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The *yin yang* of financial disruption

Maxims for forging a path to financial stability and healthy financial innovation

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The *yin yang* of financial disruption

Maxims for forging a path to financial stability and healthy financial innovation

By Suzanne Duncan, Wendy Feller and Lynn Reyes

Even as nations take unprecedented measures to respond to the global financial-now-economic crisis, exacerbated structural tensions in the global financial system are yet to be resolved. But it cannot be done by any one institution or even one government. Rebuilding trust and moving from crisis, to health, to wealth will require committed, concerted effort from industry, government and individuals. Now is the time for us to work together, address the fundamentals and innovate.

The metamorphosis of a country-centric subprime crisis to a worldwide economic slowdown has deeper roots than anyone could have ever imagined. Overnight bank failures, plunging stock markets, trillions of dollars in takeovers and government intervention, not to mention the death of iconic Wall Street brands, compressed decades worth of change into mere months – even weeks. Since the onslaught of the financial crisis – which began in mid-2007 and spiked during "Black September" in 2008 – attitudes, fears, opinions and the key structural tensions challenging the financial services industry, as well as proposed resolutions to the crisis, have shifted dramatically.

As the world struggles through uncharted waters searching for resolution, many of the emergent industry themes appear to be shared by experts in both the private and public sectors. At the same time, some deep-rooted dichotomies exist and at multiple levels of the economy – not just at the organization levels, but also at the consumer level – and across sectors and geographies.

The primary question facing the industry has become: *How can we move from crisis, to health, to wealth?* We must begin by discussing three key factors:

- We are in the new "era of interdependence" in which the interconnectedness of the global financial system is at odds with its current design.
- Dichotomies in the marketplace are exacerbating a number of structural tensions that have thrown the global financial system into disequilibrium.
- The new era requires new maxims for progress – a shared approach to address the system's imbalances and manage the overarching *yin yang* of financial stability and healthy innovation.

We now stand at a unique inflexion point. And all market participants can take immediate steps in adapting to the new environment. Every government, company, employee, consumer and citizen has a vested interest in resolving the current situation and in positioning for a brighter future. The entire "financial system business model" has the capability to become "smarter" – systemically collaborative, intelligent and dynamic – setting the stage for the creation of sustainable value.[2] For the methodology of this study, please see Appendix 1, page 14.

A systemic *yin yang*[1]

In Chinese philosophy, *yin* and *yang* represent seemingly opposing forces within a greater whole – that are interconnected, interdependent and both transform and balance one another. So, too, the path to a healthy, sustainable equilibrium within the global financial system will require managing the overarching *yin yang* – the delicate balance between financial stability and healthy financial innovation.

Financial stability: The strength to withstand extreme volatility and contagion risk (the tendency for financial shocks to propagate, e.g., from country to country, or from asset class to asset class) and avoid crisis.

Healthy financial innovation: The creation and popularization of new products, services, business and revenue models, technologies and relationships that have a positive and sustainable impact on the real economy (consumers, firms, industries, markets and, ultimately, GDP).

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New era of interdependence

No doubt, the global financial system, a primary engine for the wider economy, is under severe threat.

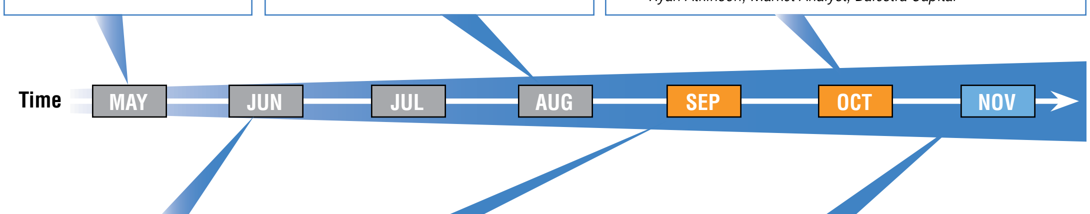
As the initial “lightning bolt” effects of the subprime crisis amplified and rapidly spread, it is clear that the degree of financial, operational and even systemic interdependency surprised many market participants (see Figure 1). Less than 2 percent of executives interviewed tell us they had predicted the magnitude of the crisis and contagion effects.[3]

FIGURE 1.
Timeline.

May 2008
- “Developing economies are immune to the subprime issues in the U.S. The U.S. will be affected, but we will continue to experience explosive growth.”
  – President, Middle East, large U.S. bank[4]

August 2008
- “We have no way to measure the success of our actions. This is what keeps me awake at night.”
  – Senior central bank official[6]
- “Where is the value? This is what I want to know. This industry is very good at destroying value, but not very good at creating value.”
  – Chief Administrative Officer, large U.S. bank[7]

October 2008
- “Globalization of the crisis requires a globalized response.”
  – C. Fred Bergsten, A. Subramanian, Peterson Institute[11]
- “The world has gotten smaller and smaller, especially financial systems are very much interlinked.”
  – Sameer Al Ansari, Chairman & CEO, Dubai International Capital LLC[12]
- “Central banks of the world have been flooding the markets with liquidity, but banks are hoarding cash. This is the lynchpin of the entire financial system and as long as this is still going on, the markets will be driven by fear."
  – Ryan Atkinson, Market Analyst, Balestra Capital[13]



