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Basel I, Basel II, and Emerging Markets: A Nontechnical Analysis

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Abstract:

The Basel Accords, while extremely influential, are oftentimes too detailed and technical to be easily accessible to the nontechnical policymaker or interested scholar. This paper looks to fill that gap by detailing the origin, regulation, implementation, criticism, and results of both Basel I and Basel II. Findings of not include (1) the limited scope and general language of Basel I gives banks excessive leeway in their interpretation of its rules, and, in the end, allows financial institutions to take improper risks and hold unduly low capital reserves; (2) Basel II seeks to extend the breath and precision of Basel I, bringing in factors such as market and operational risk, market-based discipline and surveillance, and regulatory mandates, but is oftentimes excessively long and complex; (3) both Basel I and II effectively ignore the implications of their rules on emerging market banks; and that (4) although each accord states that its positions are not recommended for application in emerging market economies, the use of Basel I and II by most private and public organizations as truly international banking standards predicates the inclusion of emerging markets in each accord.

Keywords: Basel Accord(s), Basel I, Basel II, International Convergence of Capital Measurements and Capital Standards, international bank supervision, emerging market banking supervision, bank regulation, emerging market banking regulation.

I. Introduction

The Basel Accords are some of the most influential—and misunderstood—agreements in modern international finance. Drafted in 1988 and 2004, Basel I and II have ushered in a new era of international banking cooperation. Through quantitative and technical benchmarks, both accords have helped harmonize banking supervision, regulation, and capital adequacy standards across the eleven countries of the Basel Group and many other emerging market economies. On the other hand, the very strength of both accords—their quantitative and technical focus—limits the understanding of these agreements within policy circles, causing them to be misinterpreted and misused in many of the world's political economies. Moreover, even when the Basel accords have been applied accurately and fully, neither agreement has secured long-term stability within a country's baking sector. Therefore, a full understanding of the rules, intentions, and shortcomings of Basel I and II is essential to assessing their impact on the international financial system. This paper aims to do just that—give a detailed, non-technical assessment of both Basel I and Basel II, and for both developed and emerging markets, show the status, intentions, criticisms, and implications of each accord.

II. The Basel Committee

Both Basel I and II are products of the Basel Committee—a group of eleven nations, that, after the messy 1974 liquidation of the Cologne-based Bank Herstatt, decided to form a cooperative council to harmonize banking standards and regulations within and between all member states. Their goal, as stated in the Founding Document of the Basel Committee, is to "...extend regulatory coverage, promote adequate banking supervision, and ensure that no foreign banking establishment can escape supervision" (*International Convergence...*, 9). To achieve this goal, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom, the United States, and Luxembourg agreed in Basel, Switzerland to form a quarterly committee comprising of each country's central banker and lead bank supervisory authority. At each meeting, the authorities of each country are authorized to discuss the status of the international banking system and propose common standards that can assist the Committee in achieving its goals, but as the Founding Document clearly states, the Basel Committee cannot enact legally binding banking standards. Therefore, it is up to the member states themselves to implement and enforce the recommendations of the Basel Committee.

II. Basel I

Soon after the creation of the Basel Committee, its eleven member states (known as the G-10) began to discuss a formal standard to ensure the proper capitalization of internationally active banks. During the

1970s and 80s, some international banks were able to "skirt" regulatory authorities by exploiting the inherent geographical limits of national banking legislation. Moreover, internationally active banks also encouraged a regulatory "race to the bottom," where they would relocate to countries with less strict regulations. With the end of the petrodollar boom and the ensuing banking crises of the early 1980s, this desire for a common banking capitalization standard came to the forefront of the agendas of the Basel Committee's member states. Six years of deliberations followed; in July of 1988, the G-10 (plus Spain) came to a final agreement: The *International Convergence of Capital Measurements and Capital Standards*, known informally as "Basel I."

Scope

It should first be noted that Basel I was created to promote the harmonization of regulatory and capital adequacy standards only within the member states of the Basel Committee. All the states of the G-10 are considered developed markets by most (if not all) international organizations, and therefore, the standards set forth in Basel I are tailored to banks operating within such markets. The agreement expressly states that it is not intended for emerging market economies, and due to the unique risks and regulatory concerns in these economies, should not be seen as the "optimal" emerging market banking reform. In sum, because Basel I gives considerable regulatory leeway to state central banks, views domestic currency and debt as the most reliable and favorable financial instruments, sees FDIC-style depositor insurance as risk-abating, and uses a "maximum" level of risk to calculate its capital requirements that is only appropriate for developed economies, its implementation could create a false sense of security within an emerging economy's financial sector while creating new, less obvious risks for its banks.

