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Getting to grips with counterparty risk

Nils Beier, Holger Harreis,
Thomas Poppensieker,
Dirk Sojka, and Mario Thaten

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Contents

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Getting to grips with counterparty risk

Counterparty risk after the crisis is now in the same league as market and liquidity risk. Rather than relying on new regulation, banks should better their own lot.

INTRODUCTION

Not since the Great Depression have banks been so nervous about each other. Starting with the failure of Lehman Brothers in September 2008, through the near-collapse of the banking system in the United States, the United Kingdom, and Europe, and continuing to this day with the wobbles of CIT, a big midmarket lender, counterparty risk has stalked the banking system. Total global defaults on debt were $430 billion in 2008, up from just $8 billion in 2007. Most of this was in the financial sector, making it a particular problem for banks, insurers, and other financial institutions. For these firms, counterparty risk is now in the same league as market and liquidity risk. Every day, it seems possible that another trading partner might fail, leaving banks suddenly exposed for enormous sums.

Banks have responded; indeed, they could hardly have ignored the alarms. Business units have improved the way they measure risk, and banking groups have awarded the risk group more authority. Still, this amounts to little more than firefighting. A recent survey by the Senior Supervisors Group (a panel of seven big national regulators) showed that of 20 major global financial firms, only 9 actively managed derivatives counterparty risk in line with industry recommendations and best practices. The approach at the other banks is only partially aligned. In derivatives businesses, where notional outstandings are measured in the trillions, that means a lot of counterparty risk is going uncounted and unmitigated. And that is only derivatives; other banking businesses house much more counterparty risk.

Banks and regulators are working hard to develop new, industry-wide rules and systems for some asset classes, which will considerably reduce counterparty risk in the short term. These include clearing through central counterparties, daily collateral portfolio reconciliations, and commitments to accelerate electronic trade processing. Many of these projects are on track and will deliver good results.

However, new regulation will not be a panacea. Plenty of risk will remain in the system. And coping with the structural changes entailed in new regulation will put a substantial additional burden on banks' operations. Rather than relying entirely on regulation, banks should better their own lot. They can start with four measures: establishing an accurate and timely way to measure counterparty risk, improving the process by which they set risk limits and adhere to them, getting squared away on leveraging the full potential of netting agreements and collateral management, and improving their management of counterparty risk in settlement and clearing. As counterparty risk is a highly complex topic spanning several units and involving many stakeholders, document handovers, and potential exceptions, an end-to-end view on the processes is essential.

A systematic approach will not only help mitigate unwanted risk—it will also improve capital efficiency. This will be even more important as authorities call for increased capital requirements on counterparty risk, as the Basel Committee on Banking Supervision did in its December 2009 consultation paper. For a typical large investment bank with between $500 billion and $1 trillion in assets, a systematic approach can reduce capital requirements by $300 million to $600 million and greatly reduce the long-tail risk of a low-frequency yet catastrophic loss.

THE RUSH TO REGULATE

Counterparty risk is one of several types of risk that banks routinely encounter in their commercial activity (Exhibit 1). We define it as one of two kinds of credit risk. The better-known form, at least for corporate banks, is what we call "issuer risk"—the risk that a borrower will default on his obligations. Counterparty risk stems from trading partners rather than borrowers and comes in three distinct versions, depending on the type of deal: default risk, replacement risk, and settlement risk.

Exhibit 1

Counterparty risk defined

Trading partners, not borrowers, are the source.

Main risk categories		Description	Capital market products: Exchange-traded	OTC-traded	Loans
Credit risk	Issuer risk	Risk that issuer/borrower defaults and is not able to fulfill the obligation (eg, unable to make full repayments)	●	●[1]	●
	Counterparty risk	Default risk: risk that counterparty defaults and transaction fails to pay; double-default (or wrong-way) risk occurs when collateral is also impaired		●	
		Replacement risk: after a default, risk that replacing deal under same conditions is not possible		●	
		Settlement risk: risk that party involved in the settlement, such as a correspondent bank, fails before transaction has completely settled		●	
Market risk		Risk that value of investment decreases because of change of market prices	●	●	
Operational risk		Risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events	●	●	●
Liquidity risk		Risk that a given security or asset cannot be traded promptly in the market (eg, to prevent a loss)	●	●	●

[1] Issuer risk for some products, eg, credit default swaps or bonds.