June 2008
- “Today, global order has disappeared. Tomorrow, we must understand that we have entered a new era – an era of disruption.”
  – Global Head of Investment Banking and Capital Markets, large U.S. universal bank[5]

September 2008
- “We have got global financial systems.”
  – Gordon Brown, Prime Minister, U.K. (September 2008)[8]
- “The credit crunch is creating a new world order in banking and finance.”
  – Robert Peston, BBC News Editor (September 2008)[9]
- “This crisis is far more profound and pervasive than we realized. This is because we are the bubble this time, and it is extraordinarily painful.”
  – Global Head of Equities and Prime Brokerage, large European universal bank[10]

November 2008 and ongoing
- “Today, regulatory oversight and risk management are not efficient, not rational and not consistent. For an industry perspective, we have the opportunity to seize victory from the jaws of a tough environment to create a rational and more just regulatory environment.”
  – Chief Operating Officer, global diversified financial services provider (December 2008)[14]
- “The adolescents are going to come up, and they are going to look at the rulebook and find new ways to make money. The crux will be revamping the incentive models. Capitalism should manage incentives properly, but it doesn’t. Regulators will need to tackle this”
  – Wall Street Analyst, U.S. bank (February 2009)[15]

Darkening skies... *The lightning bolt...* *Daybreak...?*

Twenty years of over-borrowing has been prompted in part by an environment of abundant liquidity, rising asset prices, low interest rates, consumerism and *laissez-faire* oversight.

The turning point of the current financial crisis was the collapse of systemically important Lehman Brothers, which resulted in the destruction of $10 trillion in market capitalization globally over a two-week period.[16] This single event either directly or indirectly affected governments, companies, employees, consumers and citizens around the world.

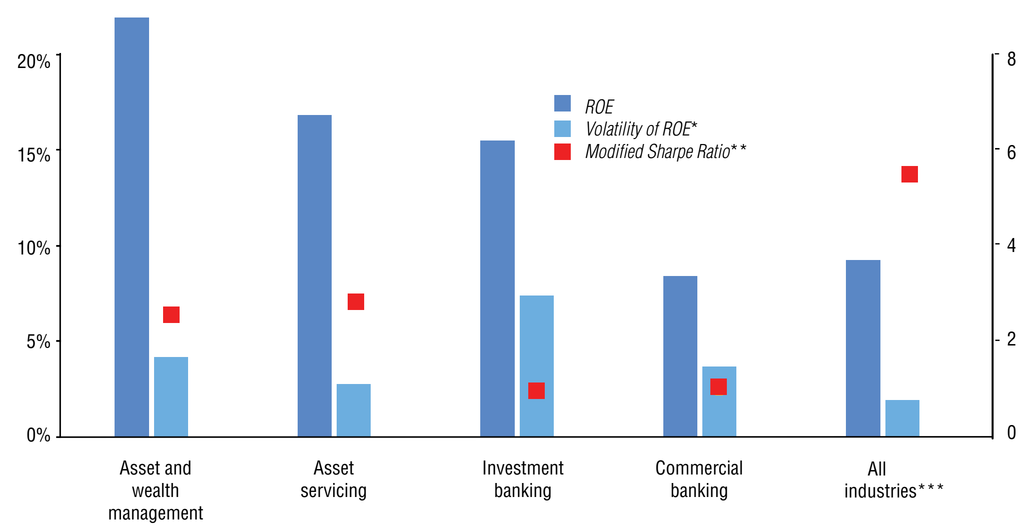
According to one European bank executive, "The ultimate test of the free market was the Lehman event. There is the world before Lehman and the world after Lehman." Although the intent to salvage Lehman was acute, it may have not been possible.[17] The contemporary financial system and method of oversight was unable to sustain financial stability – and, at times, may have even contributed to systemic volatility (see Table 1).

TABLE 1.

Systemic risk in the increasingly volatile global financial system

Pre-crisis (defined as the period from December 2004 through December 2006), the financial sector thrived on an average of 25 percent return on equity.[18] However, executives expect this level of returns to easily halve, while less than 5 percent of executives state they felt comfortable with their risk management capabilities.[19] The top concern was the ability to handle extreme forms of systemic risk "because our models were not designed for this" and "modern portfolio theory was built for another time."[20] Although some industries are better positioned than others to balance risk and return, all industries are suffering (see chart).[21]

The chart depicts the risk (volatility on return on equity) and reward (return on equity) profile of selected industries. The modified Sharpe ratio in red represents level of return for a given level of risk. The higher the ratio, or red indicator, the better. "All industries," which represents all non-financial services industries, achieved a superior risk versus reward profile, while investment banking ranked as having the worst risk versus reward profile.



