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The implications of the new capital adequacy rules for portfolio management of credit assets

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Abstract

Over the past several years, there has been an extensive discussion among practitioners and academics about whether and how a portfolio management approach could help banks to better manage risk capital and create shareholder value. In this article, the authors argue that there are four key drivers which require banks to move from a transactional to a more portfolio management like approach when managing credit assets. These are: structural changes in the credit markets, inefficiencies of risk transfer in lending markets, ballooning debt levels in the US, and the proposed changes for capital adequacy. The authors see the latter not as a one-time change in capital adequacy rules, but more as a first step towards full convergence between risk capital and regulatory capital for credit risk. These changes require banks to accelerate their efforts to build first class portfolio management skills and capabilities. Achieving best practice credit portfolio management is rewarded with attractive opportunities for shareholder value creation and enables bank to successfully compete going forward. © 2001 Elsevier Science B.V. All rights reserved.

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1. Reasons to act: The need for building meaningful credit portfolio management capabilities

Credit risk management is undergoing major changes. These changes are likely to influence the competitive conduct in the credit markets, providing opportunities for banks that secure a first mover advantage.

One of the emerging opportunities is the area of credit portfolio management. While many banks have made first experiences with this new concept and have set up organizational responsibilities for implementing it, we do think that there is a strong need for accelerating these efforts. More specifically, we see four key drivers, which are likely to reward fast moving banks with a better competitive position.

2. Key driver No. 1: Structural changes in the credit markets

Over the past several years, the global credit markets have seen dramatic changes. They fundamentally changed conduct and competitiveness in the credit markets and required new strategies for sustaining competitiveness. We have identified four key structural changes:

Increasing competitiveness, particularly in lower grade lending markets. Overall, competitiveness in the credit markets has increased substantially. This is particularly true for lending to lower grade counterparties (e.g., leveraged financing, high yield debt). There are two trends responsible for this development. First, several investment banks entered the market for leveraged financing and non-investment-grade lending. Second, many commercial banks, in an effort to meet ROE-expectations of equity analysts and shareholders, expanded their lending activities to the lower part of the rating scale.

Trading credit risk. Over the past five years, the market for trading credit risk, either through credit derivatives or collateralized loan/debt obligations (CLOs/CDOs) has shown explosive growth. These new markets enabled the transformation of credit portfolio management from a rather academic measurement exercise into a powerful management tool that actively shapes the risk/reward profile of the portfolio.

Significant advancements in measuring credit risk. Preceding the emergence of credit risk trading was the rapid development of new credit risk measurement tools, such as JP Morgan's Creditmetrics, KMV's Creditmonitor, Credit Suisse's CreditRiskPlus or McKinsey's Credit Portfolio View. These new measurement tools deserve credit for two key accomplishments. First, they helped create transparency around the real risk of lending portfolios. Second, they helped quantify the value of alternative portfolio management approaches, such as portfolio swaps or the employment of credit derivatives.

Investors show increasing appetite for credit risk. Over the past several years, institutional investors have developed an increasing appetite for credit risk. Today, we find a wide spectrum of credit risk buyers, including pension funds, insurers/reinsurers, hedge funds, and, in some cases, corporate treasury departments. They all help to add sufficient liquidity to the new credit risk markets.

These four structural changes had a significant impact on reshaping the lending markets. Best practice examples have leveraged these structural changes to deviate from the old “originate and hold” paradigm and substitute it for a more proactive portfolio management approach. This new approach strives to positively influence the risk/reward profile of the lending portfolio and, along the way, remove portfolio inefficiencies. In more technical terms, the stated goal is to move the lending portfolio as close as possible to the efficient frontier formed by the two dimensions of “risk” and “reward”.

3. Key driver No. 2: Opportunities to remove inefficiencies in the lending market

Lending portfolios are often inefficient in terms of their use of risk capital. The reasons for these inefficiencies become apparent when one contrasts risk transfer in the lending market with the insurance industry (see Fig. 1).

The insurance market has developed a very sophisticated and multilayered system of risk origination and transfer. Overall, its goal is to avoid undesired risk concentration in the form of single event risk or correlated types of risk. At the heart of this lies a portfolio management approach which is explicitly concerned with the “tails” of loss distribution. Consequently, primary insurance companies review overall portfolio risk and identify layers or segments of

