

## McKinsey Working Papers on Risk, Number 17



# After black swans and red ink: How institutional investors can rethink risk management

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# Executive summary

Institutional investors have been hit particularly hard by the 2008-2009 crisis. Their cumulative losses total hundreds of billions; many lost more than 25 percent of their assets under management. Despite more favorable market conditions in the second half of 2009, most institutions have only recovered less than half of their losses so far.

Just as important, the crisis provided a sobering reality check of institutions' risk management practices. Indeed, many realized that their risk management approach significantly lags the investment capabilities they had developed over the past decade. Some deficiencies we have observed include:

- Underestimating true risk exposure across portfolios, often focusing attention only on market risk for liquid portfolios
- Failing to articulate how much risk and, more important, the types of risks the institution is willing to include in its portfolios and the market conditions under which it will do so
- Designing investment processes in which risk management input is an afterthought and important investment decisions – such as strategic asset allocation and active risk budgeting – are made without input from the risk management group
- Underinvesting in building capabilities in the risk management group and using a governance framework that does not give teeth to the risk management group
- Missing the opportunity to develop a truly effective risk management culture across the organization when market conditions were more favorable.

Our work with several institutional investors over the past year on risk transformation programs suggests that institutional investors should focus their efforts to strengthen risk management practices in five areas:

- **Risk transparency and insights.** To improve transparency into the risks inherent in their positions, institutional investors should immediately build a risk “heat map” that makes visible all the risks in their entire portfolio. Because many institutions' current risk measurement systems do not capture all risks, investors will need to augment these with ad hoc models. Institutions should conduct risk measurement “deep dives” to give senior management the tools needed both to kickstart risk strategy decisions and help prioritize areas for “de-risking.”
- **Risk appetite and strategy.** Institutions need to convene senior management and the board to define the target risk appetite of the overall portfolio, and the specific areas (e.g., asset classes, geographies, products) in which they are willing to take risks based on their capabilities and potential market opportunities. The institution's risk appetite could be based on value at risk (VaR) measures, stress-testing scenarios, or market sensitivities. The defined risk appetite, in conjunction with the areas in which the institution wants to take active risk, should then be used to define the risk strategy of the institution and to set target levels for de-risking activities.
- **Risk-related processes.** Risk processes should be reviewed not only to ensure that risk is considered in primary investment decisions, such as leverage and liquidity allocation, but also to help institutions react quickly in response to fast-changing market conditions. Decision-making authority

and accountability for all investment- and risk-related matters – without exception – must be clarified, and clear roles and responsibilities must be assigned for each executive and committee.

- **Risk organization and governance.** Institutions must elevate the importance of their risk function and embed risk management in the organization. As thought partners to investment professionals, risk managers should be members of core management committees and receive the same level of resources for their recruiting and training activities as do investment professionals. Moreover, institutions should consider the creation of asset class risk manager roles (ACRM) within each main asset class or rotational programs for investment professionals to cycle through the risk organization.
- **Risk culture.** A strong risk culture starts at the top, with the CEO and senior management role modeling the importance of risk management by asking probing questions about the risk-return of investment decisions in all committees and forums. The organization should also provide opportunities for employees to flag issues or raise concerns related to risk taking (for example through forums on emerging risks), publish lessons-learned analyses of “near misses,” and reward individuals who constructively challenge their colleagues. The ultimate goal is an organization where every employee has not only the ability but also the obligation to dissent when discussing risk-related matters.

Although implementing a few of these initiatives is a good starting point, a comprehensive strengthening of risk management practices is a true transformation journey for most institutional investors and is much more than a one-off project. Such an endeavor requires a carefully laid out plan (spanning 18 to 24 months) and significant investments – in terms of both senior management bandwidth and resources – but the benefits are considerable: a better understanding of risk allows institutions to become more resilient to adversity and better positioned to seize market opportunities.

# Introduction

During the 2008-2009 crisis, institutional investors – like every other participant in the capital markets – experienced extreme market conditions that resulted in unprecedented losses. We estimate that pension and sovereign wealth funds alone lost over \$500 billion.

In almost all cases, these losses were well beyond the maximum foreseen by institutions' value at risk (VaR) calculations and stress-testing analyses. And, in every case, these losses have forced institutions, especially those that used an endowment-like approach, to question their investment model. Many are re-examining the core beliefs on which their investment philosophies were based and re-evaluating their ability to capture superior risk-adjusted returns across the asset classes in which they invest.

The crisis has also provided a painful reality check on the effectiveness of institutional risk management practices, which were not robust enough to effectively manage the risks resulting from newly sophisticated investment strategies, more complex financial instruments, and more tightly integrated capital markets.

Over the next 6 to 18 months, it will be critical for many institutional investors to review the risk-return profile of their portfolio. They must balance the understandable urge to de-risk their portfolios with the equally urgent need to position themselves well to capture opportunities that suit their long-term risk-return profile. To get this tradeoff right, most institutional investors will need to put in place more forward-looking and decision-oriented risk management practices. Risk management – in addition to maintaining its fundamental control function – will need to evolve into a true partner in risk-return optimization, supporting investment professionals on their day-to-day investment decisions. Risk management must become a shared responsibility across the organization; a dialogue on risk-adjusted returns should replace the traditional approach where risk and returns are considered separate ledgers. For many institutions this will be more revolution than evolution, and it will need to be treated as such by senior management.