Secondly, it should also be noted that Basel I was written only to provide adequate capital to guard against risk in the creditworthiness of a bank's loanbook. It does not mandate capital to guard against risks such as fluctuations in a nation's currency, changes in interest rates, and general macroeconomic downturns. Due to the great variability of these risks across countries, the Basel Committee decided not to draft general rules on these risks—it left these to be evaluated on a case-by-case basis within the G10 member states.

Thirdly, Basel I overtly states that it only proposes *minimum* capital requirements for internationally active banks, and invites sovereign authorities and central banks alike to be more conservative in their banking regulations. Moreover, it warns its readers that capital adequacy ratios cannot be viewed in isolation and as the ultimate arbiters of a bank's solvency.

The Accord

The Basel I Accord divides itself into four "pillars." The first, known as *The Constituents of Capital*, defines both what types of on-hand capital are counted as a bank's reserves and how much of each type of reserve capital a bank can hold. The accord divides capital reserves into two tiers. Capital in the first tier, known as "Tier 1 Capital," consists of only two types of funds—disclosed cash reserves and other capital paid for by the sale of bank equity, i.e. stock and preferred shares. Tier 2 Capital is a bit more ambiguously defined. This capital can include reserves created to cover potential loan losses, holdings of subordinated debt, hybrid debt/equity instrument holdings, and potential gains from the sale of assets purchased through the sale of bank stock. To follow the Basel Accord, banks must hold the same quantity (in dollar terms) of Tier 1 and Tier 2 capital.

The second "pillar" of the Basel I Accord, *Risk Weighting*, creates a comprehensive system to risk-weight a bank's assets, or in other words, its loanbook. Five risk categories encompass all assets on a bank's balance sheet. The first category weights assets at 0%, effectively characterizing these assets as "riskless." Such "riskless" assets are defined by Basel I as cash held by a bank, sovereign debt held and funded in domestic currency, all OECD debt, and other claims on OECD central governments. The second risk category weights assets at 20%, showing that instruments in this category are of low risk. Securities in this category include multilateral development bank debt, bank debt created by banks incorporated in the OECD, non-OECD bank debt with a maturity of less than one year, cash items in collection, and loans guaranteed by OECD public sector entities. The third, "moderate risk" category only includes one type of asset—residential mortgages—and weights these assets at 50%. The fourth, "high risk" category is weighted at 100% of an asset's value, and includes a bank's claims on the private sector, non-OECD bank debt with a maturity of more than one year, claims on non-OECD dollar-denominated debt or Eurobonds, equity assets held by the bank, and all other assets. The fifth, "variable" category encompasses claims on domestic public sector entities, which can be valued at 0, 10, 20, or 50% depending on the central bank's discretion.

The third "pillar," *A Target Standard Ratio*, unites the first and second pillars of the Basel I Accord. It sets a universal standard whereby 8% of a bank's risk-weighted assets must be covered by Tier 1 and Tier 2 capital reserves. Moreover, Tier 1 capital must cover 4% of a bank's risk-weighted assets. This ratio is seen as "minimally adequate" to protect against credit risk in deposit insurance-backed international banks in all Basel Committee member states.

The fourth "pillar," *Transitional and Implementing Agreements*, sets the stage for the implementation of the Basel Accords. Each country's central bank is requested to create strong surveillance and enforcement mechanisms to ensure the Basel Accords are followed, and "transition weights" are given so that Basel Committee banks can adapt over a four-year period to the standards of the accord.

Implementation

Basel I's adaptation and implementation occurred rather smoothly in the Basel Committee states. With the exception of Japan (which, due to the severity of its banking crisis in the late 1980s, could not immediately adopt Basel I's recommendations), all Basel Committee members implemented Basel I's recommendations—including the 8% capital adequacy target—by the end of 1992. Japan later harmonized its policies with those if Basel I in 1996. Although they were not intended to be included in the Basel I framework, other emerging market economies also adopted its recommendations. In contrast to the pointed warnings written into Basel I against implementation in industrializing countries, the adoption of Basel I standards was seen by large investment banks as a sign of regulatory strength and financial stability in emerging markets, causing capital-hungry states such as Mexico to assuage to Basel I in order to receive cheaper bank financing. By 1999, nearly all countries, including China, Russia, and India, had—at least on paper—implemented the Basel Accord.

