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## **Basel 2 and the Availability and Terms of Trade Finance**

by

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"The views expressed are those of the author and do not necessarily reflect the views of UNCTAD"

## **Background**

International trade has been severely affected by the current global recession: in 2009 trade volume actually contracted by about 12 per cent, the sharpest fall since the Second World War (Lamy, 2010). The contraction in trade has been associated with a decline in the value and volume trade financing which reflects partly adverse macroeconomic conditions affecting world trade, but also a tightening in the availability and terms of such financing. According to some recent estimates this tightening has made a significant contribution to the contraction of trade, especially during the early part of 2009.<sup>1</sup> Amongst specific factors contributing to this tightening which are cited in recent global surveys of trade finance are increases in capital requirements due to the introduction of Basel 2.

Two surveys (conducted by the International Chamber of Commerce and by the Bankers' Association for Finance and Trade (BAFT) and the IMF in August 2009) indicate the scale and geographical distribution of the contractions for the major categories of trade finance and point to widespread increases in its price. According to the BAFT-IMF survey (BAFT, 2009a: Appendix 1), which covered 88 banks in 44 countries, there was a small increase of 4 per cent in the value of trade finance between the fourth quarters of 2007 and 2008 followed by a sharp fall of 11 per cent between the fourth quarter of 2008 and the second quarter of 2009. For six emerging-market regions (Emerging Europe, Southeast Europe and Central Asia, developing Asia, Middle East and Maghreb, Emerging Asia and Sub-Saharan Africa) there were contractions in the value of trade finance for all but Middle East and Maghreb during the first period and for all except Emerging Asia (where there was no change) during the second period. There were also declines in both periods for major categories of trade finance, the value of letters of credit contracting 2 per cent in the first period and 8 per cent in the second.

The ICC Banking Commission survey, conducted in the winter of 2009 when the pressures on financial markets during the aftermath of the disappearance of Lehman Brothers were particularly acute and covering 122 banks in 59 countries, found not only that substantial proportions of responding institutions had recently decreased credit related to trade finance but also that there had been increases in the proportion of trade-finance transactions involving lower risk such as those supported by letters of credit and insurance or guarantees and a reduction in the proportion involving the simpler, cheaper but also potentially riskier open-account transactions (ICC Banking Commission, 2009: 20-21 and 34-36). Substantial proportions of responding institutions (more than 40 per cent) in the ICC Banking Commission survey reported increases in their fees for guarantees and commercial and stand-by letters of credit (ICC Banking Commission, 2009: 36-37). (For explanation of major techniques of trade financing see Box 1.)

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<sup>1</sup> A model-based estimate of the contribution of tighter trade finance by the OECD places it at about one-third during the last quarter of 2008 and the first quarter of 2009 (OECD, 2009). The President of the World Bank has spoken of a contribution of 10-15 per cent during the first part of the year [Bankers' Association for Finance and Trade (BAFT, 2009a: 1)].

Among banks covered by the BAFT/IMF survey which reported an increase in their capital requirements since the outbreak of the crisis 43 per cent reported that Basel 2 had had a negative impact on their capacity to provide trade finance (BAFT, 2009a: 3).<sup>2</sup> These figures confirm feedback to the ICC Banking Commission which indicated that the weightings for credit risk under the Basel 2 requirements for regulatory capital had adversely affected banks' incentives to lend for trade finance. The impact had been especially severe for lending to SMEs and borrowers in developing countries (ICC Banking Commission, 2009: 40)

### **Box 1. Techniques of trade financing**

Trade financing is an umbrella term covering several different categories of financial transactions including payments or transfers and insurance as well as credit techniques. A clear distinction between payments or transfers and credit in trade financing is difficult to draw: the lags associated with most methods of payment or transfer necessarily entail the exposure of exporters, their agents and financial institutions to importers in international trade during the period before the receipt of the proceeds due from the latter; and the terms of credit related to many trade transactions are linked to the way in which proceeds will be transferred. Many of the techniques of trade financing are designed to shift risks between exporters or importers and financial institutions and between financial institutions themselves, or to accelerate the receipt of proceeds. The letter of credit, one of the best known and most widely used techniques of trade financing, is primarily a device for assuring security of payment, while bankers' acceptances which are often issued on the basis of letters of credit are credit mechanisms. However, both techniques expose a bank to credit risks. Other techniques such as lines of credit from banks to exporters and importers, buyer credits, project financing and international leasing are credit mechanisms. Guarantees and insurance linked to trade transactions are also included in trade finance and expose banks to credit risk but are not credit mechanisms as such.

