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Remarks on the Basel Capital Framework and Trade finance, 27 February 2014

Both the Basel capital framework and trade finance are esoteric subjects meriting mostly small articles in the business and financial press as well as more detailed coverage in specialist publications. Yet Basel II and Basel III, the last-but one and the latest version of the Basel capital framework, have been accorded a central role in the international agenda of financial regulatory reform. The treatment in Basel II and Basel III of trade finance has recently received a higher profile since there is a widespread belief that this treatment has contributed to a contraction of trade finance during the financial crisis dating from 2007.

Basel I, Basel II and Basel III.

Overview

I shall begin this talk with an overview of Basel II and Basel III.

Basel II and Basel III are designed to replace the 1988 Basel Capital Accord (Basel I). These capital accords are agreements drafted by the Basel Committee on Banking Supervision (BCBS) on frameworks for capital adequacy for banks. The frameworks set rules for the allocation of capital to banks' exposures to risks through their lending and other operations.

The agreements have had two objectives. One is prudential, namely to help to ensure the strength and soundness of banking systems. The other is to help to equalise cross-border competition between banks (provide "a level playing field") by eliminating competitive advantages due to differences among countries in their regimes for capital adequacy.

As a measure of the difference between the value of a bank's assets and liabilities capital serves as a buffer against future, unidentified or unexpected losses. (Expected losses are covered by loan-loss reserves or provisions.) The capital of banks consists of equity and other financial instruments which have the properties of being available to support an institution in times of crisis.

Financial instruments classified as capital are usually associated with higher rates of return, and are thus a more costly way of financing banks' assets than other liabilities such as deposits and short-term and longer-term debt instruments. The rate of return on capital is one of the determinants of a bank's pricing of loans and of other transactions involving its exposure to risk and as such is a factor of its competitiveness vis-à-vis other banks.

Capital under the initial version of Basel I agreed in 1988 was to serve as a buffer against credit risk, i.e. that of the failure of borrowers or parties to other banking transactions to meet payments due on loans or other categories of exposure to a bank. Under the accord capital was to constitute 8 per cent of banks' risk-weighted assets and of their exposures to risk due to counterparties' off-balance-sheet commitments.

Measurement of these risk-weighted assets was based on the attribution of weights reflecting the credit risk of different classes of counterparty. Examples of these classes of counterparty are sovereign, OECD or non-OECD, other public sector, corporate, etc.

Off-balance-sheet exposures were converted to their on-balance-sheet equivalents by multiplying them by credit conversion factors (CCFs). Examples under this heading are guarantees, various contingent liabilities, and interest-rate and exchange-rate derivatives. The resulting figures were then weighted according to the credit risk of the class of counterparty as for on-balance-sheet exposures.

For example, collateralised documentary credits received a CCF of 20 per cent. The on-balance-sheet equivalent estimated in this way would then be multiplied by the risk weight of the counterparty to which the documentary credit was made available.

The attribution of credit risk weights (0, 10, 20, 50 and 100 per cent) followed a scheme which favoured governments and certain other entities from OECD countries over those from non-OECD countries, and banks over other commercial borrowers.

Through an amendment in 1996 Basel I was extended to cover market risks in banks' trading books. Market risks are those due to the impact on a bank's portfolio of tradable assets of adverse changes in interest and exchange rates and in the prices of stocks and other financial instruments.

The Market Risk amendment accommodated two alternative ways of setting minimum capital levels for market risk. One involved the use by banks of their own internal risk-management models, and the other a standardized methodology under which capital requirements are estimated separately for different categories of market risk and then summed to give an overall capital charge (as for credit risks). I shall not discuss market risks at length in this talk since they are not essential to an understanding of the relation between the Basel capital framework and trade finance.

Implementation of Basel I and subsequent response to perceived weaknesses of Basel I and Basel II

Basel I was originally designed for internationally active banks. However, by the second half of the 1990s it had become a global standard and had been incorporated into the prudential regimes of more than 100 countries.

