



THE BOSTON CONSULTING GROUP

Collateral Damage

Part 3: Asia, Advantage, and Action

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Contents

1. Introduction	1
2. Inflation or Deflation?	2
3. In Focus: Asia	3
A. Japan: Learning from Last Time, but Still Facing Some Problems	3
B. China: Well Equipped to Avoid a Slump	5
C. India: A Closed Economy Facing a Manageable Problem	6
D. Collateral Damage to Global Advantage?	8
4. Taking Action	9
A. Leadership and People	9
B. Protect the Financial Fundamentals	10
C. Pricing	13
Appendix: So Who Is Really to Blame?	16

Collateral Damage

Part 3: Asia, Advantage, and Action

In the first two parts of the Collateral Damage series, we explained some of the background to the current global financial crisis, reviewed recent government actions, explored likely economic scenarios and the challenges facing companies outside of the financial sector, and suggested some actions that companies should be taking in order to respond to these challenges.¹

In this third part, we consider the likelihood of a deflationary outcome, review the impact of the crisis on some Asian markets, explore what effect this might have on global sourcing strategies, and describe in more detail what companies should do in three specific areas: leadership and people, the financial fundamentals, and pricing. We also include an appendix for readers interested in examining where the culpability for the crisis might lie. This is more than simply an exercise in finger pointing. Only by being honest about the causes of the crisis can we hope to prevent a repeat.

1. Introduction

As the crisis built up over the last few months, with the contagion spreading first among financial institutions and then from financial institutions into the “real economy,” some commentators thought that Asia and the West could be “decoupled.” They argued that the economies of Asia would not suffer, because their banking systems were not exposed to the toxic debt originating with U.S. subprime mortgages. But this has proved to be overly optimistic. There is no doubt that Asia has not been affected as quickly or to the same extent as the United States and Europe. However, across the region, economies are slowing as the global downturn takes hold.

And there is no doubt that we are seeing a global downturn. There are some astonishing statistics emerging that signal just how suddenly the economic brakes are being applied. Take the following news reported by Bloomberg: “In the third quarter of 2007, Volvo AB booked 41,970 European orders for new trucks. Guess how many prospective purchases Volvo, the world’s second-biggest maker of heavy rigs, received in the third quarter of this year? Here’s a clue. Picture a highway gridlocked by 41,815 abandoned trucks—because Volvo’s order book got destroyed to the tune of 99.63 percent, with customers signing up for just 155 vehicles in the three-month period, the Gothenburg, Sweden-based company said last week.”

It would be comforting to argue that there has been an enormous overcorrection—that the sudden, precipitous drop in retail spending, consumer confidence, manufacturing output, and other economic indicators is an overreaction that will soon reverse. No doubt some of the changes are due to massive and immediate uncertainty triggered by the banking crisis. However, as government interventions in the financial sector serve to ease the worries of the public (if not all the experts) about the banking sector, the real impact on the wider economy will continue to emerge. So while some of the leading indicators signal an overreaction, our view remains that companies should prepare for a protracted downturn because too much of the developed world’s economic well-being rests on overextended, debt-burdened consumers suffering the consequences of bursting asset bubbles. The International Monetary Fund (IMF), in its just published *World Economic Outlook Update*, supports this view: the world economy will slow considerably in 2009 (expected growth is a mere 2.2 percent), with reduced growth of 5 percent in emerging economies (which really matters, as we explain on page 3) and shrinking economies in the United States and Europe—for the first time since World War II.

¹ To read *Collateral Damage, Part I: What the Crisis in the Credit Markets Means for Everyone Else* and *Collateral Damage, Part 2: Taking Robust Action in the Face of the Growing Crisis*, please go to www.bcg.com.

2. Inflation or Deflation?

There is considerable speculation about whether the major world economies could face deflation. The world economy—and particularly highly leveraged economies such as the United States—needs inflation in order to lower the real burden of debt and support efforts to restore a more reasonable relationship between debt and gross domestic product. Inflation would help support asset values and facilitate the efforts of consumers and companies to reduce their debt levels. Some observers argue that the recent round of government intervention to support the financial system—which will lead to significantly higher levels of public debt—will be inflationary. But we disagree. In our view, this coordinated intervention will not so much lead to more demand as give banks more time to deleverage—to reduce their own debt.

This process of deleveraging—among banks, the shadow banking system (including private equity and hedge funds), and consumers and corporations—continues apace. The effect has been to increase pressure on asset prices, causing them to fall. Companies trying to generate liquidity have put additional pressure on prices. Just take the example of the U.S. consumer retail chain Circuit City, which this week filed for bankruptcy protection under Chapter 11. Banks are providing financing in order to help the company participate in the upcoming Christmas season. This might well lead to even fiercer competition.

The effects of deleveraging, combined with sharply lower commodity prices, are contributing to a reduction in inflationary pressures worldwide. As a consequence, major economies may see (slight) deflation instead of the hoped for inflation.

This view—that economies are facing the threat of deflation—is shared by the central banks. The decision by the Bank of England's Monetary Policy Committee to lower the key lending rate by a surprise 150 basis points earlier this month underlines the case: "In recent weeks, the risks to inflation have shifted decisively to the downside," the bank said in a statement. "As a consequence, the Committee has revised down its projected outlook for inflation which...contains a substantial risk of undershooting the inflation target" of 2 percent. The IMF underscores this pessimistic view, stating that "another downside risk [to the already negative scenario of worldwide growth] relates to growing risks for deflationary conditions in advanced economies...."