Criticisms

Criticism of Basel I comes from four primary sources. One vein of criticism concentrates on perceived omissions in the Accord. Because Basel I only covers credit risk and only targets G-10 countries, Basel I is seen as too narrow in its scope to ensure adequate financial stability in the international financial system. Also, Basel I's omission of market discipline is seen to limit the accord's ability to influence countries and banks to follow its guidelines. The second group of criticisms deals with the way in which Basel I was publicized and implemented by banking authorities. The inability of these authorities to translate Basel I's recommendations properly into "layman's terms" and the strong desire to enact its terms quickly caused regulators to over-generalize and oversell the terms of Basel I to the G-10's public. This, in turn, created the misguided view that Basel I was the primary and last accord a country needed to implement to achieve banking sector stability. While G-10 regulators saw this result as rather benign because they already had most of the known regulatory foundations for long-term growth in place, they did not realize that the "oversale" of Basel I would influence large private banks in such a way that they would begin to demand that emerging market economies follow Basel I.

The third group critical of Basel I concentrates on the misaligned incentives the Accord gives to banks. Due to the wide breath and absoluteness of Basel I's risk weightings, banks have found ways to "wiggle" around Basel I's standards to put more risk on their loanbooks than what was intended by the framers of the Basel Accord. This is done through two primary vectors. In the first strategy, banks securitize their corporate loans and sell off the least risky securitized assets. By "splicing" the least risky bank loans from its loanbook, a bank makes its assets more risky in *de facto* terms, but, in the *de jure* terms of Basel I, the risk weight given to the bank's corporate loans does not change. Moreover, the money gained through this securitization can be added to a bank's asset reserves, allowing it to give out even more risky loans. This method—called "cherry picking"—creates banks that, on paper, are properly protecting themselves against credit risk, but in reality are taking on quantities of risk far greater than what Basel I intended.

The second method through which banks can cosmetically maintain a low risk profile under Basel I while taking on increasing amounts of risk is through the sale and resale of short-run non-OECD bank debt. Because short-run bank debt created by non-OECD banks is weighted at 20% and long-run debt in this category is weighted at 100%, banks can "swap" their long-term debt holdings for a string of short-run debt instruments. Therefore, the risk associated with holding longer-term debt—namely, the risk of default in volatile emerging markets—remains, while the bank's risk weighting is reduced.

The final source of Basel I's criticisms relate to its application to emerging markets. Although Basel I was never intended to be implemented in emerging market economies, its application to these economies under the pressure of the international business and policy communities created foreseen and unforeseen distortions within the banking sectors of industrializing economies. Firstly, as highlighted in the Basel Accord itself, Basel I's high degree of regulatory leeway, view of domestic currency and debt as the most reliable and favorable of asset instruments, and perception of FDIC-style depositor insurance as risk-abating had significant negative effects within emerging economies. In countries subject to high currency fluctuation and sovereign default risks, the Basel I accords actually made loanbooks *riskier* by encouraging the movement of both bank and sovereign debt holdings from OECD sources to higher-yielding domestic sources. Next, FDIC-style deposit insurance, combined with lax regulation on what assets fall under Basel I's risk weightings, caused emerging market regulators to underestimate the credit default risks of a bank's assets. This, in turn, created system-wide defaults within emerging market banking sectors when it became obvious that all banks had taken on excessive risk and when it was revealed that the country's central bank had the capital on hand to bail out *some* of the banking sector, but not enough to bail out the whole of the sector.

In addition to the foreseen drawbacks of Basel I in emerging markets, several unforeseen effects of Basel I also served to make the accord less desirable for industrializing economies. The first unforeseen consequence of Basel I is a side-effect of the way it risk-weights bank debt: because short-run non-OECD bank debt is risk-weighted at a lower relative riskiness than long-term debt, Basel I has encouraged international investors to move from holding long-run emerging market bank debt to holding short-run developing market instruments. This has amplified the risk of "hot money" in emerging markets and has created more volatile emerging market currency fluctuations. The second unforeseen effect of Basel I emerges from the difference between the risk weightings of sovereign and private debt. Because emerging market sovereign debt is seen as less risky than private debt, Basel I has created a scenario where the private sector is "squeezed out" of many banks' emerging market lending portfolios. This "squeezing" magnifies recessions in emerging markets, and moreover, amplifies the costs of a sovereign default because domestic banks more readily accept sovereign debt, causing banks to "double up" on the higher-yielding debt typically disbursed by a sovereign in the months leading up to a default. Finally, the lack of deep and liquid capital markets in emerging markets make capital adequacy ratios less reliable in emerging economies. Because the prices of stock and debt held by a bank are often incorrectly valued on illiquid emerging market exchanges, the risk-weightings of such instruments and the inclusion of these instruments in the calculation of a bank's capital adequacy ratio oftentimes causes emerging market banks to show wildly incorrect capital adequacy positions.

