

The Good, The Bad and Basel II

Session: Credit Risk Transfers and their Regulatory Challenges

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Plan of the Presentation

- The Good
- The Bad
- Basel II

The Good (1)

- Credit Risk Derivatives have grown enormously, although still small relative to IR and currency derivatives in terms of volumes or notional values
- Beneficial effects as other derivatives:
 - Risk management
 - Its claimed that commercial banks are net protection buyers; can reduce overall risks and loan concentration risks
 - Potential to reduce spreads and enhance financial stability
 - Price discovery
 - Standardized Credit Default Swaps and indices concentrate liquidity, enhance price signals
 - Should help regulators too...

The Good (2)

- Beneficial effects as other derivatives:
 - Effect on Underlying Industry
 - Ability to separate relationship from risk
 - Does growth of CRT instruments mean banks' loan-monitoring role less important?
 - Or, as bank has sold credit risk can bank be tougher on company?
 - Effect on bank competition (price discovery role)
 - But if banks have private information, is there an adverse selection problem, what are the conflicts of interest?

The Bad (1)

- Do we really know just what is being transferred and to who?
 - Notional values suggest its mostly trading between relatively sophisticated dealers & banks, well over 90% of notional values
 - not necessarily bad as aids price discovery but little risk management: only a small amount of risk transfer out of commercial banking sector
 - Collateralized Debt Obligations (CDO's), frequently equity tranche is retained
 - Greenspan in a recent speech stated; “Unfortunately available data do not provide this information”
 - “This” referred to what risk was being transferred and to who

The Bad (2)

- The liquidity is in the top names, again implying real risk transfer limited
 - Still, maybe useful in reducing concentration exposures
 - And sovereign CRDs an exception, here liquidity (excepting Japan) is in emerging economies.
 - But of the 700 or so liquid names, 30 are sovereigns

The Bad (3)

- As with other OTC derivatives, dealer concentration is very high indeed (OCC states top 5 CRD dealers have 97% of notionals)
- Complexity of instruments sometimes puzzling
 - Joint Forum, “... understanding credit risk profile of CDO tranches poses challenges to even the most sophisticated market participant”
 - Liquidity in CDO tranches reported to be low
 - Complexity is a challenge for issuer to control risks effectively, for investors and for the regulators
- On the regulator, Greenspan is more confident on the market, “private regulation generally has proved better at constraining excessive risk-taking than has Government regulation”
- Quite an admission for the top US bank regulator, and if the market doesn't have all the info required

The Bad (4)

- Regulatory Arbitrage under Basel I
 - High grade corporate: 100% risk weight
 - Speculative grade corporate 100% risk weight
 - Well known perverse incentives of Basel I
 - Can lend to high grade corporate buy a CDS, and if protection-seller is right type, reduce regulatory capital to 20% risk weight
 - Or could sell high grade risk to non regulated sector (securitize)
 - Or sell CDO's on high grade portfolio maintaining equity tranche (supervisory treatments differ, must normally must reduce notional from capital)
 - The claim is banks are net protection buyers, perhaps spurred by arbitraging Basel I type rules
 - But, lack of information a serious concern.

Basel II and Emerging Economies

(Thanks to the World Bank for supporting this Work)

- Basel II has many alternatives
- Continued motivation for use of CRDs to arbitrage the rules
- Effect of Basel II Implementation in G10 on Emerging Economies
- Should Emerging Economies implement Basel II, if so how?
- Unresolved (Cross-border) issues
- Is the lead regulator model the right approach?

Basel II: Pillar 1 Alternatives

	<i>Basic Credit Risk</i>	<i>Credit Risk Mitigation</i>	<i>Securitization Risks</i>	<i>Operational Risk</i>
<i>The Approaches</i>	<i>Measurement Technique</i>			
Simplified Standardized	Export Credit Agencies (www.oecd.org, Trade Directorate, ECA page)	Simple: risk weight of collateral substitutes that of claim.	SSA banks can only invest (cannot offer enhancements or liquidity facilities). Riskweight=100%	Basic Indicator. Capital=15% Gross Income
Standardized Approach	Export Credit Agencies or Credit Rating Agencies (eg: S&P, Moody's, Fitch)	Simple: (as above). Comprehensive: exposure amount reduced subject to claim and collateral haircuts.	Standardized: uses export credit agency ratings (only investing banks can use below BB+)	Basic Indicator. Or Standardized Approach where Bank Capital = weighted sum of gross income across activities
IRB Foundation	Banks' internal ratings for default probability and Basel II formula sets capital requirement (Loss Given Default 45% for Senior and 75% Subord).	Comprehensive, then LGD adjusted given reduction in exposure and capital requirement given by Basel formula	IRB Approach: Investing banks may use bank Ratings according to a standard scale. Originators may use Supervisory Formula	More sophisticated banks will be expected to graduate to the Advanced Measurement Approach where capital requirement given by own risk measurement system.
IRB Advanced	Banks set internal rating (default probability), LGD Exposure At Default and Maturity. Capital requirement still given by Basel formula.	Own model determines LGD and EAD and capital requirement given by formula	As IRB Foundation	As IRB Foundation