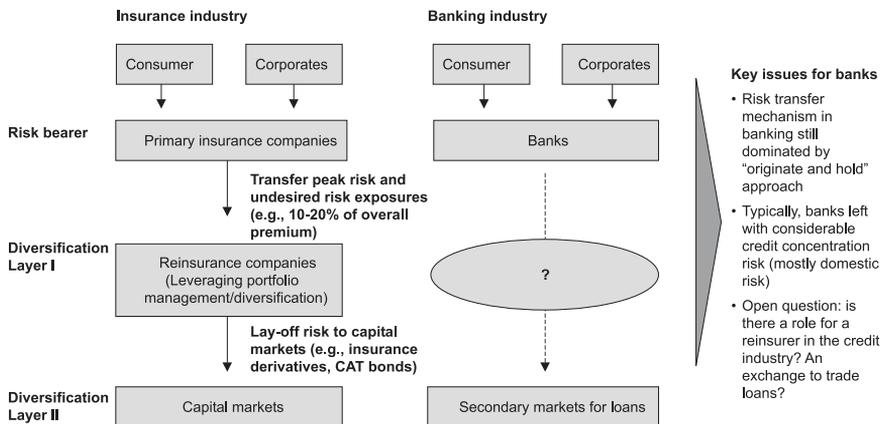


Fig. 1. Different approaches to risk transfer between insurance and banking industry.

risk to be transferred. To absorb these concentrated pockets of risk, we find an additional layer of risk transfer in the form of reinsurance companies. The global and diversified nature of their portfolios enables reinsurance companies to absorb extreme or concentrated risks, such as an earthquake or other catastrophe coverage. Reinsurance companies again try to improve the efficiency of their portfolios by either swapping risks with each other (i.e., retrocessions) or, more recently, by handing off risk to the capital markets (e.g., CAT bonds).

In the banking industry, risk is approached quite differently. Typically, banks originate and almost fully absorb credit risk. This approach, commonly referred to as an “originate-and-hold” paradigm, does not include the diversified risk layers found in the insurance industry. As a result, banks’ lending portfolios often show a high concentration of domestic/regional risk. McKinsey analysis, however, shows that domestic credit risk is often highly correlated, even across different businesses, providing little diversification benefits for banks in domestic credit markets (see Fig. 2).

In addition, banks commonly have strong lending relationships with a number of large companies, which creates significant concentrations of risk in the form of single names.

These two factors lead to rather inefficient credit portfolios with a need for extra risk capital to “insure” against “tail” events.

However, the structural changes in the credit markets – as outlined above – enable banks to successfully address these inefficiencies. Particularly, the emergence of markets to trade credit risk and the credit risk appetite of investors offer rich opportunities for banks that have adopted a portfolio management approach. The most sophisticated banks have already made enormous progress in actively reducing portfolio inefficiencies. There are enormous strategic and competitive challenges for banks that are lagging the trend.

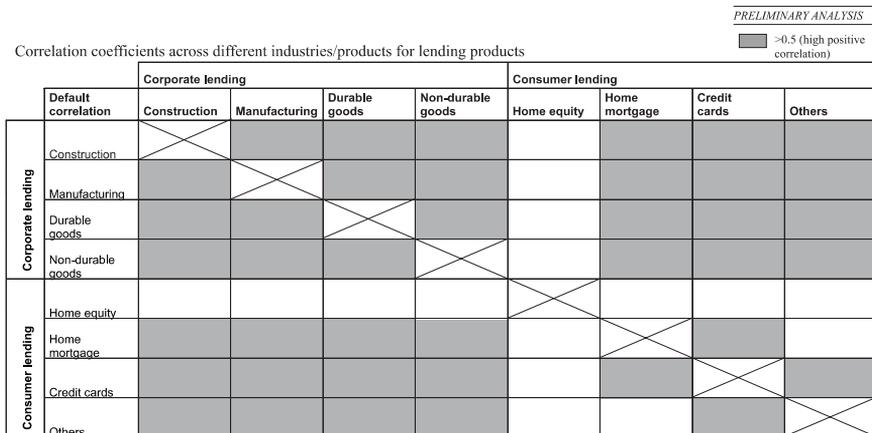


Fig. 2. Correlation of US credit risk is highly positive, even across different client segments.

4. Key driver No. 3: Ballooning debt levels in North America and the strategic dilemma for banking CEOs

Absolute and relative levels of debt for private household and corporate debt has reached record levels and continues to increase (see Figs. 3 and 4). In particular, the proportion of lower-rated (“junk”) debt has increased significantly in the US. In fact, some segments of the high risk lending market ballooned to unprecedented levels (e.g., margin accounts, high yield corporate debt, first loss covers on structured credit products).

Buoyed by the hype which surrounds the “New Economy” and a continued strong economy, few market observers are currently concerned about the ability of market participants to service this debt. While this is not the place to debate how real “The New Economy” is or whether we can sustain current economic growth rates, one observation is for real: If over the next two years we experience an economic slowdown – or even a recession – we will not only enter this new challenging period with a record level of debt but also with an unprecedented proportion of low-grade or junk debt. Given that the latter is particularly sensitive to economic conditions, severe consequences could follow in terms of default rates and credit losses.

