

EFFECTS OF THE BASEL II ACCORD ON THE INTEGRATION PROCESS OF THE EMERGING MARKETS INTO THE EU MARKETS

Alper Ozun*

Abstract

This paper examines possible effects of the Basel II Accord on emerging financial markets in terms of their integration with the European markets. By focusing on creation of a transparent and self-disciplined banking sector, the New Accord enhances risk management practices in the emerging markets at EU level. In this paper, after examining three main pillars of the Basel II Accord, we argue that the New Accord have both positive and negative effects in the integration process of the markets. On one side, with the implementation of Basel II rules, financial markets will be more transparent in terms of their credit portfolios, informational efficiency, and business technology infrastructures. On the other hand, due to additional risk calculations, shortages of investment demands for the financial assets issued in the emerging economies can be occurred in the short term. However, because of the improvements in transparency and risk measurement techniques gained by the implementation of the New Accord, the emerging markets will have a chance to decrease their risk premiums in the long term.

Key words: Basel II Accord, Emerging markets, Market integration, Risk management.

JEL Classifications: F21, G15, G21, G32.

1. Introduction

The New Basel Accord needs additional capital requirements for low-rated trading book instruments, operational risk and low-rated corporate credits. While the Basel I Accord focused on the issue of capital adequacy at the banks, the Basel II aims at setting up a broad risk management discipline in the financial markets. The new criteria required by the New Basel Accord have changed the structures of the financial and credit markets. In this framework, Basel II has new standards for the measurement of risks and created self-disciplined system to control those risks.

As it is underlined at the Basel Committee on Banking Supervision, in November 2005, "The fundamental objective of the Committee's work has been to develop a framework that would further strengthen the soundness and stability of the international banking system while maintaining sufficient consistency that capital adequacy regulation will not be a significant source of competitive inequality among internationally active banks. The Committee believes that the revised framework will promote the adoption of stronger risk management practices by the banking industry, and views this as one of its major benefits"¹. In fact, Basel II will enhance risk management practices at EU level, with incentives for banks to use risk-based and advanced approaches encouraging integration of emerging financial markets with developed markets.

Since all banks are the players of the same market in the EU, it is expected them to be subject to the same regulatory standards. As the banks operating in the EU have strongly enough capital adequacy and customer data to calculate risk based on advanced approaches, they do not have any troubles in adopting the standards of the New Accord. However, in the emerging markets, since the banks have challenges in finding additional capital, robust consumer data, efficient business models and systems; some adaptation problems may arise at the first stages of the Basel II Accord implementation.

* Is Bank of Turkey, Turkey.

¹ Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework November 2005, www.bis.org/publ

On the other hand, the New Basel Accord can play a fundamental role in strengthening financial systems in emerging markets, primarily by providing effective incentives to the development of more sophisticated and technically sound risk management practices. First of all, the banks will apply new measurement techniques in credit risks. They will use internal ratings to measure credit risk and allocate capital accordingly. That is a starting point to use economic capital in credit pricing. Secondly, on the trading book side, by validating their VaR models for market risk and by measuring specific risk for the financial assets in their trading book, the banks improve their standards in risk assessment process. In addition, they will calculate capital requirement for their operational risk for the first time. It seems that the new risk measurement processes will strength the management of the banks in the long term. However, in the short-term, there might be some capital and liquidity shortages for the banks.

This paper examines the effects of the New Basel Accord on the integration process of emerging markets into the developed markets. In the course of the discussions, some examples and applications from the Turkish banking and financial markets will be provided. The next part of the paper displays the new requirements of the Basel II for the banks. A comparison of Basel I and Basel II in terms of risk measurement is presented, as well. The third section examines the possible effects of New Accord on emerging markets in terms of capital and credit markets in detail. In the conclusion, the paper has some suggestions for the market participants and the regulatory authorities about the effects of Basel II on financial market integration process.