Basel II

- Objective: links regulatory capital to risk such that regulatory capital closer to economic; trying to get closer to actual bank practice
- More rational treatment of credit risk mitigation and securitization risk
- But incentives for regulatory arbitrage will remain

Basel II

- Recent developments in CRD's include correlation trading
- Basel II's advanced approaches use a VAR inspired formula for single instruments assuming full diversification and calibrated derived from a single factor model with tolerance 99.9% and correlation 20%.

Basel II

- If a portfolio correlation $< 20\%$
 - Economic capital $<$ Regulatory capital
- Can use CRT instruments to increase the effective default correlation of my portfolio
 - Again, banks claim that on net they use CRT's to reduce correlations and to reduce loan exposures but in theory a bank could choose its preferred correlation figure.

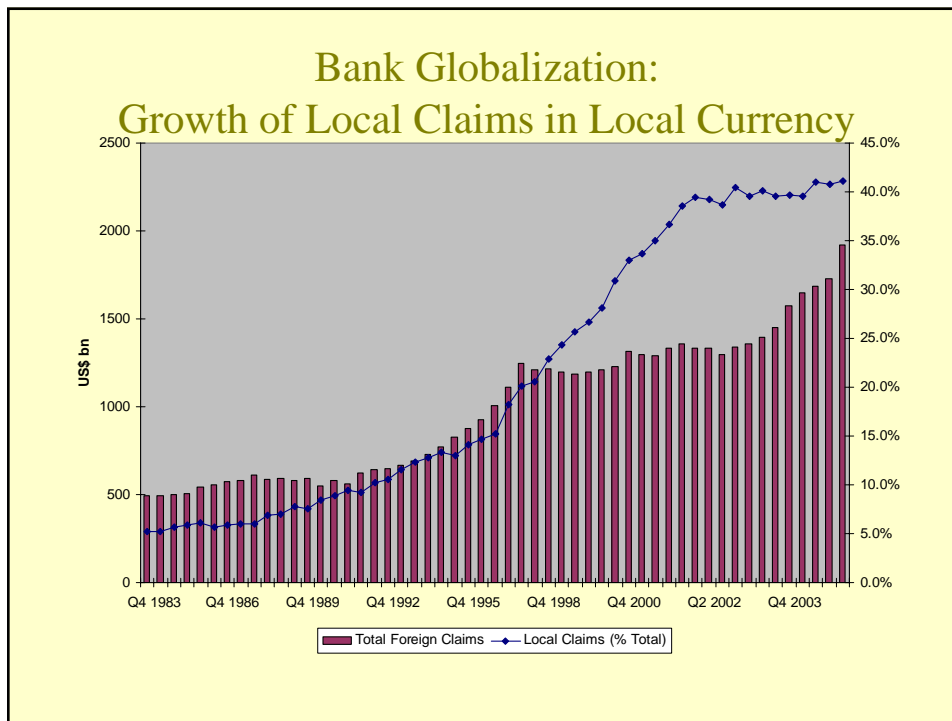
Basel II and Emerging Countries

Conclusions of Majnoni and Powell (forthcoming, *Economia*), Powell (2004, World Bank working paper) and Majnoni and Powell (2005) available on www.worldbank.org and www.utdt.edu/~apowell

- Emerging countries' sovereign cost of capital largely unaffected by Basel II implementation in G10
- Pro-cyclicality concerns may be overdone, circularity may be more of an issue
- There are a set of unresolved issues regarding cross-border implementation of Basel II
- With current calibration, emerging countries' private sector may be affected and the globalization trend of banking may retreat back to internationalization
- Is the lead regulator model really the correct one?
 - Game between bank/home regulator and host regulators