Source: Bank for International Settlements; McKinsey analysis

Clearly, all over-the-counter (OTC) transactions carry some settlement risk. More complex arrangements such as securities lending, repurchase ("repo") agreements, and reverse repos engender both settlement and replacement risks. Derivatives contain by far the widest variety of counterparty risks. Depending on the complexity and type (interest rate and currency swaps, credit default swaps, equity derivatives, commodity swaps, and so on) of the contracts, they can carry different combinations of the three forms of counterparty risk.

The fall of Lehman on September 15, 2008, ushered in a new and dangerous era for counterparty risk. On that day, thousands of creditors lost hundreds of billions. Since then, defaults or near-defaults by Icelandic banks, AIG, and many others have served notice that banks now face a newly complex and dynamic set of counterparty risks. In response, regulators and the industry have been rushing to establish clearing-houses and central counterparties (CCPs) for derivatives (Exhibit 2). These systems have proved to be highly effective at risk reduction in other asset classes (such as equities and fixed income), enabling market participants to trade with confidence that contracts will be settled in full.

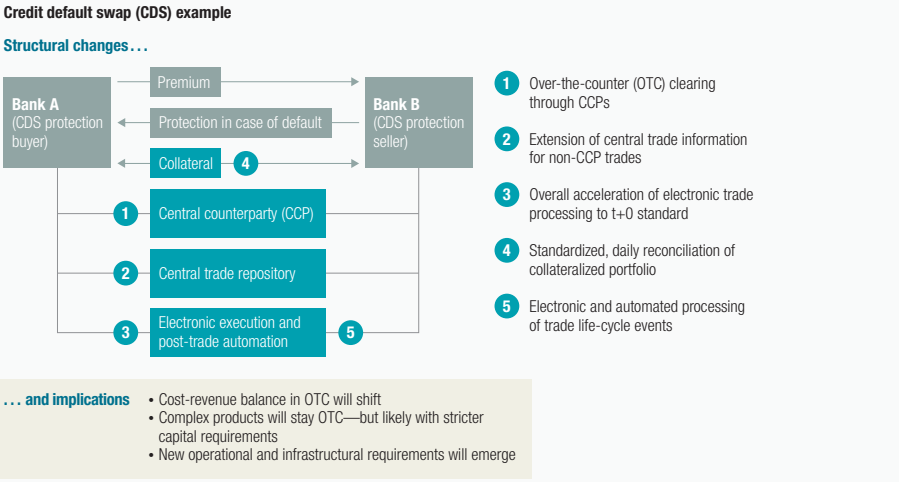
CCPs will be highly useful for derivatives but are not likely to provide a universal remedy. First, only "standardized" contracts will be processed by the new CCPs—but defining what is standardized is difficult, and meanwhile the attraction of many derivatives contracts for both banks and users lies in their tailor-made character. Second, CCP providers are still in the process of establishing their services and will undoubtedly suffer some growing pains.

Third, banks incur substantial costs, additional fees, and collateral requirements and also lose netting opportunities with the original counterparty, thus perpetuating an unnecessary capital burden. To minimize

Exhibit 2

Pushing for structural change

This effort is a response to a newly complex and dynamic set of risks.



Source: Press research; International Swaps and Derivatives Association; McKinsey analysis

this and get the most out of CCPs, banks should be mindful of the network effects of those CCPs they are considering. CCPs that offer higher volumes, more counterparties, and more asset classes have significant advantages over others. Banks will have to consider carefully their strategy for CCPs. The obvious advantage—reduced counterparty risk—must be weighed against the costs.

Furthermore, more information about trades will have to be shared. The settlement process will be further compressed, in some cases to same-day processing (t+0). Collateral portfolios will have to be compressed and reconciled daily. Banks should make sure that their internal processes and systems are flexible enough to fulfill the increasing requirements and self-commitments put up by regulators and industry leaders.

PUT YOUR OWN HOUSE IN ORDER

The future shape of regulation is a critical element in banks' risk-management approaches. But while they monitor regulatory progress, they can also reap significant gains from internal improvements. Some leading banks have already done this and thoughtfully considered counterparty risk throughout the enterprise. But even these leaders have some gaps. They, along with the banks that have not yet taken on a comprehensive reworking of counterparty risk management, should identify the areas that are most critical to improve.

In the following, we describe typical issues that counterparty risk presents—but by no means all of them—and provide best practices to establish excellence in counterparty risk management, in each of four pillars: risk measurement, limit management, netting and collateral management, and clearing and settlement management (Exhibit 3).