2. New Rules for Risk Assessment and Management

The New Basel Accord has brought certain new rules to the financial markets. Firstly, it will be helpful to explain the new rules that the Basel II Accord requires in terms of the risk measurement. In general, it is an expected fact that the risk sensitivity will increase to a limited extent in most of the emerging markets due to the new rules set by the Basel II. On the capital requirement side, by adding i) operational risk to the measurement of the capital requirements, ii) specific risk to the trading book instruments, and iii) specific risk to the credit risk measurement, the New Accord leads to banks have more capital without changing their actual risk levels, or in other words, without changing their economic capital.

Table 1

Main Differences Between Basel I and Basel II

BASEL I	BASEL II
Capital Adequacy Ratio Capital / (Credit Risk + Market Risk)	Capital Adequacy Ratio Capital / (Credit Risk + Market Risk + <i>Operational Risk</i>)
Market Risk Market risk is measured by <i>the standard method</i> .	Market Risk Internal VaR models are used for market risk calculation. The ratings of the issuer of the security will be determinant factor in calculating specific risk.
Credit Risk The credit risk is calculated according to credits' amount and collateral. The ratings of the firms do not affect the capital requirement.	Credit Risk For corporate firms, external or internal ratings are used to calculate capital requirement. For retail credits, proper pools are created and rated.
Operational Risk Operational risk is not taken into account in capital adequacy calculations.	Operational Risk Operational risk is calculated based on three alternative methods.

More importantly, the Basel framework is to be applied on a consolidated basis to internationally active banks. The extent to which individual supervisors will apply the Basel requirements to individual banking subsidiaries, particularly if these are in the same jurisdiction as the holding com-

pany, depends on local rules but within the European Union, this is expected to be the case (Tattersall, 2005). In that sense, it is also a chance and a force for the financial institutions operating in emerging markets, if they are substitutes of a company in advanced markets to use global risk assessment and management techniques.

For the financial institutions facilitated in the European Union, Basel II framework has been turned into law in the Capital Requirements Directive of the EU. As it is known, the Accord has not been attracted too much in the US. In that sense, applying Basel II/CRD requirements in a country means integration of her financial markets to the EU markets in terms of risk management. The New Basel Accord has three pillars; namely, i) minimum capital requirements, ii) increased supervisory power, and iii) increased disclosure requirements. It is useful to examine these Pillars to make clear the impacts of Basel II on the integration of financial markets.

2a. The First Pillar: Minimum Capital Requirements

At the Basel I Accord (1988) and Market Risk Amendment (1996), banks need to meet a minimum capital adequacy ratio of 8 %, which represents the relationship between the bank's eligible regulatory capital and an estimate of the prudential risks run by the bank. The main changes in the calculation of minimum capital requirements in the New Accord are in relation to a bank's measurement of credit risk in the banking book and a charge for operational risk. In this paper, the details of the calculation for each risk category are not presented. However, for discussion about integration of financial markets, it should be kept in mind that, the Pillar I of Basel II requires i) internal or external ratings of corporate firms for specific risk calculation in credit risk, ii) determination of specific risk via ratings for the issuers of financial instruments whether they are governments or corporate firms. Therefore, by considering country specific or firm specific risk in the credit risk and market risk, the New Accord creates a discipline in the markets for credit and financial markets. Since that kind of discipline will be set up in both developed and emerging markets, the efficiency, transparency and integration of the markets are expected to increase. In addition, apart from the outside dynamics, like market participants and regulatory bodies, the banks themselves have certain incentives to set up market discipline. Since banks have to adopt more complex methods for measuring risk, the efficiency of the risk management within banks will increase and this, in turn will lead to more efficient financial markets. Since banks use more detailed and current data to use in their risk management analysis, the information flow within and between the markets will increase. Calculating internal ratings based credit risk assessment requires a bank to collect relevant data and create databases of high and consistent standards, which lead to integration of data within and among the financial markets. Employing financial software in the risk measurement process will lead to using detailed data and sharing financial information among the markets.

What's more, since the New Accord demands a consolidated risk measurement from international banks, the data flow and share of risk management techniques among international financial markets will increase. As it is known that the efficiency of the market is related to the share of information among the participants, in this respect, the New Accord has a crucial task on the integration of the both credit, money and capital markets.