Basel II Implementation in G10 is Important for the Developing World

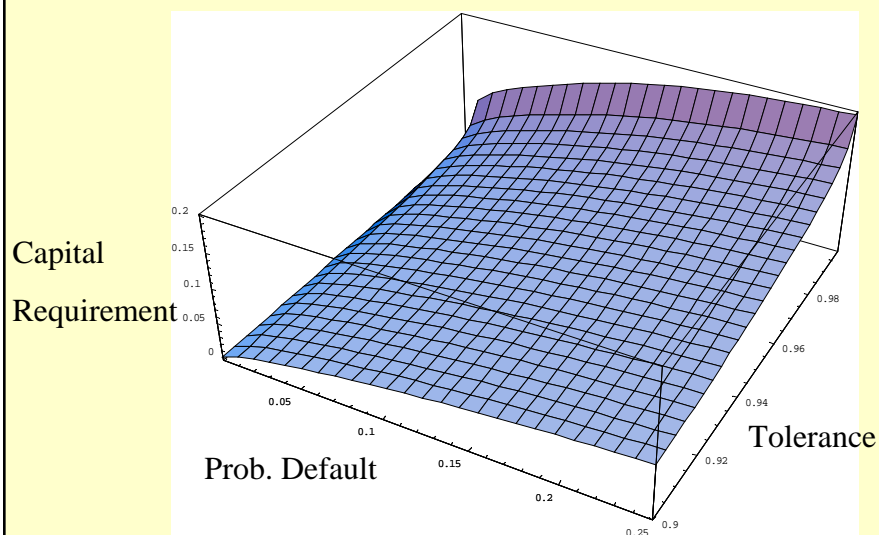
- Foreign Banks have lent US\$ 1.92 trillion to developing countries (BIS QIV, 2004)
- Foreign banks account for about 26% of domestic credit in developing countries but 69% in Latin America and 78% in developing Europe
- There has been a marked trend to globalization of banking from previous internationalization (or cross border lending)



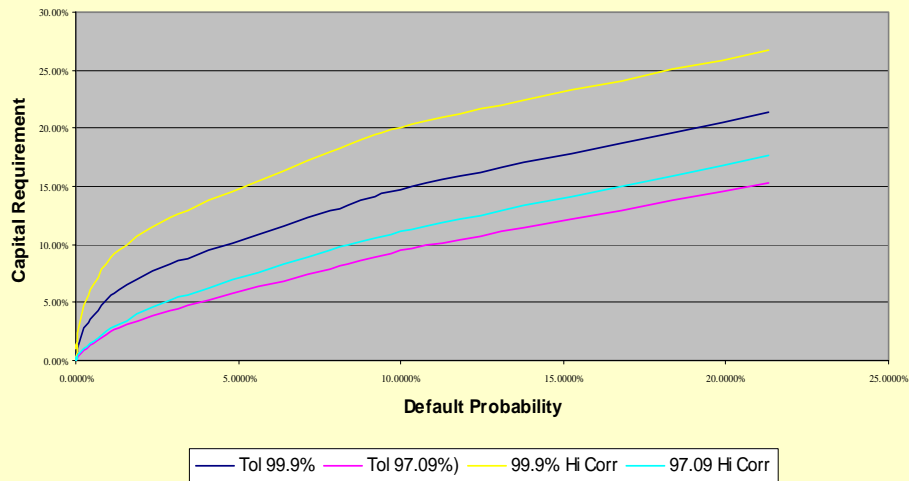
Basel II Calibration

- But is the Basel II, IRB Curve Calibrated Correctly?
 - Majnoni and Powell (*Economia, forthcoming*) find that for estimated Expected Losses, the Basel II IRB curve underestimates Unexpected Losses for the 99.9% Confidence Limit
 - Emerging country SME's will have very high capital requirements (> 20% in many cases)

The Basel II IRB Curve for Different Tolerance Values



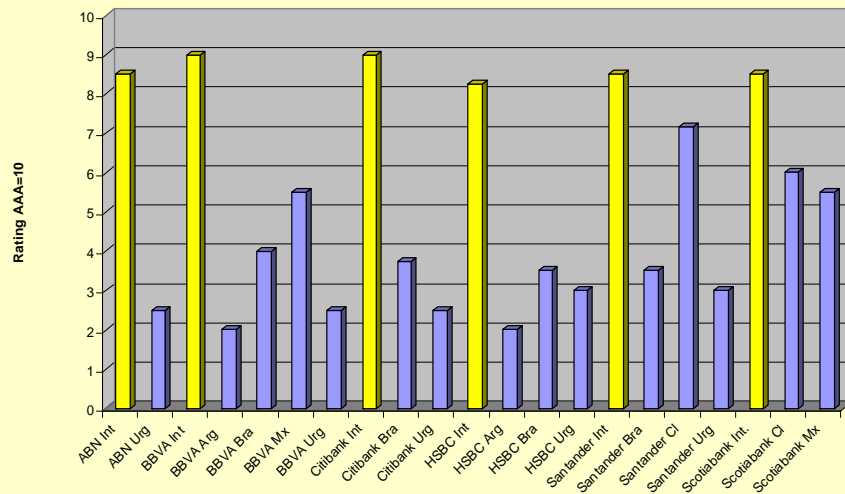
The Basel II Curve Adjusting Tolerance and Correlations