*Note: *Volatility = σ; σ^2 = (Σ (RoEt - RoE)^2 / (Number of data points – 1)), RoEt is RoE for the period; **Modified Sharp Ratio = RoEt / Volatility; ***All industries includes financial markets and all other industries; Survey was conducted in October, 2008 across all industries.*
Source: Thompson ONE Banker; Economist Intelligence Unit Survey October 2008; IBM Institute for Business Value analysis.

The global financial system, while integrated, is not necessarily attuned to the underlying drivers of risk.

Indeed, we have entered a new period – a societal shift – an era of the interdependence. Over the past two decades, we have seen an 11.3 percent compound annual growth rate of country-to-country financial integration as measured by total equity and fixed income flows. This pace exceeds the global growth of equity and fixed income assets of 9.4 percent over the same timeframe.[22]

In addition, the amount of opaque over-the-counter (OTC) derivative instruments increased to $600 trillion in notional value globally, while 88 percent of all instruments are transacted over-the-counter.[23] Unlike exchange-based models, this OTC model is not set up to provide the same level of protection, which may have increased the financial system's vulnerability to systemic forms of risk. At the same time, cross-border banking mergers and acquisitions grew from less than 1 percent to 40 percent of total mergers and acquisitions from 1996-2006, indicating the degree to which integration of the banking market is occurring.[24]

While interconnectedness of the financial system can lead to greater efficiency of capital allocation among savers, investors and users, it may also create more extreme levels of volatility. The world now recognizes that the global economy and its financial underpinnings are highly integrated, while not necessarily attuned to the underlying structural drivers of risk.

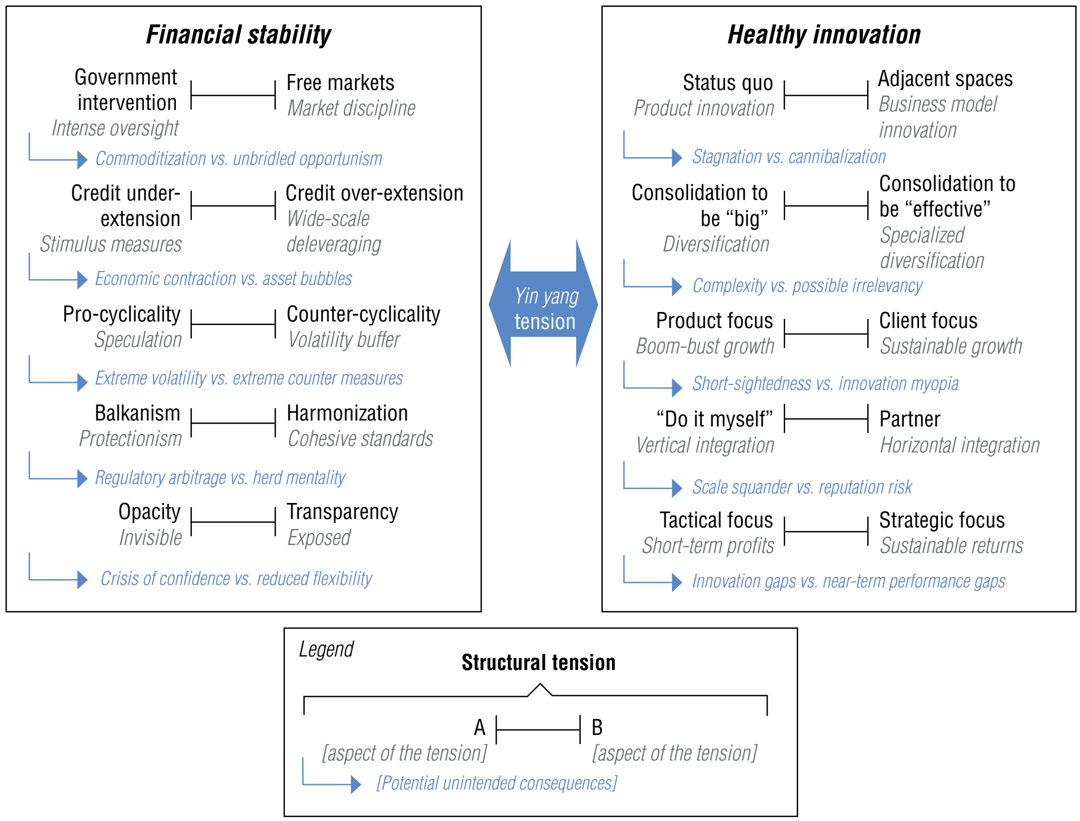
"For us, this has been a watershed event. Folks love to blame Wall Street greed, but it was really a complex set of issues that led us to where we are today. Given this complexity, I really hope we don't go too far too fast – we must consider the unintended consequences, for example, of shutting down product innovation or an entire market that may provide significant value to the global economy."
– Senior central bank official (October 2008)[25]

Deconstructing today's market tensions

In the course of responding to today's economic reality, market participants are starting to move beyond crisis management and turn their attention to more fundamental challenges affecting the worldwide economy. Global and cross-sectoral recognition of *structural tensions* – factors that have the power to potentially disrupt (as in today's case) or enhance the delicate balance between financial stability and healthy innovation – is beginning to take shape and will require a new level of focus, discourse and action (see Figure 2, page 6).

