normalized loss rates using default and transition studies for corporate, sovereign, and financial institutions exposures and our assessment of long-term average annualized through-the-cycle expected losses informed by historical losses for retail and personal exposures. This normalized, through-the-cycle loss estimate is more conservative than an expected loss calculation based on a shorter time horizon, which might exclude periods of recession.
- Then we calibrate RAC charges so that the sum of RAC charges and the three-year normalized loss rates is equal to the idealized loss rates identified in the first step.
- Next we convert the RAC charges into risk weights by multiplying by 12.5.
- Finally, we adjust the risk weights to reflect structural differences in stronger or weaker economies.

156. The risk weights for market risk and operational risk are more absolute and aim to account for a degree of stress that is consistent with the other risk weights. We regard all losses related to market and operational risk as unanticipated, so we do not calculate normalized loss rates for these risk types.

A. Idealized loss rates

157. For each of the six credit risk asset classes (governments, financial sector, corporate sector, retail and personal sector, counterparty risk, and securitizations), we associate an idealized loss rate with a substantial stress scenario. For example, the idealized loss rate for prime residential mortgages is 3% following substantial stress.

B. Normalized loss and the RAC charge

158. Based on our observations of credit losses during past economic downturns, we believe that credit losses could take three years to flow through a bank's financial statements, except for credit cards, where we look at the peak loss for a single year. The three-year average normalized loss rate and the RACF capital charge combine to match the idealized loss rate for each asset class (see table 17). In our view, product pricing and provisioning are able to absorb an average, or "normal," level of annual credit losses, which we refer to as "normalized losses," and banks hold capital to absorb losses that are greater than this "normal" level.

Table 17

Calibrating RACF To Idealized Loss Rates

Types of exposure	Annual normalized loss rate (%)	Three-year cumulative normalized loss rate (%)	RAC charge (%)	Idealized loss rate (%)
Government				
Sovereign	0	0	0.24	0.24
Local or regional	0	0	0.29	0.29
Financial institutions				
Credit institutions	0.11	0.33	1.86	2.19
Covered bonds	0.07	0.21	1.24	1.45
Corporate				
Corporate	0.36	1.08	6.00	7.08
Commercial real estate	1.07	3.21	18.00	21.21
Retail and personal loans				
Prime residential mortgages	0.20	0.60	2.29	2.89
Self-certified mortgages	0.79	2.37	9.16	11.53
Credit cards	3.5	--	8.40	11.90
Auto loans	0.50	1.50	4.48	5.98
Other unsecured	1.00	3.00	6.00	9.00

159. In table 17, the idealized loss rates apply for a typical developed market with a government rated 'AA+' or higher, in a country that has been designated as BICRA group '3', with an economic risk score of '3'.

160. We calibrate normalized losses as our estimate of average losses by asset class over an entire credit cycle. Table 17 shows that the RAC charge is the difference between the idealized loss rate and the three-year cumulative normalized loss rate.

5. Other Risks Not Covered By The RACF

161. RACF is not intended to capture risks such as:

- Interest rate and currency risk in the banking book,
- Volatility of pension funding,
- Funding risk,
- Reputation risk, and
- Strategic risk.

162. We assess such risks qualitatively in other areas of our rating methodologies.

163. We have chosen not to incorporate interest rate risk in RACF because the methodologies of measuring asset-liability management (ALM) risk can differ substantially across banks, depending on the assumptions the banks use. Consequently, in the absence of any standard reporting requirement, the ALM risk metrics that banks publish tend to vary.

164. We have chosen not to incorporate funding risk in RACF because we consider it more related to risk management than to capital adequacy.

165. We have chosen not to incorporate reputation risk or strategic risk in RACF, given the difficulty of quantifying such risks.

APPENDIX

I. How To Compute Trading Risk RAC RWAs For Securities Firms

166. RACF calculates S&P Global Ratings RWAs for market risk. We typically base trading book market risk on a VaR approach. RACF's "core" assumption is a one-year 99.9% confidence level VaR.