III. Basel II

In response to the banking crises of the 1990s and the aforementioned criticisms of Basel I, the Basel Committee decided in 1999 to propose a new, more comprehensive capital adequacy accord. This accord, known formally as *A Revised Framework on International Convergence of Capital Measurement and Capital Standards* and informally as "Basel II" greatly expands the scope, technicality, and depth of the original Basel Accord. While maintaining the "pillar" framework of Basel I, each pillar is greatly expanded in Basel II to cover new approaches to credit risk, adapt to the securitization of bank assets, cover market, operational, and interest rate risk, and incorporate market-based surveillance and regulation.

A. Pillar I

The first "pillar," known again as *Minimum Capital Requirements*, shows the greatest amount of expansion since Basel I. In response to Basel I's critics, Basel II creates a more sensitive measurement

of a bank's risk-weighted assets and tries to eliminate the loopholes in Basel I that allow banks to take on additional risk while cosmetically assuaging to minimum capital adequacy requirements. Its first mandate is to broaden the scope of regulation to include assets of the holding company of an internationally active bank. This is done to avoid the risk that a bank will "hide" risk-taking by transferring its assets to other subsidiaries and also to incorporate the financial health of the entire firm in the calculation of capital requirements for its subsidiary bank.

Credit Risk—the Standardized Approach

Next, the first "pillar" provides three methodologies to rate the riskiness of a bank's assets. The first of these methodologies, the "standardized" approach, extends the approach to capital weights used in Basel I to include market-based rating agencies. Sovereign claims, instead of being discounted according to the participation of the sovereign in the OECD, are now discounted according to the credit rating assigned to a sovereign's debt by an "authorized" rating institution—if debt is rated from AAA to AAA-, it is assigned a 0% weight; if it is rated from A+ to A-, it is assigned a 20% weight; if it is rated from BBB+ to BBB-, it receives a 50% weight; if it is rated from BB+ to BB-, it receives a 100% weight; and if it is rated below B-, it receives a 150% weight. Unrated debt is weighted at 100%. If debt is denominated and funded in local currency, regulators can also assign a lower weight to its relative riskiness.

For bank debt, authorities can choose between two risk weighting options. In the first option, authorities can risk-weight this type of debt at one step less favorable than the debt of the bank's sovereign government. For example, if a sovereign's debt were rated as A+, the risk weight of the banks under its jurisdiction would be 50%. Risk is capped at 100% if the sovereign's rating is below BB+ or unrated. The other option for the risk-weighting of bank debt follows a similar external credit assessment as sovereign bonds, where AAA to AAA- debt is weighted at 20%, A+ to BBB- debt is weighted at 50%, BB+ to BB- debt is weighted at 100%, and debt rated below B- is risk-weighted at 150%. Unrated debt is weighted at 50%. Short-term bank claims with maturities of less than three months are weighted at one step lower than a sovereign bond, where BB+ debt is given a 50% weight instead of a 100% value.

In the "standard" approach, corporate debt is weighted in the same manner as bank debt, except the 100% category is extended to include all debt that is rated between BBB+ and BB-. All debt rated below BB-is weighted at 150%; unrated debt is risk-weighted at 100%. Home mortgages are, in addition, risk-weighted at 35%, while corporate mortgages are weighted at 100%.

Credit Risk—the Internal Ratings Based Approaches

Beyond the "standardized" approach, Basel II proposes—and incentivizes—two alternate approaches toward risk-weighting capital, each known as an *Internal Ratings Based Approach*, or IRB. These approaches encourage banks to create their own internal systems to rate risk with the help of regulators. By forcing banks to "scale up" their risk-weighted reserves by 6% if they use the standardized approach, the Basel Committee offers banks the possibility of lower reserve holdings—and thus higher profitability—if they adopt these internal approaches.

The first internal ratings based approach is known as the *Foundation IRB.* In this approach, banks, with the approval of regulators, can develop probability of default models that provide in-house risk weightings for their loanbooks. Regulators provide the "assumptions" in these models, namely the probability of loss of each type of asset, the exposure of a bank to an at-risk asset at the time of its default, and the maturity risk associated with each type of asset.