2b. The Second Pillar: Supervisory Review

The Second Pillar of Basel II has two intertwined elements in supervisory review. Both banks and regulators should do the review. A bank specific internal assessment of capital adequacy and supervisory review of this internal capital assessment are necessary for establishment of market discipline within the sector.

Although the first Pillar sets out a generic framework for minimum capital requirements, the Second Pillar takes this to the level of the individual bank. Since the Second Pillar requires intertwined supervision of banks' risk assessment processes, banks should have efficient and transparent accounting systems. Many banks in emerging markets have started to apply asset and liabilities management models into their risk management stages. This, in turn, will close banks' levels of

accounting standards and data transparency. According to Devine (2005), the Second Pillar may overtake the First Pillar in importance as capital benefits gained from the First Pillar may evaporate if banks have not prepared sufficiently for the Second Pillar.

On the other hand, to meet the requirements of the Second Pillar, banks should display that their capital investments are reasonable with their risk levels. This requirement of the New Accord is not more than consideration of economic capital in the risk management processes of the banks. Some banks have their own models to assess capital requirements but these will be risk based and widespread to the sector in general (Devine, 2005).

2c. The Third Pillar: Market Discipline

Since the main aim of the New Accord is to establish a market discipline with a triple sources, namely the customers, regulatory bodies and the banks, monitoring of risk is shared among the official authorities, as well as independent audit firms. According to the Third Pillar, disclosures for credit, market and operational risks, information on corporate governance and consolidation are required as an integrated system. For market risk, if the banks use internal models for trading portfolios, supervisory body should approve the model. For credit risk, the authority should revise the internal rating system of banks. On the other hand, if the banks use standardized approach for their credit risk assessments, exposure amounts after risk mitigation for all risk buckets should be disclosed. What is challenging for the banks in the risk monitoring process is that they must report the nature of interest rate risk arising in the banking book, including any behavioral assumptions pertaining to prepayments. The interest rate sensitivity of earnings to upward and downward movements is required to be measured, as well.

According to Devine (2005), disclosures affect how institutions are perceived in the financial markets. Banks should examine the likely impact of these disclosures when compared to the disclosures that are currently being made in financial statements. This, in turn, leads to an integration in communications and educates the market as to how these disclosures should be perceived and how the market should react to the disclosures that are made. Therefore, investor education is an important point of the Basel II. The banks should be sure that the information sent to the market is correctly interpreted.

As Kania (2006) emphasizes, three-pillar approach of Basel II provides an efficient frontier of policy objectives for banks in any economy by underlying the need for banks to assess their risks, the need for supervisors to examine those assessments, and the need for transparency to promote greater marketplace discipline.

The next part of the article focuses on the effects of the New Accord on the integration process of the emerging markets into the European financial markets in detail.

3. Possible Effects of The Basel II Accord on The Integration of Financial Markets

By employing advanced risk management techniques, it is obvious that banks will allocate their capitals on more efficient assets in the long run. As a parallel process, it is expected that the stability in the sector and the economic environment will increase. This part of the paper discusses possible effects of Basel II Accord on the integration process of financial markets.

3a. Effects on Cost of Borrowings and Capital Flows: Economic or Regulatory Capital?

It might be argued that the New Capital Amendment will increase the cost of borrowing in emerging markets due to specific risk calculation in the financial instruments issued by their sovereigns due to their low ratings. According to the Accord, for the bonds issued by the governments in foreign currencies, specific risk should be calculated in reflecting their risk into the capital requirement. For those kinds of securities issued by the issuers without investment grade, like Turkey, banks should need 100% capital requirement for their regulatory capital. According to Basel I,

there was no need to calculate specific risks for the bonds issued by the OECD members. However, under the Basel II rules, the sovereign ratings are considered in determining the risk weights for capital requirement rather than being a member of OECD or any other international institutions. The risk weights determined according to the sovereign's rating are displayed in Table 2 and ratings of some countries are in Table 3.