167. A) For firms with regulator-approved internal VaR models, the RAC trading risk RWA is determined according to paragraphs 114-123.

168. B) For firms with no regulator-approved internal VaR models but for which we believe that the VaR is computed according to a robust standard and with supporting high-quality data, we scale up the average VaR over the past year. We apply the following calculations:

- We use the square root of time "rule" to scale up a x-day VaR into a y-day VaR (i.e., a 10-day VaR is square root of 10x the one-day VaR for the same confidence level); and
- We use the multipliers stemming from the Gaussian distribution (with a 50% add-on for fat tail events) to transform a VaR at a x-confidence level into a VaR at the chosen confidence level.

169. C) For example, if a broker's VaR is reported as meeting a one-day 99% confidence interval, we would scale it up to a one-year 99.9% VaR by:

- Multiplying by the square root of 260 to transform the one-day VaR into a one-year VaR, and
- Multiplying again by 1.33 * 1.5 to transform the 99% VaR into a 99.9% VaR.

170. D) For firms that do not have their VaR assumptions validated by regulators, the RAC charge for market risk is the 99.9%, one-year VaR computed according to sections A, B, and C of this appendix, with a 33% upward adjustment. The adjustment reflects the potentially lesser reliability of the VaR model used in the computations. The upward adjustment is increased to 50% if there were more than five back-testing exceptions of the reported 99% VaR during the previous year and to 100% if there were more than 10 back-testing exceptions. A back-testing exception occurs when the trading loss is greater than the VaR (in absolute value). The adjustments reflect the heightened risks associated with such exceptions.

171. E) For firms with no VaR or with a VaR that we view of insufficient quality and/or covering a relatively narrow scope of the trading operations of the firm, we compute the market risk charges according to paragraphs 124 and 125.

II. Calculating The Adjustment For Concentration Or Diversification

172. RACF calculates an adjustment to RWAs to reflect the impact of concentration or diversification of risks. The adjustment is calculated by applying assumptions of correlations among different sectors, geographies, and business lines and by computing a concentration add-on to reflect single-name concentrations in the corporate portfolio.

- First, RACF calculates an adjustment to RWAs in corporate exposures for correlations among different industries;
- Second, RACF calculates an adjustment to total RWAs for correlations among country or regional exposures;
- Third, RACF calculates an adjustment to total RWAs for correlations among different business lines;
- Fourth, using the largest 20 named corporate exposures, RACF calculates an add-on to total corporate RWA to capture single-name concentrations in the corporate book; and
- Finally, RACF calculates the total adjustment to RWAs for concentration or diversification by adding the separate adjustments produced from the first four steps subject to caps, as explained in paragraph 173.

173. We limit or cap the overall benefit of concentration and diversification adjustments to 30% for the most diversified global financial institutions. We have set up a framework that yields relatively moderate maximum benefit levels because of issues such as instability, sizable correlation increases in times of crisis, and contagion risks.

Sector, geographic, and business line methodology

174. Our methodology for calculating geographic, sector, and business line diversification adjustments is based on a top-down approach to diversification. As a first step, we apply a concentration multiplier to RWAs, then we determine the aggregate RWAs for the various portfolios using a correlation matrix (based on the Markowitz covariance/variance formula):

$$Adjusted\,Capital\,Charge = \sqrt{\begin{pmatrix} K_1{*}C_1 \\ \dots \\ K_n{*}C_n \end{pmatrix}^{T} \begin{pmatrix} 1 & \dots & R_{1,n} \\ \dots & \ddots & \dots \\ R_{n,1} & \dots & 1 \end{pmatrix} \begin{pmatrix} K_1{*}C_1 \\ \dots \\ K_n{*}C_n \end{pmatrix}}$$

175. Where:

- Ki is the RAC charge for either the sector, geographic region, or business line in order to compute the total risk weight adjusted for sector, geographic region, business line concentration, or diversification;
- Ci is the concentration factor for the sector, geographic region, or business line; and
- Ri,j is the correlation coefficient between the industry sectors, geographic regions, or business lines.