The second internal ratings based approach, *Advanced IRB*, is essentially the same as *Foundation IRB*, except for one important difference: the banks themselves—rather than regulators—determine the assumptions of proprietary credit default models. Therefore, only the largest banks with the most complex modes can use this standard.

Both IRB approaches give regulators and bankers significant benefits. Firstly, they encourage banks to take on customers of all types with lower probabilities of default by allowing these customers lower risk weightings. These low risk weightings translate into lower reserve requirements, and ultimately, higher profitability for a bank. Also, the IRB approaches allow banks to engage in self-surveillance: excessive risk-taking will force them to hold more cash on had, causing banks to become unprofitable. Moreover, if a bank does become illiquid, regulators will be less apt to close the bank if it followed "standard" Basel II procedures. For regulators, self-surveillance also decreases the costs of regulation and potential legal battles with banks. Furthermore, the "tailoring" of risk weights allows additional capital to be channeled to the private sector—because public debt is no longer "more trusted" by assumption, banks will be more apt to lend to private sources. This, in turn, increases the depth of the banking sector in a country's economy, and in sum, encourages economic growth. "Poor" risks can no longer hide under a rather arbitrary risk "category," preventing the tendency of banks to "wiggle" risks around category-based weights.

Operational Risk

Secondly, Basel II extends its scope into the assessment of and protection against operational risks. To calculate the reserves needed to adequately guard against failures in internal processes, the decision-making of individuals, equipment, and other external events, Basel II proposes three mutually exclusive methods. The first method, known as the *Basic Indicator Approach*, recommends that banks hold capital equal to fifteen percent of the average gross income earned by a bank in the past three years. Regulators are allowed to adjust the 15% number according to their risk assessment of each bank.

The second method, known as the *Standardized Approach*, divides a bank by its business lines to determine the amount of cash it must have on hand to protect itself against operational risk. Each line is weighted by its relative size within the company to create the percentage of assets the bank must hold. Figure (1) displays the reserves targets by business line. As shown to the left, less operationally risky business lines—such as retail banking—have lower reserve targets, while more variable and risky business lines—such as corporate finance—have higher targets.

Figure 1: Standardized Approach Reserve Targets
Source: Basel II Accords, 2006 Revision

Business Line	% of Profits Needed in Reserves
Corporate Finance	18%
Sales & Trading	18%
Retail Banking	12%
Commercial Banking	15%
Settlement	18%
Agency Services	15%
Asset Management	12%
Retail Brokerage	12%

The third method, the *Advanced Measurement Approach*, is much less arbitrary than its rival methodologies. On the other hand, it is much more demanding for regulators and banks alike: it allows banks to develop their own reserve calculations for operational risks. Regulators, of course, must approve the final results of these models. This approach, much like the IRB approaches shown in the last section, is an attempt to bring market discipline and self-surveillance into banking legislation and a move to eliminate "wiggle room" where banks obey regulations in rule but not in spirit.

Market Risk

The last risk evaluated in Pillar I of the Basel II accords attempts to quantify the reserves needed to be held by banks due to market risk, i.e. the risk of loss due to movements in asset prices. In its evaluation of market risk, Basel II makes a clear distinction between fixed income and other products such as equity, commodity, and foreign exchange vehicles and also separates the two principal risks that contribute to overall market risk: interest rate and volatility risk. For fixed income assets, a proprietary

risk measurement called "value at risk" (VAR) is first proposed alongside the lines of the IRB approaches and the *Advanced Measurement Approach*; banks can develop their own calculations to determine the reserves needed to protect against interest rate and volatility risk for fixed income assets on a position-by-position basis. Again, regulators must approve of such an action.

For banks that cannot or chose not to adopt VAR models to protect their fixed income assets against volatility or interest rate risk, Basel II recommends two separate risk protection methodologies. For interest rate risk—the risk that interest rates may fluctuate and decrease the value of a fixed-income asset—reserve recommendations are tied to the maturity of the asset. Figure (2) provides an overview of the risk weights assigned to each asset given its maturity. As seen to the right, depending on the time to maturity of the fixed-income asset, Basel II recommends a bank hold anywhere between 0% and 12.5% of an asset's value in reserves to protect against movements in interest rates.