Table 2

Risk Weights According To The Sovereign's Rating

Rating	Risk Weight
AAA / AA(-)	0
A(+) / A(-)	20
BBB (+) / B (-)	50
BB(+)/ B (-)	100
B (-) / Lower	150
Unrated	100

Table 3

The sovereign's rating¹

Country	Date	Long Term Rating (In Foreign Currency)	Rating In Local Currency
Russia	03.08.2005	BBB	BBB
Thailand	10.05.2005	BBB+	A
Turkey	06.12.2005	BB-	BB-
Poland	23.03.2005	BBB+	A
Romania	17.11.2004	BBB-	BBB
Korea	23.10.2005	A+	AA
Mexico	23.09.2005	BBB	BBB
Argentina	03.06.2005	DDD	B-
Brasil	11.10.2005	BB-	BB-
Bulgaria	17.08.2005	BBB	BBB+
Greece	16.12.2005	A	A

As it can be seen from the tables above, some sovereigns, like Turkish government, are affected negatively. The bonds issued by Turkish government require additional capital charge for the holders. In this respect, it might be argued that Turkish banks' cost of external debt financing increases due to the removal of the privileges of OECD membership. However, in fact, that might only has a limited impact because lending decisions of international banks are based on borrower's credit worthiness, issue ratings, lender's economic capital calculation but not necessarily on regulatory capital. According to this point of view, the investment banks are already willing to allocate capital for emerging markets since they expect more return from their risky investments. On the contrary, Jones, Segoviano and Spratt (2004) argue that Basel II significantly increases the cost or reduces the quantity of bank lending to emerging markets. Accordingly, the failure of the Basel proposals to take account of the benefits of international diversification implies that risk is overestimated at the portfolio level. On the other hand, Puschmann and Stolz (2002) state that it is not clear whether developing countries will have to pay higher interest rates due to Basel II implications.

¹ www.fitchratings.com

With implementation of Basel II Accord, the foreign currency denominated equities' proportion in the trading books of banks might decrease. The cost of foreign currency denominated internal debt financing within a low-rated country will increase. The instruments priced in terms of the foreign currencies in the emerging markets may lose their deepness, which is already not at a desired level, and the volatility in the markets will increase. This, in turn, may cause a corruption on the integration process of emerging markets into the developed markets in terms of portfolio investments. More importantly, for example European banks have recently started to issue bonds in the Turkish Lira. Since Turkey does not have an investment rating, the European banks may reduce their borrowings in Turkish Lira, which requires additional risk premium according to the Basel II. From another perspective, it might be argued that the banks will be more willing to use alternative derivative instruments in money and credit markets to decrease their risk weights. For example, credit default swaps which are agreements between two counterparties that allow one counterparty to be "long" a third-party credit risk, and the other counterparty to be "short" the credit risk might be used more efficiently in the credit markets to reduce risk weights. As their volumes increase, the market becomes more efficient, risk premiums for the credit default swaps might be reduced and the markets will move in correlation.

Weder and Wedow (2002) show how capital requirements affect bank lending to emerging markets if bank lenders adopt the standardized or the IRB foundation approach. They consider 26 emerging market countries; use S&P's credit ratings for long-term debt to map countries into different risk buckets and S&P's average cumulative one-year corporate probabilities of default to assign risk weights. When applying the standardized approach, capital requirements for the Czech Republic, Hungary, Mexico, Poland, South Korea and Turkey increase due to the abolition of the zero-risk weight treatment of OECD countries. The changes are largest when comparing the present approach with the IRB approach under the January 2001 calibration. Required capital for lending for Ecuador, Indonesia and Turkey rise by more than 40%. The November 2001 calibration, on the other hand, leads a much less dramatic increase in regulatory capital requirements than the January proposals due to its assumption of a lower asset correlation for higher risks. According to this proposal, capital requirements for countries like Turkey, Ecuador and Indonesia increase by about 20%. The authors conclude that one of the largest increases appear for bank lending to Turkey, which go up by 21% compared with a maximum increase under the January proposal of 39% (Weder and Wedow, 2002).

As it is known, one of the important determinant cash flows to the emerging markets is that if they have investment grade or not. With the implementation of Basel II, the weighted average cost of capital of banks operated in advanced markets might not change dramatically. Since the credit decisions of banks are affected by economic capital, the capital flows into the emerging markets will not be affected too much after implementation of Basel II. However, domestic financial markets, whose sovereigns do not have investment grade will have certain troubles in terms of macro-economic variables.

