

## Basel III D:<sup>1</sup>

# Swiss Finish to Basel III

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## Abstract

After the Basel Committee on Banking Supervision (BCBS) introduced the Basel III framework in 2010, individual countries confronted the question of how best to implement the framework given their unique circumstances. Switzerland, with a banking industry that is both heavily concentrated and very large relative to the size of its overall economy, faced a special challenge. It ultimately adopted what is sometimes referred to as the “Swiss Finish” to Basel III – enhanced requirements applicable to Switzerland’s “too-big-to-fail” banks Credit Suisse and UBS that go beyond the base requirements established by the BCBS. Yet the prominent role played by relatively new contingent convertible capital (CoCos) in the Swiss Finish, coupled with the fact that banks are allowed to use their own internal models in determining whether requirements are met may call into question the extent to which the Swiss Finish to Basel III represents a meaningful enhancement to the risk-based capital requirements of the Basel framework.

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<sup>1</sup> This module is one of seven produced by the Yale Program on Financial Stability (YPFS) examining issues related to Basel III. The other modules in this series are:

- *Basel III A: Regulatory History*
- *Basel III B: Basel III Overview.*
- *Basel III C: Internal Risk Models*
- *Basel III E: Synthetic Financing by Prime Brokers*
- *Basel III F: Callable Commercial Paper.*
- *Basel III G: Shadow Banking and Project Finance*

More information about the YPFS, including hyperlinked versions of some of the cases, are available at <http://som.yale.edu/ypfs>

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## 1. Introduction

In the wake of the financial crisis of 2007-2009, the Basel Committee on Banking Supervision (BCBS) faced the critical task of diagnosing what went wrong and then updating regulatory standards aimed at preventing it from occurring again. Having identified three factors as playing a crucial role in fueling the crisis (capital, liquidity and interconnectedness), the BCBS introduced the Basel III framework in 2010 to address these issues. Under Basel III, banks would be required to improve both the quantity and quality of their capital based on the extent of their risk-weighted assets (RWA). They also would be required to meet new liquidity standards. Those banks deemed most important from a systemic standpoint would be subject to further requirements.

When the Basel III standards were promulgated by the BCBS, individual countries confronted the question of how best to implement them given their unique national circumstances. Switzerland, with a banking industry that is both heavily concentrated and very large relative to the size of its overall economy, arguably faced a special challenge. It ultimately adopted what is sometimes referred to as the “Swiss Finish” to Basel III – enhanced requirements applicable to Switzerland’s “too-big-to-fail” banks Credit Suisse and UBS that go beyond the base requirements established by the BCBS.

Yet a significant portion of the enhanced requirements of the Swiss Finish can be satisfied using relatively new contingent convertible capital (CoCos). The fact that the loss-absorbency capacity of such hybrid debt instruments has not been tested during a financial crisis means that it is not clear the enhanced capital requirements of the Swiss Finish will prove sufficiently protective. Furthermore, because the risk-based capital requirements of Basel III and the Swiss Finish are based on the calculation of individual banks’ RWA and banks are allowed to use their own internal models in calculating RWA, there is some concern that the requirements can be met through more aggressive modeling rather than actual reductions in risk or increases in capital. Indeed, while both Credit Suisse and UBS have reported sharp drops in RWA since the introduction of Basel III and the Swiss Finish, some wonder to what extent these drops are genuine. This issue raises important questions about whether allowing banks to rely on internal models for calculating RWA leaves such calculations open to manipulation that could ultimately undercut the risk-based approach to capital requirements adopted by Basel III.

The remainder of the case is organized as follows. Section 2 provides an overview of Basel III. Section 3 discusses the Swiss implementation of Basel III, focusing specifically on the Swiss Finish. Section 4 discusses the calculation of RWA using internal risk models. Section 5 then evaluates how Credit Suisse and UBS have responded to the Swiss Finish.