History demonstrates that such debt leverage has almost always led to serious aftermaths (e.g., junk bond crisis 1989, Japanese real estate bubble, Depression of 1929). What makes today’s situation even more precarious is the interdependence of domestic and global economic forces. Recall the market meltdown in 1998, which provided a vivid demonstration of unexpected correlation patterns and mutual interdependencies in the international capital markets. These patterns caused “chain reactions” which took many financial institutions and investors by surprise. It was evident that financial institutions’

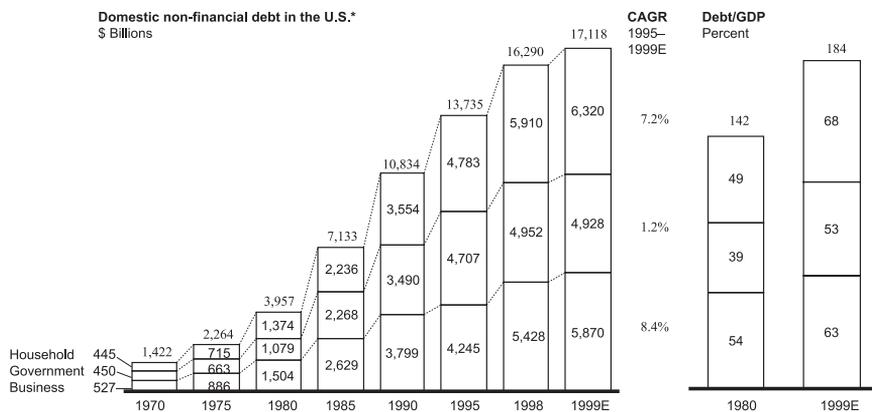


Fig. 3. Outstanding debt reaching record levels. (Source: Federal Reserve, Flow of Funds).

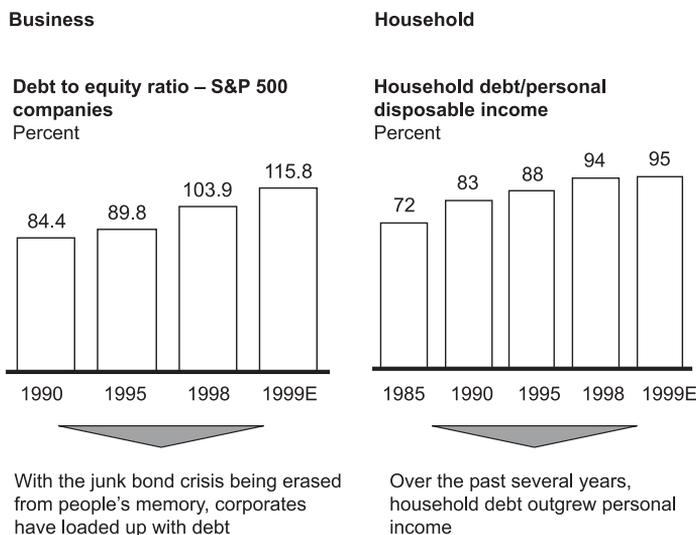


Fig. 4. Relative indebtedness of corporates and households. (Source: Federal Reserve, NIPA, Compustat, McKinsey analysis.)

risk management approaches were more often than not incapable of addressing these complicated and complex “correlation” issues.

To illustrate the interdependence of today's domestic and international forces, let us use a very simplified example to demonstrate possible “business dynamics”. The following scenario is only one of many which could lead to severe consequences for the credit markets.

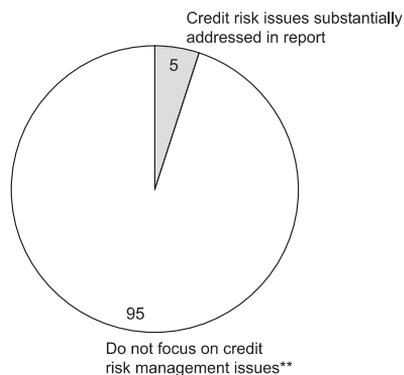
A stock market reaction (i.e., a partial regression to the mean of long-term stock valuations) could lead to a significant decrease of consumer spending (due to the number of consumers with large equity investments) and, for companies with huge financial assets, a decrease of corporate earnings. Since consumer spending was a key factor for past GDP growth, an economic slowdown is almost unavoidable. As a result, corporate earnings may decrease significantly, leading to further adjustments in the stock market, downgradings, and higher financing costs. Such an outcome could trigger a reversal of foreign money flows (which currently finance major portions of domestic debt) which again will lead to a lower dollar exchange rate (creating additional pressure and inflation due to our trade deficit) and rising interest rates. This could be the time when a “second momentum” of the downward spiral kicks in: Rising interest rates will lead to a series of defaults which could trigger banks to tighten credit standards (fewer approvals and/or higher interest rates). As a result, the

number of personal bankruptcies and corporate defaults would continue to rise and further fuel the downward spiral.

Addressing these credit risk challenges is difficult and exposes banking CEOs to a strategic dilemma: First, it is reasonably difficult to predict the timing of an economic slowdown. If top management curtails its credit risk appetite too early, it sacrifices valuable income streams and shareholder value. Second, even if top management wants to reduce its appetite for (low-grade) credit risk, an implementation of this new strategy proves to be difficult given current market conditions. Equity research analysts – whose influence on corporate strategy has increased significantly – and shareholders overly favor non-risk-adjusted performance benchmarks such as revenue growth, net income, or ROE to assess bank management’s performance (see Fig. 5). Therefore, a reversal of a bank’s credit strategy most likely will be heralded by “sell recommendations” and falling share prices, and would put enormous external pressure on top management.