Liebig et al (2005) examine whether the new Basel Accord will induce a change in bank lending to emerging markets using a comprehensive new data set on German banks' foreign exposure and by testing the hypothesis that if (i) the new regulatory capital requirement remains below the economic capital, and (ii) banks' economic capital to emerging markets already adequately reflects risk. On both accounts the evidence indicates that the new Basel Accord should have a limited effect on lending to emerging markets.

In conclusion, it might be argued that the New Accord has some negative impact on capital flow to the emerging markets due to increased cost of borrowing. However, since the players in the advanced market care about economic capital, we can assume that they are aware of their risk appetite when investing in emerging markets.

3b. International Standards for Corporate Bond Markets

Since external rating agencies do not give a higher credit rating on an individual firm than the sovereign rating of the country in which the firm facilitates, the companies issuing bonds will borrow

from a higher rate. For example, in Turkey two firms, namely Vestel and Turkcell have corporate bonds and the banks buying their bonds will use capital requirement of 150%. Since the firms willing to issue bond should have ratings given by external agencies, the credit market will strengthen in terms of its transparency.

It is obvious that this requirement will decrease the integration of the corporate bonds markets. Due to higher capital requirement, demands for the bonds issued by the corporate firms in the emerging markets will decrease, or their borrowing costs will increase. However, recently, rating agencies have started to use country specific rating scale in Turkey, Brazil, Mexico, South Africa, Bolivia, Uruguay, Taiwan and Russia. The new rating system will make easier for the firms to borrow in lower rates. By the new rating system, the corporate firms are evaluated and rated independent from their sovereigns' ratings. Therefore, firms have chance to be rated as investment grade, although their sovereigns have non-investment grade, which in turn leads the firms to borrow in lower rates in corporate bond markets.

3c. Internal Rating Systems For Transparent Credit Markets

Credit risk measurement requires assessing the borrower's creditworthiness and therefore, a credit must be priced to reflect the degree of risk that it has. In this point of view, the credit risk deals with the probability of the counterparty's default risk. Therefore, the New Accord demands from the banks to measure how much customer will owe the bank in the case of default and how much of that exposure the bank is going to lose and take consideration of calculating banks' capital adequacy ratio. The credit customers of the banks in the emerging markets are mainly family owned. Therefore, these firms are not be able to have valuable credit ratings, which means that the credits given by the banks to the most firms operating in the emerging markets require high capital both under the standardized approach and under the IRB approach. Transparency in credit markets for corporate firms is one of the advantages of the New Accord. However, for small and medium sized firms, which are in retail banking portfolio of the banks, the Basel II will not have important effects in terms of their efficiency in credit markets. Since they are rated according to the pools in which they are categorized, the banks do not rate them individually.

For the corporate firms, the banks should have internal rating systems according to the credit risk management principles of Basel II. With this implication, the sector will have a rating database in which the firms are monitored in a more systematic and statistically efficient way. This, in turn, will lead the credit market to create transparency and integration within itself. The integration process in terms of international markets, on the other hand, will display itself in credit insurance applications in international credits. The firms, which want to use credits from international markets will have rating derived statistically approved rating systems.

In some emerging markets, there are few, if any, rated companies. According to IRB approach, in case of unrated sovereigns, banks and corporations, the prescribed risk weight is 100%, whereas in case of entities with lowest rating, the risk weight is 150%. As an interesting argument, Kania (2006) states that this may create incentive for those counterparties, which anticipate lower rating, to remain unrated.

The motivation for the banking sector to adopt the IRB approach is the expectation that the capital requirement will decrease. However, limited number of empirical studies supporting the view that developing country banks, with riskier portfolios, will end up with less capital requirements when they move on to IRB. Therefore, it is a fact that there is a lack of incentives for adopting IRB approach in developing countries. On the other hand, internal ratings will increase transparency of the credit markets especially in terms of international credit/credit insurance instruments.