This paper reviews the risk management lessons learned from the crisis and lays out the capabilities needed to manage risk and return in today's sophisticated investment climate. We begin by briefly reviewing the conditions that led to the disappointing performance during the crisis. We then describe more specifically the gaps that many institutional investors have discovered in their approach to risk and the actions they need to take to address these shortfalls. These changes to risk practices are significant and will require shifts in the way institutions are organized and managed. In the final chapter, we outline the change-management practices that will make the journey toward risk-return management capabilities in the "new normal" successful.



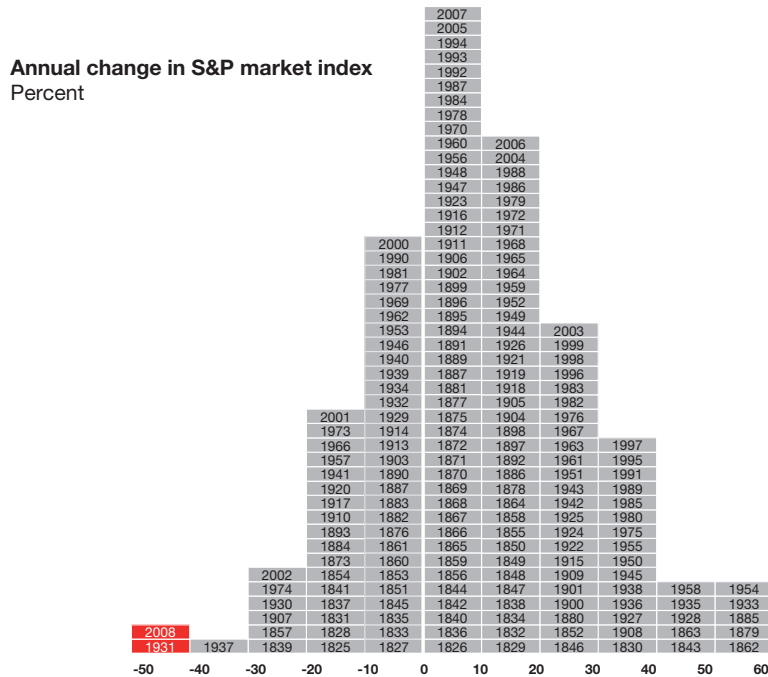


# The perfect storm of 2008-2009

The 2008-2009 crisis – the second worst in 130 years – came less than a decade after the previous downturn of 2001-2002 (Exhibit 1). In response to that earlier bust, institutional investors made significant efforts to strengthen their risk management systems and practices: CROs were appointed, risk committees were instituted, and investments in risk systems were made. So what happened? Is risk management an oxymoron? A flawed concept? A wasteful expenditure of resources and funds?

EXHIBIT 1

## 2008 was a severe test



We think not. Instead we would argue that the efforts made to shore up risk capabilities, though essential, resulted in risk systems and practices that could not keep pace with rapidly evolving financial markets and instruments. In essence, risk defenses were built for the last war, not the next. In the crisis, these defenses fell in the face of a perfect storm of challenges – a convergence of two sets of factors.

The first is the unprecedented increase in the number and complexity of financial instruments available to institutional investors over the past decade. Few institutions avoided temptation; most broadened their investment policies to include new products, especially those that appeared to offer better risk-return tradeoffs that would help investors meet their liability needs. These products included new kinds of derivatives, structured products, and emerging markets debt and equity, as well as illiquid investments in private equity, infrastructure, and hedge funds. The use of these products was amplified by extensive use of leverage that was fuelled by low interest rates and rising financial markets. Although the products provided some legitimate new benefits, they also came with a new set of risks that were often poorly understood.

The second set of factors is the globalization of the past two decades and the tendency for large institutional investors to take the same bets, which contributed to an economic environment with greater

interdependencies and exposure to risk “cascades” – now commonly referred to as “systemic risk.” Correlations grew between global markets and between asset classes. Market and credit risks converged and were joined by rising counterparty risks. All this created a new market regime where diversification – “the only free lunch in investing” – was replaced by a “correlation of one in the tail.”

The red flag that the crisis has raised about the inadequacy of risk management practice at institutional investors is not a condemnation of risk management as a valuable capability. Instead, it is a warning that organizations not only need to re-assess their practices but also ensure they evolve at the pace of their investment activities. Indeed, as demonstrated by those investors who stayed on the sidelines when the new products were introduced, at times institutions must be willing to go slow when increasing investment sophistication to let risk management catch up.

# Risk management in the “new normal”

How can institutions make the leap to where they need to be? In this section, we review the most common shortfalls in risk management during the crisis and suggest ways that institutions can address them. To make sense of the many questions and issues that any discussion of risk can prompt, we rely on McKinsey’s five-pillar framework (Exhibit 2) for excellence in enterprise risk management:

- Delivering **transparency and insights** into the portfolio to detect, accurately measure, and consistently monitor all risk exposures in a timely fashion
- Articulating the institution’s **risk appetite and strategy**, communicating it across the organization, and reflecting it through investment decisions
- Establishing **risk-related processes** that take into consideration risk-return tradeoffs and administer appropriate decision-making authority and accountability for risk taking
- Building a robust **risk organization and governance** model that creates a senior-level dialogue on risk-return issues
- Instilling a **risk culture** that fosters awareness, ownership, and accountability for risk across the organization.