176. In paragraph 174, the adjusted capital charge is the RAC charge after the adjustment for diversification. The difference between the RAC charge after diversification and the RAC charge before diversification is the adjustment for diversification.

177. Within a given exposure class, we have found that the bigger a bank is, the more likely it is to be diversified from a business point of view. We therefore use a size concentration factor based on the maximum revenues over the past three years "R" (in million U.S. dollars, as for operational risk) and a logarithmic business line concentration factor: 38.1

– 3.9 x ln(R).

178. We explain the concentration factors for sectors and geographic regions in the next two sections.

Sector concentration factors

179. The concentration factor for the more volatile sector is set to 115%. As a benchmark, the concentration factor for the world MSCI index (a stock index maintained by MSCI Inc., formerly Morgan Stanley Capital International) is set to 100%. The concentration factor for the sector "utility" is smaller than 100%, reflecting the lower volatility of this sector compared with the "world" index. We calculated the concentration factors using the volatility of the respective MSCI sector stock market index. The volatility is calculated as the standard deviation of the monthly log returns over the past 20 years.

Geographic region concentration factors

180. We calibrate the concentration factor so that the concentration factor for the largest economy in the world (currently the U.S.) is set to 100%, and the concentration factor for Switzerland is set to 115%.

181. To reflect geographic concentration, we use a multiplier based on the logarithm of the GDP of the country in which the bank is located. In practice, the concentration multiplier diminishes by a constant factor each time the GDP doubles. This concentration factor reflects our view that, in general, the smaller an economy is, the less diversified it is. The GDP of a geographic region is the average between the total aggregate GDP of that region and the GDP of the largest country in the region, reflecting the fact that when a bank reports exposures to a region, it may not have exposures to all countries within that region.

182. For U.S. banks, we differentiate between banks with nationwide coverage, to which the 100% concentration factor applies; banks with multiregional coverage, to which we apply a 107% concentration factor; banks with state-only coverage, to which a 114% geographic concentration factor applies; and local banks, to which we apply a 121% concentration factor.

Correlation matrices

183. RACF uses separate correlation matrices for sectors, countries, and business lines. For correlations by geographic regions and sectors, we have used the MSCI stock indices. Business line correlations are based on our analytical judgment.

184. We first computed Pearson correlations of these MSCI index returns, then we stressed the results to capture more fat-tail risks. To do so, we use a Fisher transformation and stress the resulting value to a confidence interval of 99.5%.

185. We apply table 18 to RAC RWAs. For insurance risk, we add to insurance risk RAC RWAs as computed according to paragraph 58 (if any) the risk-weighted assets equivalent (by applying 1250% risk weight) of the TAC deduction in accordance with paragraphs 57-58.

186. If we do not have information on the breakdown of the corporate book by sector, we apply a concentration charge equal to 105% of our total corporate RAC charge.

Table 18

Business Line Diversification Matrix

	--Correlation factors (%)--							
Business line	**Sovereign**	**Financial institutions**	**Corporate**	**Real estate**	**Other retail**	**Trading and equity**	**Asset management**	**Insurance**
Sovereign	95*	85	85	85	85	85	85	50
Financial institutions	85	95*	50	50	25	85	85	50
Corporate	85	50	95*	50	25	85	85	50
Real estate	85	50	50	95*	50	85	25	50
Other retail	85	25	25	50	95*	85	25	50
Trading and equity	85	85	85	85	85	95*	85	50
Asset management	85	85	85	25	25	85	95*	50
Insurance	50	50	50	50	50	50	50	95*

*We apply extreme correlations between sub-business lines within the same broad category, for example, between residential and commercial mortgages.