As we have seen within the context of the financial crisis, the market has demonstrated a natural inclination to overprioritize returns – and some would say haphazard forms of innovation – while underpricing risk at the expense of soundness, particularly when times are good.

FIGURE 2.
Two pillars of structural tensions.



Source: IBM Institute for Business Value.

The "herd mentality" of firms and governments has served to exacerbate recent market trends.[26] At the same time, in the recent bubble market, governed by near-term profits and aggressive growth targets, investment in market stability failed to take a front seat. As the industry faces severe hemorrhaging from investments in exotic instruments and subprime loans, organizations are racing to deleverage, and executives are questioning their traditional inclination to run with the herd. Few officials would argue that all financial innovation is bad and unneeded. In fact, officials and executives alike worry that regulation stands a high chance of pushing too far beyond the equilibrium point, placing a significant damper on new and beneficial innovation.

Certainly, this sparks the question in many experts' minds of the role of government intervention versus market efficiency – as one example of the underlying tension facing the industry – particularly as it pertains to innovation.

"… the history of innovation in financial markets provides many examples of periods of rapid change accompanied by fraud and abuse, by challenges in assessing value and risk, by concerns about the adequacy of investor and consumer protection, and by unexpected behavior of prices, defaults and correlations. To some degree, these types of problems are the inevitable consequence of change and innovation."

– Tim Geithner, President, Federal Reserve Bank of New York (now U.S Treasury Secretary) (March 2007)[27]

All parties – government, industry and the public – must act. Systemic collaboration will be required.

One idea that has been floated for greater government intervention would involve the creation of an oversight mechanism similar to the U.S. Food and Drug Administration (FDA), but for financial products. The financial oversight process would differ from the FDA process in that it would be applied to "theories" difficult to test in practice. However, the process would be similar in that it would entail a testing process prior to the release of new innovations. Financial innovations could include, among others, new forms of structured products, funds and financial instruments.

Consumers of financial products – both individuals and institutions – may benefit from this type of oversight process. Consumers, for example, do not know whether a pill is safe or efficacious – consumers rely on experts for that. This idea certainly has its merits; however, the complexity lies in the trade-offs. If, for example, governments intervene, the financial innovation process may become overly bureaucratic and capital intensive. The industry (and its economic contribution) may suffer as a result. Bringing new and beneficial products to market may stall, and attracting entrepreneurial talent may become more challenging, and/or lead to an overall slowing of industry progress. But, if governments do not intervene, volatility will continue to wreak havoc on confidence.

These structural tensions are certainly not the only ones. Even as this analysis is published, the industry's stakeholder map is being redrawn, a fact that will lead to the emergence and redefinition of various new forms of market tensions. Hence, these potential disequilibria that have been evolving for some time will play even more prominently as the crisis unfolds, fundamentally challenging the industry's approach to governing and managing these challenges. (See Appendix 2, page 15, for a further description of the structural tensions.)

There are severe threats to all market participants if the damage is not fixed, if remedial and rebuilding efforts are headed in the wrong direction, or worse – if those who need to act do not. The threats are profound, affecting actors at all levels, and imply significant cultural shifts. Table 2 provides examples of these new cultural realities.

To mitigate these threats, all parties – government, industry and the public – must act to stabilize the contagion effect and resolve a number of structural tensions that threaten to disrupt the foundation of the financial system. Indeed, a growing emphasis on collaboration and a shared framework among market participants to address the system's imbalances and inadequacies will be required.

TABLE 2.
Threats and cultural realities of the new world economy.

Examples of threats to the global economy	Examples of new cultural realities to accept (by primary group)
• Scale of taxpayer investment • Spillover to the broader economy • Retreat towards protectionism • Social instability.	***Governments*** • Must steward taxpayers' investments and will be responsible for unwinding of such widescale intervention • Will be more effective working together and with industry than they would be working in silos, without industry • Have an innovation imperative at multiple levels, e.g., policy, business model, roles.
• State ownership, in some instances • Government interference in managing the business (e.g., setting targets for lending levels) • Increased supervision and regulation (e.g. higher capital ratios, increased disclosure) • Restricted financial product innovation.	***Industry*** • Must accept that there are both benefits and limits to government intervention and regulation[28] • Must accept new (or refined) measures of accountability from the public's perspective • Will need to make a shift to a healthier innovation – e.g., from pure product to client-centric.
• Loss of accumulated wealth • Fewer vehicles (options) to accumulate wealth • And most important … jobs.	***The public*** • Must accept that leverage does not lead to wealth – risk should be borne by those who can bear it • Must be accountable for obtaining the education and understanding of the inherent risks of the market, as well as responsibility for holding others accountable • Will take on an increasing "co-creator" role – collaborating with industry and government in the systemic adjustment to the new environment in new ways – in the innovation process.