We share the view that deflation needs to be avoided at any cost. Deflation would increase the current debt burden and amplify the problems in the real economy once the expectation of falling prices triggers a further reduction in consumer demand. The lessons from Japan should be a warning to policymakers today: notwithstanding major public spending, zero interest rates, an undervalued yen, and a fast-growing world economy, Japan did not escape recession and continuing deflation during the 1990s. If the central banks' lowering of interest rates continues to have no impact on the debt market (rates paid by consumers and corporations are significantly higher than a year ago in spite of the rate cuts), it will be necessary to increase significantly the level of public spending.

As we explained in *Collateral Damage, Part 2: Taking Robust Action in the Face of the Growing Crisis*, we support those arguing for further and significant government intervention—ideally coordinated across Europe, the United States, and the key economies of Asia—in order to stabilize and stimulate the real economy. We think that lower interest rates—even supplemented with cuts in personal income taxes—will serve merely to allow consumers to pay down debt, particularly in the United States and the United Kingdom. We do not expect a burst of consumer spending, because the hefty drops in stock markets around the world have left many consumers who save feeling significantly worse off. They are less likely to increase consumption until the markets recover.

"Generating" inflation will not be as easy. It requires direct funding of public spending by the central banks—something that Ben Bernanke, the current chairman of the Federal Reserve, proposed in 2003, when the United States came close to deflation. Besides direct funding of government debt by the Federal Reserve, he also suggested that politicians commit publicly to the creation of significant inflation over

several years. Such a move would probably be the smoothest way to bring down the debt burden to an affordable level.

Failure to take action could lead to deflation and all that comes with it—notably, huge losses in the real economy and increased social tensions. But generating inflation is not a trouble-free solution. We are unsure how big investors—such as sovereign wealth funds and countries such as China, which are significant buyers of U.S. government bonds—would react to efforts to promote inflation. Any investor unease (and resulting outflow of assets) might trigger a hike in interest rates and a major drop in the value of the dollar. This would amplify the problems in the economy.

At this juncture, it is impossible to say how the debate over deflation and inflation will play out in the real economy. Whether or not you agree with our assessment of the downturn, prudence suggests that companies should take both scenarios into account when defining the right strategic steps to take. Incorporating a deflationary scenario would imply even more pressure on revenues because volumes and prices would be affected.

3. In Focus: Asia

The first two parts in the Collateral Damage series focused on the implications of the crisis for financial markets and the real economy of the West. We now take a look at the implications for Asia. The theory of decoupling, which prevailed in the first half of this year, has proved to be flawed. It is clear that this crisis is a global one. The world is affected, be it Eastern Europe (have a look at Hungary, Ukraine, and Russia), South America (witness the major capital redemption from Brazil), or Asia. The MSCI Emerging Markets Index—including the four large BRIC economies (Brazil, Russia, India, and China)—has dropped by 65 percent since the all-time high in October 2007 (compared with a 45 percent decline in the MSCI World Index). Consumer sentiment in many emerging markets has suffered. And a number of companies from rapidly developing economies (RDEs) have run into serious financial difficulties.

The IMF has now lowered the growth expectation for emerging markets to 5 percent. This might still sound high to Western ears, but for some economies it will feel like a recession compared with past growth rates. This is because demographic developments mean that 5 percent growth will not be enough to sustain the growth in employment, the shift from agricultural to industrial and service jobs, and the increase in wealth in these countries. Nevertheless, major economies such as China and India are well positioned to weather the storm.

A. Japan: Learning from Last Time, but Still Facing Some Problems

Many commentators have compared the current global financial and economic crisis with historic ones, including the extended slump in Japan during the 1990s triggered by the bursting of large stock-market and real-estate bubbles. The Japanese government response in the 1990s was subsequently criticized as too little, too late. Japan appears to have learned from that experience. This time around, the Bank of Japan has promised unlimited dollar funds to the markets and announced measures to support regional banks. These policies show a change in the official thinking. However, it is likely that Japan will once again face an economic downturn as a result of the global turmoil.

Let's start with a brief recap of the Japanese crisis of the 1990s and its aftermath. In the late 1980s, Japan's GDP was growing at a rate in excess of 5 percent per year. The stock market reached extraordinary heights, with the Nikkei 225 Stock Average almost tripling from January 1985 to its peak of 38,916 at the end of 1989. The subsequent fall was precipitated by tighter monetary policy, with the Nikkei sinking below 20,000 during 1990. Similarly, the real estate price index for major Japanese cities peaked in 1991. At that time, it was widely claimed that the plot of land housing the emperor's palace was as valuable as California. The introduction of regulations on real estate loans then precipitated a 25 percentage point drop in prices between 1991 and 1993. The property market entered a prolonged period of continuous decline until 2006, when prices started to rise. The impact of the collapse in real estate

prices compounded the banking crisis because Japanese banks had made huge loans to the real estate sector.

The government's reaction to the financial crisis was initially quite limited, largely because of the low early estimates of bad loans and strong public sentiment against a bailout of large financial institutions. The measures that were finally implemented (capital infusion and the creation of a bad-loan purchasing organization) were not sufficient to hold off the financial crisis.

Between 1997 and 1998, three major banks and two brokers collapsed. This prompted the government and the Bank of Japan to introduce drastic policy measures, albeit rather late in the day. The Financial Revival Program forced a very stringent assessment of banks' asset quality, restoring some market confidence. Additionally, a government-established turnaround fund (Industrial Revitalization Corporation of Japan) bailed out 41 companies by taking on their balance-sheet debt.