Single-name concentration adjustment

187. RACF calculates the concentration charge for exposures to single names in the corporate exposures using a model based on the granularity adjustment described and tested by Gordy and Lütkebohmert (2007). We apply the model to a bank's total corporate exposures and largest 20 corporate exposures.

188. Our methodology is derived as a first-order asymptotic approximation for the effect of diversification in large portfolios within the CreditRisk+ methodology for calculating the distribution of possible credit losses from a portfolio, developed by Credit Suisse. The theoretical tools for this analysis were proposed first by Gordy (2004) and refined significantly by Martin and Wilde (2003).

189. In practice, we derive an add-on from the breakdown of the top 20 corporate exposures reported to us, according to the following formula, which is a quadratic scaled version of the formula proposed as upper-bound by Gordy and Lütkebohmert:

$$\begin{aligned} Add-on &= 11.7\,[\frac{1}{2K^*}\sum_{i=1}^{m} s_i^2 Q_i C_i + \bar{s}((\delta-1)(K^*-K_m^*)+\delta(R^*-R_m^*))]^2 \\ &+ 0.19\,\frac{1}{2K^*}[\sum_{i=1}^{m} s_i^2 Q_i C_i + \bar{s}((\delta-1)(K^*-K_m^*)+\delta(R^*-R_m^*))] \end{aligned}$$

190. Where the notation follows Gordy and Lütkebohmert (2007):

- parameter δ equals 4.83;
- K* is the RAC charge for the entire corporate portfolio (as a percentage of EAD);
- R* is Standard & Poor's normalized loss for the entire corporate portfolio (as a percentage of EAD);
- s_i = EAD(i)/total corporate EAD is the share of the corporate portfolio corresponding to exposure i;
- K_i is the Basel II unexpected loss for exposure i (as a perecntage of EAD) computed using the Basel II foundation IRB formula, where the probability of default (PD_i) is set as Standard & Poor's long-term average global corporate default rate for the rating class if the exposure is rated. If the exposure is not rated we use the 'BB-' default rate;
- R_i= PD_i * 45% is the Basel II foundation IRB expected loss for exposure i (as a percentage of EAD);
- K_m* is the cumulative unexpected loss for the m largest exposures (as a percentage of EAD);
- R_m* is the cumulative expected loss for the m largest exposures (as a percentage of EAD);
- C_i= ($45\%^2$ + $VLGD_i^2$)/45% where VLGD is the volatility of LGD (loss-given default). Ci can be viewed as a stressed LGD using its normalized variance;
- VLGD =

$$\sqrt{0.25 * 45\% * (1 - 45\%)}$$

$Q_i = \delta * (K_i + R_i) - K_i$ is used for notational convenience.

191. The default rates are published in "2015 Annual Global Corporate Default Study And Rating Transitions," May 2, 2016.

192. A number of academic studies provide either direct or indirect estimates of the importance of granularity risk for bank portfolios. The effect is clearly more pronounced for smaller portfolios. An indicative calculation of the upper boundary of the contribution of idiosyncratic risk to economic capital can be performed by reference to a portfolio having the maximum permissible concentration under the EU's large-exposure rules. Such calculations give estimates of 13%-21% higher portfolio VaR for this highly concentrated portfolio versus a perfectly granular one that is comparable in all other dimensions.

193. For portfolios that are more typical for an "actual" bank (as opposed to a theoretical portfolio with the maximum concentration that EU large-exposure rules would allow), the impact of name concentration is substantially lower. Gordy and Lütkebohmert (2007) use characteristics of loans from the German credit register to compare the effect of name concentration on loan portfolios of the size that can be found in actual banks. For large credit portfolios of more than 4,000 exposures, they estimate that name concentration can contribute about 1.5% to 4% of portfolio value at

risk. For smaller portfolios (with 1,000 to 4,000 loans), they estimate that a range of 4%-8% is more likely.