The introduction of a dynamic portfolio management approach may help to address both the enormous challenges resulting from the amount of outstanding debt and the strategic dilemma management is exposed to. A portfolio management approach makes the real risks of a lending portfolio more explicit (and it is likely that in many cases these real risk figures would come to top management’s surprise). It could also be a platform from which a series of strategic initiatives could be started to rebalance the risk–reward profile of the credit risk book and develop new business and growth opportunities with more desirable risk profiles.

Sample of 200 analyst reports on top U.S. commercial banks*



* Analysis was based on a sample of randomly selected analyst reports between February 1999 and February 2000

** Do not substantially discuss risk/credit quality issues, value of risk issues, or risk-adjusted performance measurement

Fig. 5. Focus of equity analysts when assessing banks. (Source: McKinsey analysis; The Investext Group.)

5. Key driver No. 4: Convergence between risk capital and regulatory capital

Since the first announcement of the new Basle proposals for capital adequacy, a number of critical reactions have been voiced. Some observers claimed that the new rules stopped short of requiring a fully developed risk based capital approach. Others, mainly European banking representatives, argued that given the low number of rated European counterparties, European banks would be disadvantaged versus their US competitors. A third group again claimed that there are many unresolved operational details which make the implementation of the new proposal rather difficult. For example, the proposal, so they claim, lacked a concrete definition on what constitutes an accepted internal rating model.

If we step back for a moment and reflect on the nature of the changes, we may come to a more positive picture of the new Basle rules. The proposal can be considered a first step towards deviating from a risk-neutral to a more risk weighted approach when determining regulatory capital for credit assets. This in itself is an important step forward given the current situation in which many banks expand their exposure to lower grade credit risk and use structured credit products to arbitrage current regulatory capital rules.

When reviewing the new capital adequacy proposals we have to remind ourselves that, despite the significant progress made in measuring and modeling credit risk, we are just at the beginning of a journey which we hope will lead to an even further improved understanding of credit risk. For example, it is difficult to imagine a more differentiated set of rules for capital adequacy when so many crucial questions regarding rating processes remain unresolved: Should we rate counterparties or the facilities or both? If we rate counterparties, how do we treat structured debt facilities which may lead to substantial risk differences between counterparty and facility risk? How do we address recovery rate swaps which enjoy an increasing attraction? Do we use a point-in-time or “through-the-cycle” rating process? How many rating categories do we use?

Given the long list of unresolved questions on credit risk matters, it would have been unrealistic or even dangerous to expect a more differentiated approach.

What many practitioners oversee is that even the new rules will be a step towards the convergence of two capital benchmarks which for a long time produced conflicting messages – regulatory capital and economic/risk capital. One and the same strategy may appear attractive when employing regulatory capital in the denominator and unattractive when switching to risk capital as the relevant benchmark.

Consequently, the new proposals are a step in the right direction and are likely to be followed by additional revisions which will eventually lead to full convergence between regulatory and risk capital. At the stage of full conver-

gence, all banks will be required to move to a portfolio management approach. Banks will need sophisticated models which will help determine the level of risk capital required and enable them to simulate the impact of alternative risk capital management strategies.

Therefore, banks may want to use the time period until full convergence to prepare themselves and build the required capabilities. Banks which start early to adopt a portfolio management approach are likely to be advantaged over the laggards. For the latter, the competitive gap to best practice competitors is likely to grow over time.

6. Designing a portfolio management function

Although there are many organizational entities within banks named “portfolio management”, many of them stop short of accomplishing real portfolio management from a risk management perspective. There are different ways to establish a full-blown portfolio management function within a bank. Many important organizational questions need to be addressed. Fig. 6 gives a first conceptual summary on the workings of a portfolio management function. Since a complete review of these organizational issues would be beyond the scope of this article, we would like to skip these important issues and focus on the key functions and responsibilities a portfolio management function needs to accomplish.