Figure 2: Interest Rate Risk Weightings
Source: Basel II Accords, 2006 Revision

Time to Maturity	Risk Weighting
1 Month or Less	0.00%
6 Months or Less	0.70%
1 Year or Less	1.25%
4 Years or Less	2.25%
8 Years or Less	3.75%
16 Years or Less	5.25%
20 Years or Less	7.50%
Over 20 Years	12.50%

To guard against the volatility risk of fixed income assets, Basel II recommends risk weightings tied to the credit risk ratings given to underlying bank assets. For assets rated by credit-rating agencies as AAA to AA-, a 0% weighting is assigned, while for A+ to BBB rated fixed income instruments, a 0.25% weighting is given. Furthermore, for instruments receiving a BB+ to B- rating, an 8% weight is assigned, and for instruments rated below B-, a 12% weight is allowed. Unrated assets are given an 8% risk weighting. For the final calculation of the total amount of reserves needed to protect against market risk for fixed income instruments, the value of each fixed income asset is multiplied against both risk weightings and then summed alongside all other fixed income assets.

Basel II's risk weightings for all other market-based assets—such as stocks, commodities, currencies, and hybrid instruments—is based on a second, separate group of methodologies. It would be exhaustive to provide a full summary of the methods used for the calculation of reserves needed to protect against market risks, but this paper will provide a short summary of the three main types of rating methodologies used to rate these assets. The first group of methodologies is called *The Simplified Approach*, and uses systems similar to the "bucket" approaches used in non-VAR fixed income reserve calculations. This group looks to divide assets by type, maturity, volatility, and origin,

and assign a risk weights along a spectrum of values, from 2.25% for the least risky assets to 100% for the most risky assets.

The second group of methodologies for assigning the reserves needed to protect against market risk inherent in stock, currency, commodities, and other holdings is called *Scenario Analysis*. Here, risk weights are not grouped according to the cosmetic features of an asset; instead, risk weights are allocated according to the possible scenarios assets may face in each country's markets. This approach, while much more complex than the *Simplified Approach*, is much less conservative and therefore more profitable for a bank.

The final methodological group outlined in Basel II that calculates the reserves needed to guard against market risk is known as the *Internal Model Approach*, or IMA. Along the lines of the VAR and IRB approaches, this methodology group encourages banks to develop their own internal models to calculate a stock, currency, or commodity's market risk on a case-by-case basis. On average, the IMA is seen to be the most complex, least conservative, and most profitable of the approaches toward market risk modeling.

Total Capital Adequacy

Once a bank has calculated the reserves it needs on hand to guard against operational and market risk and has adjusted its asset base according to credit risk, it can calculate the on-hand capital reserves it needs to achieve "capital adequacy" as defined by Basel II. Because of the wide range of methodologies used by banks and the diversity of bank loanbooks, Basel II allows a great deal of variation in its calculated reserve requirements. Additionally, no change is given to both the requirement that Tier 2 capital reserves must be equal to the amount of Tier 1 capital reserves and the 8% reserve requirement for credit-default capital adequacy, making these two regulations applicable in Basel II. In sum, a bank's needed reserves for "capital adequacy" is calculated as follows:

Reserves = .08 * Risk Weighted Assets + Operational Risk Reserves + Market Risk Reserves

B. Pillars II and III

Pillars II and III are much less complex and lengthy than Pillar I—they only occupy 40 of the 350 pages of the Basel II Accord. Pillar II primarily addresses regulator-bank interaction, extending the rights of the regulator in bank supervision and dissolution. Regulators are given the power to oversee the internal risk evaluation regimes proposed in Pillar I and change them to the simpler, more conservative "bucket-based" approaches if they deem a bank unable to manage its credit, market, and

operational risks independently. Regulators can also review a bank's capital assessment policy when they see fit, and are given the mandate to hold senior management responsible if a bank misrepresents its risk positioning. Moreover, banks are charged with drafting their own risk profiles, and if this reporting is not done, authorities have the right to penalize the at-fault bank.

Two additional mandates also widen the breath of regulator power in Basel II. Firstly, regulators are allowed to create a "buffer" capital requirement in addition to the minimum capital requirements as calculated in Pillar I if banks are seen to be "skirting" around the capital adequacy goals of the accord. Secondly, to avoid a repeat of the financial crises in countries like Korea and China, banking supervisors are urged to mandate early action if capital reserves fall below minimum levels and are given significant authority by way of Basel II's recommendations to prescribe rapid remedial action for banks in such a situation.