In the surveys to which reference is made in the text – and in the representations as to the negative influence of Basel 2 – the principal focus is on open account, letters of credit and short-term credit linked to trade.

*Open account* is a method of settling trade transactions without the use of documentary instruments determining the obligation to pay. Under the procedure the exporter presents to the importer an invoice specifying the terms of sale and payment. To cover the period before collection of the proceeds the exporter may seek short-term credit from its bank with a maturity matching the terms in the invoice.

*A letter of credit* is an instrument issued by a bank at the request of a customer under which the bank promises to pay to a beneficiary a sum of money within a stated period on the receipt of documents and the fulfilment of other terms specified in the letter of credit. Letters of credit have the advantage to an exporter of providing a set of rules which assure payment, and to a bank of separating payment

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<sup>2</sup> The publicly available summaries of the survey do not specify the proportion of banks covered which had increased their capital requirements.

from exposure to debts linked to the underlying sales. The flexibility of the letter of credit as an instrument for assuring payment has the consequence that it can take several different forms - revocable or irrevocable, sight or time, assignable/transferable, revolving, back-to-back, stand-by, etc. – and that it is used in domestic as well as cross-border trade.

*Time letters of credit* defer payment to a date subsequent to the presentation of documents and the fulfilment of the other conditions but can serve as the basis of financing for the beneficiary under a bankers' acceptance. In a trade-related banker's acceptance the importer applies to a bank for a credit until he has the money to pay the exporter (for example, by selling the imported goods). If the bank is willing to provide its assurance that payment will be made, it notifies the exporter that he may draw a time draft on it. The bank stamps "accepted" on the draft which then carries the accepting bank's guarantee of payment and becomes a negotiable instrument that can be sold before maturity at a discounted price, thus enabling the exporter to receive payment immediately. Traditionally bankers' acceptances have been used to finance trade in bulk commodities such as cocoa, cotton, coffee and crude oil. However, they are a relatively cumbersome instrument which have become less important in recent years. .

Other forms of short-term financing of trade include facilities designed to match the trade cycle of the borrower and through the associated documentation to minimise the risk to the lending bank. The monitoring associated with such facilities enables banks to make informed decisions concerning eventual renewal or prolongation of its exposure to a borrower.

Data on the shares of different techniques of trade finance in international trade are fragmentary. According to a survey of Global Business Intelligence, presumably conducted before the credit crisis, 78 per cent of international trade was carried out through open account and 15 per cent through letters of credit. However, a higher proportion of international trade involving developing countries was carried out through traditional documentary techniques such as letters of credit (ICC banking Commission, 2009: 20). According to the 2009 BAFT/IMF survey the proportion trade carried through open account was 45 per cent at the end of 2007 and had fallen still further to 40 per cent by the second quarter of 2009. The counterpart of this decline was an increase in the use of cash-in-advance financing and bank-intermediated finance (which would include letters of credit) (BAFT; 2009a: 2 and Appendix I).

(The account of techniques of trade financing in this Box makes extensive use of Deak and Celusak, 1984: chapters 3-5, Perry, 1989: chapter 8, and Stigum and Crescenzi, 2007: chapters 3 and 21.)

### **The rules of Basel 2 and trade finance**

As explained in greater detail in the overview of the Annex, Basel 2 contains a number of different options for estimating regulatory capital requirements for credit risk.<sup>3</sup> One of these options is simple and follows lines similar to those contained in the previous Basel Capital Accord of 1988 (Basel 1). The other more advanced options of Basel 2 provide for the setting of capital requirements on the basis of the banks' own internal estimates of the determinants of credit risk. The latter options appear to be the principal target of the representations concerning the negative impact of Basel 2 on trade finance described in the previous section. (For an overview of Basel 2 see the Annex.)

#### *Standardised Approach*

As in Basel 1, capital is to constitute 8 per cent of banks' risk-weighted assets and off-balance-sheet exposures. The risk weights for banks' counterparties are assigned on the basis of a scale of credit ratings of external credit assessment institutions, expected for the most part to be credit rating agencies. Ratings (on the basis of the Standard & Poor's scale) range from AAA to B- and unrated, and risk weights from zero to 150 per cent. Thus, for example, sovereigns rated from AAA to AA- receive a zero risk weight, while sovereigns rated below B- receive a weight of 150 per cent which translates into a capital requirement of 12 per cent of banks' exposures to this category of counterparty. 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. Off-balance-sheet exposures, including the contingent liabilities which are techniques of

<sup>3</sup> In what follows references to Basel 2 are to the text of June 2006, *International Convergence of Capital Measurement and Capital Standards* (BCBS, 2006).

trade finance, are multiplied by credit conversion factors to obtain their credit equivalents to which are then assigned risk weights as for on-balance-sheet exposures. In Basel 1 the same method was used to convert off-balance-sheet exposures to their credit equivalents.