### Questions

1. Is the calculation of RWA using banks’ internal risk models subject to manipulation and, if so, how can this manipulation be addressed?
2. Does the Swiss Finish to Basel III represent a meaningful enhancement to the risk-based capital requirements of the Basel framework in light of concerns about manipulation?
3. Is the prominent role of contingent convertible capital (CoCos) in the Swiss Finish to Basel III problematic?

## 2. Overview of Basel III

Basel III consists of proposals in three main areas intended to address three of the critical factors the BCBS has identified as contributing to the financial crisis:

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1. That troubled banks held an inadequate amount of capital and that the capital they did hold was of an insufficient quality (Capital Reform)
2. That even adequately capitalized banks experienced difficulties due to insufficient liquidity (Liquidity Standards)
3. That the interconnectedness of financial institutions transmitted shocks across the financial system and the broader economy (Systemic Risk and Interconnectedness)

**Capital Reform:** Under Basel III, banks must improve both the quantity and quality of their capital. The minimum ratio of common equity to RWA has been increased from 2% to 4.5%, with total capital required to represent at least 8% of RWA. A capital conservation buffer of 2.5% and a countercyclical buffer of between 0% and 2.5% have also been introduced. Additionally, Basel III establishes a leverage ratio requiring banks to maintain Tier 1 capital that is at least 3% of total exposure.

**Liquidity Standards:** Basel III introduces two new liquidity measurements. Under the Liquidity Coverage Ratio, banks must maintain a sufficient quantity of high-quality liquid assets to cover expected outflows in a 30-day stressed funding scenario. The Net Stable Funding Ratio, on the other hand, compares available funding sources with the funding needs associated with the banks' assets and exposures over a one-year period.

**Systemic Risk and Interconnectedness:** Basel III includes several measures aimed at addressing the threat of contagion given the interconnectedness that exists in the financial markets. Higher capital requirements have been given to systemic derivatives and inter-financial exposures, and a capital surcharge of 1% to 2.5% in common equity has been introduced for banks deemed systemically important. (For a more detailed discussion of Basel III, see YPFS Case Study [McNamara, et al. 2014B](#))

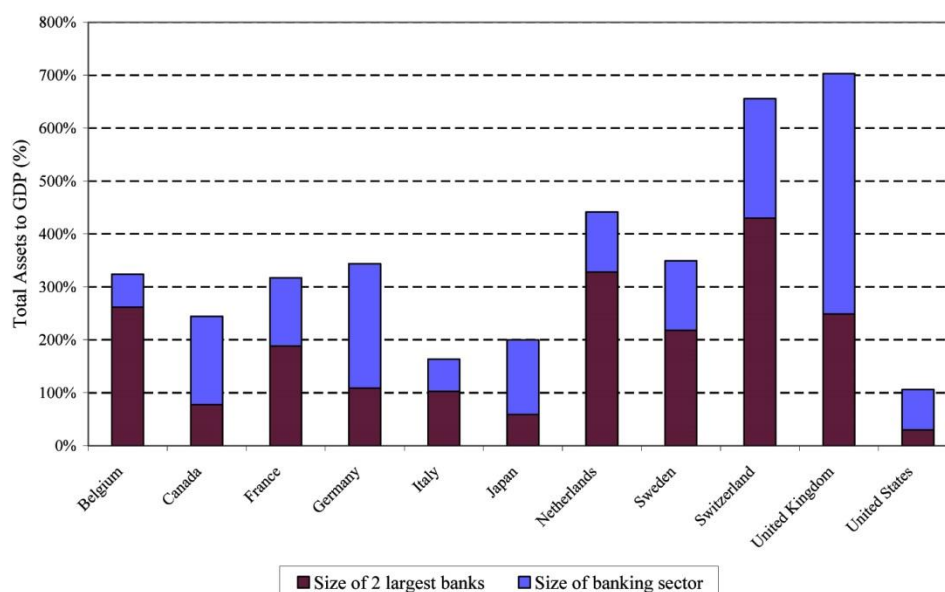
### 3. The Swiss Implementation of Basel III