Throughout the early 1990s, Japan's economy grew slowly. By 1997 and until 2003, only deflation prevented GDP growth from reversing. At the same time, interest rates dropped dramatically. In 1991, the Bank of Japan's target rate peaked at 6 percent. By 1995, it was down to 1 percent, and it has remained below that point ever since. This supported the global credit bubble. Hedge funds, Japanese households, and many others around the world took yen credit to invest elsewhere. They are now rushing to repay.

The long Japanese slump proved challenging for some of the country's sclerotic banks. The forced marriages that led to the creation of megabanks eventually provided for a more robust banking system. Tighter regulation, better management, improved business models, and lessons from the past all mean that Japan's megabanks can face today's economic upheaval with far more confidence than the country's other banks. Their loans are not as heavily concentrated in the real estate and construction industries as they were in the past, and they have been quick to set aside reserves against potential losses. Nevertheless, the government recently announced further support for the country's banks.

In contrast, many of Japan's nonfinancial companies did manage to prosper during the last protracted downturn and may be relatively well positioned to cope with the current one. This raises a question: Are there some broad lessons for nonfinancial companies outside of Japan?

Japanese companies reacted in three ways to the protracted downturn. A combination of asset restructuring, improved margins, and significantly lower leverage led to considerably improved financial performance. To improve margins, many Japanese companies reconsidered their pricing strategies. In the deflationary environment, top-line growth from increased sales was hard to realize in the domestic market. But better revenue generation—as a result of the development of brand premiums, bundled pricing, and tougher management of discounts and rebates—was achieved by many companies.

Moreover, some Japanese companies, particularly those in the automotive and consumer electronics sector, changed their product/market portfolio in order to take advantage of additional growth opportunities. These portfolio reviews led to aggressive moves into RDEs. Of course, the growth opportunities during that period were different from those in the current market environment. But the principle is the same: be willing to challenge your product/market view.

Japan may have learned the lessons of the past, but it is not immune to the current crisis. The Nikkei 225 Stock Average hit a 26-year low at the end of last month. Additionally, with the yen at a 13-year high, the economy, which is highly reliant on exports, will be affected as export markets not only become more price sensitive but also suffer from reduced overall demand.

And the current batch of economic indicators is not encouraging. Japanese carmakers saw September sales in the United States fall significantly: Toyota's sales were down 29 percent, Honda's were down 21 percent, and Nissan's were down 34 percent, while demand for cars within Japan hit a 34-year low. Industrial output dropped by 10.2 percent in August compared with the previous year, and Japan's top-

five department store operators and leading clothing chains saw their sales tumble by 8 to 10 percent in October.

Despite Japan's quicker reaction to the current global financial crisis, its ability to respond effectively is limited. Interest rates are already close to zero, and the high levels of public spending during the 1990s led to a very large national debt (since the Nikkei crash in 1989, government debt has virtually tripled and is now around 170 percent of GDP). This means that Japan has a limited ability to spend public money on fiscal stimulus. Economic forecasters are predicting that the Japanese economy could still shrink by as much as 1 percent next year.

B. China: Well Equipped to Avoid a Slump

Six months ago, press reports from China described how labor shortages and soaring costs were damaging the country's export competitiveness. Today, economic growth is slowing. We think, however, that the Chinese government is responding quickly. China has a strong balance sheet and can therefore stimulate market growth. While countries around the world are suffering as the financial crisis spreads into the real economy, we expect China to continue growing, albeit at a slower rate.

One reason why China's financial system is well protected from direct exposure to the crisis is strong regulation: margin spreads are regulated, and this guarantees a reasonable level of profitability for Chinese banks; investments abroad and in exotic instruments are very limited; bank balance sheets were cleaned up some years ago (although they are now exposed to newly sourced loans to Chinese property developers and exporters); and the Chinese authorities took action more than a year ago to cool down the local real-estate market, thereby preventing the development of a bubble.

Nevertheless, China is not unaffected by the global downturn. Its GDP growth fell from 10.1 percent to 9 percent in the third quarter of 2008, the lowest in the past five years. Leading indicators for the manufacturing sector—output, new orders, new export orders, and the purchase of inputs, to name just four—all point to a slowdown. This slowdown is being driven to a large degree by lower growth in exports (from a high of 26 percent in the third quarter of 2006 to 11 percent in the second quarter of 2008), of which approximately 50 percent are to North America, Europe, and Japan. And the slump in demand from the developed economies is translating into factory closures. For example, 53 percent of China's toy factories closed during the first seven months of 2008. Smart Union Group, a supplier to brands such as Mattel and Disney, went bankrupt, leaving 7,000 workers jobless. The Hong Kong-listed company blamed its collapse on an overreliance on the U.S. market.

The reason why a shrinking growth rate matters so much to China is twofold: the country requires high growth in order to absorb the 25 million or so people who join the work force each year, and it needs high growth in order to continue the shift from a rural to an industrial economy.

Chinese policymakers are keenly aware of the new economic realities and are moving swiftly. The government currently runs a budget surplus of about 2 percent of GDP, and total government debt is about 20 percent of GDP, leaving a great deal of room for maneuver. Foreign currency reserves of \$1.9 trillion will help, too—although these reserves are mainly invested in U.S. government bonds, and any material repatriation could lead to higher interest rates in the United States and major pressure on the exchange rate.