Turn on the lights

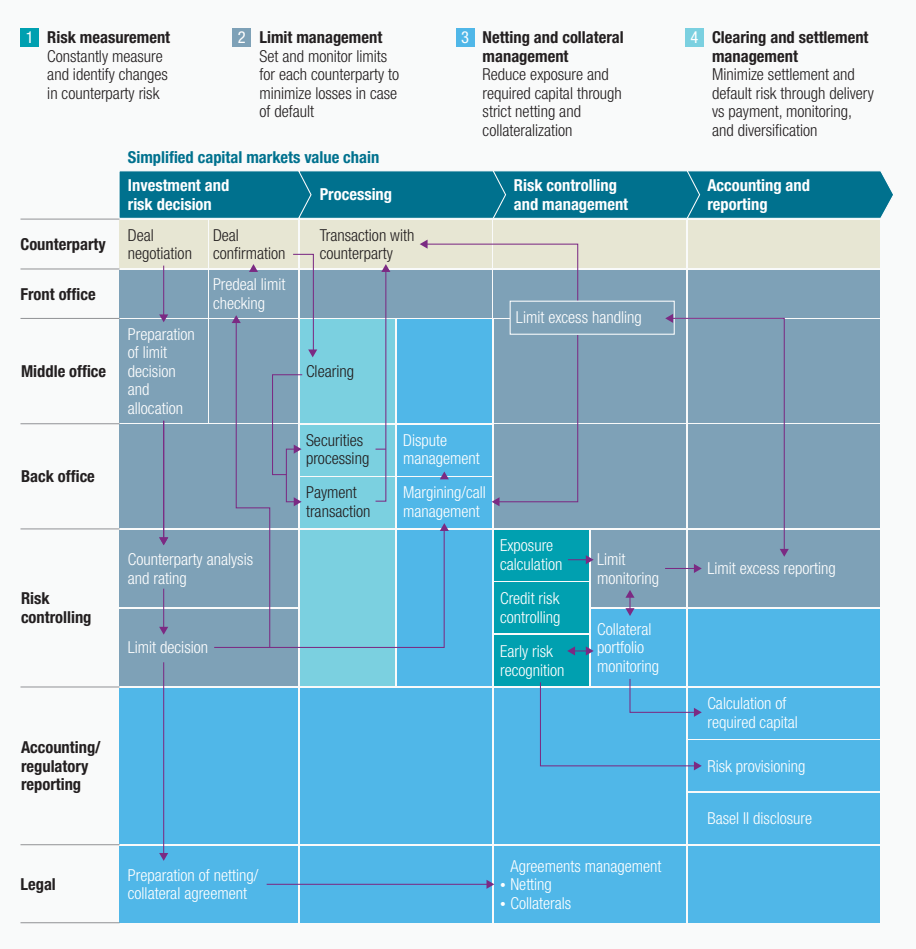
Engineers are fond of saying that you can't fix what you can't measure, and that is certainly true of counterparty risk. Notwithstanding their highly sophisticated risk-management systems, many banks lack a realistic, near-real-time view of counterparty risk exposures. The crisis has highlighted the need for such a dynamic and

shared view of exposures across the bank. When a counterparty fails, or seems likely to, this is the key piece of information that banks must be able to produce within minutes.

Exhibit 3

Four main activities

These elements make up the pillars of excellence for counterparty risk management.



Instead, counterparty risk is often measured with weekly or monthly snapshots, which are no more than shots in the dark and are out of date as soon as they are produced. Banks face two typical problems when trying to improve risk measurement: the technical complexity of accurately estimating the potential future exposure (PFE) of the portfolio, and inconsistent processes across business units, which in turn yield inconsistent data. (Another problem is that banks' IT systems do not always support the desired view—aggregated, in near-real time—of exposure. See sidebar, "IT in counterparty risk," p. 5.)

Consider first the problem in estimating PFE. Banks need to explore carefully the trade-offs between accuracy and ease of calculation, between complexity and simplicity, and between precision and timeliness. Most banks use one of three methods, none of them ideal. Many take their mark-to-market exposure and add a markup. This is simple to do but gives an inaccurate picture of PFE. Others do a parametric modeling of risk to estimate PFE within a given confidence level. While this method yields a more accurate estimate and is only slightly more difficult to implement, it is still heavily based on assumptions and not capable of modeling the changes in exposure over time.