#### Risk-Based Capital

Basel III's requirements are being phased in over time, with a targeted completion date of 2019 and interim deadlines along the way. Different countries have made varying degrees of progress in implementing Basel III. In Switzerland, the implementation of Basel III began with an amendment to the country's Capital Adequacy Ordinance (CAO) effective January 1, 2013. Under the CAO as amended, Swiss banks must meet the minimum risk-based capital standards established by Basel III – total capital equal to 8.0% of RWA, with a minimum of 4.5% held in the form of Common Equity Tier 1 and a minimum of 6.0% held in the form of Tier 1 Capital. Additionally, consistent with the requirements of Basel III, the CAO established a 2.5% capital conservation buffer and a countercyclical buffer of up to 2.5%, each to be met with Common Equity Tier 1. The CAO also empowered the Swiss Financial Market Supervisory Authority (FINMA) to require additional capital. (To review the basic risk-based capital requirements established by the Swiss, see [pages 14 and 15 of CAO 2012](#).)

While the risk-based capital requirements outlined above apply to Swiss banks generally, the Swiss banking industry represents an extreme example of consolidation and magnitude relative to the size of the host economy. Switzerland's two largest banks – Credit Suisse and UBS – account for nearly 40% of the domestic credit market and have combined total assets over four times the size of the nation's gross domestic product. ([Financial Stability Board 2012, 9](#))

Figure 1: Total Assets of the Banking Sector to GDP (year-end 2010)



Source: [Financial Stability Board 2012, 9](#)

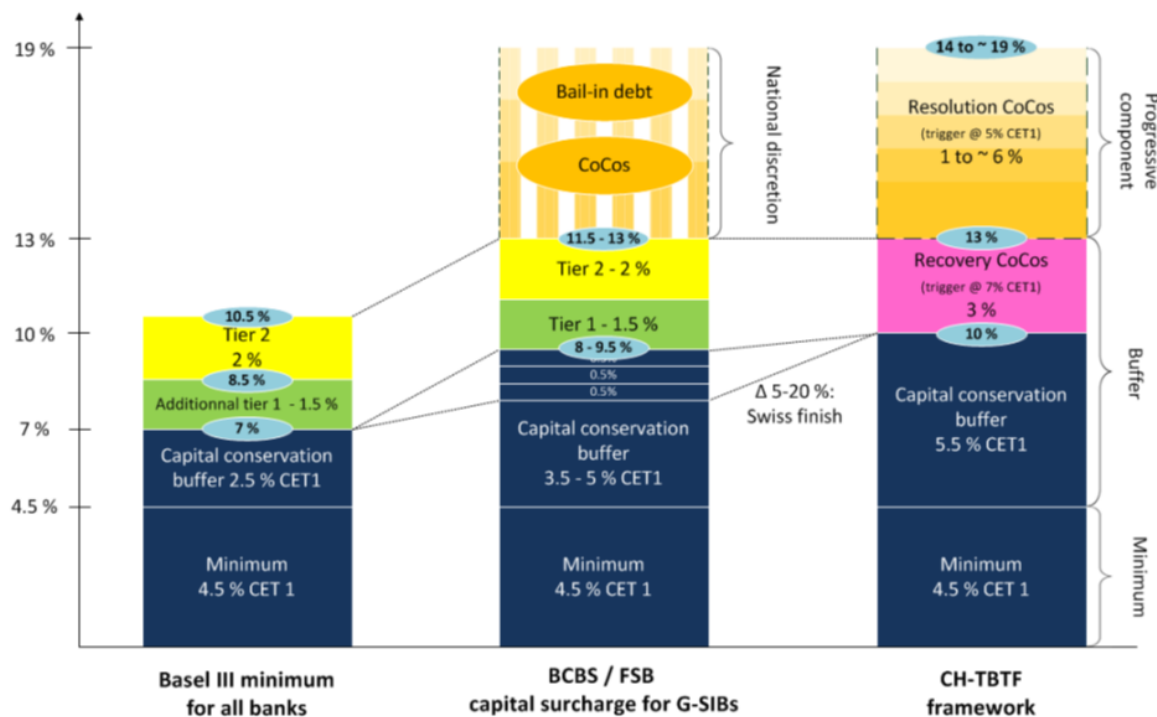
Given how critical Credit Suisse and UBS are to both the Swiss banking industry and its overall economy, difficulties the institutions faced during the financial crisis highlighted the need to strengthen their resiliency. UBS in particular, which had substantial exposure to the U.S. subprime market as the crisis began, incurred significant losses, ultimately resulting in the creation of a stabilization fund by Swiss authorities in October 2008 to absorb up to \$60 billion in illiquid assets from the bank's balance sheet.