Pillar III looks to increase market discipline within a country's banking sector. In sum, disclosures of a bank's capital and risk-taking positions that were once only available to regulators are recommended to be released to the general public in the Basel II Accord. Statistics such as the aggregate amounts of surplus capital (both Tier 1 and Tier 2) held by a bank, risk-weighted capital adequacy ratios, reserve requirements for credit, market, and operational risk, and a full description (with assumptions) of the risk mitigation approaches of a bank are recommended for quarterly release to the general public under Basel II's standards. With this action, Basel II hopes to empower shareholders to enforce discipline in the risk-taking and reserve-holding methods of banks, where banks seen to hold too few reserves and take on too much risk are punished by their own shareholders for doing so.

C. Implementation

After its drafting in 1999, Basel II underwent seven years of deliberation and two revisions—one in September and another in November of 2005—before a final agreement was agreed upon by all G-10 nations and representatives from Spain in July 2006. Over the course of the Accord's deliberation, the size of the agreement ballooned to 347 pages—a far cry from the 37 pages of the original Basel accord. This was due to the addition—at the behest of the United States, Japan, and Britain—of internal risk evaluation and self-surveillance standards for banks. Another major sticking point in the negotiations over the Basel II accord was the scope of the agreement: most European Union countries wanted the Accord to apply to *all* banks, while the U.S., Canada, and Great Britain wanted it to apply only to large international banks. In the end, this second bloc won out.

Alongside the final draft of Basel II in 2006, all the G-10 countries, including the United States, pledged to implement Basel II in full by its target enaction date of December 2008. While progress to this goal is uneven, all G-10 countries have approved their strategies for harmonization with Basel II and have mandated its implementation by late 2008.

Outside the G-10, 95 countries—accounting for 36% of world GDP—have announced their intention to adopt Basel II by 2015 (Cornford, 10). Including the G-10, Basel II is on target to cover approximately 77% of the world's GDP and 70% of its population. The timeline for adoption of Basel II among non G-10 members is shown below in Figure (3).

Figure 3: Adoption of Basel II
Source: Cornford, et. al.

Year	2008	2010	2013	2015
% Adoption Rate (World GDP)	46%	58%	69%	77%
Selected Countries Adopting Basel II	G-10, Chile, Bahrain, Singapore	Russia, South Africa, Indonesia, Brazil	India, Argentina	Egypt, Pakistan

The only major country outside the G-10 that has not announced its intentions to adopt Basel II's standards is China: it asserts that its own domestic regulation and the adoption of Basel I standards will be sufficient to ensure the stability of its banking system. On the other hand, recent reports show a reversal in this decision and a target date of 2011 for implementation among a select few Chinese banks, so there is a distinct possibility that even China will join most of the world in adopting Basel II ("Chinese Banks to Test Waters...," 1). In addition, it must be noted that because Basel II covers the subsidiaries of G-10 banks, many emerging markets will see *de facto* implementation of Basel II in 2008. Argentina, for example, has a banking sector with a large foreign bank presence—approximately 48% of all bank capitalization—and will therefore see the effects of Basel II much sooner than its formal implementation date of 2013.

D. Criticisms Related to Emerging Market Economies

The principle criticism of Basel II in terms of emerging market economies is that, once again, the Basel Committee has expressly stated that its recommendations are for its G-10 member states and *not* for developing economies. In parallel to the creation of Basel II, the Basel Committee created a set of standards for emerging market economies called *Core Principles for Effective Banking Supervision* that were drafted in 1997, completed in 1999, and later revised in 2006. Although these standards are tailored to the needs of emerging market economies, their broadness and relative obscurity in the policymaking community have limited their impact upon international banking. Because multilateral

institutions, international rating agencies, and large banks alike see the Basel Accords as the proper standard for banking regulation throughout the world's economies, critics charge that the "splicing" of emerging market bank policy into a less publicized and precise standard effectively causes the needs of emerging market financial sectors to be ignored.

Given that Basel II is intended for G-10 economies, its regulations have several possible adverse effects on emerging market economies. Firstly, the strong responsibilities given to regulators and the great amount of regulatory variability allowed to banks in their calculation of loanbook reserves may overwhelm the regulatory systems of many emerging market economies. Because of the high technicality in Basel II and the inclusion of internal mechanisms in the measurement of risk, regulators will be forced to hire and hold highly skilled employees through the medium and long term. Unfortunately, the educational institutions needed to train such employees may not exist in a country, and many emerging market regulatory agencies do not have the budget to add costly high-skilled workers to their ranks. Therefore, central banks may become lax in their regulation of private banks, allowing them to control risk internally without proper oversight. This, in turn, incentivizes private banks to take on increasing risk, heightening the possibility of a system-wide banking collapse (Barth, et. al, 44). In rich countries, Basel II assures its readers that market discipline would preclude such a scenario, but again, in emerging markets, markets may be so shallow and illiquid that banks could effectively take on excessive risk without a shareholder or creditor revolt.