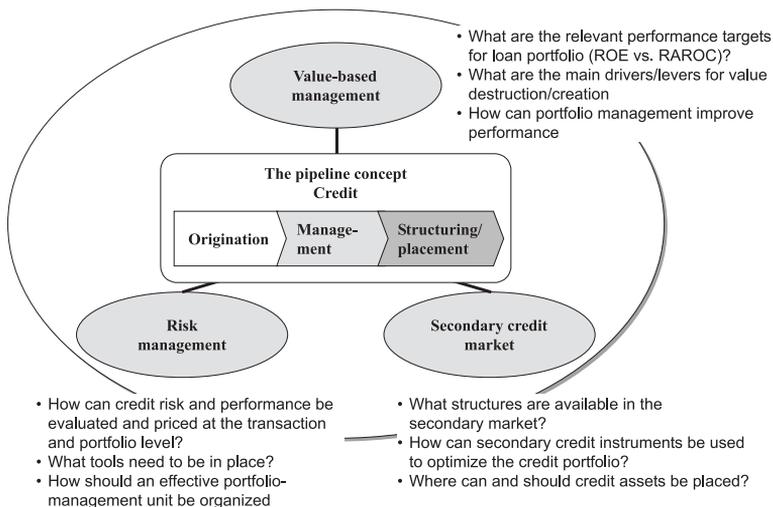


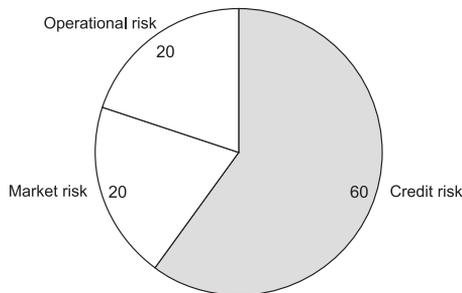
Fig. 6. Creating shareholder value through portfolio management/risk-based value management in banks. (Source: McKinsey.)

We suggest that there are four key responsibilities to be accomplished by a portfolio management function to create sustainable shareholder value:

1. *Measure and understand credit risk across all business units.* Portfolio management (PM) is responsible for measuring and understanding credit risk on an aggregate level across all banking activities. The typical shortfall we see in business practice is that PM units often focus only on defined subportfolios, such as large corporate lending. While we recognize that this may be considered as a first step towards this concept, it is nevertheless insufficient, and in some cases even dangerous, since it may initiate management actions which are based on a partial review of credit risk. Credit risk is driven by systematic risk which we cannot “diversify away”. Systematic risk spans across business units. It is rather typical that domestic credit risk resulting from consumer, small and large corporate lending is highly positively correlated. Consequently, a PM unit needs to have an aggregated view of credit risk, across all business units. In other words, if a portfolio management unit is not able to create a loss distribution across all lending and credit businesses – encompassing all consumer and corporate exposures – it is not fulfilling its task. History teaches us that times of massive credit losses are a result of correlations across different sources of credit risk within a bank. To avoid these value-destroying events, top management needs to understand credit risk on an aggregated level. Otherwise, it is likely that suboptimal management strategies and decisions will result.

2. *Engage top management in a continuous dialogue on risk/reward profile of the portfolio.* Risk measurement per se does not create shareholder value. A critical next step is engaging top management in a regular discussion on credit risk. This is particularly important since credit risk accounts for about 60% of a bank’s overall risk exposure (Fig. 7). This dialogue with top management

Risk decomposition of a typical commercial bank/
investment bank*



* Based on actual risk capital allocation, not on regulatory capital

Fig. 7. The importance and relevance of credit risk. (Source: McKinsey.)

cannot be reduced to a monthly published credit portfolio report. Best practice examples have “*jour fixe*” type sessions, in which the head of credit risk leads top management through the current risk/reward profile of the portfolio and certain dynamic (!) scenario analyses (e.g., “what are our likely total credit losses if. . . GDP growth falls by 2%, interest rates move up by 200 basis points over the next two years, . . . the stock market falls by 30%?”). Based on this information, top management and credit risk management can then discuss different strategic options to influence the portfolio composition to rebalance the risk/reward profile.

3. *Identify management techniques to remove inefficiencies or risk imbalances in the portfolio.* There are a number of ways PM can increase the efficiency or rebalance the risk/reward profile of a portfolio. However, all of these techniques commonly require rather sophisticated credit risk measurement tools and skills. Many seemingly attractive techniques may actually turn out to be rather unattractive when analyzed properly. For example, the hype around CLOs obscures the fact that in some of these transactions banks fail to transfer real risk in a meaningful way, due to the almost unavoidable full absorption of first loss covers and lower rated or unrated tranches. In some cases, CLOs may actually increase the overall risk of the portfolio while succeeding to bring down regulatory capital requirements.

4. *Establish effective feedback loops to originating units.* Linking portfolio management with origination is likely to lead to a more effective portfolio composition and more attractive risk/reward profiles. First, the portfolio management unit has fundamental insights in trends for the credit market. PM is typically best equipped to early detect trends of deteriorating credit quality in certain credit segments. Second, portfolio management with its knowledge of and closeness to the distribution market may enable in certain cases originating units to underwrite transactions even if they do not fit the banks risk profile or exceed pre-set counterparty limits. Third, portfolio management with its knowledge of deal failures across different industries can help select the appropriate criteria and analysis when underwriting transactions, which can help keeping credit losses down.

As mentioned above, there are many different flavors for the organizational design of a portfolio management function. Fig. 8 shows three generic models – the advisory, the cost center and the asset manager/proprietary investor models. Each organizational model has its own set of pros and cons and it is hard to find sufficient arguments to generally prefer any of these models.

