Understanding Basel II Operational and Strategic Implications

BY MARKUS KRALL

In 2004/05 McKinsey and Company conducted a major international research project to understand the operational and strategic implications of Basel II for credit institutions and capital markets. In this paper, which is a condensed summary of the findings of this effort, Krall foresees a number of interacting developments influencing banks operational and strategic choices as well as the overall level of systemic risk in the global credit markets.

I. EXECUTIVE SUMMARY

In short: we anticipate Basel II to trigger a range of operational and strategic challenges and opportunities for the entire financial services industry. To date most of the attention Basel II received and still draws circles around regulatory compliance and the infrastructural requirements of risk measurement and capital calculation, especially ratings and LGD measurement across the whole spectrum of credit exposures. Since credit exposure consumes roughly two third of a typical commercial banks capital this focus is logic given the importance of regulatory risk allocation.

We foresee a number of interacting developments influencing banks operational and strategic choices as well as the overall level of systemic risk in the global credit markets. Elements of the heightened level of specific systemic risks have already materialized since the presentation of this paper in April 2006 at the LSE Conference on Risk and Regulation in the form of recent credit markets disturbances, however we will not focus on the specifics of these developments on the following pages.

Operational opportunities arise

- around improved risk discrimination,
- better risk pricing and use of covenants,
- process optimization through rating automation and
- new applications in lean processes based on Basel II infrastructure as well as
- better capital and funding/treasury management.

Most of these opportunities require a disciplined and prudent approach to credit origination and portfolio management.

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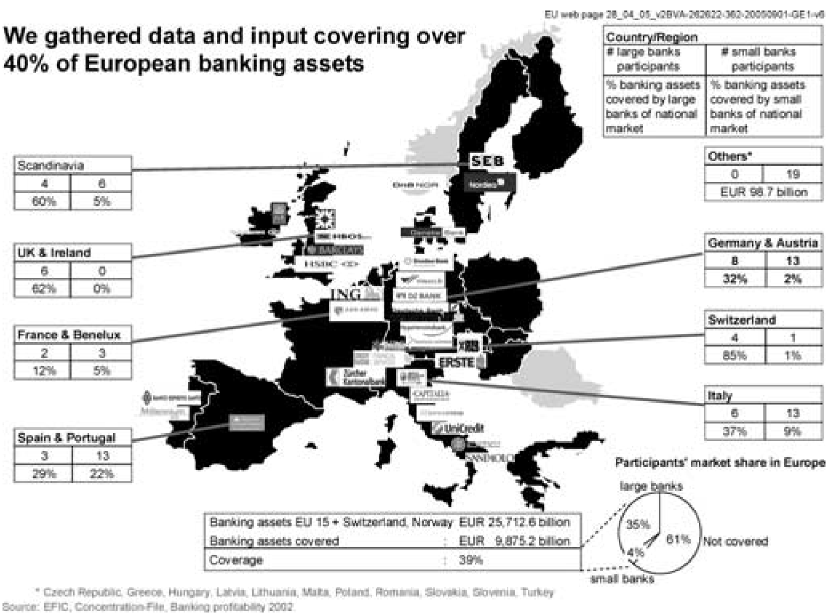
The strategic impact areas in our view are likely to evolve around three main effects:

- increased cyclicality in regulatory as well as rating capital requirements putting traditional portfolio management concepts and frameworks to a test
- A substantial new regulatory arbitrage resulting from inconsistent treatment of assets within the three approaches offered by the Basel II framework (standardized vs. IRB-Foundation vs. IRB-Advanced).
- An accelerated consolidation in the retail sector as a result of arbitrage induced portfolio shifts and increasing importance of economies of scale also triggered by Basel II infrastructure requirements.

We strongly believe these strategic developments to have a profound impact on the strategic risk landscape, the choices banks and capital markets investors are facing in the near future and the oversight required from regulators to avoid accumulation of systemic risk.