China's leaders are rapidly launching a portfolio of stimulus measures. First, they cut the benchmark lending rate three times in the past two months, lifted the quota on bank loans, increased export tax rebates for approximately 3,500 products in October, and issued a series of liberal real-estate policies to boost housing construction. Second, they are encouraging rural growth through land reforms and an increase in the state purchase price of grain. Third, they have approved plans to significantly increase investments in infrastructure such as low-income housing, railways, highways, airports, nuclear plants, disaster relief, and water diversion projects. Early in November, the State Council approved a massive package of infrastructure investments as part of a new fiscal stimulus program totaling some RMB 4,000 billion (\$590 billion).

China is also expected to further liberalize trade and transportation ties with Taiwan in the months ahead, heralding a significant jump in cross-strait investment and tourism.

Given these measures, China is fully expected to continue growing during the global downturn. The critical question is this: Can domestic consumers make up for the reduced consumption in developed markets? After all, Chinese households have strong balance sheets—including a savings rate of more than 30 percent of disposable income—and very low debt exposure. The answer is “probably not.”

- ◇ In 2007, total private consumption in China was considerably less than in the United States. Chinese consumer spending was equivalent to only 12.5 percent of total U.S. consumer spending, or only 2.9 percent on a per capita basis.
- ◇ A 40 percent increase in private consumption in China would be needed to offset just a 5 percent reduction in U.S. consumer spending (equivalent to \$485 billion). In 2007, Chinese private consumption grew by only 15 percent.
- ◇ Consumption patterns in China are still quite different from those in the West. If Chinese consumers were to increase spending, they would not necessarily demand the same products that U.S. consumers have stopped buying.

For the rest of the world, the critical question is this: Can China’s growth avert the global crisis? Again, the answer is probably not, although it will contribute to stabilizing the world economy.

China is the world’s fourth-largest economy, accounting for 6 percent of global GDP, and its growth is significant. In 2007, growing at a rate of 11.9 percent, China accounted for nearly a fifth of total global growth. This is expected to rise next year: based on the IMF’s November forecast—which sees global growth decelerating to 2.2 percent in 2009 and China sustaining a growth rate of 8.5 percent—the Chinese contribution to global growth will be nearly a third. This will not be sufficient to avert a global slowdown.

But could Chinese companies, with their strong balance sheets, take advantage of declining valuations and come to the rescue of ailing companies in the West? They could, but we do not think they will. Chinese companies are mindful of political sensitivities, keen to avoid excessive risk, and focused on shepherding resources. So we do not expect large Chinese companies to launch a major global buying spree in the months ahead. In contrast, some smaller, private Chinese companies may seek lower-profile acquisitions of overseas targets in order to gain much-needed know-how and capabilities.

C. India: A Closed Economy Facing a Manageable Problem

For the last five years, India has experienced very robust economic growth—averaging nearly 9 percent. The Indian economy, unlike that of many RDEs, is relatively closed (only 15 percent of its GDP is derived from exports), with a high savings rate (33 percent) and heavy reliance on domestic consumption. There are capital controls, 70 percent of the banking sector is state owned, and most players have had very modest, if any, exposure to credit default swaps overseas. So despite a sharp correction in the Indian stock markets since the beginning of the year, the economy was still able to grow at over 8 percent for most of the first six months.

The crisis finally reached India last month as a result of deleveraging in the United States and Europe. To meet redemptions in the United States and Europe, foreign institutional investors who had invested in India started to liquidate their positions. This happened at a time when monetary policy was tight because of fears of inflation; over the last year, the Reserve Bank of India has been raising interest rates and its reserve ratio, thereby pulling liquidity from the system. Monetary policy, together with changing investor behavior, squeezed liquidity, accelerated the decline in the Sensex stock market index, and made even call-money rates shoot through the roof (to 20 percent).

The problems have been further exacerbated by the drying up of alternative sources of corporate funding. For a start, profits are down: it is estimated that company profits in 2008 will fall by about \$4 billion—at a time when interest costs have risen by about \$1.7 billion. Moreover, other foreign borrowings (external commercial borrowings and foreign-currency convertible bonds) have dried up, as has commercial trade credit. And foreign branches of Indian banks have found it difficult to access wholesale funding for their lending operations. The knock-on effect has been a tightening of the liquidity position in India.

This has triggered significant policy interventions. In October, there was a loosening of monetary policy, with the cash reserve ratio lowered by about 300 basis points and the repo rate cut by 150 basis points. But in spite of other measures to spur dollar inflows and ease liquidity, most companies are still complaining of a significant credit crunch.

Oddly enough, the financial sector in India is largely insulated from the worst effects of the crisis. Some 70 percent of the banking sector is government owned, with relatively limited exposure to both the real estate and retail sectors. If anything, their position has been enhanced: there has been a flight to safety from other investments to bank deposits, and with other forms of credit drying up, they are enjoying higher margins for their loans. They may suffer problems in their private-sector asset portfolios, but across the entire banking sector, nonperforming loans make up less than 1.5 percent, so the risk currently appears moderate.

By contrast, the nonbank financial companies that have been dependent on wholesale funding due to regulatory imperatives are faced with a severe asset liability mismatch and need about \$5 billion to \$7 billion to meet their liquidity needs. They may also face some credit losses on some of their portfolios, such as real estate, personal loans, and margin lending, but the overall size of the problem is not large.

Meanwhile, nonfinancial companies, which are struggling to access funds, are taking urgent action—for instance, by reducing capital investment, deferring new projects, and even shortening the workweek. This month, Tata Motors and Ashok Leyland, facing lower consumer demand, are running their auto factories only three days per week.