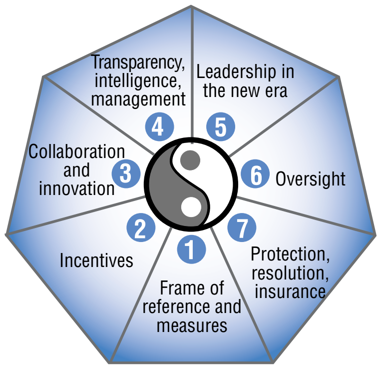
Importantly, policy makers and senior decision makers will need to deconstruct and carefully respond to multiple layers of market tensions that underlie stability and healthy innovation in order to rebuild trust – the essential ingredient for boosting confidence – and "reboot the system." In retrospect, keeping an eye on the "outliers" may have offered important prescient signals for the challenges that lie ahead, as well as opportunities to change course with confidence. Going forward, all actors will need to work in new ways to resolve these tensions.

The new era requires new maxims for progress

New maxims will characterize the *era of interdependence* and the path that organizations and individuals must forge to move forward meaningfully, seize opportunities and prosper. Over time, the maxims help create the climate for market participants to strike the right balance across the structural tensions.

There are seven maxims for progress, the first of which (Maxim 1) is foundational to the rest, as it addresses the need for a shared strategic vocabulary between market participants and begins to build a common understanding on "what is important" (see Figure 3).

FIGURE 3.
New maxims for progress in the era of interdependence.



1. A shared frame of reference and aligned measures among market participants must form the basis of design for market stability and healthy innovation.
2. Incentives balancing "returns to society" and "returns to shareholders" are key – after all, people, firms and governments do what they are incented to do.
3. Leaders must internalize that progress in the new era is not a zero-sum game – only by collaborating to grow and innovate does the "whole" become stronger.
4. Transparency, systemic intelligence and proactive management at multiple levels across the system are *all* essential to improved risk management, informed decision making and agile responses.
5. Leaders must have the mindset, the insight and the means to move beyond today's "herd mentality," along with a commitment to clients' and citizens' interests and a sense of shared stewardship to chart a different course.
6. A rationalized oversight model, recognizing the global nature of the financial system, is required to allow for cohesive, streamlined, and relevant supervision and regulation.
7. Flexible models enabling innovation and progress towards orderly and transparent processing of distressed assets, crisis resolution, consumer protection and insurance are powerful instruments of confidence.

Source: IBM Institute for Business Value.

Market participants can then use this framework to comprehensively guide the problem-solving journey. For example, even as market participants design relevant measures of success, regulators will need to play a greater role in shaping the rules for incentives that will drive the desired behavior and progress.[29]

While broad ranging, this set of maxims is not exhaustive. But, it is a beginning and warrants further dialogue. What could these maxims "look like?" Some examples are further described in Figure 4.

"We need to draw lessons from this crisis. We need to handle correctly the relationship between financial innovation and regulation. We need financial innovation to serve the economy better; however, we need even more financial regulation to ensure financial safety . . . and need to have the healthy development of the financial sector to facilitate the real economy . . . I think it can be put in three words: confidence, cooperation and responsibility."

– Wen Jiabao, Chinese Premier (October 2008)[30]

Maxims for the new era can provide a common construct for more specific responses.

FIGURE 4.

Maxims in the new era – what they might entail.

4 Imagine if …

- Leading indicators enabled improved pricing of risk and provided appropriate transparency of potential market issues (e.g., rapid credit growth, systemic risk exposure, unsustainable patterns of aggregate demand, large increases in actual asset prices)
- Systemic intelligence allowed strategy and scenario planning to be better integrated into policy making, supervision and regulation, and firms' execution models; strategy-as-plan becomes strategy-as-structure, allowing organizations to respond to the unexpected
- Prudential indicators were collaboratively and transparently defined at multiple levels of government and industry, shaping the roles of market participants
- Organizations proactively developed new competencies required to thrive in the new era.

5 Imagine if …

- Industry and government leaders kept clients' and citizens' interests (respectively) paramount, serving them well for the long term[31]
- Industry took a more prudent approach to risk and leverage and kept their accounting conservative and transparent[32]
- Top institutions jointly contributed to and reinforced financial system safety, soundness and sustainability (e.g., co-designing corrective measures, like future capital cushions and loan-loss provisioning to be counter-cyclical; and prudential supervision to assure market action against asset price bubbles, like those accompanied by credit booms)
- Leadership embraced new roles – genuinely trying to evolve them and effectively galvanizing others to act.

3 Imagine if …

- Interactive governance arrangements and collaboration models were in place enabling market participants to effectively identify, coordinate and act on recommendations for collective action
- Leaders were role models of this mindset, prompting the emergence of collaborative and innovative industry and business models (e.g., service networks, information utilities, asset exchanges, dynamic marketplaces)
- Institutions collaborated with one another to understand the interrelationships, interdependencies, alternatives and impact of their decisions on other nations and market participants.

6 Imagine if …

- Supervisory, regulatory and related oversight mechanisms explicitly recognized the global nature of the financial system and enabled better cross-border cohesion
- A more streamlined financial system oversight structure existed based on agreed-to market objectives, resulting in distinct, albeit interrelated, roles and responsibilities of supervisory and regulatory authorities
- The rules and capabilities underlying the oversight framework facilitated dynamic situational governance, allowing actors to not only fulfill their primary roles and responsibilities, but also shift them appropriate to the situation.