IT in counterparty risk

It will come as no surprise that IT plays a major role in all four pillars of a comprehensive revision of counterparty risk management. IT systems are essential to the calculation of potential future exposure (PFE). A good system can also automate predeal limit checking, which will significantly reduce limit breaches and allow risk managers to quickly enforce risk limits on critical counterparties. A dedicated system is also essential in netting and collateral management. Too many small and midsize banks use Excel spreadsheets for this purpose. While these are easy to develop, they also pose a risk: when counterparty risk flares up, spreadsheets and manual calculations are simply too slow to provide valuations and exposures. As mentioned, banks must be able to summon the needed information with a few keystrokes.

A dedicated collateral-management system will also help the bank "steer" its collateral portfolio to avoid concentration risk (too much collateral from companies in the same industry or geography) and correlation risk (too much collateral that under stress behaves the same way as the associated counterparty). Moreover, it is vital that the IT architecture is flexible enough to support the increasingly complex requirements of clearing and settlement processes, which involve central counterparties, the delivery of comprehensive trade data to central repositories, and the urgent need for same-day trade processing.

However, most banks' systems are not yet up to the various tasks. The characteristic problems of bank IT systems—a fragmented architecture composed of many unrelated systems that communicate with each other poorly and suffer from a lack of automated interfaces and consistency checks between them—pose challenges for this ideal state. Yet addressing these issues is an important aspiration. Banks should look to best-of-breed solutions to provide these services (instead of building their own) and a clear service governance model to remove duplicate functionality and avoid inconsistencies.

When it comes to counterparty risk management, IT investment is not simply a matter of extracting efficiencies. Excellent IT systems can be a powerful enabler for performance. The better content that a reconceived IT platform can deliver will pay dividends at every step in the risk-management process.

Finally, some of the biggest banks use a Monte Carlo approach to determine PFE, which provides the most accurate picture by simulating and comparing a large number of future scenarios. This approach can generate exposure profiles over time, and it is even suitable for highly complex derivatives. But it is also the most difficult method to implement, with far higher computing requirements than the other approaches. Also, some exposure-management systems will not support it. Banks must sort through the pros and cons of the three approaches, looking for one that can produce timely results while still reflecting the complexity of the portfolio.

Once a method has been decided upon, every relevant business unit should adopt it. A consistent approach for all OTC businesses will enable the bank to understand its counterparty risk across the enterprise—the only level that truly matters.

At many banks, inconsistency is the order of the day. To take one common example, businesses often develop their own definitions of the structures of large international counterparties with many local entities. When the bank needs to count up its exposures, these variable definitions mean that much risk is not accurately accounted for. Banks should develop a single central definition of counterparty entities that all business units deploy in all their commercial activities, including counterparty risk management.

Build the fence

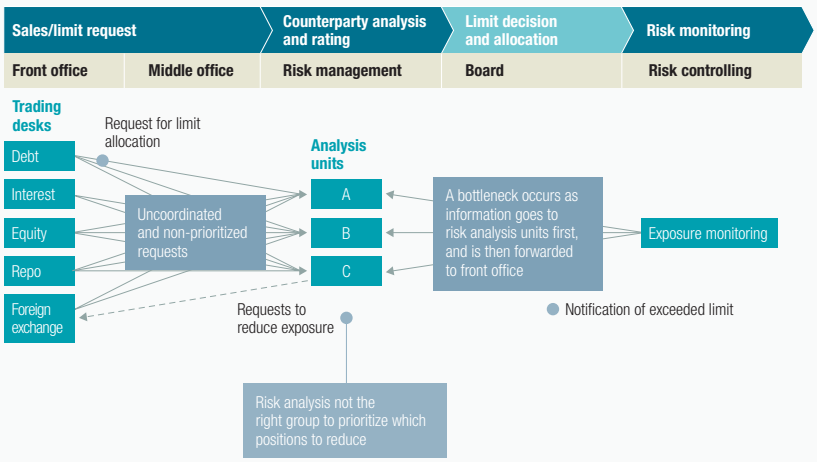
With a successful measurement approach in place, banks will be able to size their counterparty risk and understand how that exposure might change over time. They can then act on this information by setting, monitoring, and managing limits on the risk per counterparty. The process will involve many stakeholders, from sales representatives and traders to middle and back offices, as well as risk-management groups. Again, a thorough approach that ensures consistent processes and standards—from document management to timely credit analysis—across all business units is crucial to success.