EXHIBIT 2

## A five-pillar framework for effective enterprise risk management



## *Transparency and insights*

While institutional investors understand the importance of having a complete picture of the risks they are taking, the crisis revealed that few were able to put that understanding into practice. In this regard, there were three common shortfalls. First, in the years just prior to the crisis, most leading institutional investors failed to measure and monitor up to 50 percent of their total risk exposure. Some measurement systems did not include or fully address important risks, such as credit risk, liquidity risk, and concentration risk, and did not cover some complex positions (e.g., exotic derivatives). In other cases, the methods used were sometimes too simplistic for the complex risks under management. For example, structured debt was often modeled as if it were corporate debt of the same rating. Finally, VaR methodologies often assumed normal or near-normal distributions in extrapolating historical data, which significantly misrepresented the risk exposures.

A second common shortcoming was a failure to understand “tail” risk. Many institutions calculated risk with volatility-based measures (e.g., VaR with 84, 95, or 99 percent confidence levels) that underestimated the asymmetric and non-linear behavior of their portfolios, especially for some structured credits and derivatives. In their risk models, most used historical time series of very short duration (typically no more than 1,000 days, reflecting the calm markets of the middle of the decade), which artificially depressed VaR figures.

In fairness, some institutions strengthened their approach by developing stress-testing capabilities to augment VaR. They used the results of stress tests to both validate their VaR models and to inform management and the board of worst-case losses in extreme scenarios. But few used stress tests as a tool to guide investment decisions, to set risk limits, or to explore hypothetical “tail” scenarios, which could lead to severe losses in some portfolios.

Finally, while many institutions produce an impressive number of risk reports, these did not prove their worth in the crisis. Institutions’ reports are often rich with data, but they typically lack insights and are not synthesized at the right level of detail for management and the board. In many cases, information is presented without reference to historical trends, market context, or comparison with peers, making interpretation difficult. Few institutions can aggregate risks across the enterprise to calculate total exposure to, for example, a particular name, sector, geography, or risk factor. Nor can most institutions produce a risk attribution analysis – i.e., the breakdown of a portfolio into its risk factors. Since the crisis, many management teams and boards have turned their attention to this issue, recognizing that they had an inadequate appreciation of their organizations’ risk levels.

To address these transparency and insight shortcomings, institutions should focus on six priorities:

1. **Developing a risk “heat map.”** Comprehensive risk heat maps can provide the institution with a holistic view of exposures across risk types (market, credit, concentration, and liquidity) and for all asset classes and instruments (including illiquid positions). Moreover, they can and should include risks in positions held by external managers. Heat maps should include measures of absolute and relative VaR, stress tests, current liquidity levels, and both the financial and market leverage of each portfolio. All these variables contribute to a single weighting, or color, which helps management see at a glance where unwanted risk is building up. Although creating an effective heat map for the first time can absorb a lot of time and resources, including IT investment, the process can thereafter be automated and the heat map can easily become a ubiquitous management tool.
2. **Refining risk measurement for illiquid asset classes.** Thanks to the crisis, the difficulties of measuring many illiquid investments are now in the spotlight. Investment professionals remain skeptical of using VaR-like metrics that rely on market proxies to monitor their portfolios. These metrics can play an important role as broad indicators of risk but need to be complemented with other, more operational factors that better track the behavior of the investments.

For example, a comprehensive risk dashboard for private equity should include: i) assessments of the portfolio in the context of the market cycle (e.g., the distribution of these assets across strategies compared to market cycle, the distribution of investment multiples and debt ratios across “vintages,” and the exposure to cyclical sectors and less cyclical ones); ii) a series of concentration metrics (e.g., by vintages, geographies, sectors, and funds); iii) specific measures of the health and performance of the fund (e.g., debt-to-equity ratio, cash flow, and quality of management of portfolio companies); and iv) a forward-looking assessment of the financial expectations for each of the portfolio companies (e.g., EBITDA at risk). This type of dashboard provides management with insights into the broad portfolio, which can inform portfolio allocation decisions, and investment-specific insights, which can inform decisions such as whether to buy a given company, how to exit it, and the kind of management resources needed to operate it.