2 Imagine if …

- Organizational incentives were put in the context of market roles and that they also eliminated widespread conflicts of interest
- Industry compensation models moved beyond short-term rewards for risk taking to reducing "hidden tail" risks i.e., rewards are based on some measure of deferred, risk-adjusted returns
- The originate-to-distribute model instituted proper incentives and "skin in the game" to transfer risk to those equipped to bear it (e.g., mortgage origination aligned to a borrower's ability to pay; originators hold a portion of the loans they distribute; firms' capital ratios appropriately account for off-balance sheet assets).

1 Imagine if …

- Together, the private and public sectors refined the bases of key industry standards and concepts – such as the definition of the over-arching yin yang, balancing financial stability and healthy innovation – thus creating a shared strategic vocabulary
- Market participants in both the public and private sectors helped articulate and implement relevant mechanisms – standards, indicators, measurements and metrics – associated with these fundamental standards and concepts
- The shared vocabulary were used to recalibrate systems, organizational structures, roles and broader societal education and communication needs, e.g., simple and clear language for home mortgages and much improved education of mortgage financing.

7 Imagine if …

- Consumer protection programs compelled appropriate accountability (e.g., clear linkages between risks, impact and consequences, integrated across major financial decisions)
- A scalable resolution framework existed to facilitate the orderly and transparent processing of distressed bank and non-bank institutions and financial instruments (e.g., central clearing parties enabling the transparent segregation and pricing of complex instruments, market-based valuation to establish a floor on prices of distressed financial instruments) while reducing systemic risk
- Collective 'safety nets' across systemically important institutions resulted in instant access to liquidity and reduced hoarding during financial crises, while insurance and guarantees were adjusted for risk (e.g., product, operational, enterprise and systemic)
- Measures across protection, resolution and insurance were managed as a portfolio, making interdependencies visible and managing structural tensions more practicable.

Source: IBM Institute for Business Value.

Next steps

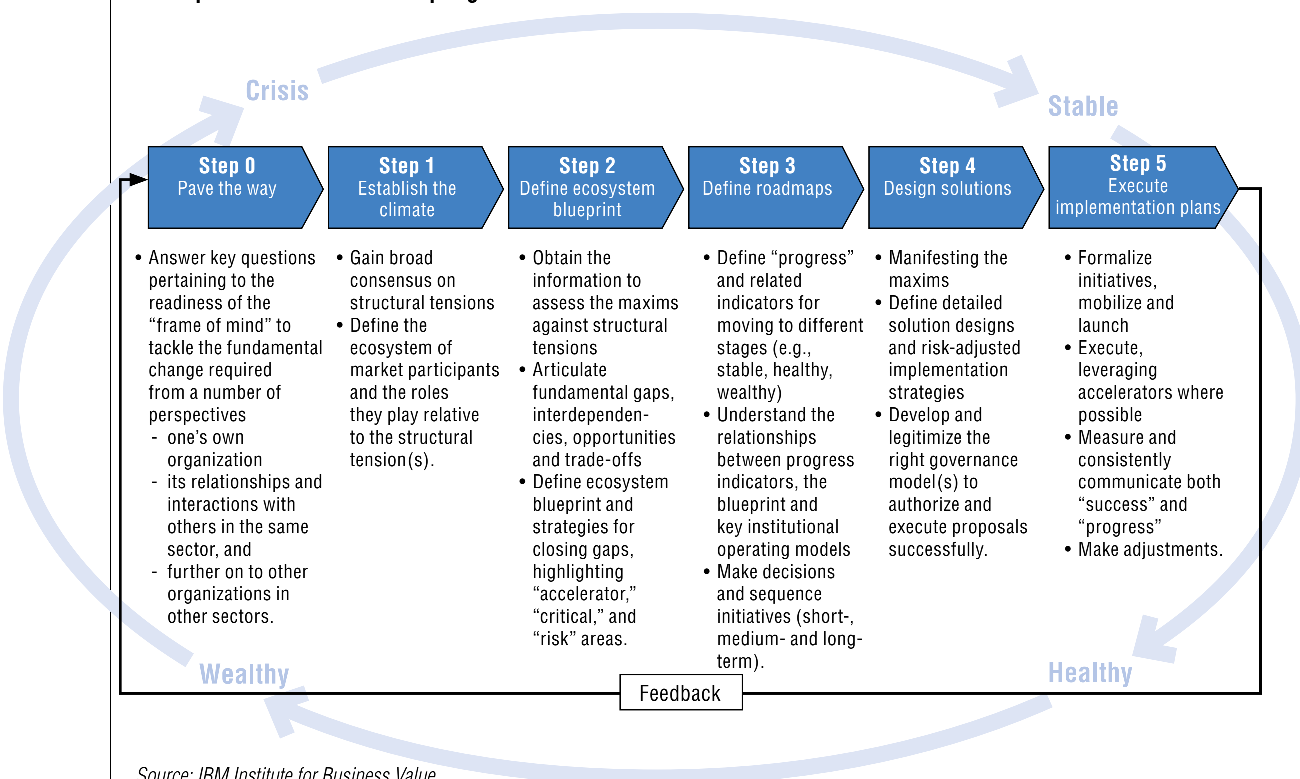
The broader effects of the financial crisis are already being felt, but profound threats and implications have yet to be addressed. Achieving a *yin yang* can position us to the next level of competition and prosperity. The good news is that we are beginning to see early examples of the maxims taking shape and being manifested in the landscape. For example, regarding incentives (Maxim 2), one large European bank recently announced that its bonuses to thousands of senior investment bankers will be weighted with leftover toxic assets pre-crisis.