Basel I was none the less the subject of increasingly widespread dissatisfaction owing to its crude calibration of credit risks and to the growing importance of practices such as securitization and of new financial instruments for which its rules were not well adapted. Thus a decision was taken to initiate what proved to be the lengthier than anticipated process of drafting a successor agreement.

What was intended to be the definitive version of the new accord, Basel II, became available in mid-2004. Subsequently Basel II has been revised to incorporate the lessons of recent experience, especially those learnt as a result of the stresses on banks' solvency during the financial crisis. The result of this process has been renamed Basel III.

Both Basel II and Basel III consist of three Pillars. Under Pillar 1 minimum regulatory capital requirements for credit risk are calculated according to two alternative approaches, the Standardised and the Internal Ratings-Based.

Under the simpler of the two, the Standardised Approach, the measurement of credit risk is based on ratings provided by external credit assessment institutions. Export credit agencies as well as credit rating agencies are indicated for this purpose. However, the expectation of both the BCBS and of national authorities is clearly that the role will most frequently be assumed by credit rating agencies. Owing to perceived shortcomings in the performance of the major credit rating agencies this choice has proved controversial.

Under the Standardised Approach entities from OECD countries are no longer favoured over those from non-OECD countries. Both banks and non-financial corporations are now differentiated according to their credit ratings (of which the BCBS uses those of Standard & Poor's for illustrative purposes). Thus claims on banks and non-financial corporations rated from AAA to AA- receive a risk weight of 20 per cent, while those rated below B- for banks and below BB- for non-financial corporations receive a weight of 150 per cent.

Under the Internal Ratings-Based approach, exposures are classified as corporate, sovereign, bank, retail, equity, purchased receivables, and specialised lending. .

For corporate, sovereign, bank, and retail exposures, subject to the satisfaction of certain conditions with respect to their internal controls and the availability of relevant data, banks use their own rating systems to measure some or all of the determinants of credit risk, namely the probability of default, loss given default, exposure at default, and the remaining effective maturity of the exposure.

Under the Foundation version of the Internal Ratings-Based Approach banks estimate the determinants of default probability but rely on their supervisors for measures of the other determinants of credit risk. However, this does not apply to retail exposures for which banks provide their own estimates of all the determinants of credit risk.

Under the Advanced version of the Internal Ratings-Based Approach banks are responsible for estimating all the determinants of credit risk, though the remaining maturity of loans is subject to a floor of one year and a ceiling of five years.

For exposures consisting of equity or purchased receivables banks calculate credit risk weights on the basis of frameworks which also incorporate to varying degrees banks' own estimates of its determinants but in accordance with different formulae than those for corporate, sovereign, bank, and retail exposures. Specialised lending covers categories of corporate exposure with special characteristics such as project finance, commodities finance, and certain kinds of real-estate financing.

Under the rules for specialised lending banks that meet the supervisory requirements for the estimation of the determination of default probability may use the formula prescribed for the Internal Ratings-Based Approach for corporate exposures. Banks not meeting these

requirements are to use a special set of supervisory categories and risk weights for unexpected losses.

Pillar 1 of Basel II and Basel III also contains rules for regulatory capital requirements for market risk which follow the same general framework as Basel I but which have been subject to a series of amendments since 2005. Unlike Basel I, Basel II and Basel III contain regulatory capital requirements for operational risk, which covers losses due to events such as human errors or fraudulent behaviour, computer failures, or disruptions from external events such as earthquakes.

Pillars 2 and 3 of Basel II are concerned with supervisory review of capital adequacy and the achievement of discipline in banks' risk management through disclosure to investors.

The rules of Basel III incorporate much of Basel II. But they have also been extended in various ways. Thus Basel III contains more stringent rules for the categories of financial instrument which are eligible for inclusion in minimum required regulatory capital. Basel III also includes standards for the management of banks' liquidity risk, i.e. the risk that banks will not be able to meet financial obligations as they become due. The connections of liquidity risk to solvency, the target of Basel II, have been an outstanding feature of the current financial crisis.