In addition, Basel II Accord might affect the monetary transmission mechanism in the emerging markets. Tanaka (2002) empirically points out that the monetary transmission mechanism is weakened if the capital adequacy requirement is very stringent. In his another research, Tanaka (2003) examines the new Basel rules on credit risk assessment in terms of banks' incentives to control their risk taking. He states that Basel II might decrease credit supply to certain borrowers, such as

small- and medium-sized enterprises and firms based in developing countries. In addition, he argues that Basel II might increase procyclical fluctuation of bank loans while weakening the monetary transmission mechanism during recession.

3d. Additional Capital For Operational Risk: A Decrease in Risk Appetite?

The New Accord has a crucial change in consideration of operational risk premium in capital adequacy. By calculating three different methods depending on banks' choice, banks should have reserve operational risk premium in their capital adequacy ratio. Basic calculations about the mathematical impact of operational risk on the capital adequacy ratio show that in emerging markets, the banks' capital adequacy ratio will probably decrease 3-4 points depending on mainly their asset volume. With this respect, if they do not receive capital injection from outside, they should continue their facilities by decreasing their risk appetites, i.e. by giving less credits or shifting to less risky assets.

According to the QIS results conducted in December 2003 with 23 Turkish banks represented 95% of total banking sector, the increase in regulatory capital comes from commercial credits (38.80%), specific risk in trading book (20.81%) and operational risk (24.51%). The rest 15.88% change is related to capital requirements derived from mainly subsidiaries and SMEs credits. The average ratio of the sector falls from 28.8% to 16.9%. Recently, a new QIS study called QIS-TR2 has been conducted in Turkey by using data on 30.09.2006 from 31 banks sharing 97% of the sector. According to the results, the regulatory capital adequacy ratio of the sector decreases 5.6 points from 19.31% to 13.68 %. Similarly, the retail portfolio does not cause additional capital charge again and specific risk in trading books causes ratio to decrease dramatically. This dramatically shows how the portfolio structure affects the regulatory risk calculations and in addition, how it can be used as a tool to manage the regulatory capital¹.

4. Concluding Remarks

Although some market players see the implementation of the Basel II Accord as a challenge for emerging markets, risk management departments of many banks in the developing countries use the Basel II rules as a chance to improve their risk measurement and management process. The New Accord includes operational risk into the capital adequacy ratio and dramatically changes credit risk measurement. By adopting specific risk measurement, it has critical effects on market risk management, as well. Apart from changes in the risk calculation methods, the New Accord tries to create a self-discipline and supervisory review for the stabilization of the banking sector.

The Basel II requirements have both positive and negative crucial effects in the integration of financial markets. It will lead markets to be more transparent in terms of credit risk, customer data and accounting systems, IT and business systems. However, by requiring additional regulatory capital the Accord will cause banks to find additional capital or reduce their risk appetites. In the long term due to improvements in emerging markets in terms of transparency and advanced risk measurement techniques, the emerging markets will have chance to integrate the advanced markets in banking sector. Since the final aim of the Basel II is to set up an advanced banking system as it is in the EU; the banks in emerging markets willing to adopt the Basel II requirements will move their standards into the EU level.

It is obvious that emerging markets have certain fundamental challenges in terms of efficient application of requirements in Basel II Accord. Matten and Trout (2005) argues that the main challenges for banks in emerging markets can be summarized in three categories, namely; clear data, efficient systems and proper business model. On the other hand, since it is expected that the banks in emerging markets are willing to adopt Basel II requirements, they have started to change their IT systems, data models and business models. Instead of traditional data models, they are converting their data warehouses into entity-relationship data models or object oriented models. What is

¹ www.bddk.org.tr

more, advanced business models including asset and liability management model, liquidity management model will be introduced in many banks in emerging markets. As the past experiences have shown, not the capital but the liquidity of assets is the determinant factor for the banks to survive in crisis (Giovanni 2005). From that point of view, Basel II Accord forces banks to manage their liquidity risk, as well.

Although the process is challenging for the banks operating in emerging markets, the results will have crucial importance for the integration process of banking sector in emerging markets into the EU markets. The success is dependent on the willingness of the banks and supervisory authorities in the emerging markets to adopt proper and efficient risk measurement, management and monitoring techniques.

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