In the context of the representations concerning the negative impact of Basel 2 on trade finance the following provisions of the Standardised Approach merit special attention:

- Unrated exposures are assigned a risk weight of 100 per cent (which translates into a capital requirement of 8 per cent of the value of the assets in question). This weight will leave unchanged the capital requirements for many borrowers, especially in developing countries.
- There is a special risk weight of 75 per cent for banks' portfolios of retail exposures. To qualify as retail there is a ceiling on the aggregate exposure to a counterparty of EUR 1 million. This provision can favour lending to SMEs meeting the definition of retail exposures.
- There are credit conversion factors (CCFs) for off-balance-sheet exposures commonly associated with trade finance: lending commitments receive CCFs of 20 per cent and 50 per cent according to whether their original maturity is up to one year or greater than one year; credit substitutes such as bankers' acceptances and stand-by letters of credit receive a CCF of 100 per cent; and short-term self-liquidating letters of credit receive a CCF of 20 per cent. With the exception of the lower CCF for lending commitments with an original maturity of up to one year these CCFs are the same as those of Basel 1.

#### *Internal Ratings-Based Approach*

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 unexpected 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. Under the Advanced version of the Internal Ratings-Based Approach banks also estimate the loss given default, the exposure at default, and the remaining maturity of the exposure (subject to a floor of one year and a ceiling of five years). For exposures to smaller domestic borrowers banks may be exempted from the obligation of making their own estimates of the remaining maturity, in which case all the exposures in question will be assumed to have an average maturity of 2.5 years as under the Foundation version. Moreover for certain short-term exposures with an original maturity of less than one year the one-year floor may be waived (see below).

Specialised lending covers three types of transaction which can be used for trade finance: (1) project finance which is a method of funding large, complex and expensive installations where the lender looks primarily to the revenues generated

by the project as the source of repayment and security for the exposure; (2) object finance which is a method of funding the acquisition of physical assets as opposed to whole projects (such as ships, aircraft, satellites, and railcars) where repayment is dependent on cash flows generated by the assets; and (3) commodities finance which refers to short-term lending to finance reserves, inventories, and receivables of exchange-traded commodities where the exposure will be repaid from the proceeds of sales and the borrower has no other capacity for repayment.

In the case of all three types of 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: “strong” for which the risk weight is 70 per cent or 50 per cent in cases where this judged appropriate by the national supervisor (a weight that translates into a capital requirement of 5.6 or 4 per cent of the exposure); “good” for which the risk weight is 90 per cent or 70 per cent (the latter weight again depending on supervisory discretion); “satisfactory” for which the risk weight is 115 per cent; and “weak” for which the risk weight is 250 per cent. The conditions which exposures which should meet for inclusion in the different categories are set out at some length in an Annex to Basel 2. Broadly “strong” corresponds to a credit rating of BBB- or better, “good” to BB+ or BB, “satisfactory” to BB- or B+, and “weak” to B to C-.

As in the case of the Standardised Approach, certain features of exposures related to trade finance under the rules for the categories of corporate, sovereign, and bank for merit special attention:

- The Internal Ratings-Based Approach provides a framework of rules for estimating one or more of the determinants of capital requirements for credit risk but the actual levels of these estimates are the responsibility of banks themselves (though the methods of estimation, relevant internal controls and satisfaction of data requirements are subject to national supervisory surveillance).
- In the Foundation version of the Internal Ratings-Based Approach the CCF for off-balance-sheet exposures in the case of instruments which may be used as part of trade finance remain the same as in the Standardised Approach. In the Advanced version of the Internal Ratings-Based Approach banks may use their own internal estimates of the CCFs subject to a floor of 100 per cent in certain cases.
- Exposures to qualifying SMEs benefit from a downward adjustment of the unexpected probability of default. Qualifying SMEs here are borrowers with sales of less than EUR 50 million. Exposures to SMEs with value of less than EUR 1 million are eligible for inclusion in a bank’s retail exposures and thus benefit from the lower unexpected probability of default applying to such exposures.
- In the case of the Foundation version of the Internal Ratings-Based Approach supervisors are to set the remaining effective maturity in the determination of credit risk at 2.5 years for most exposures (including those due to trade finance).
- In the case of the Advanced version of the Internal Ratings-Based Approach the effective maturity is to be estimated by the bank as the weighted average of the dates of cash

flows associated with the exposure or, where this is not feasible, as the time required for the borrower to discharge completely all remaining contractual obligations under a loan. *These estimates are subject to a floor of one year and a ceiling of five years. Nevertheless, exceptions to these rules are admitted in certain cases.* Supervisors may allow banks to set the effective maturity at 2.5 years for firms whose sales and assets are below a specified ceiling. Moreover, subject to supervisory discretion, there is an exemption from the one-year floor for certain short-term exposures. Amongst the exposures singled out for this exemption are short-term self-liquidating trade transactions such as “import and export letters of credit and similar transactions” which “could be accounted for at their remaining maturity”.