Basel III includes higher minimum capital ratios (including new capital buffers), higher risk weights for selected credit and market risks, including exposures to securitized assets. (Securitized assets are pools of financial assets, which are individually illiquid but once aggregated become marketable securities.) As anyone who has followed the unfurling of the financial crisis knows, securitized assets, particularly pools consisting of packaged mortgages of often questionable quality, played an important role in the illiquidity and insolvency of major parts of the financial sectors in Europe and United States since 2007.

At the completion of the transitional period of Basel III at the beginning of 2019 minimum total capital plus the conservation buffer (which is intended to ensure a bank's capacity to absorb losses during periods of financial and economic stress, and drawings on which are linked to restraints on the distribution of earnings) is now to be 10.5 per cent of risk-weighted assets, and of this figure 7 per cent is to consist of equity capital. In addition to these requirements there is to be a surcharge of equity capital ranging between 1 and 2.5 per cent of risk-weighted assets for large, systemically important banks, and a countercyclical buffer ranging between 0 and 2.5 per cent of risk-weighted assets, which is set on the basis of national regulatory discretion and is intended to achieve the macroprudential goal of protecting the banking sector from periods of excess credit growth.

Liquidity management

In Basel III the rules for capital requirements for risk-weighted assets are supplemented by rules for the management of liquidity, i.e. for the relationship between a bank's assets and liabilities.

Since the outbreak of the credit crisis in mid-2007 many banks have faced serious difficulties in obtaining liquidity adequate for the ongoing funding of their operations. These difficulties

have led to unprecedented levels of liquidity support from governments and central banks together with other official intervention such as the arrangement of mergers for weakened or failing institutions. Moreover the experience of the crisis highlighted the close connections between banks' liquidity risks and threats to their solvency (the target of Basel II),

Basel III defines two minimum quantitative measures intended "to achieve two separate but complementary objectives" of which the first "is to promote short-term resilience of a bank's liquidity by ensuring that it has sufficient high-quality liquid assets to survive a significant stress scenario lasting for one month", and the second "is to promote resilience over a longer time horizon by creating additional incentives for banks to fund their activities with more stable sources of funding on an ongoing basis". These two measures are the Liquidity Coverage Ratio and the Net Stable Funding Ratio.

The Liquidity Coverage Ratio is designed to identify the amount of unencumbered high-quality liquid assets available to offset the net cash outflows which the bank would encounter during short-term stress scenarios specified by its supervisors. Under the standard the ratio of high quality assets to net cash outflows over a 30-day period should be at least 100 per cent.

Cumulative cash outflows are calculated by multiplying outstanding balances of different categories of liability by percentages reflecting the expected run-off over a 30-day horizon, and by multiplying off-balance-sheet commitments and other contingent liabilities by factors reflecting expected rates of draw-down. The contingent liabilities include guarantees, letters of credit and other trade finance instruments. The draw-down factors for such contingent liabilities are to be determined national supervisors.

The Net Stable Funding Ratio is designed to measure the amount of longer-term, stable sources of funding in relation to the liquidity profiles of the assets funded and the potential for liquidity calls due to contingent off-balance-sheet obligations over a one-year time horizon under conditions of extended stress. Under the standard, the ratio of available stable funding to required stable funding should be at least 100 per cent.

A bank's available stable funding includes its capital, preferred stock with a maturity of at least one year, other liabilities with effective maturities of at least one year, and the portion of other shorter-term deposits which would be expected to stay with the institution during extended stress scenarios. Each category of stable funding is multiplied by a factor reflecting its degree of stability, equity capital, for example, being multiplied by 100 per cent and unsecured wholesale funding from entities other than non-financial corporations, sovereigns, central banks and public-sector bodies by 50 per cent.

Required stable funding (RSF) is measured on the basis of supervisory assumptions, reflected in RSF factors, concerning the liquidity risk of the bank's assets, off-balance-sheet exposures and certain other commitments including guarantees, letters of credit and other trade finance instruments.