For many companies, the crisis is manifesting itself as an acceleration of normal cyclical events. Prices that historically have been rising (those of commodities such as steel, aluminum, copper, and cement, for example, which have risen by 10 to 15 percent per year since 2004) will start to fall dramatically; planned broad expansions will be curtailed; and inventories grown in anticipation of higher demand may need to be written down. Small and medium-size enterprises (SMEs) are likely to be most affected—and could be the weak link in India's business system. A comparison of the debt-to-earnings ratios before interest and depreciation of SMEs versus the Indian top 100 bears this out: for SMEs, the ratio is 8.1, compared with 2.2 for the top 100.

The crisis is also exposing some companies that sought to grow too quickly—and took on too much debt to speed up the process. In the retail sector, for instance, there has been a 200 percent increase in the number of new retail stores over the past two years, even though rental costs have risen by 28 percent. In addition to retailers, companies in the aviation sector, as well as in some parts of the real estate market, are facing tough times.

It is clear that the crisis is not just a hiccup for India—but neither is it a meltdown. It is a problem whose severity will be determined by a combination of corporate actions and government-led policy interventions. Without action, the Indian economy could enter a period of low growth not seen for ten years. And the side effects would be painful. The construction industry, for instance, employs 35 million people, while the auto industry employs 14 million. Unless mitigated by policy actions, the expected contraction in these two sectors alone could affect the overall employment rate significantly. And there is no time to lose: jobs are being lost already, with an extraordinary 700,000 layoffs in the textile sector alone over the last six months.

D. Collateral Damage to Global Advantage?

Most international business leaders are focused on limiting collateral damage to their global operations. Companies are facing the threat of rising protectionism, the need to reduce working capital and avoid unpredictable exchange-rate fluctuations by bringing production home, the challenge of preserving cash that would otherwise be used to fund expansion projects, and a general desire to reduce exposure to risk.

Yet in spite of all these problems, we think that the opportunities for leveraging the cost potential from RDEs will be one key component of companies' efforts to manage the downturn. Overall, we believe that the argument speaks for a continuation of efforts to globalize value chains.

The cost advantage of RDEs remains compelling. As businesses and consumers in the West trade down, companies will rely even more on RDEs, where production costs are 20 to 30 percent lower than in Western markets. While it is true that labor rates in RDEs have increased over the past few years, they are still a fraction of those in the West, and the increases are being offset by rising productivity and falling currency exchange rates (especially against the dollar). Shipping costs for containers, especially bulk, have fallen significantly from their high levels because of the drop in demand and fuel costs and a surge in capacity. It is true that when oil hit \$147 per barrel—while shipping costs were still high and the U.S. dollar was trading poorly on world markets—some seasoned observers were predicting the end of the RDE cost advantage. The incredible shift in just six months shows the danger of arguments forged in volatile economic times. Such arguments also ignore the growing attractiveness of the consumer market in the RDEs themselves.

Developing economies will continue to be a source of significant growth. RDEs have emerged as key drivers of the global economy, accounting for 78 percent of global growth this year. According to the IMF, they will continue to do so, although at lower levels than in the past. Whatever the real growth rates look like eventually, it is a safe bet that RDEs will offer more attractive growth opportunities than developed markets. For many Western companies suffering from a slowdown in demand domestically, this incremental growth potential will be hard to ignore.

Given these twin factors of cost advantage and growth in RDEs, we recommend taking the following steps:

- ◇ **Push intelligently toward more offshoring, sourcing, and manufacturing in low-cost countries.** The economic crisis has further increased the cost pressure on companies across most industries, especially those from advanced economies. Budget-constrained consumers are generally likely to trade down. Companies should assess their access to low-cost parts and components, manufactured goods, and services. For Western companies, slowing demand in home markets, depreciation of the currencies of many RDEs, and rapidly falling transportation costs make RDEs even more attractive for taking significant costs out of their operations. For companies that already source from RDEs, it is important to analyze whether they have exploited the full cost potential—for example, whether or not their RDE operations are lean and truly localized to optimize the different tradeoffs between labor and capital.
- ◇ **Capture the higher growth potential of RDEs.** Increase your growth expectations from RDEs. This requires a redoubling of efforts and a reallocation of resources toward sales in these fast-growing markets. Infrastructure investment in RDEs—for example, in China's airports and roads—continues to soar, and global engineering and capital-goods companies can benefit. Reaching beyond the premium segment into the fast-growing "middle markets" with appropriate products in many categories can provide an attractive revenue and profit upside. The billion-strong, underserved segment of first-time consumers in RDEs, with a total income of over \$1 trillion—of which more than a third is spent on discretionary items—gives global consumer-goods companies the opportunity to fuel their growth engines.
- ◇ **Seek international M&A opportunities.** Some multinational companies have recently taken the opportunity to acquire *new global challengers*—companies from RDEs that have aggressively penetrated international markets. Daiichi Sankyo's acquisition of India's Ranbaxy Laboratories is an example of such a deal. Others have acquired strong *local dynamos*, companies that have built strong positions in

their home market. An example is the Coca-Cola Company's recent move to acquire Huiyuan Group, the leading juice company in China. At the same time, there are some well-capitalized companies from RDEs that are screening international markets for attractive acquisitions in their quest to strengthen their global position.