### **Trade financing and new rules for managing liquidity risk**

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 2), and have provided the impetus for new international initiatives on standards for banks’ management of liquidity risk, i.e. the risk that a bank will not be able to meet its obligations as they fall due (BCBS, 2008 and 2009). The proposals of these initiatives make explicit reference to instruments of trade finance as a subject which is to be taken into account as part of the management of liquidity risk.

Although management of liquidity risk is not formally part of Basel 2, acknowledgement of the connections between liquidity risk and threats to solvency is likely to mean that the new standards for liquidity risk will form an essential part of the package of revised regulatory standards for banks being developed by the Basel Committee on Banking Supervision to incorporate the lessons of the crisis. Since the proposals described in this section are still the subject of a consultation process, their effects in practice cannot yet be the subject of representations like those concerning the impact of Basel 2 on trade finance. However, like the rest of the package, the new liquidity standards will eventually be assessed regarding their impact on the financing of different kinds of economic activity including international trade.

The Basel Committee’s *International Framework for Liquidity Risk Measurement, Standards and Monitoring* (BCBS, 2009) defines quantitative measures intended to aid supervisors “to assess the resilience of banks’ liquidity cushions and constrain any weakening in liquidity maturity profiles, diversity of funding sources, and stress testing practices”. These 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 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 lead to significant drains of liquidity during periods of stress. The requirement of an RSF factor for such exposures would involve the establishment of an allocated reserve. For the contingent liabilities due to trade finance the RSF factors are to be 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 proposed changes are currently left by the Basel Committee 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.

### **Features of Basel 2 targeted in representations concerning trade finance**

The representations concerning the negative impact of Basel 2 on trade finance fall under four headings. Under the first the target is the emphasis of Basel 2 on counterparty rather than product or performance risk. This leads to the estimation of capital requirements as an increasing function of the probability of default and loss given default (both of which increase during downturns like the current one) and to

the attribution of insufficient importance to the mitigating factors of the low risk of trade-finance instruments –a characteristic reflected in the self-liquidating character of many short-term trade-finance instruments (ICC Banking Commission, 2009: 40). The other three headings concern (1) the application of the one-year floor to the effective maturity of exposures in estimating the determination of capital requirements for credit risk, (2) the minimum data requirements for the estimating the probability of default and loss given default, and (3) the status of the United States Export-Import Bank as manifested in the risk weight for claims on or guaranteed by the institution (BAFT, 2009b: 2-5 ).

These representations are distilled from the observations of a substantial number of banks concerning the impact on trade finance of increased capital requirements due to Basel 2. A careful reading suggests that the substance of these representations reflects more the way in which Basel 2 is being implemented and applied than the rules themselves. The focus of the representations is the Internal Ratings-Based Approach, that is more likely to be used by large banks. i.e. the banks which are the most important players in trade, rather than the Standardised Approach.<sup>4</sup> Moreover some of the representations suggest that the implementation of Basel 2 in the United States is an especially important concern of the banks making them. (The representations are set out in ICC Banking Commission, 2009: 39-41, and BAFT, 2009b: 2-5.) Comments on the representations follow.

- Regarding the framework of the Internal Ratings-Based Approach for estimating credit risk weights and capital requirements for lending – including that for trade finance -it should be recalled that under this framework banks make their own estimates within the guidelines set by Basel 2 and subject to their supervisors’ scrutiny. Lack of access to these estimates complicates assessment of banks’ representations concerning quantitative impact of the Basel 2 framework and comparison of this framework with Basel 1. There are rules in Basel 2 for estimating the effective maturity of trade transactions and for the credit conversion factors (CCFs) of trade finance. But it is impossible to hypothetical estimates of capital requirements for trade-finance exposures in the absence of obligors’ probability of default and of the loss given default of the trade-finance transactions in question. (Nevertheless, the Bankers’ Association for Finance and Trade has provided estimates of the capital requirements for a hypothetical portfolio of trade-finance exposures under Basel 1 and Basel 2 - as described in the Annex below containing an overview of Basel 2 – but without details as to how they were obtained.).
- More susceptible to criticism of the Basel 2 framework (though this point is not explicitly included in the banks’ representations) are the rules for exposures to bankers’ acceptances. A bank’s guarantee of payment under bankers’ acceptances is included in Basel 2’s listing of off-balance-sheet exposures. However, the CCF (explained above) for acceptances under both the Standardised and the Foundation versions of the Internal Ratings-Based Approach is 100 per cent. This figure is also a floor for CCFs estimated by banks themselves under the Advanced version of Internal