At the beginning of this report, we posed the question: *How can we move from crisis, to health, to wealth?*

> *"Whether you're talking about incentives, intervention or innovation, one thing is certain: the governmental and financial system will never be the same again – and this is a good thing."*
>
> *– C-level executive, large universal bank, Asia (December 2008)*[33]

Figure 5 depicts a conceptual framework for answering that question. But it will take a different dialogue – spanning industry, government and civil society – and perpetual

FIGURE 5.
Conceptual framework for adapting to the new environment.



Source: IBM Institute for Business Value.

collaboration to not only pave the way, but also to develop the relevant proposals and implement the right solutions that achieve yin yang.

Indeed, the approach to go about answering it is equally important to charting the course towards a smarter *yin yang*. All market participants can take immediate steps to adapt to the new environment:

- Identify and begin developing the competencies (from country to government and industry-specific, organizational to individual) to thrive in the new era.
- Gain consensus on the maxims for the new era.
- Above all, work with other market participants across industry, government and civil society to develop specific proposals for solutions that manifest the maxims (e.g., increased transparency, new incentive schemes, new regulations, standards, business models, organizational structures) across the financial system.

In particular, we draw your attention to "Step 0, Pave the Way," which asks a series of questions pertaining to the readiness of the "frame of mind" for tackling the fundamental change required from a number of perspectives – one's own organization, its relationships and interactions with others in the same sector, and further on to other organizations in other sectors (see Figure 6).

FIGURE 6.
Step 0, Pave the way – key questions to answer.

Step 0 Pave the way Key questions	In/by your organization YES	In/by your organization NO	In your sector YES	In your sector NO	Among industry, government, civil society YES	Among industry, government, civil society NO
Are organizational attitudes and behaviors changing?	☐	☐	☐	☐	☐	☐
Is a different and better dialogue occurring?	☐	☐	☐	☐	☐	☐
Are you part of it?	☐	☐	☐	☐	☐	☐
Are you collaborating differently and effectively to define proposals and solutions relevant to the new environment?	☐	☐	☐	☐	☐	☐
Is there an organizational commitment to both transparency and action?	☐	☐	☐	☐	☐	☐
Are market participant roles (e.g., lender, broker, supervisor, regulator) and related organizations defined and understood across the landscape of market participants?	☐	☐	☐	☐	☐	☐
Are some of competencies required to thrive in the new era identified and defined?	☐	☐	☐	☐	☐	☐
Is there a general consensus on maxims for progress for the new era?	☐	☐	☐	☐	☐	☐

Source: IBM Institute for Business Value.

If there are more "yeses" as the dialogue progresses, we will be better positioned to answer the question, and define and execute relevant and tailored roadmaps – individually, collectively and in context.

With the impetus of current economic turmoil and the political will to address the current situation, speed is of the essence. It will be a long and sometimes painful journey, but since the "as was" alternative is unacceptable, now is the time for us to work together to address the fundamentals and innovate.

"… it has become clear that nothing short of a systemic solution – comprehensive in tackling the immediate fallout and comprehensive in addressing the root causes – will permit the broader economy, in the U.S. and globally, to function with any semblance of normality."

– Dominique Strauss-Kahn, Managing Director, International Monetary Fund (September 2008)[34]

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Appendix 1

Opinion paper methodology

In an effort to understand the emerging tensions and go-forward implications of the crisis, the IBM Institute for Business Value has launched a study examining the *yin* and *yang* of financial disruption. As part of this and a broader effort, face-to-face interviews were conducted with more than 180 executives. Over 2,600 financial executives, government officials, regulatory representatives and academics were surveyed. Consumer surveys were conducted with almost 8,000 individuals.

Much like the collaboration that will be required of the financial ecosystem, this paper represents a joint opinion piece between the Financial Services Sector and the Public Sector teams of the IBM Institute for Business Value. It focuses on the increasingly critical linkages between financial services and the public sector, and how market participants will need to think about approaching and adapting to the new environment.

Many thanks to the governmental bodies, multi-lateral organizations and financial services institutions for their valuable contributions.