More importantly, banks must build these crucial capabilities with highest priority. Since a sophisticated portfolio management function may help banks to achieve sustainable competitive advantages and offer opportunities to create shareholder value, as we will show in the following section, there is a need for action. There is already a large gap between best-practice examples and the rest

Asset ownership

Proprietary investor

Active portfolio management

Advisor

- Portfolio management unit owns credit risk
- Portfolio management unit runs credit portfolio as a "business" with P&L responsibility, comparable to an asset manager. PM unit is allowed to take positions and "views" on credit markets (proprietary trading)
- Requires independent risk management function to formally review riskiness of position and portfolio

- Portfolio management "owns" credit risk (i.e., separation of origination and portfolio management function)
- Has authority to change portfolio composition (e.g., by selling off credit risk) if risk/return relationship is off-balance
- Portfolio management unit operates as a cost center; objective of portfolio management is to keep credit portfolio within pre-defined risk/return bands

- Centralized portfolio unit in charge of credit risk measurement
- PM gives recommendations for portfolio rebalancing, but final say stays with business units/top management (advisory role of portfolio management)

Mandate

Reporting structure

Asset ownership

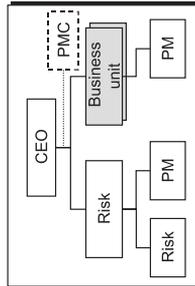
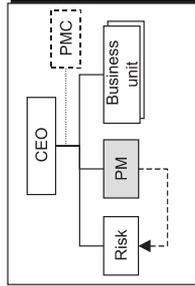
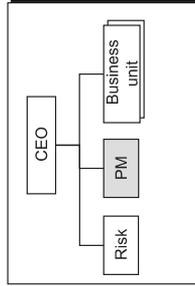


Fig. 8. Three possible portfolio management models. (Source: McKinsey analysis.)

of the banking industry. Not acting now poses serious threats to banks, which lag behind best-practice standards, and may result in further erosion of their competitive position in the market place.

7. Creating shareholder value with credit portfolio management

In the following section, we would like to show and discuss select examples of how to create shareholder value with credit portfolio management. The intention is to offer a flavor of different opportunities enabled through best practice portfolio management rather than to provide an exhaustive review.

Measuring and managing credit risk on a portfolio level. In this example, the development of a sophisticated credit portfolio measurement tool helped a client to better understand the real risk of its credit portfolio (Fig. 9). The results helped top management to understand the implications of different scenarios on credit losses. Based on the results of the loss distribution, the client was then able to initiate a series of risk transfer activities to design a loss distribution which better fits top management’s risk appetite and return objectives. The right chart shows an intermediate step towards this objective with significant lower need for risk capital due to shorter tail of the loss distribution.

Enable top management to review crucial strategic options regarding risk appetite and profitability. Even with a sophisticated credit portfolio measurement tool in place, top management has to make strategic decisions regarding

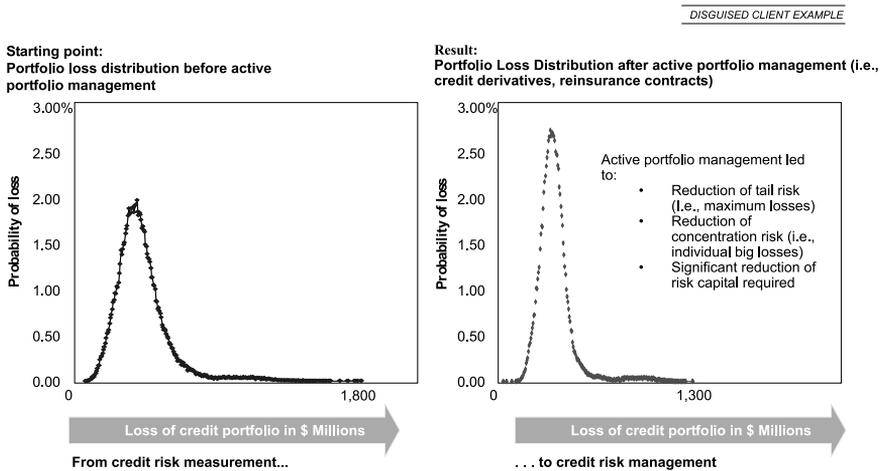


Fig. 9. Credit portfolio risk measurement and management – client example (based on McKinsey CPV tool).