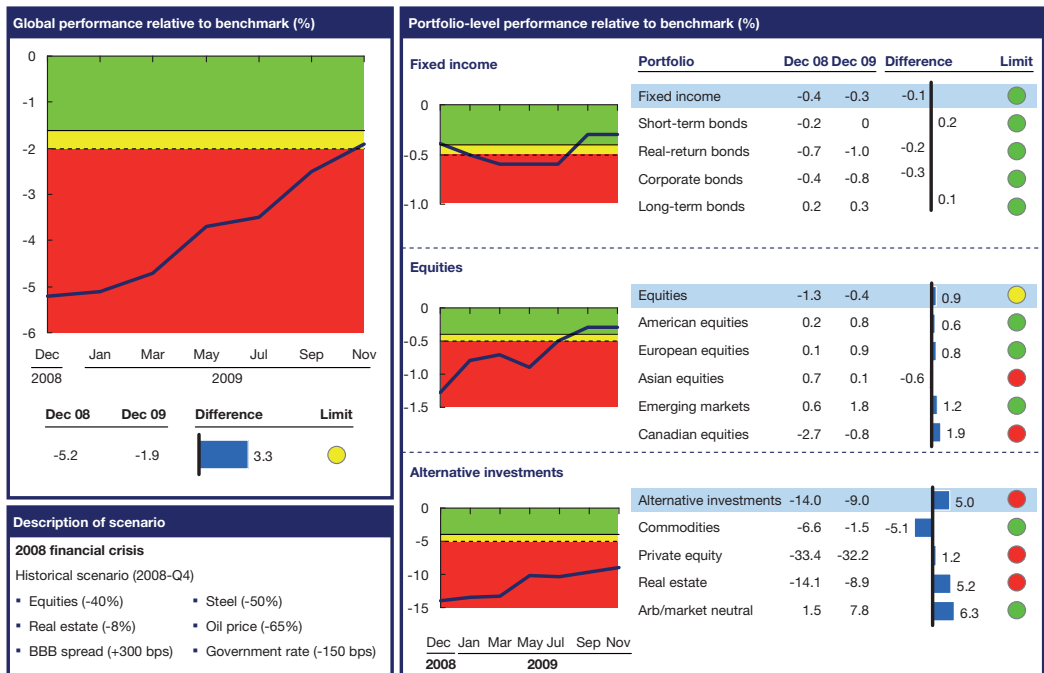
3. **Strengthening stress-testing practices.** Those institutional investors who have not already done so need to complement VaR-like measures with more robust stress-testing practices (Exhibit 3). A diversified and well-thought-through suite of extreme sensitivities, historical stress tests, and hypothetical stress tests are necessary tools in the new normal. These stress tests have three benefits. They validate and challenge other measurement approaches. They allow management to discuss “what if” scenarios and the implications of their decisions (e.g., Are we comfortable with a short US equity bet across our portfolio? Is it acceptable that, given our current portfolio, a repeat of the 2008 crisis would likely produce even greater losses?). Finally, they provide the basis for tail-based risk limits (e.g., Our portfolio should not be exposed to more than 75 percent of the losses we experienced during the Russian crisis.).

Three steps are necessary to reinforce stress-test practices. First, institutions should create an effective governance structure to decide which sensitivities and scenarios to run, analyze the results, set and monitor limits, and propose mitigation actions if needed. They should then determine the appropriate scenarios to run. These scenarios need to be severe enough that they accurately represent what could

EXHIBIT 3

**Stress test dashboard**

● No breaches ● 80% of limit ● Exceeds limit  
----- Limit



happen and could be complemented by WOW (worst-of-the-worst) analyses where correlations and assumptions about risk cascades are pushed to the extreme.

Finally, they should make sure that all pertinent risks factors that may affect the portfolio are covered. This can be done in two ways: either by reviewing historical risk analyses to identify each of the risk factors in the portfolio or by performing a “reverse stress test,” in which investment professionals brainstorm the macroeconomic events that could lead to the worst possible portfolio losses and identify the risks that would emerge in that scenario.

4. **Producing insight-driven risk reports.** Institutions need to review how they structure their risk reports, how they prepare them, and, more important, how they use them. Reports should provide a comprehensive view of both risk and return, as risks are not inherently “bad” and can only be fully understood in the context of risk-return tradeoffs. The traditional content of the reports should be supplemented with insightful synthesis for management and raise important questions generated by the data. Insights from analyses should be clearly explained and issues flagged, information should be provided on historical trends and market conditions, and peer comparisons should be used when available.

Reports should also be enriched with sections on “top 10 risks,” emerging risks, and deep dives into areas requiring management action. They should be used to foster a risk-return dialogue among management rather than for purely informational purposes. This will require a report preparation process involving iterative feedback loops between risk management, finance, and investment groups, and a governance process in which significant time is dedicated to discussing the reports in management and board sessions.

5. **Conducting risk-factor and performance-attribution analyses.** To develop a better understanding of the sources of returns and losses, institutions should conduct detailed risk-factor and performance-attribution analyses. Returns and losses should be attributed to the different types of risks taken and to the different investment strategies in place. The results are typically presented in the form of a limited number of “replicating trades,” which can cover the bulk of the returns and losses. By doing this, institutions can significantly increase transparency into their investment strategies, simplify communication about them, and foster insightful discussions among senior managers and board members.
6. **Implementing a process to identify emerging risks.** Obviously, all emerging risks cannot be detected systematically. But, in many cases, ranging from the subprime crisis to the more recent default of Dubai World, market signals can be found to help detect most emerging risks. Institutions should be better equipped to seek out these signals and identify the risks. They need to establish formal mechanisms to systematically collect, synthesize, and prioritize information about emerging risks and discuss their conclusions at the senior management level. Another less formal approach is to tap into external networks (of asset managers, regulators, academics, experts, etc.), as most successful organizations are now doing, to challenge and enrich their views in working sessions.