- ◇ **Improve the pool of international talent.** The increasingly tough war for talent in RDEs has proved to be a big challenge for companies from both developed and developing markets. Now is the time for strong players with a longer-term global commitment to attract the very best people, both from schools and universities and from companies struggling in the face of the crisis. Companies that in the past made efforts to nurture their local talent base are now in a better position to localize their leadership teams and rely less on more expensive expatriate assignments.
- ◇ **Fundamentally transform the business.** The current crisis can serve as a “burning platform” for a transformational change. Tough decisions on legacy assets are in many cases long overdue. A Western technology company, for example, is currently relocating one business unit from high-cost locations to Asia, thereby dramatically lowering its entire cost base—and getting closer to markets with greater growth potential.
- ◇ **A word of caution.** All the measures we have laid out are the right ones to pursue as long as there is global coordination and openness to a joint solution to the world's problems. No management team should bet the whole company on the assumption that trade restrictions or tariff barriers will not reappear. As we stated in the first two parts of the Collateral Damage series, we clearly see the risk of global cooperation and joint action giving way to increased protectionism. In such an environment, production is better located in the same region as the target market. In addition, the United States may well inflate its economy to soften its debt burden. This will lead to structurally lower dollar exchange rates, which could make production in emerging markets less attractive. Flexibility and awareness are required to reap the benefits of globalization.

4. Taking Action

In the second paper of our Collateral Damage series, we described a three-to-six-week program of action that companies should follow in order to respond properly to the current economic challenges. We now explore some parts of this program in more detail.

For years, many companies ran hard to keep up with the boom times. Business plans enjoyed strong paybacks, and value creation was often about absorbing higher costs by delivering even higher volumes. Many companies ignored pockets of slack and high cost. Now, the grounds for many expansion plans and investment projects have disappeared. Companies can no longer rely on absorbing higher volume with the same cost base. True reduction of the absolute cost base has become essential.

Some companies are giving functions and divisions crude cost targets. (“Take out 10 percent and get it yourself” is the mantra.) There are several problems with this approach. First, while it may have merit in times of crisis, this is no ordinary crisis. Second, it risks overlooking the opportunities for cross-functional cooperation at a time when teamwork should be at a premium. Third, it promotes the search for *easy* cuts rather than the *right* cuts.

So, instead of taking this crude approach, companies need to take a more considered stance—and the essence of this, in our view, is how to deal with leadership and people issues.

A. Leadership and People

What does good leadership really mean in the current crisis? Leaders obviously have to do what is necessary to get costs under control. But leadership in a downturn is not just about cutting costs. We believe that six steps will help executives address today's people and organizational issues, while preparing for tomorrow.

- ◇ **Recognize today's reality with your employees but give them confidence in the future.** Many of your people are scared. You need to address head-on their understandable fears about the economic reality. You need to lead visibly and from the front. This means that you should get out of emergency-planning meetings and onto the office floor. You need to hold "town hall" meetings and informal lunches, and you need to do it religiously and systematically. Talk about your own concerns. Show that you have both a heart and a head. When you have bad news to deliver, do it directly. Keep in mind that it typically takes nine conversations for a message to sink in. At the same time, you also need to convey confidence in the future of the company and the economy.
- ◇ **Recognize that you are not alone as a leader.** Bring in your broader leadership group to understand the challenges, participate in the planning, and cascade changes throughout the organization. The members of a broader team will provide complementary skills and multiply the available manpower and brainpower. Each member of the leadership group should identify 20 people who shape the opinions of others and who get things done, and they should engage with these people constantly. They can serve as internal evangelists.
- ◇ **Release employees respectfully, but seize the opportunity to upgrade your talent.** Many companies have already laid off employees. While layoffs may be necessary for the survival of your business, it is painful for departing employees (as well as for those who survive the cuts). Follow the golden rule, and treat these people as you would want to be treated. At the same time, recognize that you have an opportunity to improve the quality of your staff by removing low performers and by selective hiring. It is a buyer's market, but it will not be here forever.
- ◇ **Remember your stars.** In two or three years, your rainmakers will remember how you treated them and their colleagues. Identify your strong performers and treat them accordingly. Talk to them, seek their advice, and listen to their concerns. Their decision to stay at your organization may hinge on how you treat them and their colleagues in the coming months. We believe—and so do your best employees—that the true culture of a company reveals itself when times are tough. Are you proud of your culture in this downturn?
- ◇ **Take the opportunity to transform your organization.** The recession provides an opportunity to fix lingering organizational issues that get swept under the rug in good times. While lowering costs may be the short-term goal, try to inject flexibility, accountability, and speed into your organization. The best organizations have few layers, high spans of control (that is, an appropriately broad base of direct reports), and clear roles and accountabilities. Even large companies should not have more than eight layers between the chairman or chief executive and the most junior employee. And while spans of control at the top of organizations often look reasonable, many companies have inappropriately low spans (three to five direct reports) in their middle layers. Not only does addressing this save cost, but it also speeds up execution—which is no longer mired in long chains of command.
- ◇ **Understand that change does not just happen—so manage it rigorously.** Most change programs fail to achieve all of their goals. If your last reorganization failed, address that failure up front with employees. Improve your odds this time around by establishing clear milestones and metrics—and unambiguous owners of particular tasks. Carefully track progress against those metrics and milestones, intervene when necessary, and communicate both successes and course corrections. Discipline is not a dirty word.