In response to the lessons of the financial crisis, the Swiss adopted a “too-big-to-fail” (TBTF) package intended to reduce the need for future government intervention (sometimes known as the “Swiss Finish” to Basel III). Under the TBTF approach, banks deemed systemically important (initially only Credit Suisse and UBS, but now including two additional Swiss banks) must, in addition to meeting the 4.5% minimum Common Equity Tier 1 ratio applicable to all banks, maintain a capital buffer of 8.5% of RWA comprised of Common Equity Tier 1 and up to 3% of contingent convertible capital (CoCos) that is triggered when eligible Common Equity Tier 1 falls below 7% of RWA (commonly referred to as Recovery CoCos). Furthermore, systemically important banks must maintain a progressive component ranging from 1% to approximately 6% of RWA based on a progression rate set annually by FINMA and tied to size and market share. This progressive component can be satisfied with CoCos that are triggered once eligible Common Equity Tier 1 falls below 5% (commonly referred to as Resolution CoCos) (see **Figure 2** for detail).

Significantly, while the total risk-based capital requirement for a systemically important Swiss bank can reach upwards of approximately 19% of RWA, only 10% of RWA must be in the form of Common Equity Tier 1. The remainder can come from CoCos, hybrid debt instruments that can absorb bank losses by converting to equity or otherwise being reduced in principal upon the occurrence of a contractually specified trigger (in the case of the Swiss Finish, when Common Equity Tier 1 falls below 7% of RWA and below 5% of RWA). Triggers are typically set so that when they are reached by an issuer, it is an indicator that the issuer is in financial distress and may have difficulty raising needed additional capital from the markets. The equity conversion or principal reduction that automatically occurs once the trigger is reached provides this needed additional capital. As a result, CoCos are seen by

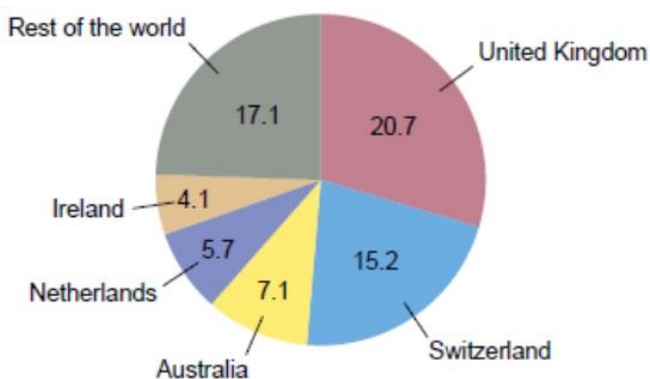
many regulators as an acceptable means of satisfying capital requirements. Under the Basel III framework itself, for instance, CoCos can qualify as Additional Tier 1 Capital or Tier 2 Capital depending upon their trigger levels (low-trigger CoCos are less able to absorb losses and are therefore classified as Tier 2 Capital, while high-trigger CoCos absorb more losses and are classified as Additional Tier 1 Capital). (Avdjiev et al 2013) The prominent role given to CoCos in the Swiss Finish may have led Swiss banks to become the second largest issuer of CoCos in the world since 2009 (see **Figure 3**).