However, while detecting emerging risks is the right first step, it is even more critical for institutions to understand the ramifications of these risks for their portfolios. By developing a better understanding of the first- and second-order effects of these risks, should they materialize, institutions can not only better mitigate them but also potentially position themselves to capture resultant investment opportunities.

### *Risk appetite and strategy*

As they dealt with the crisis and tried to restore stability, many institutional investors found it difficult to assess and prioritize the actions needed to reduce risk, lower leverage, and exit positions. We found three gaps most commonly contributed to this uncertainty and hesitation. First, many institutions were unclear about their appetite for risk and tolerance of loss. During the crisis, the meaning of “value at risk” became real for many institutions. Severe losses, typically in the range of 15 to 25 percent, forced them to reassess their tolerance for loss given their long-term-return objectives. Most institutions had not previously discussed the implications of severe losses, nor the acceptable magnitude of losses given the need to meet liabilities and the associated reputational risk.

Many investors also failed to sufficiently debate the natural ownership of risk. As they diversified their investment strategies in pursuit of higher returns during the boom, they were also increasing their exposures to different sources of risks. Funds were increasingly allocated to alternative asset classes and complex structured products, managed both internally and externally. Few institutions routinely asked if they were the “natural owners” of the new risks they were assuming, or, more fundamentally, if they had the capabilities to adequately understand, measure, and manage these risks to generate excess returns.

Finally, many institutions did not consistently translate risk appetite into investment policies. Investment policies are one of the core pillars of an institution’s risk management framework, yet the crisis highlighted frequent inconsistencies between institutions’ policies and their risk appetites. As investment activities became more complicated, these policies often lagged in terms of limits (e.g., conditions for use and level of leverage) or types of instruments (e.g., derivatives and new structured products). And policies were often adjusted piecemeal, resulting in contradictions and omissions.

To address these issues and improve the investment decisions that follow from them, institutional investors need to focus on three priorities:

- **Articulating the risk appetite of the institution.** The risk appetite of an institution should include four elements. First, management and the board should define how much risk they are willing to bear, in terms of overall and relative return volatility, VaR limits, and stress-tested maximum losses. Second, they need to specify the types of risks and how much of each they are willing to bear – that is, they need to define areas of natural risk ownership. This could include making decisions on risk categories (e.g., credit and currency), asset classes, geographies, and industries (e.g., high-tech or financial). Third, they need to determine the returns they expect for taking these risks. Finally, they should specify responsibility for these risks and how they will be monitored.
- **Translating risk appetite into risk limits.** Risk limits for each portfolio should be set, reviewed, and approved by the risk or investment committee based on each portfolio’s performance, current market conditions, forecasted opportunities in each asset class, and the investment groups’ level of insight (e.g., the group’s historical information ratio). Risk limits must be consistent with the risk strategy, ensuring that risk is taken in areas of strength and limited in those areas where superior returns cannot be achieved. To enable effective risk monitoring, limits should be set using specific metrics, including warning triggers and limit breach values (e.g., absolute and relative VaR limits for market and credit risk, limits for concentration, leverage, liquidity risks, and sensitivity and stress-test limits for some specialized risk types).
- **Designing investment policies that are aligned with risk appetite and risk limits.** Investment policies are more than a formal control mechanism: they should be a reflection of the institution’s investment beliefs and risk tolerance. The policies’ metrics and limits should be systematically revised to reflect the institution’s evolving risk appetite and to take into account product innovation. Coherence and consistency among the different policies should be verified. Investors should also put in place appropriate checks and balances to ensure that while policy updates match changes in investment activities, the latter do not drive the former.

## *Risk-related processes*

At many institutions, core processes for general and investment management failed to adequately reflect risk. In hindsight, it is clear that investment processes whose objective function is to optimize risk-return tradeoffs did not capture the full risk picture (e.g., strategic and tactical asset allocation, portfolio construction, and use of leverage and hedging). These processes often relied on an incomplete view of market risk to make decisions – very rarely were credit risk, liquidity risk, or counterparty risk included in decision making. And members of the risk team often did not participate in these key management processes, which exacerbated the problem.

Moreover, many core risk processes were inadequately defined and implemented, resulting in three common gaps, the first of which was related to limit breaches. During the crisis, increases in market volatility, writeoffs, and correlations caused many portfolios to breach their risk limits. Mitigation processes at some institutions were not sufficiently formalized to allow actions to be taken immediately. At other institutions, risk professionals were overruled and exceptions to limits soon became the rule. When multiple limits were breached, few institutions were equipped to prioritize risk-mitigation actions based on their cost and de-risking impact. These problems were particularly acute with illiquid assets, where investments continued well into the early phase of the crisis and taking mitigating actions became difficult, if not impossible, once institutions finally reached consensus.

Unclear accountability for leverage was the second gap. For years, many institutions used leverage to capitalize on their long-term investment horizon, yet the crisis highlighted much greater exposure than expected, as well as a lack of preparation to deal with the effect of leverage in a rapidly deteriorating market environment. Although most institutions tracked their borrowing, few monitored the additional exposure from implicit leverage (e.g., from short positions, futures, forwards, and swaps and from leverage embedded in external private equity, real estate, and hedge fund investments). Without insight into these exposures, it was difficult for institutions to respond quickly to the crisis. When these exposures triggered collateral and margin calls, institutions were forced to sell liquid assets at the bottom of the cycle.