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<sup>4</sup> As the Bankers’ Association for Finance and Trade notes, “Most banks active in trade finance are likely to be core banks required to adopt the advanced approaches or opt-in banks that elect the advanced the advanced approaches” (BAFT, 2009b:3). Opt-in banks are presumably United States Banks not required by regulators to adopt the Internal Ratings-Based Approach but opting to use it anyway.

Ratings-Based Approach. As a result bankers' acceptances are treated like any other loan. It could be argued that such a CCF does not take appropriate account of the self-liquidating character of such acceptances. Regarding the other forms of shorter-term trade financing explained in Box 1, the banks in their representations make the point that Basel 2 also assigns weights for credit risk which do not reflect their low loss record and the structure of facilities designed to enable close monitoring of the exposures (BAFT, 2009b: 4).

- As explained in the previous section, the one-year floor to the effective maturity of exposures in the Advanced version of the Internal Ratings-Based Approach can be waived at supervisors' discretion for short-term trade-finance in such forms as letters of credit and self-liquidating transactions. This is acknowledged in the banks' representations whose targets are national regulators not granting such waivers rather than the rules of Basel 2 as such.
- Eligibility under Basel 2 for adoption of the Advanced version of the Internal Ratings-Based Approach is conditional on the availability for a bank of five years of data for the probability of default, and seven years of data for loss given default and for exposure at default. Inability to meet these data requirements can mean that a bank must use a less advanced approach to estimating its capital requirements for credit risk. Meeting these requirements for trade finance according to the banks' representations is problematic, partly owing to limited experience of losses and to the commingling in some banks of trade finance with other lending facilities during the years immediately preceding the current crisis. The cruder calibration of risk under the less advanced approaches of Basel 2 is clearly regarded by banks as something to be avoided, at any rate in the United States. As the Bankers' Association for Finance and Trade puts it, "The inability to meet data requirements of the Basel II advanced approaches could mean that the bank would be required to calculate its risk-based capital requirements as determined by its primary US regulator. This result causes great uncertainty for banks active in trade finance as to what capital requirements would apply" (BAFT, 2009b: 5). For estimating the probability of default the rules of Basel 2 explicitly permit recourse by a bank to the ratings of an "external credit assessment institution or similar institution", which would qualify it for adoption of the Foundation version of the Internal Ratings-Based Approach, even if it was unable to meet the data requirements for internal estimates of loss given default and exposure at default. But there is no explicit acknowledgement of the admissibility of such recourse to external sources of data for loss given default or for exposure at default.
- Concerning the United States Export-Import Bank (Eximbank) the banks' representations concern the possibility that a change in the characterisation of public sector entities qualifying for zero risk weights between Basel 1 and the Standardised Approach of Basel 2 would lead to the loss of Eximbank's zero weighting. In Basel 1 claims on domestic public-sector entities, excluding central government, and loans guaranteed by such entities were assigned a zero risk weight. Under Basel 1 Eximbank was classified under this heading. Under the Standardised Approach of Basel 2 the risk weight for claims on non-central government public-sector entities is left to national discretion. However, under guidelines as to how this discretion should be exercised, commercial undertakings owned by central governments are to be treated as corporates. If Eximbank is classified as such an undertaking, it would be treated as a

bank with a risk weight of 20 per cent. In their representations the banks express their wish that United States regulators confirm Eximbank's retention of the status of sovereign entity which it was accorded under Basel 1. It is not clear what, if any, would be the impact of a change in Eximbank's status from sovereign entity to highly rated bank for estimates of its credit risk weight under the Internal Ratings-Based Approach.

### **Capital requirements, trade finance and banks in developing countries**

Comments are in order concerning the extent to which the findings of the ICC Banking Commission and the Bankers' Association for Finance and Trade apply to borrowers and banks in developing as well as in developed countries.

The BAFT/IMF survey covered 88 banks from 44 countries, of which approximately one-half had headquarters in industrialized and the remainder in emerging-market countries. 28 per cent of the banks had assets of at least USD 100 billion, 32 per cent assets in the range of USD 5 billion to USD 99.9 billion, and 40 per cent assets of less than USD 5 billion (BAFT, 2009a: Appendix 1). The survey of the ICC Banking Commission also included a significant proportion of respondents from developing countries (ICC Banking Commission, 2009: 14-15).