The RSF factors assigned to different categories of asset approximate the amount of the asset which could not be monetised through sale or use as collateral in a secured borrowing during

a period of liquidity stress lasting a year. Off-balance-sheet exposures and other contingent liabilities generally require little immediate funding but can be associated with significant drains of liquidity during periods of stress. The requirement of an RSF factor for off-balance-sheet exposures involves the establishment of an allocated reserve. For the contingent liabilities due to trade finance the RSF factors are left to national supervisory discretion.

Management of banks' balance sheets in accordance with the new standards for liquidity risk will involve estimates of expected net cash outflows and of required amounts of stable funding due to contingent liabilities linked to trade finance. The impact on trade finance will depend on the changes from existing practices which follow from eventual introduction of the Liquidity Coverage Ratio and the Net Stable Funding Ratio. The details of the rules for required stable funding for most of the instruments of trade finance are left to national supervisory discretion. This has the advantage of providing for flexibility which can take into account variations in national circumstances and in policy objectives.

Leverage ratio

In addition to capital requirements for credit, market and operational risk and rules for the management of liquidity risk Basel III contains an aggregate leverage ratio.

The BCBS itself has provided a succinct description of the rationale of the leverage ratio as follows: "One of the underlying features of the crisis was the build-up of excessive on- and off-balance sheet leverage in the banking system. In many cases, banks built up excessive leverage while still showing strong risk based capital ratios. During the most severe part of the crisis, the banking sector was forced by the market to reduce its leverage in a manner that amplified downward pressure on asset prices, further exacerbating the positive feedback loop between losses, declines in bank capital, and contraction in credit availability."

Thus the BCBS decided to introduce "a simple, transparent, non-risk-based leverage ratio which would "reinforce the risk based requirements with a simple, non-risk based 'backstop' measure".

The leverage ratio is designed to achieve this objective by setting a minimum level for banks' high-quality (so-called Tier 1) capital in relation to on- and off-balance sheet positions (where the latter include derivatives and contingent liabilities). As I shall explain in a moment, the leverage ratio has been a major bone of contention between the trade-finance industry and the BCBS regarding Basel III.

Trade finance in the Basel capital framework

How does trade finance fit into this framework ?

Risk weights and CCFs

I shall begin with the risk weighting for estimating the capital requirements for credit risk under the Standardised Approach of Basel II and Basel III.

Where trade finance takes the form of bank lending, the rules are subsumed under those for lending generally. Where trade finance takes the form of off-balance-sheet exposures or contingent liabilities, it is covered by the system of credit conversion factors.

- Direct credit substitutes, e.g. general guarantees of indebtedness such as standby letters of credit serving as financial guarantees for loans and securities, and acceptances (including endorsements which entail the same exposure to credit risk as acceptances) are attributed a CCF of 100 per cent, that is to say they are treated in the same way as lending.
- Certain transaction-related contingent items (such as performance bonds and standby letters of credit related to particular transactions) are attributed a CCF of 50 per cent (corresponding in Basel II to a capital requirement of 4 per cent for an exposure to a non-financial firm).
- Short-term self-liquidating trade letters of credit arising from the cross-border movement of goods (e.g. documentary credits collateralised by the underlying shipment) are attributed a CCF of 20 per cent in the case of both the issuing bank and the confirming bank (the distinction between which I shall explain in a moment). Under the 8-per-cent capital ratio of Basel II this would imply a minimum capital requirement of 1.6 per cent, and under the new and higher required capital ratios of Basel III a somewhat higher minimum capital requirement in the range of 2 to 2.5 per cent.

In the light of the revision of the rules concerning exposures to trade finance in October 2011 one feature of the Standardised Approach as originally formulated in Basel II (and retained in Basel III) deserves special attention. Under one of the two options for exposures to banks (Option 2) claims on *unrated* banks carried a risk weight of 50 per cent (corresponding to a capital requirement in Basel II of 4 per cent) or in the case of claims with an original maturity of up to three months a risk weight of 20 per cent (corresponding to a capital requirement of 1.6 per cent).