The third gap was inadequate central planning of liquidity. As discussed, the past decade saw the rise of more sophisticated investment strategies, more complex hedging approaches, and greater allocations to illiquid asset classes – strategies and positions that are often designed for the long term. As institutions moved into these strategies and assets, their need for liquidity greatly increased, as did the absolute level of risk. Some investors managed these liquidity needs centrally, through the treasury, which is an essential first step. But, of these leading institutions, few developed clear liquidity strategies to optimally manage the sources and uses of funds under different time horizons and market scenarios. Many institutions continue to fund long-term illiquid assets with shorter-term funding.

This lack of central planning also means that institutions allocate capital poorly and price it haphazardly, so portfolio managers are not made to pay the true risk-adjusted cost of funds. Poor liquidity management ultimately results in real costs to the institution: in everyday circumstances, they can underestimate the risk associated with rolling over funding for certain positions and misjudge the true value generated by and transferred across portfolios. In a time of crisis, the cost of selling illiquid positions into falling markets is enormous.

To bridge these gaps, institutions should focus on four priorities:

1. **Embedding risk considerations into core management processes.** In essence, institutional investing is nothing more (nor less) than a series of decisions on risk versus return. Therefore, management teams need to ensure a consistent and rigorous application of risk-return thinking to core processes. This includes investment activities such as strategic asset allocation, tactical asset allocation, active risk budgeting, security selection, and rebalancing. It also includes management processes such as compensation, talent management, internal and external communication, and financing. Over the past decade, the pendulum swung too far toward return management, and



institutions must bring it back into balance while ensuring it does not swing back too far. That might paralyze institutions and prevent them from delivering the returns required to meet their liabilities.

2. **Developing a robust framework for decision rights.** Clarifying decision-making authority and accountability for investment- and risk-related matters is crucial for any investor. Institutions should systematically identify the key decisions, such as asset allocation, limit adjustments, and policy changes, that materially impact the risk-return profile of the institution. For each of these key decisions, they should also define roles and responsibilities for different executives and committees, perhaps using a RASCI (responsible, accountable, supported, consulted, informed) framework.
3. **Allocating leverage centrally.** At many institutions, decisions on the use of leverage are left to the investment groups as long as they respect the limits set out in the investment policies. However, given the impact of leverage on the risk-return profile of the institution, decisions about leverage should be managed centrally, ideally by the investment committee. Central management enables superior investment tradeoffs for the institution rather than for individual portfolios and it ensures that total leverage remains in line with the current risk appetite of the institution. Depending on the sources of an institution's financing, a central leverage management group can also put in place a mechanism to appropriately price the capital used by investment groups based on the risk of the proposed investment.
4. **Centralizing liquidity management.** Given the growing importance of liquidity, institutional investors should create a central function to manage it in the finance group or in the treasury. By doing so, institutions will develop a comprehensive view of their liquidity positions (both sources and uses) and will be able to better manage liquidity risks. This central function should be responsible for optimizing the overall tenor, rate, and currency exposures of their capital and should allocate and appropriately set the price of that liquidity. Institutions must develop a number of tools to support group forecasts for the uses and sources of liquidity and the potential value at risk under each scenario.

### *Risk organization and governance*

While most institutional investors now recognize the importance of their risk organization and understand that risk managers must be peers of investment professionals, they are still struggling with three significant gaps, the first of which is in capabilities. At many institutions, investment professionals have long viewed risk management teams as performing a support function. Compensation in risk groups is significantly lower than in the investment groups, reinforcing this view and making it practically impossible to attract and retain top talent who can go toe to toe with investment professionals on investment and risk issues. This has created a talent gap between risk and investment groups: risk managers often retreat to the background to measure risk and engage with portfolio managers and senior executives only in limited and often futile ways.

Risk governance – an institution's ability to set policies, contain limit breaches and exceptions, and review investment decisions in light of changing risk and market conditions – proved mainly ineffective during the crisis. Most institutions created risk committees with members at or near the top of the management pyramid but few created risk committees within the board. The mandate of these committees – to provide a forum for “information sharing,” review reports, and discuss perspectives – was perceived as soft by its members. And, even when they were staffed with senior managers, these committees were not taken seriously by their members, which resulted in many risk-management tasks being delegated to junior executives.

A third gap is the lack of provisions for decision making in times of extreme stress. Key governance groups, such as investment and risk committees, typically meet monthly or quarterly, a model that does not enable institutions to react quickly enough to a crisis, and most institutions do not have contingency governance plans in place for these extreme market conditions. Institutions must have a clear approach for uniting management and the board during extreme market events to avoid delays in decision making and ensure appropriate action can be taken quickly.