Figure 2: TBTF Risk-based Capital Requirements as Compared with Those Set Forth in Basel III



Source: FINMA

Figure 3: Total CoCos since 2009 by Issuing Country (US\$ Billions)



Source: Avdjiev et al 2013

Yet the emergence of CoCos is a relatively new phenomenon, and the financial instrument's capacity for absorbing losses has not yet been tested in the context of a financial crisis. For example, triggers based on Common Equity Tier 1 can only be activated as quickly and as frequently as this value can be officially calculated and publicly disclosed, which may only be quarterly. In a fast moving financial crisis, this activation may not occur in time. Thus, it is not entirely clear how protective the enhanced capital requirements of the Swiss Finish would be given the heavy reliance on CoCos. (To review the risk-based capital requirements of the Swiss TBTF approach, see [pages 35 through 38 of CAO 2013.](#))

### Leverage Ratio

In addition to the risk-based capital requirements outlined above, the Swiss implementation of Basel III also includes a non-risk-based leverage ratio for systemically important banks. Rather than establishing a fixed minimum ratio, however, the Swiss approach sets the required leverage ratio at 24% of the specific risk-based capital requirements applicable to a particular bank. Thus, a hypothetical systemically important bank with a 4.5% minimum capital requirement, 8.5% capital buffer and 3% progressive component would have a minimum required leverage ratio of 3.8% of "total commitment" ( $[4.5\% + 8.5\% + 3\%] \times .24$ ). (To review the leverage ratio requirements of the Swiss TBTF approach, see [pages 38 and 39 of CAO 2012.](#))

## 4. The Calculation of Risk-Weighted Assets

The risk-based capital requirements associated with the Basel III regime necessitate the calculation of RWA for each financial institution subject to the requirements. Under the Basel III framework, this calculation is performed based on three distinct categories of risk:

- Credit Risk – risk stemming from a borrower or other counterparty not making payments as required
- Market Risk – risk stemming from movements in market prices
- Operational Risk – risk stemming from inadequate or failed internal processes, people and systems or from external events

For each category of risk, Basel II established multiple calculation methodologies from which financial institutions may choose (subject in some instances to regulatory approval) that are still in use under Basel III. For instance, in determining Credit Risk, banks may use a Standardized Approach based on standardized risk weights established by Basel for various categories of assets. Banks' task under the Standardized Approach is to determine into which risk-weight buckets each of their assets should be placed. As an example, corporate debt that has been rated is assigned a risk weight from 20% (for AAA to AA- minus debt) to 150% (for below BB- debt). ([Bank for International Settlements 2006, 23](#))

Alternatively, subject to regulatory approval, banks may opt for the Internal Ratings-Based Approach to determining Credit Risk. Under the IRB Approach, banks rely on their own internal estimates of the risk associated with given assets rather than on standardized risk weights. Banks must first categorize their assets by asset class (corporate, sovereign, bank, retail or equity) and then, in general, determine the probability of default (under the Foundation IRB Approach, in which regulators determine the other risk components) or the probability of default, loss given default, exposure at default and effective maturity (under the Advanced IRB Approach) associated with the assets.

The other types of risk included in the RWA determination offer similar choices between methodologies based on standardized calculations and methodologies in which banks must rely on their own internal estimates. Operational Risk can be calculated using the Basic Indicator Approach (based on a fixed percentage of gross income), the Standardized Approach (based on a fixed percentage of gross income generated by different business lines) or the Advanced Measurement Approaches (based on the



determinations of a firm's own internal operational risk management system). Similarly, Market Risk can be calculated using the Standardized Measurement Method (based on fixed capital charges assigned to different types of securities) or the Internal Models Approach (based on determinations of a firm's own internal models). For a complete discussion of the use of internal risk models, see YPFS Case Study [Basel III C: Internal Risk Models](#).