Banks often face two issues here. For one, a lack of coordination and clear responsibilities in the process, as shown in Exhibit 4, may lead to unnecessary losses and missed business opportunities. As an example, one bank did not assign responsibility to anyone to take mitigating actions when risk limits were violated. Instead, decisions on which positions to reduce were made through lengthy negotiations between different traders. The result was higher losses than necessary. For another, inefficiencies in counterparty analysis and limit-allocation processes, due mainly to a lack of automation and differentiation, cost analysts valuable time that could be better spent analyzing critical counterparties more thoroughly. In turn, banks make poor risk decisions because of the thinness of their analysis.

Exhibit 4

Out of order

Limit management is often uncoordinated and inefficient.



To tackle the first problem, banks need to establish clear process governance and responsibilities. We see four potential initiatives here. First, they should identify the right organizational setup, which will be different for every bank. A good answer for many institutions will be to create a team within the risk-management group with full responsibility for counterparty risk. A dedicated management team acting from the center of the bank will ensure a consistent view on counterparty risks and the use of standardized processes. It will also ease the creation of a central data repository, which will in turn eliminate some data and valuation issues.

A second idea is to create a new role, the limit manager. This person or group of people serves as the middle-office link between the front office and the risk analysts, coordinating requests for limits and modifications. The limit manager prioritizes requests by criteria such as the expected payoff, risk profile of the counterparty, and urgency, and then steers them to the right analysis unit.

The limit manager is not a mere trafficker. He has to be empowered to act both to manage the process and to serve as the agent of the risk group, counseling the front office when positions need to be unwound to lessen exposures and deciding on the course of action in case of disagreement.

A third improvement that banks should consider is contingency planning to react to early warnings and limit breaches. Such plans might define whether and how the risk department will adjust limit levels and predetermine the positions to be unwound first should the limit manager trigger that process. (Early-warning systems and contingency plans are also useful in settlement and clearing, as we discuss below.) One final idea: clear service-level agreements (SLAs) between front, middle, and back offices can drive greater accountability.

To address the second big problem, inefficient counterparty analysis, banks can make several improvements. Here are two examples. Differentiating the depth of analysis depending on the counterparty's rating and the size of the limit requested will help improve the quality of critical risk analyses. A standard process that takes about 4 hours of an analyst's time can be used for "simple" counterparties, while a more intensive investigation, for large-volume requests or less creditworthy counterparties, can take up to 12 hours.

Second, many banks are encouraging credit analysts to specialize in a given industry. Rather than assigning requests for new limits or extensions to the first available analyst, the limit manager at these banks now directs requests to the right specialist. By specializing, analysts can gain more knowledge of certain industries and products, conduct more sophisticated analysis, and arrive at a better decision on the limit.

Take some skin out of the game

While the benefit of netting agreements in reducing capital requirements and potential losses is certainly recognized by banks, there is usually room for improvement. Netting agreements can be extended to include more asset classes—all the various entities of a counterparty group—even across banking and trading books. These agreements should provide for cross-asset margining. One leading bank has recently taken this on. It currently nets out 55 percent of its derivatives trades and estimates that with some effort to extend netting agreements, it can net out a further 16 percent, which will free up an additional €250 million of regulatory capital.

Reaping the full potential of collateral management can be even more complex. Banks often feel competent to accept only the simplest collateral: government bonds. But extending collateral policies to accept other collateral—stocks, corporate bonds, and so on—can help banks, provided that both the counterparty and the collateral meet minimum rating requirements. By increasing the portion of assets that are collateralized, banks can cut a corresponding amount of capital reserves. Banks might also revisit the collateral valuation process. At Basel II–compliant banks, an internal "haircut" can be used in the advanced rating approach; compared with the foundation approach, it can save considerable capital.

Analyzing potential risk correlations between collateral and its associated asset poses a special problem—often underestimated yet very important, especially when it comes to transactions with hedge-fund counterparties. Single-strategy hedge funds are exposed to an unusual default risk. The funds sometimes pledge huge chunks of their assets as collateral in the repo market or against shares they have borrowed to deliver against short positions. If the collateral abruptly loses value, it can force the hedge fund into bankruptcy before the bank holding the collateral is able to make another margin call or enhance its collateral. A fully collateralized exposure can turn into total loss overnight. Many banks are not equipped to spot this risk at any time. They do not perform the kind of due diligence on their hedge-fund customers needed to spot this risk, nor do they include a business model assessment in their risk-management approach. They do not have any kind of "wrong way" risk monitoring in place, nor are their margin-call processes nimble enough to avoid this kind of risk.