As mentioned earlier, of the banks in the BAFT/IMF survey which had increased their capital requirements 43 per cent said that Basel 2 had had a negative impact on their capacity to provide trade finance. However banks with headquarters in industrialized countries were much more likely to cite these negative implications than those with headquarters elsewhere. This difference seems likely to be connected to the greater likelihood that the former group of banks would be using the advanced options of Basel 2 than those from elsewhere.

Information available in 2006 for 111 countries indicated that 95 planned to introduce Basel 2. The proportions of countries not belonging to the Basel Committee on Banking Supervision which were planning introduction varied for different regions: for banks covered by this information the proportion for Africa was a little more than 70 per cent, for the Caribbean 57 per cent, for Latin America 86 per cent, for the Middle East 100 per cent, and for Europe 83 per cent (Financial Stability Institute, 2006). Only in Asia (38 per cent), Latin America (33 per cent), and Europe (70 per cent) was a proportion of more than 30 per cent of countries planning to introduce the Advanced version of the Internal Ratings-Based Approach by 2009, while higher proportions were planning introduction of the Foundation Version of the Internal Ratings-Based Approach in all regions except Latin America. For all of the regions the highest proportions were of countries planning to introduce the Standardised Approach to which the representations of the bankers described above do not apply (with exception of the risk weight of Eximbank which is a specifically United States regulatory problem).

The effects of the new capital requirements of Basel 2 on borrowing costs – and thus the costs of trade finance - for developing-country entities are likely to be mixed. In the case of the Standardised Approach higher capital requirements would apply only to borrowers with a credit rating below B-. For unrated borrowers the risk weight is 100 per cent, which should lead to no change in comparison with Basel 1. Fragmentary estimates suggest that under the Internal Ratings-Based Approach there will be increases in capital requirements for borrowers with credit ratings

lower than investment grade. Such increases, for example, are suggested by the comparison of capital requirements under Basel 2 of the emerging-market banks in the BAFT hypothetical portfolio of trade- finance exposures described in the Annex. However, the implications of such estimates for banks' pricing of their loans should be treated with a certain amount of caution. Increases in capital requirements under Basel 2 will lead to matching increases in loan prices only if banks take as their cost of equity a target rate of return on minimum required regulatory capital (as set by Basel 2) rather on economic capital, i.e. the capital which a bank allocates to future unidentified losses in abstraction from regulatory rules except to the extent that these constitute a floor.

Also worthy of special attention in connection with the effect of Basel 2 on borrowing costs - and the costs of trade finance - for developing-country entities are the implications of the banking model incorporated in the fundamental assumptions of Basel 2. This model is now generally accepted in the developed world but diverges to varying degrees from those to be found in many emerging-market economies. In Basel 2 the assumed relationship between a bank and its counterparties is arms-length, and decisions about lending and risk are supposed to be based on reasoned analysis of the counterparty's capacity to meet interest and repayment obligations as measured by objective rating or scoring systems. Different models have often prevailed in emerging-market countries. These models place greater emphasis on lending based on long-term relationships between bank and borrower. Where borrower-lender relations different from those assumed by Basel 2 have been deeply rooted in national practices, the risks of too abrupt an application of Basel 2 could be substantial. These risks are perhaps particularly great in the case of trade finance where long-term relationships between banks and their clients are often especially important.

### **Issues for possible future action**

Probably the most important point emerging from the above discussion is the need for national regulators and supervisors to exercise fully their discretion under Basel 2, an agreement which consists of soft-law, i.e. rules and standards which are the subject of international consensus as to their intent but the details of whose national implementation provide room for flexibility. Subjects singled out above for such discretion include the procedures for estimating the effective maturity of loans as a determinant of credit risk weights and the credit conversion factors (CCFs) for off-balance-sheet exposures. During the transition to the new rules of Basel 2 regulators and supervisors need to pay special attention to the avoidance of the disruption of the provision and pricing of banks' lending and other financial services, including those related to trade finance.

Other subjects meriting special attention for possible future action include a revisiting of the rules of Basel 2 related to off-balance-sheet exposures linked to trade-finance transactions, data on trade finance, and the situation of developing-country borrowers which face large increases in borrowing costs under Basel 2.

- Regarding off-balance-sheet exposures representations to the Basel Committee concerning what many banks consider excessive credit conversion factors (CCFs) for trade-finance exposures deserve further attention. Since the outset of the process of

drafting Basel 2 there have already been changes to the rules on CCFs, which indicates the Basel Committee's potential flexibility on this issue.