II. OPERATIONAL CHALLENGES FOR THE BANKING INDUSTRY

In a coordinated effort across the European Union plus Switzerland we surveyed most of Europe's largest credit institutions (see map) and a number of smaller players covering roughly 40% of all credit assets in the market. Specifically in one of the most important credit markets, the U.K., our coverage exceeded 60%.

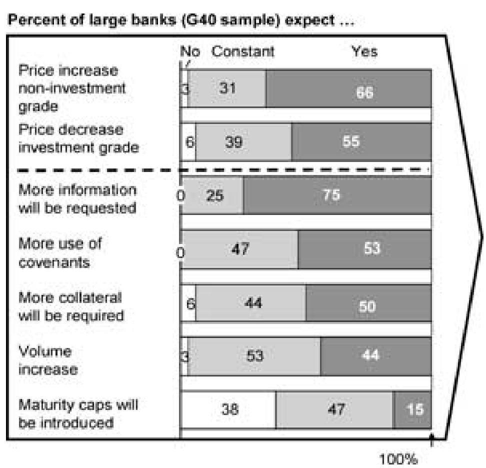


In this survey we gained a comprehensive perspective on the state of the art of risk management. The results confirmed as well as challenged a number of beliefs held in the industry, namely

- All major institutions are planning to adopt the IRB advanced approach for competitive and reputation reasons, less so for regulatory capital savings, which are nevertheless expected to materialize, especially for large players.
- Most industry players see the adoption of the advanced approach as an opportunity to address hitherto untapped resources of value in the credit business
- An overwhelming majority identify best in class risk management as the future competitive battleground and
- Last not least Basel II has triggered a substantial wave of investment in risk management capabilities

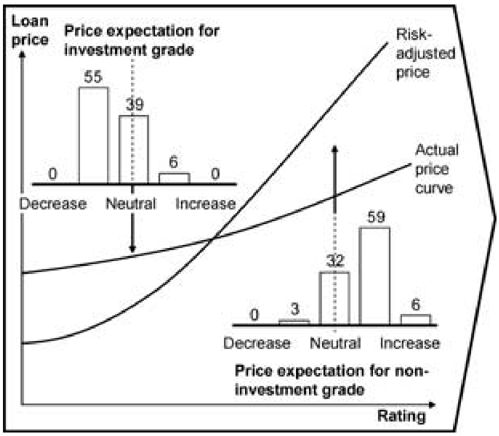
Banks also anticipate a shift in the way the conduct their credit business and customer relationship management:

- The availability and use of more and new competitive levers in the operational credit process ranging from improved risk selection at origination point to better risk adjusted pricing and higher process efficiency (lean by new means) with the use of automated ratings and automated allocation of credit applications into processes of optimized differentiation and analysis relative to the size of the risk taken.
- Improved cross selling through rating advisory, better capital management and changes in product design and mix, like covenants, alternatives to pure credit, mezzanine finance, etc.
- Higher transparency of the total risk in existing portfolios and their impact on future external ratings banks get from credit rating agencies like S&P, Moody's and Fitch.

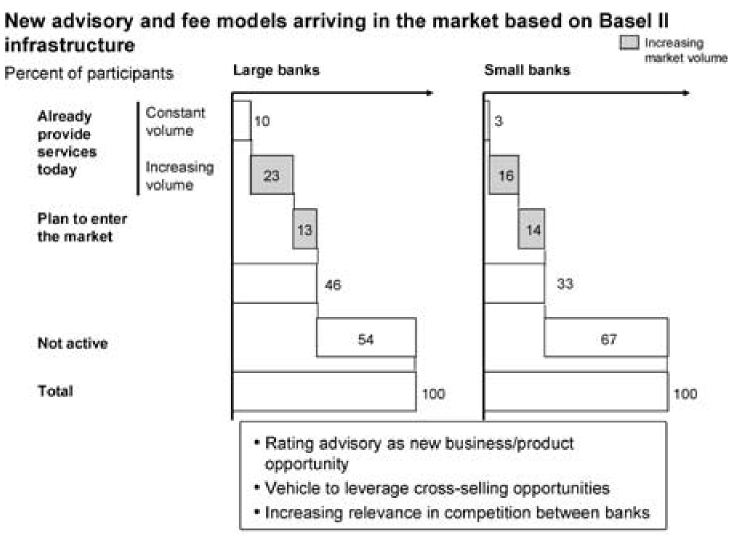


These trends are highlighted by the answers the 40 large banks participating across Europe have given regarding specific questions regarding their future conduct of credit allocation and origination:

One of the most striking results is the determination of loan providers to finally adjust the price curve of their business. Roughly two thirds expect (and promote) a shift of the pricing curve as indicated in the graph below. This will put an end to cross subsidization between loans of different quality and diminish the role of credit as the customer relationship "door opener" for future cross selling.



Instead, a growing number of banks intends to leverage rating infrastructure as an advisory tool for their credit customers to tailor loan, mezzanine financing and



risk mitigation products, like FX and IR hedges and thus achieve cross selling while optimizing the advise they provide to their commercial clients.

III. STRATEGIC IMPLICATIONS

Basel II has a number of behavioral implications for banks propensity to structure their portfolios in very specific ways depending on assumptions how banks optimize their value creation, or, in other words: which theory they assume how to achieve a maximized shareholder value. As we will elaborate in some more details, we anticipate several strategic and systemic risk challenges emanating from these behavioral hypotheses:

- an increasing cyclicality of both, required regulatory and rating capital with substantial implications for
- the management of a banks agency ratings and hence funding costs
- necessity for a more comprehensive portfolio management and through the cycle risk and revenue management approach
- We foresee a substantial concentration of credit risk in smaller institutions
- triggered by a new form of regulatory arbitrage and
- supported by a capability gap in risk measurement and management between large and small players in the industry
- This in turn will lead to a wave of consolidation targeting small and retail banks resulting from
- A demand pull based on growing importance of economies of scale in retail banking and
- A supply push based on asymmetric credit losses hitting smaller and more unsophisticated banks in a credit cycle downturn as a result of the above mentioned arbitrage mechanisms

Although from a regulatory perspective a majority of European banks has a capital buffer, the comfort zone regarding other stakeholders, namely the rating agencies, is much less reason for relaxation.

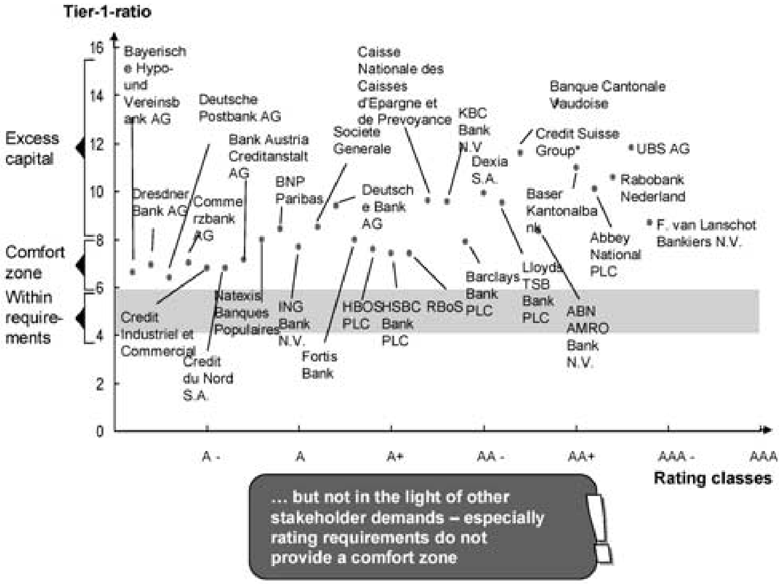
For the event of a credit downturn, which the market is currently experiencing, our simulation based analysis predicted that 25% to 60% of banks would face massive downgrading pressure, with different level of impact on AA and A-rated banks.