194. If the breakdown of the top 20 corporate exposures is not available, the concentration adjustment in RACF is set to 1% of total corporate exposures, net of eligible financial collateral.

III. Normalized Loss Rates

195. Table 19 provides the normalized loss rates we use for all instances.

Table 19

Normalized Loss Rates By Business Line

Corporate, Financial Institutions, Retail And Personal Loans

	--Normalized loss rates (bps)--								
	--Corporate--		--Financial institutions--		--Retail and personal loans--				
BICRA/Economic risk score	Corporate	CRE	Credit institutions	Covered bonds	Prime residential mortgages	SCM	Credit cards	Auto loans	Other unsecured/SME retail
1	17	51	2	1	11	46	282	36	77
2	23	69	7	4	16	63	315	43	88
3	36	107	11	7	20	79	350	50	100
4	54	163	18	11	25	101	393	58	115
5	75	225	27	18	31	123	440	67	132
6	98	295	54	36	37	149	497	77	153
7	123	369	73	49	45	178	563	89	177
8	150	449	125	83	53	210	639	103	205
9	178	534	159	106	62	247	722	118	237
10	208	623	245	163	72	288	816	135	273

bps--Basis points. BICRA--Banking industry country risk assessment. CRE--Commercial real estate. SCM--Self-certified mortgages. SME--Small and midsize enterprises.

Table 20

Normalized Loss Rates By Business Line

Government, Securitization

	--Normalized loss rates (bps)--		
	--Government--		--Securitization--
Rating	Sovereign	Local or regional	All instruments
AA+/AAA	0	0	
AA	1	1	
AA-	2	2	0
A+	4	4	4
A	7	8	8
A-	11	14	10
BBB+	18	22	20
BBB	27	33	36

Table 20

Normalized Loss Rates By Business Line (cont.)

Government, Securitization

	--Normalized loss rates (bps)--		
	--Government--		--Securitization--
Rating	**Sovereign**	**Local or regional**	**All instruments**
BBB-	39	47	60
BB+	54	65	90
BB	73	88	128
BB-	97	116	N.M
B+	125	150	N.M
B	159	191	N.M
B-	199	238	N.M
CCC+	245	294	N.M
CCC	299	359	N.M
CCC-	360	432	N.M
CC	360	432	N.M
D	360	432	N.M

bps--basis points. N.M.--Not meaningful.

196. Our normalized loss estimates for sovereign, corporate, and financial institutions asset classes result from combining our assumptions on LGD with those on default rates through the cycle. For example, for the sovereign asset class, RACF derives the normalized loss estimates using a 45% LGD (consistent with the historical sovereign recovery rates) and the historical average default rates, by ratings, observed over more than 30 years (see "2014 Annual Sovereign Default Study And Rating Transitions").

197. Our normalized loss estimates for asset classes in retail and personal loans in table 19 have been calibrated taking into banks' historical loss experience for these asset classes in combination with our views on certain aspects that are likely to affect the long-term average annualized through-the-cycle losses stemming from banks' exposures to these asset classes (like, for example, the impact of potential changes in underwriting standards and of risks in the economy).

IV. Treatment Of Financial And Operating Leases For Financial Companies (From The Perspective Of The Lessor)

198. The treatment in RACF differentiates financial leases--whereby there is transfer of ownership of the underlying asset at the end of the lease from the lessor to the lessee--from operating leases--whereby the leased assets remain on the balance sheet of the lessor for the entire course of the lease and amortize with time. For financial leases, lessors are exposed to credit risk vis a vis the lessee (for the entire set of future rents that have not been paid). For operating leases, lessors are exposed to residual value risk and credit risk on the lessee. The residual value risk is a market risk that arises from the fact that the market value of the asset at the end of the lease may be lower than the book value of the asset (in the lessor`s balance sheet) at that time.