B. Protect the Financial Fundamentals

We face a recession expected to be severe and prolonged, combined with exceptional stress in the financial system. Even as funding opportunities begin to reemerge, it will still be essential to maintain financial strength and independence. The principles of the past decade, characterized by low cash and high levels of debt, will not return any time soon. The more the recession takes hold and profit levels fall—either to long-term trends (an average decrease of 30 to 40 percent) or to recessionary lows (decreases of 50 to 60 percent)—the more difficult it will become to raise equity and to secure credit. From the third quarter of 2007 to the third quarter of 2008, flows of new loans to the corporate sector declined by 36 percent in Eu-

rope; in the United States, nonfinancial business-sector borrowing shrank by 50 percent from the second quarter of 2007 to the second quarter of 2008.

In such an environment, senior executives need to do the following in order to remain in tight control of the company's finances:

- ◇ Assess cash positions in absolute terms, in relation to cash needs (such as “days payments outstanding”), and compared with competitors.
- ◇ Review the instruments in which cash is invested to ensure that funds are easily accessible in case of a sudden further deterioration in the operating environment. For instance, some blue-chip companies invest a significant part of their cash equivalents in T-bills to reduce risks.
- ◇ Determine structural drivers of future cash generation and understand how cash generation develops under the appropriate stress-test scenarios.
- ◇ Understand how refinancing needs evolve and develop contingency plans to prepare for any funding gap or near-term requirements to refinance existing credit. Given the speed of deterioration and the continuous effort of financial institutions to deleverage, it may be sensible to draw down existing credit lines even if the money is not needed right away—and to work on refinancing early, particularly if there is a need to identify new sources of funding. In all likelihood, companies will have to accept higher financing costs and take those costs into account in their financial planning. This is also a time to ask legal counsel to be especially vigilant about compliance with all loan covenants.
- ◇ Implement strict spending controls and, if necessary, postpone spending altogether. Clearly, the mid- and long-term implications of these measures need to be evaluated—especially because the current climate offers the chance to pursue capital investment opportunities, as well as research and development, at lower-than-normal cost. Even so, we believe that companies should err on the side of financial caution if there are any signs that they will face potential financial stress down the road.

To achieve these goals, companies should take action in three broad areas:

1) Implement a rolling cash-forecasting system

- ◇ Knowing how future cash positions may evolve under different economic scenarios (and associated company performance) is the foundation for all other actions relating to cash management. Companies need to be aware of their cash position, their true cash reserves, and their net cash generation for any given point in time over the next two years.
- ◇ To achieve this level of knowledge, companies should develop an integrated (both top-down and bottom-up to ensure alignment between finance and the business) cash-planning and reporting system, which provides forecasts on a weekly, monthly, or quarterly basis (depending on the industry) up to two years into the future. The higher the volatility of cash streams and the lower the current cash position, the more detailed and accurate this cash-planning tool has to be.
- ◇ In designing this system, it is important to be clear about time frames, processes, and responsibilities in order to avoid significant inconsistencies which, in the current environment, can have major consequences. This is clearly an issue requiring the personal attention of the chief financial officer.

2) Mobilize hidden cash reserves

Mobilizing the locked-up cash on your balance sheet is an essential way to improve a company's financial strength in tough times. We have seen many companies free up an amount of cash equivalent to 10 to 20 percent of sales by sustainably streamlining processes and lowering costs.

- ◇ Working-capital management is rarely a top priority for operating managers. At times like these, however, it should be high on the corporate agenda. The finance department should identify business units

with the most potential—because existing incentives typically encourage operating managers to focus elsewhere. A classic example is the tradeoff between strict inventory control and parts availability: many managers argue (not unreasonably) that inventories are important to ensure sales and that trade credit is important to keep customers. But such behavior runs counter to the increased importance of self-funding, the additional risk of the building up of inventories as demand falls, and increased credit risk as customers run into financial trouble. By installing systems to avoid such a buildup of inventories and receivables, the amount of free cash generated will increase.

- ◇ The management of a company's working capital must be a companywide operation. Overly large inventories can indicate a lack of integration, a lack of communication, and sometimes a lack of trust within the company. Often, both the sales and production functions will plan for a buffer in inventory levels; high levels of due and overdue receivables can be a sign of weak collections management; and an unfavorable position in accounts payable can stem from making payments earlier than necessary or from failing to negotiate differentiated payment terms with suppliers.
- ◇ To tackle excessive inventories, companies should streamline and coordinate their cross-company processes—including the interface to suppliers and customers—in order to reduce safety stocks, time buffers, and batch sizes. In particular, improving demand forecasts is an imperative in avoiding unnecessary inventories. Also, purchasing managers should seek more flexible arrangements with suppliers in order to link production and supply in a smarter way.
- ◇ To manage receivables, companies have to balance the needs of customers (who must be kept happy) against the need to limit expensive and increasingly risky trade credit. The basic process of sending out invoices on time and the discipline of reminding customers to pay them is a simple but effective lever. Creating transparency on overdue payments by working with the sales department on receivables management and critical accounts is the first step in creating a culture of fair and balanced relationships with your customers. Companies should also analyze their underlying payment terms and conditions, compare them to best-practice and international standards, and consider a renegotiation with their customers. Customers that cooperate with efforts to better assess demand could be granted more favorable payment terms.
- ◇ To manage accounts payable, companies should be wary of paying too early. Premature payment sometimes happens because the system is automated, with money going out on scheduled dates. Sometimes, bills are received and settled even before delivery. Clearly, payments should be based on the actual delivery date rather than on the date the bill was sent—and early payments should be eliminated.