- Representations concerning this subject would be strengthened by the provision of further systematic data on the experience of risks associated with trade finance. The ICC is taking actions in response to a request by the WTO to set up a data base which would track the default history of the trade-finance industry. However, the ICC anticipates that this will be a long-term project, and that data sufficient to justify a comprehensive re-evaluation of the risks involved are still lacking for the probability of default, loss given default and exposure at default for trade-finance exposures (ICC Banking Commission, 2009: 13).
- The lack of the data required under the rules of Basel 2 by banks for adoption its more advanced approaches remains a problem in several jurisdictions and not just with relation to trade finance. Its resolution may require closer cooperation between banks and their supervisors. Data from external sources in principle can enable banks to adopt approaches of Basel 2 with a superior calibration of risk. However, the danger here is that estimates of the determinants of risk based on packaged data from external sources may not correspond to a particular bank's experience and thus may produce capital requirements which do not accurately reflect its real risks.
- Trying to deal with the problem of the higher borrowing costs associated with Basel 2 which face some developing-country borrowers through adjustment of the rules of Basel 2 would be questionable since arguably such action would contribute to frustrating the underlying aim of the whole exercise, i.e. to produce a closer correspondence between regulatory capital requirements and banks' actual risks. An alternative approach would involve greater use of the instruments of credit risk mitigation (collateralisation, guarantees, etc.) which can reduce credit risk weights under Basel 2. Programmes for the provision of these instruments by national official and intergovernmental financial institutions already exist, and expanded use of them is already envisaged as part of the policy response to the current crisis.

### **Annex. Overview of Basel 2.**

Basel 2 is designed to replace the 1988 Basel Capital Accord (Basel 1). Both agreements were drawn up by the Basel Committee on Banking Supervision (BCBS), a body of banking regulators established in 1974 which originally consisted of the countries of the G10 and has subsequently been expanded to include all countries of the Group of 20 and selected other countries with important financial sectors. The BCBS is linked geographically and organisationally to the Basel-based Bank for International Settlements, (an institution now owned by more than 50 central banks which provides a forum for mutual consultations, conducts research on policy issues pertinent to monetary and financial stability, and performs banking functions and serves as central banks' agent or trustee in connection with selected international financial operations).

Basel 1 and Basel 2 are agreements on frameworks for assessing the capital adequacy of banks. The framework sets rules for the allocation of capital to banks' exposures to risks through its lending and other operations. The agreements have 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 (a special concern of United States and European banks vis-à-vis competitors from Japan in the 1980s).

As a measure of the difference between the value of a bank’s assets and liabilities capital serves as a buffer against future, unidentified losses. 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. The rate of return on capital is a determinant of banks’ pricing of loans and of other transactions involving exposure to risk and as such is a factor in their competitiveness vis-à-vis other banks.

Capital under the initial version of Basel 1 agreed in 1988 was to serve as a buffer against credit risk, i.e. that of the failure of borrowers or parties to the other banking transactions to meet their obligations. Under the accord capital was to constitute 8 per cent of banks’ risk-weighted assets.

Measurement of these risk-weighted assets was based on the attribution of weights reflecting the credit risk of different classes of counterparty (sovereign, OECD or non-OECD, other public sector, corporate, etc.). Off-balance-sheet exposures (such as guarantees, various contingent liabilities, and interest-rate and exchange-rate derivatives) were converted to their on-balance-sheet equivalents by multiplying them by credit conversion factors (CCFs). The resulting figures were then weighted according to the class of counterparty as for on-balance-sheet exposures. For example, collateralised documentary credits received a CCF of 20 per cent and the resulting on-balance-sheet equivalent would 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. Thus a weight of 0 per cent was attributed to claims on OECD governments and central banks, and one of 20 per cent (corresponding to minimum capital requirement of 1.6 per cent) to claims on banks incorporated in OECD countries and to banks incorporated in non-OECD countries with a residual maturity of up to one year. A weight of 100 per cent was attributed to claims on private sector entities not otherwise specified such as non-financial corporations and non-OECD governments.

Through an amendment in 1996 Basel 1 was extended to cover market risks in banks’ trading books, i.e. 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 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).

Basel 1 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. But Basel 1 was also the subject of increasingly widespread dissatisfaction so that a decision was taken to initiate what proved to be the lengthy process of drafting a successor agreement. What was intended to be the definitive version of the new accord, Basel 2, became available in mid-2006. However, further revisions of Basel 2 are now being drafted to incorporate the lessons learnt as a result of the stresses on banks' solvency during the financial crisis. The package containing the revised version of Basel 2 will also include standards for the management of banks' liquidity risk, whose close connections to solvency, the target of Basel 2, were underlined by the crisis.