As a result unrated banks issuing letters of credit in low-income countries might become eligible for the lower risk weights - and thus lower regulatory capital charges - in the exposures of confirming banks. The latter are typically chosen for the role of confirming letters of credit owing to their location in higher-income countries which are viewed as offering a surer prospect of payments being made under letters of credit. However, application of these low risk weights was subject to a *sovereign floor* under which no claim on an unrated bank could receive a risk weight lower than that which applied to the claims of the country in which it was incorporated. This could have the consequence of nullifying the benefits of the lower risk weights for trade-financing transactions involving claims on unrated banks in lower-income countries.

Under the alternative Internal Ratings-Based approach of Basel II and Basel III, as I have already explained, for the major categories of exposure banks use their own rating systems to measure some or all of the four determinants of credit risk, namely the probability of default, loss given default, exposure at default, and the remaining effective maturity of the exposure. Remember that the Internal Ratings-Based Approach provides only a framework of rules for estimating one or more of the determinants of capital requirements for credit risk. The actual levels of these estimates are the responsibility of banks themselves.

Thus the following rules apply in Basel II and Basel III:

- In the Foundation version of the Internal Ratings-Based Approach the CCFs used to estimate the exposures to instruments of trade finance follow those of the Standardised Approach.
- In the Advanced version of the Internal Ratings-Based Approach banks make their own estimates of these credit conversion factors subject to floors applicable in certain cases.
- Before the October 2011 revision of the rules by the Basel Committee in the case of both the Foundation and the Advanced versions of the Internal Ratings-Based Approach the remaining effective maturity for trade-finance exposures was generally subject to a one-year floor. However, in the case of the Advanced version of the Internal Ratings-Based Approach, exceptions to this floor could be accorded to banks at supervisors' discretion in cases which specifically included short-term self-liquidating trade transactions such as "import and export letters of credit and similar transactions". These "could be accounted for at their remaining maturity".

The leverage ratio

As noted earlier, in Basel III the rules for capital requirements for risk-weighted assets are to be supplemented by an aggregate leverage ratio. In the version of this ratio fleshed out in the blueprint for Basel III published in December 2010 the ratio sets a minimum level of 3 per cent for banks' high-quality (so-called Tier 1) capital in relation to on- and off-balance sheet positions (where the latter includes derivatives and contingent liabilities).

Much of the trade-finance industry's recent criticism of Basel III until January 2014 was of the formula for the leverage ratio. The items in the ratio's denominator, i.e. a bank's on- and off-balance sheet exposures, contingent liabilities, including those associated with trade finance, were to have a credit conversion factor of 100 per cent, and not the lower credit conversion factors allowed in the estimation of risk-weighted exposures for the minimum regulatory capital requirements for credit risk of Basel II and Basel III. The only exception admitted to the CCF of 100 per cent was "commitments that are unconditionally cancellable by the bank without prior notice". These receive a CCF of 10 per cent.

Industry representations and the risks of trade finance

At a general level the target of industry representations is the emphasis of Basel II and Basel III on counterparty rather than product or performance risk. In the industry's view this emphasis leads to the attribution of insufficient importance to the risk-mitigating factors of trade-finance instruments such as the self-liquidating character of many short-term trade-finance instruments and the short maturity of a large part of such financing.

Failure to take account of the risk-mitigating features of trade financing is held by the industry to be likely to raise capital requirements for all but highly rated borrowers – from developed and developing countries. These expectations of the industry were borne out by evidence collected in a series of surveys conducted in 2009, 2010 and 2011 by the International Chamber of Commerce, the Bankers' Association for Finance and Trade, and the IMF.

Particular attention has also been drawn by the industry critics to the procyclicality of risk weights such as those of the Internal Ratings-Based Approach, which are determined by the probability of default and by loss given default, both of which increase during downturns such as the current one, again without proper account being taken of the mitigating factors inherent in the instruments of trade finance.

Representations of this kind were initially made by the trade-finance industry early in the process of drafting Basel II. However, only recently has the industry supported its position with statistical data. Of these the most important are two batches of data assembled under the International Chamber of Commerce-Asian Development Bank Trade Finance Default Register and under the International Chamber of Commerce Trade Finance Register. These were the outcome of an initiative of the International Chamber of Commerce and the Asian Development Bank to extend available information on trade finance.