The net effect of these organization and governance gaps is to impede risk-return discussions and weaken returns. These weaknesses can be addressed by focusing on three priorities:

1. **Raising the level of talent in the risk function.** Institutional investors devote a lot of time and resources to attracting top investment professionals to their front office. Risk professionals should receive the same kind of recruitment. Compensation of risk professionals will also have to be adjusted to attract and retain top talent, and a career path should be defined for the risk management function, outlining potential branch-out opportunities both within and outside the risk organization. Risk should not be perceived as a dead end but the start of a fast-evolving career.

In keeping with the growing complexity of investment activities, risk staff will need to specialize (e.g., credit and liquidity specialist, for example, will be an essential role). Risk specialists will need to collaborate much more closely with investment groups and provide the risk group with “insider” knowledge of the institution’s investment strategies and risk exposures. The remainder of the risk organization should be focused on developing policy and measurement, monitoring, and reporting activities.

2. **Revising the mandates and structure of risk committees.** Effective risk committees are essential to creating productive dialogue between risk and investment groups. Many different configurations can be effective, but the characteristics shared by many successful institutions include: a senior risk committee that is on par with the investment committee and is typically chaired by the CEO, CFO, or the CRO; risk committee meetings that are attended by all senior executives and, in particular, the CEO; and a CRO who participates in other decision-making bodies, such as investment and executive committees.

At the board level, risk has also gained importance. Leading institutions typically have: a risk committee within the board or at least an explicit risk agenda for either the board or its finance or audit committee; a CRO who participates in risk-related discussions with the board; closed-door sessions between the CRO and the board, as appropriate; and, increasingly, an annual or semiannual board education session led by the CRO.

3. **Creating rotational programs between investment and risk.** An effective way to link investment and risk groups is to create a rotational program. Many of the most sophisticated financial services firms have done this and derived significant benefits. When highly regarded front-office professionals participate, rotational programs greatly increase the credibility and effectiveness of the risk functions. These programs expand the front line’s risk knowledge, making them better risk managers and therefore better investors. Furthermore, they create an interesting networking opportunity, and possibly an eventual career path, for talented people who enter directly into the risk function.

## Risk culture

We define risk culture as the norms of behavior for individuals and groups within an organization that determine the collective ability to identify, understand, openly discuss, and act on the organization’s current and future risks. It is the last line of defense in grave situations. In previously unimaginable conditions, like those of late 2008, when limit breaches arose across the business and risk measurement systems became unreliable, a strong risk culture was the hallmark of those institutions that were able to identify, escalate, and address risks most quickly and effectively.

In the recent crisis, and in earlier downturns, cultural factors that contributed to investment losses fell into four categories (Exhibit 4). A few institutions displayed an active disregard for risk. They mistakenly believed that they had a competitive advantage and grew complacent about risk. In this type of environment, two things can happen. People inside or outside the institution can conceive and put in motion a fraud or, much more likely (and perhaps even more dangerous), people can take risks that are not in line with the organization’s risk appetite.

EXHIBIT 4

### Risk culture breakdowns

Mindset	Symptoms	Description
<b>Active disregard for risk</b>	<b>1</b> Overconfidence	▪ Belief that an organization/individual has a competitive advantage (thanks to self-perceived superiority)
	<b>2</b> “Beat the system” (for personal advancement)	▪ Internal (and sometimes external) agents can conceive and execute a fraud
	<b>3</b> Business unit “gaming” (for unit’s advancement)	▪ Individual units take risks for short-term gain that are not in line with organizational risk appetite
<b>Sweeping under the carpet</b>	<b>4</b> No challenge	▪ A culture where individuals do not challenge each others’ thoughts and business ideas
	<b>5</b> Fear of bad news (mistakes and external news)	▪ A culture where people feel inhibited from passing bad news (about their or others’ mistakes, or from the outside world) to the next level
	<b>6</b> Failure to amplify signals	▪ Warning signs in the lower levels (or external) are not amplified and consequently not picked up by the higher levels until it is too late
<b>Passivity</b>	<b>7</b> Indifference/sloppiness	▪ A reluctance to react to situations; people do not care about the outcome due either to bad faith or incompetence
	<b>8</b> Slow to respond to change	▪ Organization perceives external changes but reacts too late; or is in denial about innovation
<b>Ignorance</b>	<b>9</b> Unclear risk tolerance	▪ A firm where the leadership has not communicated a clear risk appetite to the entire firm or has presented a single dimensional approach
	<b>10</b> Lack of true risk insight	▪ Managers do not have a deep appreciation of the true nature of the risks they are running

Other institutions suffered from a culture where risk concerns were swept under the carpet: individuals did not challenge one another’s thoughts and investment ideas; people at every level felt inhibited from passing bad news (about their issues or others’) up to the next level; and warning signs from the front line or outside the institution were not escalated. Senior leaders did not learn about problems until it was too late.

Some institutions have cultures that are simply too passive. Individuals are reluctant to react to situations and do not seem to care about the outcome of this inaction, whether from bad faith or incompetence. The organizations might perceive external changes but react too late; in a sense, these institutions are in denial about the importance of change.

Finally, some institutions were troubled by ignorance. Leadership did not communicate a clear risk appetite to management or investment groups, and managers did not fully appreciate the true nature of the risks they were taking.