Given the potential for manipulation inherent in allowing banks to use their own internal estimates in making the RWA calculations that will in turn determine the risk-based capital thresholds that they must meet, banks must satisfy a number of requirements in order to use the internal approaches. For example, there are a number of separate categories of requirements that must be met before banks can use the IRB Approach to calculating credit risk, including rating system design, risk rating system operations, corporate governance and oversight and validation of internal estimates. According to the BCBS, the use of the IRB Approach to calculating credit risk requires a bank to “demonstrate to its supervisor that it meets certain minimum requirements at the outset and on an ongoing basis,” with a focus on “banks’ abilities to rank order and quantify risk in a consistent, reliable and valid fashion.” ([Bank for International Settlements 2006, 89](#)) (For a complete description of the different categories of risk underlying the RWA calculation and the various methodologies that can be used in making the calculation, see [pages 19 through 209 of Bank for International Settlements 2006](#).)

Notwithstanding the requirements established by Basel for using internal estimates for calculating RWA, some commentators see the potential for manipulation being realized in a way that vitiates the risk-based capital requirements regime. While noting that the introduction of methodologies based on internal estimates was done with understandable intentions (to reduce incentives to engage in regulatory arbitrage and create incentives to upgrade risk management), Andrew Haldane, Executive Director of Financial Stability at the Bank of England, has argued that “self-assessment has created incentives to shade reported capital ratios.” ([Haldane 2013, 1](#)) Haldane concludes, “[t]he aggregate evidence is consistent with [shading downwards risk weights or switching to lower risk-weight asset categories to boost capital ratios] having occurred secularly and on a significant scale.” ([Ibid., 3](#)) Reported reductions in RWA and resulting increases in capital ratios must thus be examined with this alternative explanation in mind.

## 5. The Response of Credit Suisse and UBS

With the ostensibly enhanced risk-based capital requirements of the Swiss TBTF approach and the consequent added pressure to reduce RWA, an analysis of the responses of Credit Suisse and UBS to Basel III and the Swiss Finish in light of concerns about banks “marking their own exams” (as Haldane puts it) is worthwhile. In the wake of Basel III and the Swiss Finish, both Credit Suisse and UBS announced significant strategic decisions that they linked directly to the need to comply with the new regulatory environment. On October 30, 2012, UBS announced that it would be largely shuttering its fixed income business lines, arguing that such business lines “[had] been rendered uneconomical by changes in regulation and market forces” and “do not meet their cost of capital sustainably.” In the same press release, UBS committed to a more aggressive reduction of RWA than previously announced. ([UBS 2012](#))

Credit Suisse, on the other hand, announced in November 2011 that it would maintain its fixed income business lines while seeking to cut the associated RWA in half. In its investor presentation accompanying the announcement, Credit Suisse noted that a shift to Basel III would reduce the company's return-on-equity (ROE) from 19% to 10% absent a change to its business model. By cutting the RWA associated with its fixed-income business lines, Credit Suisse hoped to preserve an ROE of 17%. ([Credit Suisse 2011, 32-37](#))

To date, Swiss regulators have not taken a public position on which approach they prefer. Mark Branson, Head of Banks for FINMA, has described his body's role as setting “the framework within which each