Another possible side-effect of Basel II in emerging market economies is a drawback of lending to emerging market banks. This is due to two factors. Firstly, because only larger firms can afford to hire rating agencies to asses their debt, it is likely that many banks in emerging markets will not have their debt rated by Moody's, S&P, or Fitch. Therefore, global banks will be lest apt to loan to emerging market banks because such loans will have to be matched with larger capital reserve requirements than those made to larger, rated banks. Secondly, even if an emerging market bank is able to afford the services of an international rating agency, experience has shown that the uncertainty surrounding differences in accounting practices and banking regulations causes rating agencies to assign unduly unfavorable bond ratings to banks in industrializing states (Barth, et. al., 71). Simply put, a rating agency would rather "cover its underside" with a low rating than make a major personnel investment in an emerging economy.

More generally, Basel II's reliance upon rating agencies to value risks may cause unfavorable implications in industrialized and industrializing markets alike. Firstly, because most small borrowers

cannot afford the services of rating agencies, banks will tend to lose diversification on their loanbooks, causing them to be more exposed to sectoral shocks, and especially economic shocks that adversely affect larger banks and corporations. Secondly, because banks and corporations can choose the rating agency they employ, they may bring about a "race to the bottom" among the world's three large rating agencies where business is given to the agency that assigns a firm the best rating possible. Therefore, over time, a bank's risk exposure will tend to enlarge, even as, on paper, it retains the same amount of credit, operational, and market risk.

Next, Basel II is criticized for its retention of the "sovereign ceiling" in its estimation of bank asset risk. Although this standard is weakened by the availability of other options through which emerging market assets can be valued, the *Standardized Approach* still permits regulators to arbitrarily rate bank debt as less creditworthy than the debt of the bank's sovereign authority. Because many emerging market sovereigns have dubious debt histories, emerging market banks are unduly penalized by Basel II because their debt ratings—and therefore risk weightings—are mandated to be "one step" less favorable than that of their sovereign government. Thus, large international banks will likely limit loans to highly solvent, low-risk banks in emerging markets because they are forced to take on large capital reserves to extend such loans.

Finally, one additional criticism of Basel II will affect both emerging and industrialized economies. With the addition of internal risk measurements in the calculation of a bank's capital reserves, Basel II may cause banks to function in a way that is procyclical to the business cycle. Because risk weights are based on expectations of future economic performance, banks will tend to withdraw credit in times before and during a recession and extend additional credit once a recovery is underway. Although this method protects banks against additional economic risk, it is well known in the financial community that economic forecasters tend to exaggerate their predictions during periods of growth and recession alike. Therefore, the expectations-based movement of credit will tend to amplify recessions and perhaps spur inflation during periods of high economic growth.

IV. Conclusion

While a full summary of this paper would be exhaustive, some stylized facts should be assessed before it concludes. One very important fact to assess is the achievements and limitations of each Basel Accord. The first Basel Accord, Basel I, was a groundbreaking accord in its time, and did much to promote regulatory harmony and the growth of international banking across the borders of the G-10 and the world alike. On the other hand, its limited scope and rather general language gives banks

excessive leeway in their interpretation of its rules, and, in the end, allows financial institutions to take improper risks and hold unduly low capital reserves. Basel II, on the other hand, seeks to extend the breath and precision of Basel I, bringing in factors such as market and operational risk, market-based discipline and surveillance, and regulatory mandates. On the other hand, in the words of Evan Hawke, the U.S. Comptroller of the Currency under George W. Bush, Basel II is "complex beyond reason" (Jones, 37), extending to nearly four hundred pages without indices, and, in total, encompassing nearly one thousands pages of regulation.

The drawbacks of both accords, interestingly enough, are remarkably similar. Put simply, both effectively ignore the implications of their rules on emerging market banks. Although each states that its positions are not recommended for application in emerging market economies, the use of Basel I and II by most private and public organizations as truly international banking standards predicates the inclusion of emerging markets in each accord. The failure of this inclusion has put emerging markets in an awkward position—they can either adopt Basel I and II, receive international capital flows, and face excessive risk-taking and an overwhelmed central bank, or they can be cut off from most international capital. Therefore, it is highly beneficial to the safety and stability of the international financial system—and moreover, the international economy—to include emerging market economies in future revisions of the Basel Accords.

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