The Cross Border Issue

- The risk of a subsidiary (or branch) is that of the international bank, only if there is a *comprehensive parental guarantee*.
- If there is an incomplete guarantee then the host supervisor should implement a regime that
 - It can monitor effectively
 - That ensures that the appropriate amount of capital is available to the subsidiary or branch
- In practice there is something of a game going on between foreign banks/home regulators and their host regulators

But the Ratings of Subsidiaries are well below those of Parents



A Simple Regression indicates that the Rating of the Parent and the Host Country as Significant

$$Subsid = 7.19 + 0.0449Host + 0.277Parent + \epsilon_i$$

(11.14) (2.48) (3.75)

A conclusion compatible with these findings is that there is a partial guarantee

Nature of the Game

- Foreign bank must make significant investment
- Emerging country can “hold-up”
- Depending how things turn out bank may leave and even default on local liabilities
- Bank may face international court action
- International bank faces a trade-off, may not offer explicit guarantees
- Home regulator may wish to limit extent of guarantees, host regulator would wish to make guarantees explicit
- Interesting question: how would foreign bank’s use of CRD’s affect this game?

Emerging Countries May Fall Between Two Stools

- Given the shallow market in credit ratings the Standardized Approach (SA) that uses external ratings will deliver little in terms of linking capital to risk
- Given the complexity of the Internal Rating Based (IRB) approach, many countries may feel that they lack the necessary supervisory expertise
- Majoni and Powell (*Economia, forthcoming*) develop a Central Rating Based approach

On the Lead Regulator Model

- Until now the focus has been the lead regulator model:
 - This implies a standard within institutions
 - Hence there will be “arbitrage” within countries
 - Foreign banks may withdraw from SME and retail, Globalization will retreat back to Internationalization (cross border lending to sovereigns and high rated corporates)
- On the other hand a country standard might provoke arbitrage within institutions
 - Foreign banks may book assets locally or abroad depending on where capital requirement is lower

Pillar 1: Proposal

- Basel II should be a springboard for real supervisory cooperation
- The focus of this cooperation should be on how to implement Basel II’s more advanced approaches in a way consistent with host country resources and practices but to minimize arbitrage within institutions
- A globally consistent IRB approach: lending to higher rated corporates (avoiding arbitrage within institutions)
- A locally calibrated IRB/CRB approach for assets that should be booked locally: SME lending and retail (avoiding potential retreat from these areas by foreign banks)

Pillar 2 Proposal: College of Supervisor Approach

- Pillar 2 contains no text about international supervisory cooperation - a missed opportunity
- If Basel II is to be applied in 100 countries (and G10), a college of supervisors should attempt to coordinate a locally calibrated version of the IRB (or CRB) approach
- If this is to apply at the country level, host countries should coordinate this College
- Lead regulator model unlikely to resolve the relevant conflicts of interest

Pillar 2 Cross Border Concerns

- If home and host regulators can agree on a regulatory scheme for foreign banks
- Should also agree to joint inspection regime
- This is not only efficient in terms of supervision but also in terms of knowledge transfer from one supervisor to another

Cross Border Pillar 3 Concerns

- Often foreign bank entry has been through acquisition and hence delisting in local capital markets
- Market information on the local bank has been swapped by a partial and non transparent guarantee
- Pillar 3 should apply to all foreign bank subsidiaries and branches failing a comprehensive and transparent guarantee
- A subordinated debt rule should be contemplated to obtain market information on the strength of the guarantee

Conclusions

- CRT instruments are here, already US\$8tr+ notional of CDS's (not US\$183tr of IR and Currency OTC derivatives but rate of growth is fast)
- Potential benefits and interesting repercussions for banking theory: we hope banks are using these instruments sensibly but do we really know?
- Basel II will affect regulatory arbitrage certainly, will not eliminate it, focus may be on correlations
- CRT might change game between lender and borrower and between foreign bank/home regulator and host regulator
- Basel II amplifies set of unresolved cross border issues
- Urgent need to rethink home-host supervisory functions