For banks value creation and capital profitability this is a double blow since not only will they need substantially more capital to defend themselves against such downgrades, but also revenue losses impact their P&L because a range of banking products face rating thresholds:

Without certain minimum ratings to secure competitive funding costs some business models fail completely, a problem that some public banks faced with unprecedented pressure after the removal of state guarantees which had secured cheap funding. Banks therefore have a strong incentive to define rating floors for

Majority of European banks have a capital buffer from a regulatory perspective

Year-end 2004

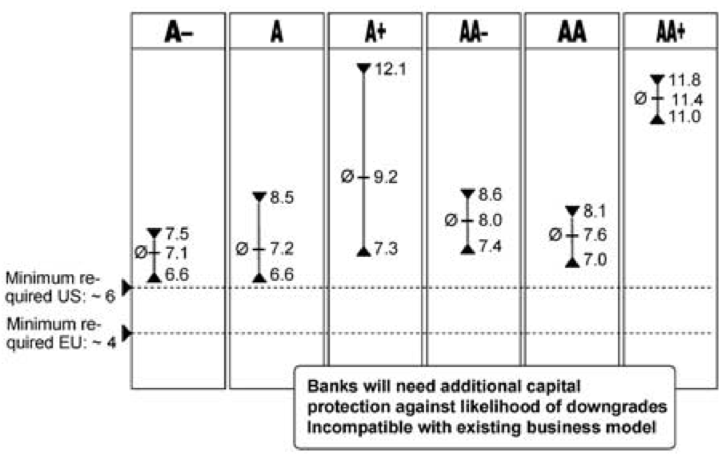


Source: Bankscope, Standard & Poors, McKinsey

But rating agency capital requirements consistently and substantially above regulatory demand for investment grade ratings