DISGUISED CLIENT EXAMPLE

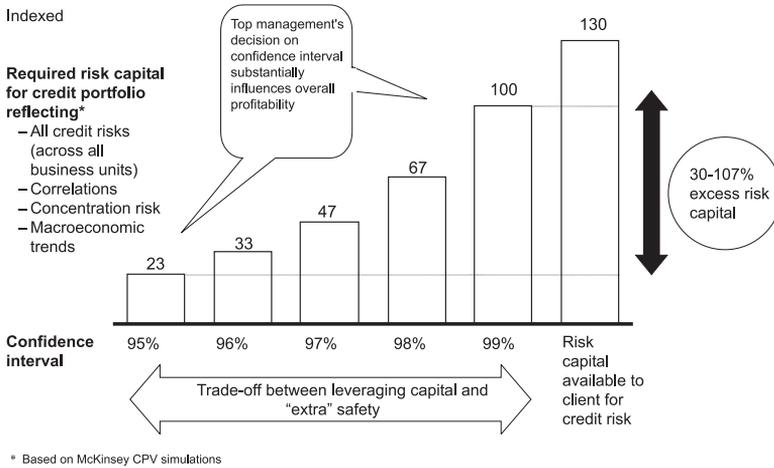


Fig. 10. Risk management plays an important role in formulating and implementing top management's credit strategy – case example.

the overall risk appetite. Fig. 10 shows the required risk capital of a client under different confidence interval scenarios. Depending on the chosen confidence interval (i.e., top management's choice for creating a "safety net" in form of risk capital), the amount of risk capital varies considerably. Obviously, profitability and return on capital invested can vary significantly based on the chosen confidence interval. In this case, portfolio management helped top management to make the strategic degrees of freedom more transparent to top management and enabled top management to better decide on crucial strategic options.

Leverage opportunities for international diversification. McKinsey analysis suggests that the diversification benefit resulting from spreading credit risk domestically is at most limited. On the other side, our research suggests that international credit risk diversification can help reduce risk substantially. While correlation patterns among different countries are hardly stable and do change over time, we found that over the past 20 years, they have never been systematically positive. This finding has been leveraged by one client who constructed an international credit portfolio swap which helped to reduce the risk level of the portfolio significantly (see Fig. 11). A portfolio management approach helped the client to identify this strategy which helped increase the client's RAROC substantially.

Enable dynamic origination and soften the impact of credit down cycles. In the past, credit cycles had a significant impact on profitability of lending

DISGUISED CLIENT EXAMPLE

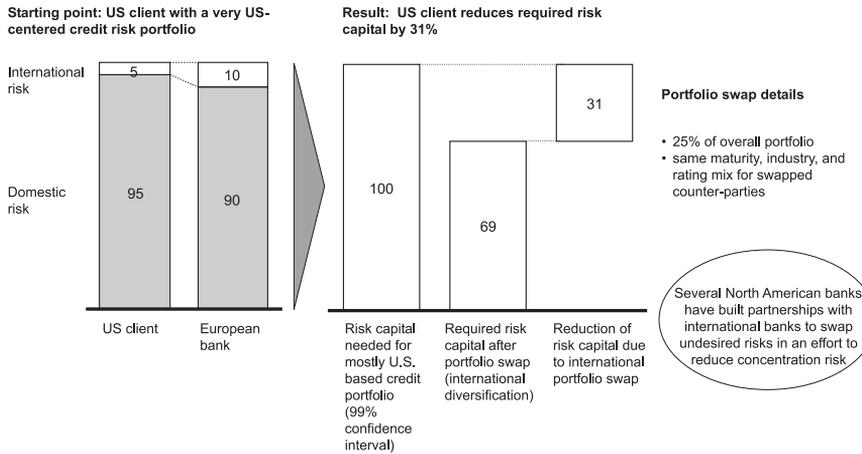


Fig. 11. Risk management strategies to reduce risk/risk capital-employing international portfolio swaps result.

businesses. Despite the hype surrounding the so-called “New Economy”, it is likely that credit cycles will continue to emerge in the future. One reason for massive credit losses during down cycles laid in the rather procyclical behavior of banks when it comes to their origination behavior. Although Fig. 12 is conceptual in nature, there is sufficient evidence that with a booming economy, there is a tendency for banks to become overly comfortable with credit risk leading to a higher absorption of lower-quality credit risk and loosening credit underwriting standards. This type of procyclical behavior often leads to overextension of credit risk at the end of an economic cycle, at a time when it would be beneficial to do exactly the opposite. A sophisticated portfolio management approach, which stresses a rather anticyclical behavior, combined with effective distribution capabilities in secondary markets for credit risk may be valuable competitive weapons to successfully address these challenges.

Help to better price credit risk. There is emerging evidence that sophisticated banks may achieve competitive advantage by extending their credit pricing mechanisms from transactional to portfolio based pricing. In this case, banks leverage marginal pricing capabilities to identify opportunities to out-price competitors (for example, in cases where an additional credit asset helps diversify the portfolio and constitutes a “free hedge” for the overall credit portfolio).