Appendix 2

Description of structural tensions

Financial stability tension descriptions	Healthy financial innovation tension descriptions
• **"Balkanism" versus harmonization:** Balkanism refers to forms of protectionism that occur when countries resist harmonizing with one another via collaboration or sharing legal and/or regulatory practices, frameworks or goals. The tension is demonstrated when individual countries look out for their own economic well-being at the *possible expense of* the well-being of *other countries* or even *global* well-being. • **Credit under-extension versus credit over-extension:** Credit under-extension occurs typically when confidence is low and institutions and individuals are reluctant to lend and borrow. This is harmful to economies because credit is required for healthy growth. However, credit over-extension can also be harmful because it can lead to severe credit bubbles. The tendency to over-correct may result in swings from one state to the other state over a period of years. • **Government intervention versus market discipline:** Government intervention occurs when governments inject capital, create rules, regulation or oversight methods at times when it is believed that market discipline (letting the markets decide) is insufficient. Determining when, where and how much is needed or not needed may likely require both very broad and very specific pieces of information to make the appropriate decision. • **Opacity versus transparency:** Opacity takes place when tangible items (e.g., complex products) or intangible items (e.g., counterparty relationships) are difficult to see and analyze such that an unintended consequence may occur. Transparency is created when tangible and intangible items are made visible thereby reducing the likelihood of unintended consequences. The tension lies in the extent of beneficial opacity (competitive advantage, increased returns) and harmful opacity (unforeseen consequences) along with beneficial transparency (predictable effects) and harmful transparency (detrimental level of commoditization). • **Pro-cyclicality versus counter-cyclicality:** Pro-cyclicality is the extent to which financial developments reinforce the momentum of underlying economic cycles. Pro-cyclicality can be a natural, sensible and desired outcome; however, the tension exists when there is an excessive degree of pro-cyclicality requiring measures to "counter," which may result in a correction in the near-term and an over-correction in the long-term.	• **Consolidation to be "big" versus consolidation to be "effective":** Consolidation to be "big" occurs when firms acquire other firms for the sake of growing in size without growing strategically. In many cases firms do not analyze the positive or even negative synergies created by consolidation. At the same time, firms fail to take advantage of beneficial revenue model forms of innovation that may lead to more sustainable forms of growth. Organizations may yield to the pressure to grow for the sake of growth in the short-term at the possible expense of long-term effectiveness. • **"Do it myself" versus partner:** "Do it myself" is the tendency to build capabilities (people, process, technology) instead of using the capabilities of other organizations. Firms often resist leveraging partner-driven forms of innovation at the expense of greater operating model effectiveness. The tension typically manifests itself as a friction between perceptions of "in control" and "not in control". • **Product focus versus client focus:** When organizations focus on the development, distribution and processing of products, there is a tendency to focus on these tasks without allocating an equivalent amount of focus on the client. Thus, the majority of firms prioritize product forms of innovation over client forms of innovation at the expense of creating stronger relationships. There is inevitable friction between allocating capital to the product value chain and allocating capital to improving relationships with clients. • **Status quo versus "adjacent spaces":** Organizations tend to remain relatively unchanged (status quo) to the extent that they focus on revenue model forms of innovation such as changing pricing schemes or targeting a new geography. However, organizations that focus on business model forms of innovation often move into related or complementary businesses (adjacent spaces). Actions taken to focus on revenue model forms of innovation may occur at the expense of focusing on business model forms of innovation or vice versa. • **Tactical focus versus strategic focus:** Organizations are under external pressure to operate both tactically as well as strategically. Tactical forms of innovation (e.g., pricing model) are often prioritized at the expense of strategic forms of innovation (e.g., business model) which tend to be longer-lasting sources of competitive differentiation. The challenge is to deliver returns in the near-term and to deliver sustainable returns.

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With business experts in more than 160 countries, IBM Global Business Services provides clients with deep business process and industry expertise across 17 industries, using innovation to identify, create and deliver value faster. We draw on the full breadth of IBM capabilities, standing behind our advice to help clients innovate and implement solutions designed to deliver business outcomes with far-reaching impact and sustainable results.

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[2] The global financial system business model is defined as the composite of the operational structures of all market participants involved in the creation, transfer and use of money in support of increasing global wealth.

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[15] Ibid.

[16] A systemically important institution is an institution to which the extent of its financial interdependency has a significant impact on prosperity and / or risk of a national, regional, or the global financial system; Global market capitalization loss was calculated based on all publically traded companies. The two week period is between September 15 and September 29, 2008, and was calculated using MSCI Barra statistical tools. http://www.mscibarra.com/

[17] It may be the case that although the intent was to save Lehman Brothers, the appropriate monetary policies, structures and tools were not in place to do so.

[18] IBM Institute for Business Value analysis

[19] Primary interviews of 150 market participants conducted between October and December 2008. IBM Institute for Business Value.

[20] Primary interview with executive from a large universal bank, New York. IBM Institute for Business Value. 2008.

[21] Survey was conducted in October, 2008 across all industries. Source: Thompson ONE Banker; Economist Intelligence Unit Survey October 2008; IBM Institute for Business Value analysis.

[22] "Get global. Get specialized. Or get out: Unexpected lessons in global financial markets."IBM Institute for Business Value. July 2007. http://www-935.ibm.com/services/us/index.wss/ibvstudy/gbs/a1028544?cntxt=a1005266

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