NOT EXHAUSTIVE

Tier-1-ratios, percent, 2003*

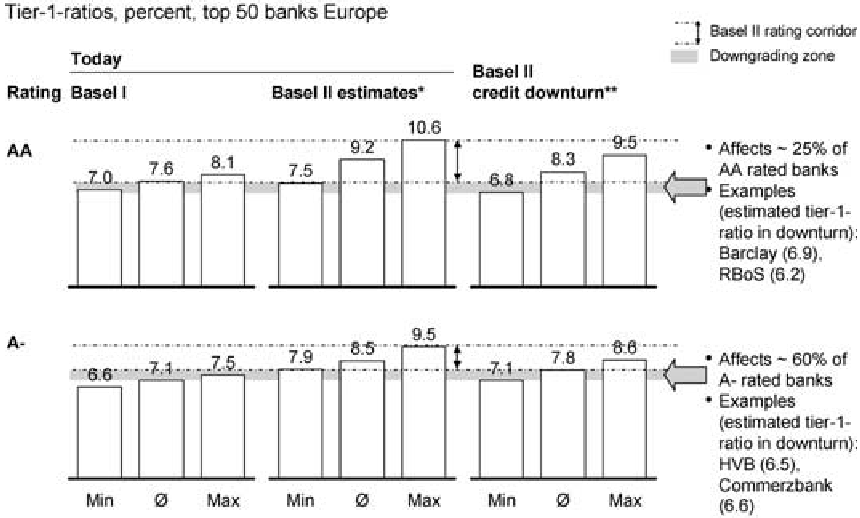


* Analysis of 26 banks

Source: McKinsey

In credit downturn 25% - 60% of banks face downgrading pressure SIMULATION

Tier-1-ratios, percent, top 50 banks Europe



* Based on QIS 3

** Assuming increase in risk weight by 11% (= 1 x standard deviations between QIS 3 estimates for European countries)

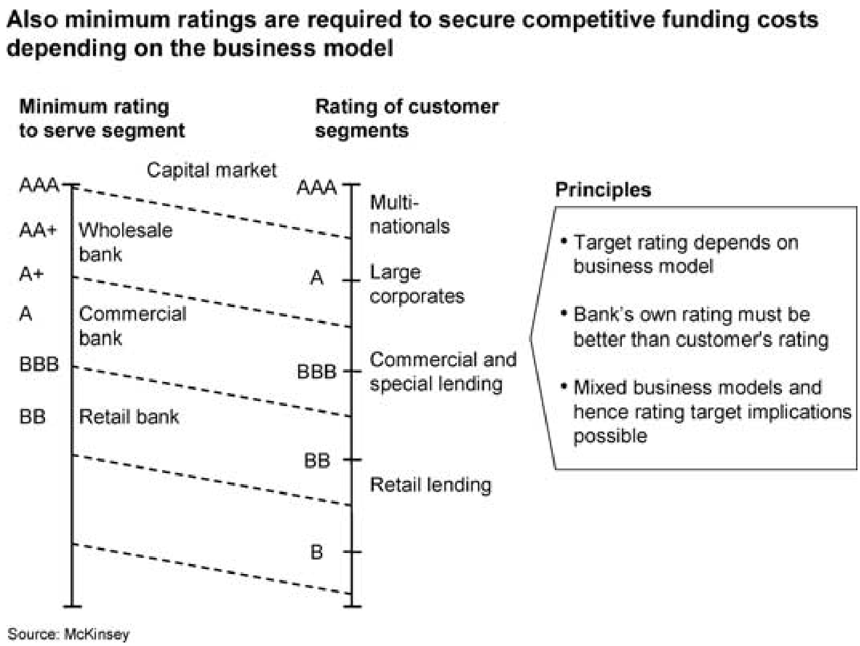
Source: Broker reports, QIS 3, McKinsey

Rating downgrading reduces revenues due to threshold ratings for bank products

Product class		Products	Observed threshold	Reasoning
Wholesale Banking	Commercial Banking	• Lending (large corporates, SME, other banks)	• A/BBB (depending on segment)	• Rating advantage over customers required to secure profitability through cheap-enough funding
		• Venture capital	• A	
		• Project financing	• A/BBB	
		• Cross-border payments • Trade financing • Leasing • Transaction services	• No threshold observable	
	Investment Banking	• Derivatives	• AA/A	• Banks generally considered as "good" counterparty until A rating • Bank reputation linked to rating • Higher chance of bank paying liabilities in case of errors • Provision of liquidity lines for conduit business not profitable below A+
		• Bonds • Equities (primary market) • Equities (secondary market) • Syndicated loans • M&A advisory	• A	
		• Foreign exchange	• No threshold observable	
Retail Banking		• Long-term financing • Short-term financing • Savings • Liquidity/cash • Payments	• No threshold observable	• Retail customers do not focus on ratings and normally have sub-investment grade ratings themselves

Source: McKinsey

themselves in order to stay in the business at all. Downgrading below this floor can trigger a vicious circle of increased funding costs, capital erosion, revenue losses and deterioration of key performance indicators leading to further downgrading pressure and so on.



Given what we know about the restrictions under which banks are operating we have analyzed the question what kind of regulatory arbitrage we expect from Basel II and how this will impact portfolio structures. Our findings are clear as demonstrated in the graph below:

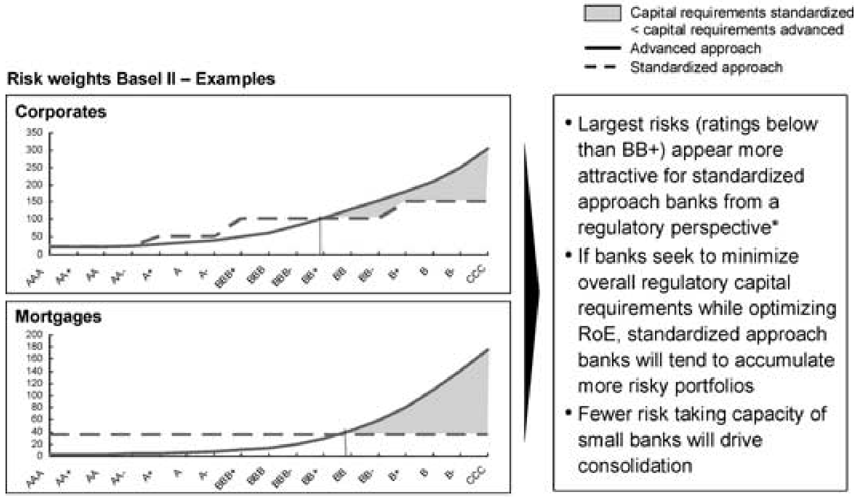
- The largest risks, i.e., ratings below BB+ appear more attractive for banks running a standardized approach if the optimize capital usage based on regulatory RoE.
- If banks seek to minimize overall regulatory capital consumption while optimizing RoE, banks using the standardized approach will therefore tend to accumulate more risky portfolios