The first batch of data which covered 5,223,357 trade finance transactions during 2005-2009 provided by nine international banks included the following findings:

- transactions had a relatively low average maturity of 115 days; the the transactions had a low incidence of default¹ involving less than 1,140 or less than 0.02 per cent of the total,
- the incidence being even lower - 445 out of 2.8 million transactions – during the downturn of 2008-2009;
- the off-balance sheet trade-finance transactions had an even lower rate of default involving only 110 out of almost 2.4 million transactions;
- and the average recovery rate for transactions in default was 60 per cent, implying an average loss given default of 40 per cent.

The second larger batch of data, covering 11,414,240 transactions of 14 international banks during 2005-2010, reinforced the message of the first: the average maturity of the transactions was 147 days; fewer than 3,000 defaults were observed for the total sample; and only 947 out of 5.2 million transactions were observed during 2008-2010.

The 2011 changes announced by the Basel Committee

The first changes in the rules for trade finance in Basel III were announced by the BCBS in October 2011. The changes involved two waivers:;

- firstly, a waiver of the one-year floor for the maturity of issued and confirmed letters of credit for banks estimating risk weights on the basis of the Advanced version of the Internal Ratings-Based Approach;
- and, secondly, a waiver of the sovereign floor under which no claim on an unrated bank can receive a risk weight lower than that of the claims on the country in which it was incorporated. (The first of these waivers could already be accorded to banks at its supervisor's discretion in the case of letters of credit and similar transactions.) As I

¹ Default does not necessarily lead to loss for the bank involved since actual losses are only registered in the case of off-balance-sheet instruments such as letters of credit when all procedures have been correctly followed - which is not the case in a significant proportion of cases.

explained earlier, this waiver can have reduce the capital requirement for the trade finance of low-income countries.

Although the Committee did not accept the industry's arguments for lowering the CCFs for contingent trade financing in the denominator of the aggregate leverage ratio, it none the less expressed willingness to monitor the behaviour of this ratio during 2011-2016 – a period which was to serve as a transitional period for supervisory monitoring.

2014 revision of the leverage ratio 2014

In a new document on the leverage ratio of January 2014 the BCBS has now moved earlier than previously envisaged, specifying CCFs of less than 100 per cent for trade-related contingencies and transaction-related guarantees.

Short-term self-liquidating letters of credit associated with the movement of goods in international trade (commitments by the bank to pay which are collateralised by the underlying shipments) now receive a CCF of 20 per cent in the case of both the issuing bank and the confirming bank. Moreover certain transaction-related contingent items (such as performance bonds, bid bonds, and standby letters of credit, which are vehicles for guaranteeing performance related to particular transactions) now have a credit conversion factor of 50 per cent.

The way forward and industry initiatives

Subjects which may be raised by the trade-finance industry as it continues to makes its case for a better alignment of capital requirements with the true risks of trade finance include the risk weights for receivables finance linked to trade, the possible development for trade-finance products of a trade-specific behaviour curve to replace Basel III's existing generic corporate behaviour curves, and allowance for zero estimates of loss given default for collateralised trade-finance products under the Internal Ratings-Based Approach.

Moreover it should be remembered that the Basel capital framework for most countries is soft law, i.e. a set of internationally agreed standards requiring incorporation in legislation and regulations at national level but in a form providing the country with a measure of flexibility. Thus the trade-finance industry has some scope to persuade governments to exercise fully this flexibility in order to avoid unfavourable effects on the availability and cost of trade finance.

The industry's own efforts to economise on the capital used for trade finance also bear watching. Banks have now begun to play a more substantial role in supply-chain trade finance through techniques which avoid commitment of their own capital. This role involves deployment by corporations themselves of what are often currently their large cash balances to finance their supply-chain operations. The role of the bank in such cases is to provide the framework and infrastructure for such financing but not to commit its own funds. In such cases trade financing becomes a fee-earning activity but one which does not absorb capital to cover exposure to risk.

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