199. Financial leases: Receivables due from the lessee (on the asset side of the balance sheet for the lessor) are viewed in RACF as a direct exposure to the lessee (i.e., as a corporate exposure if the lessee is a corporate entity).

200. Operating leases: Our treatment varies depending on whether the lessor discloses the expected residual value of the leased asset.

201. In the case where the lessor discloses the expected residual value of the asset, RACF views the expected residual value of the leased asset as "other items" (in line with the treatment for banks) and the difference between the book value of the asset and the expected residual value as a direct exposure vis a vis the lessee.

202. In the case where the lessor does not disclose the expected residual value of the asset, RACF views the book value of the asset as "other items."

V. Treatment Of Banks' Insurance Subsidiaries In The Risk-Adjusted Capital Framework

203. We define the investments that banks make in insurance subsidiaries as including both equity and subordinated debt. This is because insurance regulators often allow subordinated debt to count toward regulatory minimums and would be unlikely to allow insurance subsidiaries to repay the debt investment early in times of stress at the bank level.

204. The investment total that we deduct from reported equity to arrive at TAC is net of the same adjustments that we make to the group's ACE (except the deduction of minority interests). Typically, those adjustments include netting the capital amount against goodwill and nonservicing intangibles, as well as neutralizing the impact of unrealized gains and losses on the AFS portfolio.

205. We do not deduct the bank investment at historical cost because using historical cost would only focus on the initial investment. We deduct a bank's initial investment as well as reserves accumulated since the acquisition of the subsidiary or initial investment into the subsidiary. The group share of these accumulated reserves is also part of the insurance risk borne by the banking group.

206. We do not differentiate between various tiers of regulatory instruments when determining the level of investments in insurance subsidiaries under paragraph 57. We observe that, in practice, the majority of subordinated debt issued by insurance subsidiaries is Tier 2 instruments. These instruments frequently form part of regulatory capital for the insurance subsidiary (either to meet requirements or as a buffer on top of the minimum) so that insurance regulators would be unlikely, in our view, to allow insurance subsidiaries to repay this debt to the parent in a time of parental stress (unless they replace it with common equity or hybrid capital sold to external investors). We do not include debt issued by insurance subsidiaries that is not eligible for regulatory capital in the scope of the insurance capital charge in the RACF.

207. A bank does not receive credit in TAC for insurance subsidiary capital instruments (including subordinated debt) held by external parties because this capital is available to support the risks borne by the insurance entity and is not directly available to support the risks associated with the banking operations. This also applies to minority interests in an insurance subsidiary's common equity (i.e., capital provided to the insurance company by its minority shareholders is

not directly available to absorb losses in the bank).

208. The following examples illustrate our approach to assessing the degree of materiality of the insurance subsidiary in a banking group according to paragraph 59 and how we calculate the magnitude of deduction to arrive at ACE and the impact on RWAs that we may take into account in accordance with paragraphs 57-58 and 60-61:

- Bank A's RWAs increase by more than 10% when incorporating the RWA equivalent of the insurance subsidiaries exposures, which are mainly accounted for by an investment in a majority owned subsidiary. We therefore consider the insurance risks in the group as substantial. The insurance subsidiary's TAC is commensurate with capital needed to sustain a 'BB' level of stress according to the analysis of the RBC model. In arriving at ACE, we thus deduct from reported shareholder funds the funds injected by the parent. In determining at the group's RWAs, we add to RWAs the 375% risk-weight equivalent of the shortfall that the majority-owned subsidiary would have relative to the capitalization needed to sustain 'A' level stress, according to our RBC model.
- Bank B's RWAs increase by less than 10% when incorporating the RWA equivalent of the insurance subsidiaries exposures. In our view, the insurance subsidiary of Bank B in which the majority of the investment is concentrated is a core member of the group and its rating benefits from group support accordingly. We therefore consider the insurance risks in the group as having the potential to have a significant impact on the banking group's capitalization. In arriving at ACE, we deduct from reported shareholder funds the funds injected by the parent. In arriving at the group's RWAs, we add to RWAs the 375% risk-weight equivalent of the insurance subsidiary's shortfall relative to the capitalization needed to sustain 'A' level stress, according to our RBC model.
- Bank C's RWAs increase by less than 10% when incorporating the RWA equivalent of the insurance subsidiaries exposures. We view the insurance subsidiary of Bank C as nonstrategic. The combination of these two factors lead us to believe that it is unlikely that the insurance subsidiary's capitalization would have a significant impact on the banking group's capitalization, and we, therefore, consider the insurance risks in the group as not substantial. In arriving at ACE, we deduct from reported shareholder funds the funds invested by the parent in the insurance subsidiary.
- Bank D's RWAs increase by more than 10% when incorporating the RWA equivalent of the insurance subsidiaries exposures, which are mainly accounted for by an investment in a majority owned subsidiary. We therefore consider the insurance risks in the group as substantial. The insurance subsidiary is unrated, and we do not have sufficient information to calculate the excess or shortfall of the subsidiary relative to 'A' level stress, so we assume that the estimated TAC of the insurance subsidiary is sufficient to withstand a 'BBB' stress scenario. In arriving at ACE, we deduct from reported shareholder funds the funds injected by the parent. To determine the group's RWAs, we add to RWAs the 375% risk-weight equivalent of the shortfall estimated relative to the capitalization needed to sustain 'A' level stress. (This is calculated as the difference between our estimated TAC of the insurance subsidiary, according to our criteria, and the capital needed for an 'A' stress scenario inferred from our RBC model.)
- Bank E's RWAs increase by less than 10% when incorporating the RWA equivalent of the insurance subsidiaries exposures, which are mainly accounted for by an investment in a majority owned subsidiary. This insurance subsidiary is undertaking a plan to recapitalize following several years of poor performance, and it has regulatory capital ratios close to the regulatory limit. The parent bank has stated publicly that its supporting the financial plan of the insurance subsidiary. We therefore believe that the recapitalization of the insurance subsidiary has the potential to have a substantial impact on the bank's capital. This insurance subsidiary is unrated, and we do not have sufficient information to calculate the excess or shortfall of the subsidiary relative to 'A' level stress. In arriving at ACE, we deduct from reported shareholder funds the funds injected by the parent. Given the regulatory capital situation of the entity, in determining the subsidiary's capitalization shortfall estimated relative to the capitalization needed to sustain an 'A' stress scenario, we would likely estimate that TAC of the insurance subsidiary would be

sufficient to withstand only a much more benign scenario than the best case 'BBB' stress scenario that our criteria assume for cases where we lack the information to calculate the actual TAC of the subsidiary. In arriving at the group's RWAs, we add to RWAs the 375% risk-weight equivalent of the shortfall estimated relative to the capitalization needed to sustain an 'A' stress scenario.