The same picture materializes across different segments of the loan business, where we can identify the risk weight differential between standardized and advanced approach using a simulation:

The McKinsey team used these insights to create a simulation approach to forecast how banks using different approaches will accumulate different risk portfolios over time. The results indicate that while standardized approach banks will increase

Significant differences in regulatory capital requirements between standardized and advanced Basel II approach

Risk weights Basel II – Examples



- Largest risks (ratings below than BB+) appear more attractive for standardized approach banks from a regulatory perspective*
- If banks seek to minimize overall regulatory capital requirements while optimizing RoE, standardized approach banks will tend to accumulate more risky portfolios
- Fewer risk taking capacity of small banks will drive consolidation

Source: McKinsey

Simulation of RCap differentials between standardized and IRB-A approach

SIMULATION

Standardized approach with lower risk weight

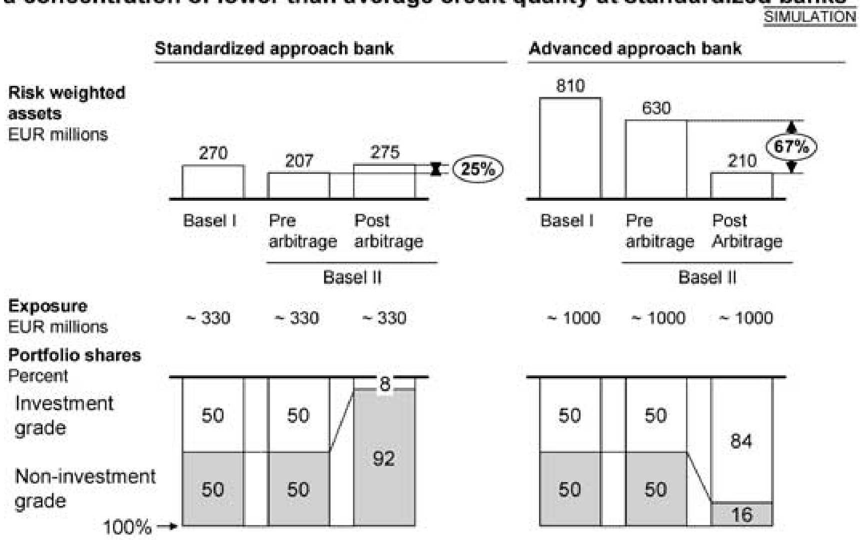
Differences in risk weights between IRB Advanced approach and Standardized approach, %