Creating new business and growth opportunities. There are numerous examples in which sophisticated players leveraged their understanding of credit portfolio management into generating new business opportunities and sources

CONCEPTUAL

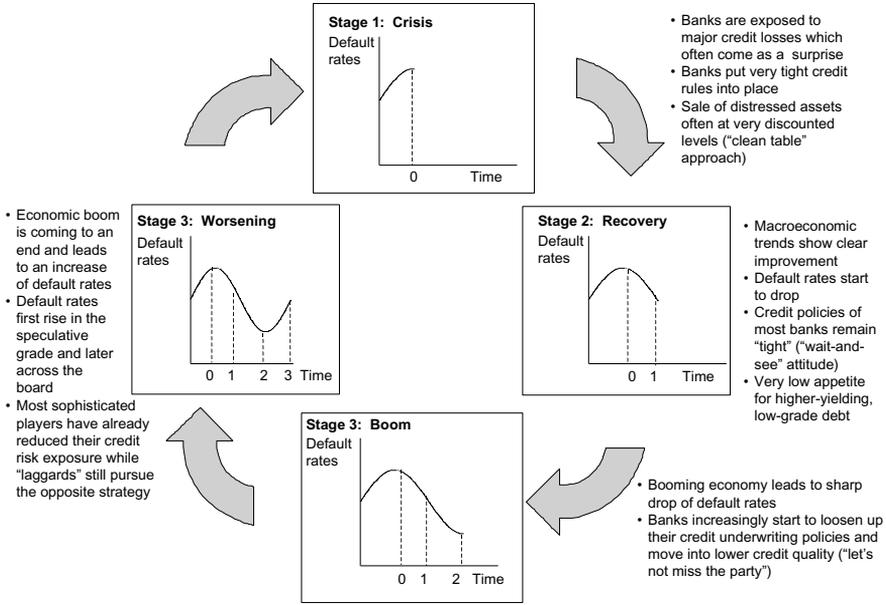


Fig. 12. Credit cycles as a recurring patterns – the importance of anticyclical behavior.

DISGUISED CLIENT EXAMPLE

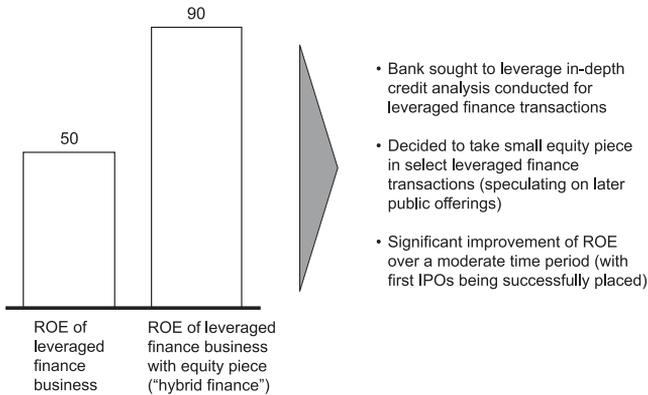


Fig. 13. Bringing capital markets approach to middle market lending – hybrid finance example of US player.

for future earnings growth. One example is JP Morgan, which leveraged its superb understanding of credit risk to create new credit derivatives and structured credit products. Another example is demonstrated by Fig. 13. This client succeeded in leveraging its sophisticated understanding of credit risk and portfolio management to achieve significant higher profitability. By combining loans for leveraged finance situations with very small equity pieces, the client managed to achieve a significant boost in profitability of “plain vanilla” lending products. Portfolio management analysis suggested that the risk/reward profile of the leveraged finance portfolio could be significantly enhanced by adding small equity investments which provided attractive upside with limited marginal risk added to the overall portfolio.

8. Conclusion and outlook

Going forward, the critical question is not whether banks should have a credit portfolio management function but rather how fast they can build it. The benefits of such a function are obvious and it is surprising that this concept has not been adopted earlier. The insurance/reinsurance example shows that other industries have captured the benefits of sophisticated diversification and risk transfer much earlier than the banking industry.

Our experience suggests that right now there is a considerable gap between the most sophisticated banks and the rest of the industry in terms of portfolio management capabilities. Again, best practice portfolio management cannot be reduced to criteria like how many CLOs a bank has placed or how active it is in the secondary credit market. The latter is misleading since many banks started in one way or another to be active in these markets and to trade credit risk. It is hardly efficient to originate underpriced or unattractive credit risk to then have the portfolio management unit selling it later with an additional loss.

What constitutes best-practice portfolio management is an integrated approach which strives to implement top management’s (credit) strategy, risk appetite and return objectives, which reduces portfolio inefficiencies along the way. It therefore deviates from the origin and hold paradigm and substitutes it for a more proactive “originate and distribute” framework.

Mounting debt levels in the US raise the question whether all financial institutions fully understand the magnitude of credit losses under more negative economic scenarios. A fully developed portfolio management function can help top management to better understand these implications and the impact of possible adverse economic scenarios on their credit portfolios. With a first class portfolio management function banks are then much better prepared to play successfully in the lower spectrum of the rating scale.

We are sure that the convergence between regulatory equity and risk capital will eventually speed up the adoption of credit portfolio measurement and

management concepts. The new Basle requirements for capital adequacy can be considered a first step towards this convergence. Banks may see the current proposal as a first “wake-up” call to build aggressively the required capabilities for credit portfolio measurement and management.