- Bank F's RWAs increase by more than 10% when incorporating the RWA equivalent of the insurance subsidiaries exposures. In our view, the insurance subsidiary is highly strategic. The combination of these factors leads us to consider the insurance risks in the group as substantial. The insurance subsidiary is capitalized to a level we consider sufficient to withstand a 'AAA' stress scenario. We believe it likely that the insurance regulator would allow resources to be fungible from the insurance subsidiary across the banking group, even in an 'A' stress scenario. In arriving at ACE, we deduct from reported shareholder funds, the funds injected by the parent. To determine the group's RWAs, we deduct from RWAs the 375% risk-weight equivalent of the excess capital of the insurance subsidiary relative to the capitalization needed to sustain 'A' level stress, according to our RBC model.
- Bank G's RWAs increase by more than 10% when incorporating the RWA equivalent of the insurance subsidiaries' exposures. The group's investment in insurance is divided almost equally between two entities: the life and the non-life majority-owned subsidiaries. The combination of these factors leads us to consider that the group's insurance risks are substantial. Our analysis of the insurance subsidiaries' capitalization, according to the RBC model, leads us to conclude that the life subsidiary's capitalization would sustain a 'AAA' stress scenario, while the non-life subsidiary's capitalization would sustain a 'BBB' stress scenario. In arriving at ACE, we deduct from reported shareholder funds the funds injected by the parent in the insurance entities. In arriving at the group's RWAs, we add to RWAs the 375% risk-weight equivalent of the non-life insurance subsidiary's shortfall, and we deduct the 375% risk-weight equivalent of excess capital of the life insurance subsidiary. In both cases, the excess or shortfall is calculated relative to the capitalization needed to sustain an 'A' stress scenario, according to our RBC model.
- Bank H's RWAs increase by more than 10% when incorporating the RWA equivalent of the insurance subsidiaries' exposures. The group's investment in insurance is two minority stakes in insurance entities, and the banking group has clearly indicated that these stakes are considered financial investments. The combination of these two factors leads us to consider that it is unlikely the insurance subsidiaries would have a significant impact on the banking group's capitalization, and we, therefore, consider the insurance risks in the group as not substantial. In arriving at ACE, we deduct from reported shareholder funds the funds invested by the parent in the insurance subsidiaries.

VI. Glossary

CCP trade exposures (as Basel III defines them)

The current and potential future exposure of a clearing member or a client to a CCP arising from OTC derivatives, exchange-traded derivatives transactions or securities financing transactions, as well as initial margin.

Comprehensive risk measure

An incremental charge for correlation in the trading book portfolios.

Incremental risk charge

An incremental charge for default and migration risks for non-securitized products in the trading book.

Lombard (margin) loan

Retail loans backed by clients' securities. They could be non-purpose loans or loans exclusively granted to buy securities (which are going to be pledged to the lender). In the latter case, we talk about "margin loans," and in the

former case, we talk about "asset-based" lending.

Object finance

A loan exposure for which repayment is dependent on the cash flow generated by the financed or pledged assets.

Real estate and construction loans

Loans for the financing of land acquisition, development and construction of any residential or commercial properties where the source of repayment at origination of the exposure is either the future uncertain sale of the property or cash flows whose source of repayment is substantially uncertain.

Stressed VaR

The stressed VaR is intended to replicate a VaR calculation that would be generated on the bank's current portfolio if the relevant market factors were experiencing a period of stress (model inputs calibrated to historical data from a continuous 12-month period of significant financial stress). The stressed VaR is intended, in part, to dampen the cyclicality of the VaR measure and to mitigate the problem of market stresses falling out of the data period used to calibrate the VaR after some time.

Tax loss carryforwards

Tax loss carryforwards may arise when a taxpaying institution reports an accounting loss but a profit for income tax returns purposes, which generates an obligation to pay income taxes despite the accounting losses. In future years, a tax loss carryforward may be utilized to reduce the firm's income tax liability during years that it generates profits by reducing taxable income.

RELATED CRITERIA AND RESEARCH

Related Criteria

- Bank Rating Methodology And Assumptions: Additional Loss-Absorbing Capacity, April 27, 2015
- Bank Hybrid Capital And Nondeferrable Subordinated Debt Methodology And Assumptions, Jan. 29, 2015
- Nonbank Financial Institutions Rating Methodology, Dec. 9, 2014
- Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions, Nov. 19, 2013
- Multilateral Lending Institutions And Other Supranational Institutions Ratings Methodology, Nov. 26, 2012
- Banks: Rating Methodology And Assumptions, Nov. 9, 2011
- Banking Industry Country Risk Assessment Methodology And Assumptions, Nov. 9, 2011
- Refined Methodology And Assumptions for Analyzing Insurer Capital Adequacy Using The Risk-Based Insurance Capital Model, June 7, 2010
- Understanding Standard & Poor's Rating Definitions, June 3, 2009

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as S&P Global Ratings assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.