Asset classes		Retail			Corporates				Sovereigns		Banks		Corporate SME			
Rating	PD Percent	Mort-gages	Revolv-ing	Other retail	MLT no collat-eral	MLT collat-eral	ST revolv-ing	Other ST	OECD	Non-OECD	OECD	Non-OECD	MLT no collat-eral	MLT collat-eral	ST revolv-ing	Short-term other
AAA	0.03	-31.77	-74.02	-68.57	0.86	0.83	-13.55	-8.21	19.02	5.56	-15.42	-13.04	-3.20	-6.30	-14.80	-10.88
AA+	0.03	-31.77	-74.02	-68.57	0.86	0.83	-13.55	-8.21	19.02	5.56	-15.42	-13.04	-3.20	-6.30	-14.80	-10.88
AA	0.03	-31.77	-74.02	-68.57	0.86	0.83	-13.55	-8.21	19.02	5.56	-15.42	-13.04	-3.20	-6.30	-14.80	-10.88
AA-	0.04	-30.94	-73.75	-66.94	4.81	4.34	-11.28	-5.28	22.32	6.94	-14.18	-11.44	0.00	-3.91	-12.97	-8.61
A+	0.05	-30.15	-73.49	-65.43	-21.62	-22.54	-39.11	-32.55	5.27	-11.77	-43.02	-39.96	-27.11	-31.77	-41.22	-36.49
A	0.07	-28.69	-72.99	-62.63	-15.29	-17.10	-35.05	-27.57	10.44	-9.43	-40.89	-37.29	-21.97	-28.02	-37.93	-32.62
A-	0.09	-27.33	-72.52	-60.08	-9.73	-12.41	-31.29	-23.07	14.93	-7.30	-38.94	-34.89	-17.46	-24.76	-34.88	-29.11
BBB+	0.13	-24.84	-71.63	-55.51	-50.16	-54.48	-74.45	-65.07	-7.46	-33.53	-35.46	-30.66	-59.67	-69.21	-79.32	-72.87
BBB	0.18	-22.02	-70.60	-50.50	-40.16	-46.37	-66.87	-56.43	0.38	-29.46	-31.67	-26.13	-51.51	-63.49	-73.16	-66.11
BBB-	0.32	-15.16	-67.97	-39.19	-18.84	-29.59	-49.50	-37.20	16.74	-20.39	-23.17	-16.14	-34.13	-51.56	-59.02	-51.07
BB+	0.53	-6.58	-64.49	-26.71	3.22	-12.88	-29.98	-16.26	-16.78	-60.52	-63.81	-55.39	-16.25	-39.61	-43.19	-34.78
BB	0.93	6.79	-58.71	-10.94	29.87	6.44	-4.33	10.40	2.54	-47.95	-51.78	-41.85	4.97	-25.67	-22.68	-14.34
BB-	1.57	23.80	-50.80	3.23	54.65	23.50	21.67	36.63	19.89	-35.59	-39.82	-28.69	23.88	-14.10	-2.54	5.06
B+	2.64	45.84	-39.67	13.85	29.10	-10.42	-0.90	13.69	36.50	-22.83	-27.39	-15.24	-8.61	-53.61	-32.29	-25.94
B	4.46	73.57	-24.25	19.90	58.55	8.84	32.42	46.48	56.43	-7.38	-12.32	1.05	12.38	-41.06	-7.96	-3.14
B-	7.52	105.69	-4.07	26.35	100.55	36.84	78.70	92.41	85.21	14.28	8.73	23.95	45.34	-20.85	28.30	31.43
CCC	13.00	140.20	21.72	45.38	155.93	73.57	140.16	153.26	73.03	-7.04	-13.36	4.25	93.68	8.89	81.11	81.89

Source: McKinsey

their risk weighted assets slightly, the share of non investment grade assets in their portfolios will expand from 50% now to more then 90% post arbitrage. At the same time advanced banks will reduce their risk weighted assets by tow thirds and their exposure in non investment grade loans from 50% now less then 20%.

Simulation 1: Minimizing overall regulatory capital requirements will lead to a concentration of lower than average credit quality at standardized banks