In light of ISDA Operations Management Group's (OMG's) commitment to daily reconciliation of collateral portfolios, banks should get ready for the day when they will have to fulfill this and other potential regulatory and market requirements. External reconciliation platforms might provide a viable option to cope with these requirements. Moreover, use of such platforms can reduce the potential for disputes with customers, which often waste lots of time and management attention.

Get clear on clearing

Many banks have allowed back-office activities such as wire transfers to become detached from their larger counterparty risk-management efforts. But it is in the wire room where settlement risk can transform into counterparty losses. Payments systems that emphasize automation after a light-touch review are prone to error. When a counterparty fails, the automated routines at many back offices might still potentially wire millions to the failing firm as part of a swap or other derivative contract. This might happen on the same day as the bankruptcy and potentially even after it has been publicly announced, as it did for some banks on September 15, 2008, when wire transfers in the hundreds of millions were sent out. While much of a bank's counterparty risk-management approach can be valid, a missing link between the suspicions of the front office or the risk department and the payment processes in the back office can lead to significant losses.

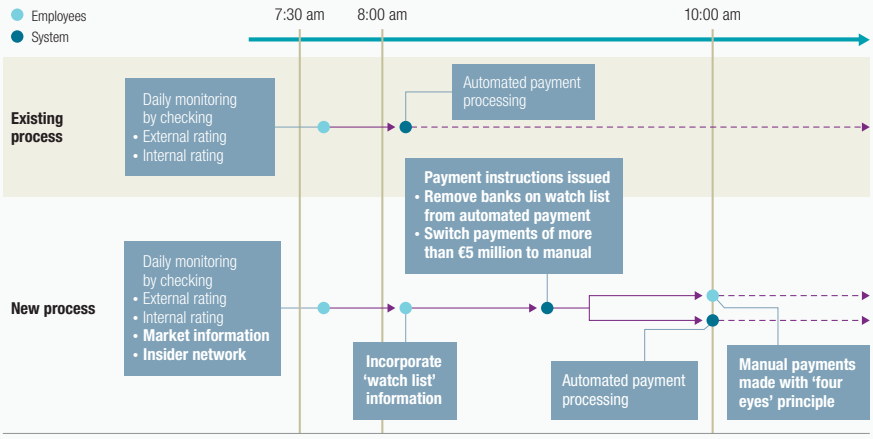
Banks can address this problem by combining two necessary elements: first, they should establish an early-warning system that integrates a wide range of information quickly and reliably. Such a system should consider external and internal sources such as press stories, credit default swap and bond spreads, delays in payments and document delivery, and even rumors picked up by sales representatives.

Second, banks need to make sure that their watch lists of counterparties with known problems reach all relevant stakeholders in time—including the front, middle, and back offices and risk, legal, and treasury departments. As mentioned, predefined action plans will come into play once a counterparty enters the watch list or moves higher up the ratings of the most vulnerable counterparties. Such an action plan might exclude counterparties from an automated payment routine by ordering the manual processing of payments above a certain size or risk level (Exhibit 5).

Exhibit 5

Early-warning system

Predefined action plans can set a new process into motion.



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Anticipating regulatory change will not be easy, of course. Banks may find it helpful to convene a working team comprising the chief information officer, the capital markets heads, the chief risk officer, and perhaps the chief operating officer to monitor the developments in regulation and ensure that their risk systems and processes will fully mesh with the likely future state of industry systems and technologies. It also will not be simple to follow through on many of the other measures we have suggested. But the stakes are too great to ignore. At too many banks, each new whisper of default in the financial system sets off a frantic call to the risk group to determine the

exposure. A thorough overhaul of counterparty risk management—top to bottom and end to end, and ideally embodied in IT systems—will provide the bank with the confidence that this insidious form of risk is under control and with new degrees of freedom to expand the business in search of profits.

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Nils Beier *(Nils_Beier@McKinsey.com) and* ***Thomas Poppensieker*** *(Thomas_Poppensieker@McKinsey.com) are principals in the Munich office.* ***Holger Harreis*** *(Holger_Harreis@McKinsey.com) is an associate principal and* ***Mario Thaten*** *(Mario_Thaten@McKinsey.com) is a consultant, both in the Düsseldorf office.* ***Dirk Sojka*** *(Dirk_Sojka@McKinsey.com) is a consultant in the Frankfurt office.*

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