All kinds of financial services firms have begun to understand the importance of a strong risk culture. Strengthening an organization's risk culture is a long-term and deliberate process, which typically begins with an objective assessment of the organization's cultural strengths and weaknesses. This is followed by the creation and implementation of a program that reinforces these strengths and mitigates any weaknesses. Such a program typically includes four actions:

1. **Role modeling by the CEO and other top executives.** Top managers should do several things: provide regular opportunities for employees to address questions and concerns; publish details on near-miss problems in risk, along with information on how the company will learn from these issues; reward individuals who positively challenge others and engage in constructive feedback; and work with people of all tenures to respond positively to risk issues. It is also crucial that top managers probe investment and strategic recommendations, not only on their potential returns but also on the underlying risks.
2. **Fostering understanding and conviction.** These actions include creating collective buy-in of the new culture of constructive challenging and reporting; ensuring employees feel an obligation to dissent when they observe risk issues that are not being addressed; drawing attention to the lack of escalation of risk issues and need for change; bringing top managers back to the floor to experience the risk culture first hand; and emphasizing employees' collective responsibility for risk decisions.
3. **Reinforcing with formal mechanisms.** This includes formalizing several feedback loops and reinforcement mechanisms: conducting performance reviews that assess compliance with risk policies; implementing processes for reporting of risk issues, mistakes, and near misses; ensuring compensation reflects the risk appetite and policies; and providing regular feedback.
4. **Developing talent and skills.** The first step is ensuring that key risk management roles are filled by individuals who have the will to drive change and will take a strong interest in and stand firm on risk issues, ensuring that all employees become accustomed to debating and challenging issues with all tenures. To reinforce the skills needed, institutions should create training programs for all employees. These programs help employees develop a common taxonomy and framework for discussing risk and leave them with a better understanding of the risk implications of their actions in other parts of the organization. For example, front-office employees who introduce a new investment instrument will understand more fully what that means for IT and the middle and back offices.

# *From theory to practice: completing a successful risk transformation journey*

Strengthening risk management practices to bring them in line with the level of sophistication of the investment function will represent a real transformation journey for most institutional investors. More than a project, it is a multi-year journey – typically taking 18 to 24 months to complete – that will significantly transform how the institution operates. Based on our experience, five conditions must be met to successfully implement such a program:

- 1. Ensuring strong commitment from the CEO and senior management.** To be successful, the program needs to be one of the institution's top priorities and treated as such by management. It will require not only significant senior management bandwidth but also strong and consistent commitment over time from the whole management team, beginning with the CEO. The CEO should lead by example by being actively involved in the program's progress reviews, attending if not leading all risk committee meetings, participating in risk training programs, and so on. The management team must convey the message that risk management is now the responsibility of the entire organization and that the success of the program will be one of the indicators used to measure individual and team success.
- 2. Developing an integrated transformation "roadmap."** This program should be thoughtfully structured and should consist of a series of specific and well-prioritized initiatives that correspond with the institutions' critical gaps. Each initiative should be clearly defined, with a single owner who is accountable for delivering pre-agreed end products. Initiatives should be adequately sequenced and interdependencies with other initiatives or parts of the organization (typically IT or the back office) should be clearly laid out and taken into account in the design. Inevitably, challenges will arise that will require careful monitoring of the program's critical path and escalation to senior management if needed. To enable effective management oversight, coordination, and quick problem resolution, some form of project management office (PMO) should be established.
- 3. Securing adequate resources.** Senior leaders are not the only ones who will need to be committed to the program. Successful execution will also require significant commitment from people in other parts of the organization. It is critical that the right resources be allocated at the right moment to the right initiatives. Apart from technical risk experts, who will of course be needed, the front, middle, and back offices will also have to mobilize some of their best resources to support the program. As the program proceeds and the institution makes progress, capabilities will be built. The institution should also plan on allocating considerable financial resources to the program to finance the required IT spend (developing new modules, building a new database, etc.) and to acquire external support where needed.
- 4. Building momentum through "quick wins."** To build the credibility of the program quickly, the first wave should comprise initiatives that can be rapidly completed and will have a visible and material impact on the organization. By getting some early results – particularly if they provide tangible benefits to investment professionals – the institution will be able to gain adherents from the different parts of the organization and quickly build the required momentum to ensure, and potentially accelerate, the successful implementation of the program.
- 5. Tracking and communicating progress.** To ensure the program is implemented efficiently, a simple but effective tracking process is required. To sustain momentum, weekly project oversight meetings should be organized to review current progress and discuss any potential obstacles. Progress against defined milestones should be communicated not only within the management group and the risk team but also across the organization to emphasize the importance of the transformation and bring

awareness to the risk program. Finally, progress reports should be presented to the risk committee of the board to ensure complete alignment across the organization.

\* \* \*

While risk management should not be an end unto itself, it is undoubtedly a critical step to more effective risk-return management. Institutions that get it right will be rewarded: not only will they be more resilient to market events and better at mitigating risks, but they will also develop a much deeper understanding of their portfolio and market opportunities, allowing them to maximize their risk-adjusted returns and optimize performance. Strengthening the risk management function and turning it into a risk-return optimization function will require time and resources but, given the performance requirements and the complexity of the environment in which institutional investors operate, it will be a critical success factor.

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