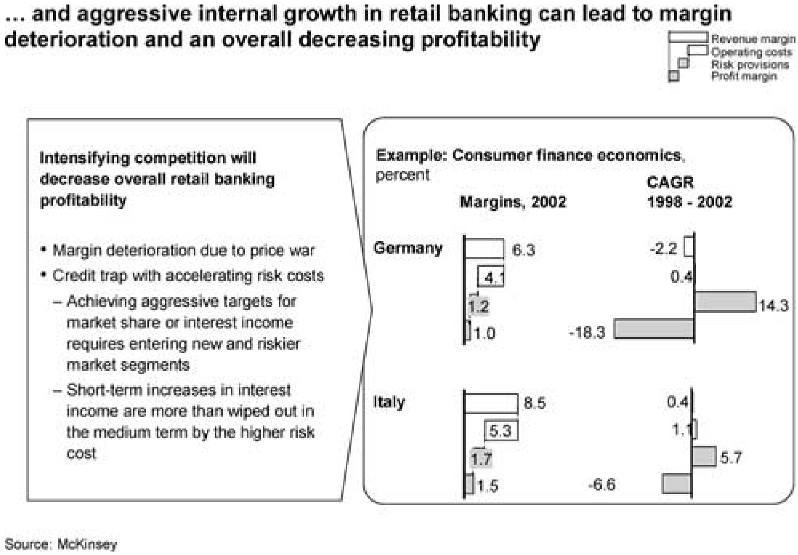
Source: McKinsey

It is quite obvious that this must be concern from a regulatory perspective since it means a risk accumulation in the hands of the less sophisticated players in the markets of unprecedented scale. For sophisticated players and investment banks this arbitrage creates also new business opportunities of course.

This arbitrage mechanism prepares the ground of what we see as a major wave of consolidation in retail banking. There is a dual rationale facilitating this trend. Both are to a degree linked to the developments triggered by Basel II:

There will be an increasing demand for consolidation among small banks: Investments in retail banking and relationship based commercial banking are more attractive than highly wholesale banking which rapidly turns into a commodity for most loan products. However banks are positioned differently to capitalize on this opportunity mainly for scale reasons:

- Basel II changes the relative attractiveness of asset classes due to reductions in risk weights of high quality credit
- Profitable, aggressive internal growth in retail banking is not a feasible option for short and medium term strategies
- High level of fixed investments depressing margins for small players lead to a new focus on cost management through economies of scale
- The level of fragmentation of retail banking is some countries is still high, so there is room for consolidation



The supply for consolidation will originate mainly in the regulatory arbitrage mechanisms investigated above:

- Higher risks are more attractive for standardized compared to advanced approach banks, assuming regulatory RoE optimization (which is reasonable since economic capital optimization would require the level of sophistication assumed by advanced banks).
- This will lead to a concentration of credit risks with small banks who cannot

afford the large investments necessary to achieve advanced approach recognition
- Smaller banks at the same time command fewer skills to asses risks and combine this with a more limited risk taking capacity in economic terms as opposed to regulatory terms based on the lower level of diversification opportunity
- Resulting losses in a credit cycle downturn make smaller banks takeover targets for retail growth hungry larger competitors.

IV. CONCLUSION

Basel II was born out of the concern that "old style" regulatory arbitrage might destabilize the financial system in the medium term. Simulation based approaches conducted in the mid 90ies indicated the necessity to act on the regulatory framework and modernize the Basel I concept in order to bring it more in line with economic realities. Substantially the industry views the result as a progress and step in the right direction. At the same time we can anticipate new arbitrage mechanisms and strategic challenges for banks and regulators alike. It will require careful gauging by the central banks and close observation of credit portfolio quality as part of the third pillar of regulation in the future to avoid the very disruptions Basel II was supposed to address, while at the same time regulatory restraint will be necessary in order to let markets explore opportunities and allow banks to play their strategic strengths in the market.

V. NOTES ON CONTRIBUTORS/ACKNOWLEDGMENTS

Markus Krall has worked in senior positions as Chief Risk Officer of a major reinsurance company (Converium AG, Switzerland) and as a consultant specializing in risk, finance and strategy. Before assuming a management role in the financial services industry he was a senior partner at McKinsey & Company in Frankfurt, Head of the Risk Management Practice in Central Europe as well as a member of the Global Leadership Group of the Risk Management Practice. In this role he has led a portfolio of global risk management assignments and projects spanning banking and insurance in Europe, the United States, Middle East, Asia and Australia. Among the clients Dr Krall served were several of the global top 20 financial services providers, regulatory bodies and supranational institutions.

Dr. Krall started his professional career at Allianz AG Holding in Munich in 1991 as a member of the Executive Board's staff. In 1994, he moved to the consulting profession with a focus on financial services, first for the Boston Consulting Group in Frankfurt, then, as from 1997, for Oliver Wyman & Company where he specialized in risk management for financial services institutions and was elected Partner and Director in 2000.

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