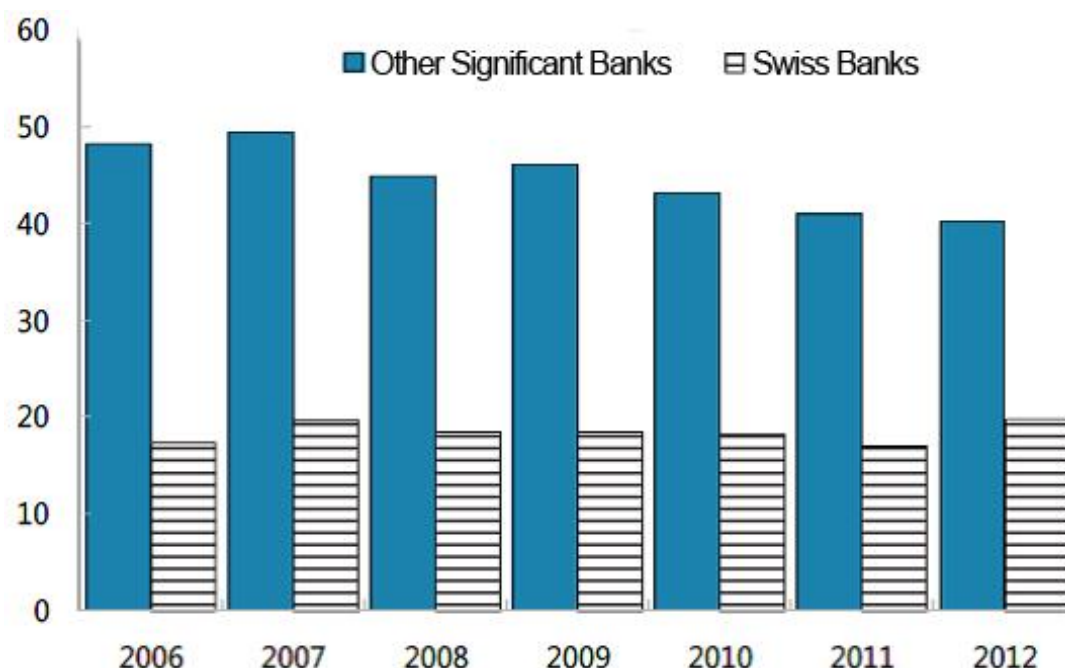
bank has to operate” and then allowing them to “make their own strategic choices.” Ultimately, Branson believes, “the markets and clients will make their judgment and we will see which model is more successful.” ([International Service of the Swiss Broadcasting Corporation 2012](#))

Despite their differing strategies, both Credit Suisse and UBS have had success in significantly reducing their RWA. Credit Suisse has cut RWA from CHF\$339 billion in 2011 to CHF\$261 billion in 3Q 2013. ([Credit Suisse 2013, 29](#)) Similarly, UBS has reduced RWA from CHF\$301 billion in 3Q 2012 to CHF\$219 billion in 3Q 2013. ([UBS 2013, 2](#))

Yet questions remain about how exactly Credit Suisse and UBS have achieved these reductions. Former CEO of the Swiss Federal Banking Commission (SFBC) and Vice-Chairman of FINMA Daniel Zuberbühler has raised concerns about what he sees as inappropriately low risk weights being assigned to certain asset categories by Credit Suisse and UBS. He notes, for example, that both Credit Suisse and UBS have assigned residential mortgages an average risk weight of approximately 10% in using internal methodologies to calculate RWA. This compares with a minimum risk weight of 35% for residential mortgages in standardized approaches. ([Zuberbühler 2013, 108-110](#))

Such concerns are seemingly bolstered by data demonstrating that Credit Suisse and UBS have a ratio of RWA to total assets (or RWA density) that is significantly lower than the ratio of other global systemically important banks (25% vs. 50%) (see **Figure 4**). Some variation in RWA density is to be expected based on differences in business models. A recent IMF paper identified business models as a key driver in the composition and levels of RWAs, with retail banks such as are often found in Spain, Italy and the U.K. having a higher RWA density than banks from Switzerland that are heavily involved in investment banking. ([Le Lesle and Avramova 2012](#)) Still, while differences in business model may explain some of the difference in RWA, the size of the gap could suggest that Credit Suisse and UBS are using their internal risk models to be more aggressive in determining the risk associated with their assets than other major financial institutions.

Figure 4: Percentage of Risk Weighted Assets to Total Assets (RWA Density)



Source: Bankscope



Thus, while the Swiss Finish has been trumpeted in some quarters for its enhanced risk-based capital requirements, such requirements are only as strong as the methodologies for calculating the ratios. Regulations that require banks to maintain a high level of capital relative to RWA can be effectively undone if calculations of RWA can be artificially lowered.

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