Basel 2 consists 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. According to the text of the agreement 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 of Basel 2 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 non-financial corporate borrowers rated between AAA and AA- are attributed a weight of 20 per cent, those rated between A+ and A- one of 50 per cent, those rated between BBB+ and BB- one of 100 per cent, and those rated below BB- one of 150 per cent. Unrated non-financial corporate borrowers are attributed a weight of 100 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 unexpected 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. Under the Advanced version of the Internal Ratings-Based Approach banks also estimate the loss given default, the exposure at default, and the remaining maturity (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 the determinants but not in accordance with the same formula as corporate, sovereign, bank, and retail exposures. Specialised lending

covers categories of corporate exposure with special characteristics such as project 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 also contains rules for regulatory capital requirements for market risk which follow the same framework as Basel 1 but which are now to be strengthened to cover default risks on trading positions not adequately covered by the framework of the 1996 amendment.

Unlike Basel 1, Basel 2 contains 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. Under the Basic Indicator Approach, the simplest of the three options in Basel 2, the capital charge for operational risk is a percentage of banks' gross income. Under the Standardised Approach to operational risk the capital charge is the sum of specified percentages of banks' gross income or loans for eight business lines. Under the Advanced Measurement Approach to operational risk, the most sophisticated option of Basel 2, subject to the satisfaction of more stringent supervisory criteria, banks estimate the required capital with their own internal measurement systems.

Also unlike Basel 1, Basel 2 contains detailed rules concerning securitisation exposures, i.e. the exposures for a bank after the transfer of the risks of assets on its balance sheet to outside investors, a category of risk which was omitted from Basel 1. The rules of Basel 2 are intended to establish stringent conditions for the recognition of the transfer of risk from banks' balance sheets and to set regulatory capital charges for the risks remaining with banks. These rules are currently being strengthened in response to banks' risk experience due to their securitisation exposures during the financial crisis.

Under Basel 2 the minimum regulatory capital ratio remains at the 8-per-cent figure of Basel 1. The denominator of this ratio consists of estimated exposures for credit, market and operational risk. The numerator consists of capital as in Basel 1 but after adjustment in certain ways. Conceptually the most important of these adjustments is the exclusion of risks corresponding to several categories of expected losses from the denominator of the ratio and of banks' corresponding loss provisions from capital in the numerator. This exclusion brings Basel 2 more into line with traditional banking practice according to which expected losses are covered by loss provisions, while capital is intended to cover unexpected losses.

Trade finance consists of both on-balance-sheet and off-balance-sheet exposures. The outline in this overview of Basel 2 provides only limited indications as to what banks' capital requirements for exposures to trade finance can be expected under the new rules. To exemplify its argument that Basel 2 has already led to an increase in the capital requirements for trade finance in comparison with Basel 1 the Bankers' Association for Finance and Trade uses a hypothetical portfolio of USD 100 million of trade-finance exposures which is presumably based on actual data (though the

source is not specified). Of the trade finance portfolio 5 per cent consists of exposures to corporations with a credit rating of AA+. 10 per cent of exposures to corporations with a credit rating of BB-, 15 per cent of exposures to OECD banks with a credit rating of AA+, 25 per cent to sovereigns with credit ratings of BBB+, and 45 per cent of exposures to emerging-market banks with credit ratings of BB- (BAFT, 2009b: 6). Capital requirements for this portfolio under Basel 1 are estimated at USD 2.16 million, and under the Internal Ratings-Based Approach of Basel 2 they rise to USD 6.21 million. Of this rise USD 3.86 million is accounted for by the exposures to the emerging-market banks, USD 0.44 million by the exposures to sovereigns, and USD 0.22 million by exposures to the corporations with credit ratings of BB-, while capital requirements for exposures to corporations and OECD banks with credit ratings of AA+ actually decrease.

Pillars 2 and 3 of Basel 2 are concerned with supervisory review of capital adequacy and the achievement of discipline in banks' risk management through disclosure to investors. Under the guidelines of Pillar 2 supervisors are to prescribe additional regulatory capital not only for the credit, market and operational risks of Pillar 1 if they judge this to be necessary for supervisory reasons but also for risks not covered under these three headings, such as liquidity risk (which covers banks' ability to obtain required funding and the prices at which it can sell assets in financial markets) and interest-rate risks due to changes in the margins between the rates at which banks lend and borrow.

Pillar 3 specifies rules for the disclosure of information concerning banks' capital and risk management. These rules are intended to enable financial market participants as well as supervisors to subject these to scrutiny which will reinforce the effectiveness of Pillars 1 and 2

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