3) Secure refinancing—now

The credit crunch means that credit is a scarce resource. Even stable companies with low levels of debt are facing greater challenges when trying to obtain financing, whether in the form of new borrowings or to roll over existing debt. The cost of borrowing has already risen, and it is difficult to know when lower official interest rates will translate into lower interbank rates and percolate down to borrowers. Given this, companies need to do the following:

- ◇ Draw on their cash reserves and reassess investment plans. Companies with access to financial markets should endeavor to secure funding, even if today's borrowing costs seem expensive: in the current environment, the security of a stable financial structure merits increased costs. And such prudent defensive moves are occurring. Recently, several companies agreed to link the borrowing rates on their credit lines (not loans) to the rates on their credit default swaps. This means significantly higher costs compared with credit lines negotiated before the crisis, but it offers the potential of lower rates when the market tension is reduced. In the current uncertain times, it is also a clear signal of a company's creditworthiness.
- ◇ Explore alternative funding sources. Increasing numbers of companies are looking at sovereign wealth funds or private equity—and several private-equity firms are looking to fill some of the gaps left by

banks. In our view, companies that manage to secure financing now will have an advantage over those that delay.

C. Pricing

In downturns, large market-share shifts can occur—and pricing often plays a key role. Yet pricing is a complex lever to pull. A few months ago, the main pricing issue was whether to raise prices because of high commodity-price inflation. Now, as the downturn takes hold and commodity prices drop, managers are more concerned about the risk of price wars.

Consumers and corporate customers are already spending less—and are looking to pay less for what they do buy. Companies must act decisively to adapt their product portfolio and pricing approach to these more turbulent times.

Essentially, three factors drive pricing decisions—and companies need to be wary of how they react to each of the factors:

- ◇ **Consumers' willingness to pay.** Right now, consumers are looking for ways to save as their budgets are squeezed or confidence drops. They are more price sensitive and proactively look for deals, promotions, discounts, and bargains. The easy solution is for companies to reduce their price points. There are ways that companies can adapt by reducing their price points without substantially affecting margins.
- ◇ **Competitors' prices.** Competitors struggling for revenues and liquidity—and hit by lower demand and higher price sensitivity—will be tempted to lower price points and risk engaging in a price war. Companies must manage the risk of price wars strategically and choose whether and how to react.
- ◇ **Corporate economics.** Volatility in commodity prices and uncertainty about volumes will continue to affect a company's financial health. Companies need to mobilize the organization for an efficient response to price changes.

There are many pricing moves worth considering in these turbulent times:

1) Manage the tradeoff between price and value

Look for opportunities to alter the price-versus-value proposition. Consumer goods companies periodically reduce the size of their packaging by just a few percent and adjust their prices proportionally (or avoid headline increases). As consumer preferences shift in a downturn toward minimizing the absolute level of spending, most consumers either do not notice, do not mind, or simply accept these changes—seeing them as an opportunity to save.

2) Unbundle product and service offerings

The logic is to compete for price-sensitive customers by unbundling the product or service offering: promote the minimum and let more demanding customers pay for additional services separately. Most budget airlines, for example, ask consumers to pay extra for drinks, checked luggage, or even blankets.

3) Lock in and then up-sell

Attract customers with an initial offer or headline rate and follow up after the initial purchase with additional services and features. This tactic can be applied to many businesses. For example, cell phone discounts lock customers in to one-to-two-year contracts and allow companies to later market additional features such as ring tones or games. And a cruise line began proposing cabin upgrades to customers who had already purchased the minimum package. Splitting the purchase decision into a two-step process (with correspondingly lower incremental expenditures) can turn out to be very effective.

4) Set prices to mitigate customer risk

Link prices more directly to value in order to lower the customer's purchase risk. One way a company can do this is by pricing for performance on its best products. In the face of softening demand, mere claims of

product superiority are not sufficient. Companies that believe in the superiority of certain products could propose pricing schemes with bonuses based on product performance, yield, duration, or level of usage. Alternatively, companies could use pricing to minimize customer uncertainty: for instance, establishing charges based on actual usage rather than a fixed price, or indexing to the performance of a key market for the customer. One major hotel company has offered its owner-developers the option to index franchise fees to room occupancy rates.

5) Pursue a dual strategy of selectively increasing both prices and discounts

Some customers are more attracted by a product listed at \$99.99 with a 10 percent discount than one listed at \$89.99. The receptivity of consumers and commercial customers to promotional items in a time of recession is an opportunity for companies to defend their list prices and optimize their promotion and discount programs. Perhaps counterintuitively, companies should consider raising next year's list prices in order to support a much higher level of promotional spending and special discounts.

6) De-average pricing by area of business

Facing the risk of price cuts by competitors, a company can choose to go on the offensive and cut prices first, or be defensive and react to competitors' price cuts. Either way, de-averaging is critical.

It really only makes sense for a company to lower prices if it has a significant cost advantage. With a cost advantage, a price cut might be an excellent way to gain market share, because competitors cannot match the price cut without hurting their profits. In the absence of a cost advantage, however, lowering prices without changing anything else will only result in lower margins once competitors have matched the price cut. Preemptive price cuts should be implemented in markets and on products where the company has a significant cost advantage.

Defensive price moves need to be de-averaged by segment, region, and product—depending on market share and fragmentation. One major U.S. retail company taking a de-averaged stance is shifting from national to zone pricing as an overlay to its product category pricing. More rural areas, where the company is a cost leader over independent stores, will become higher-priced zones, while areas where it is less cost advantaged will become more aggressively priced zones.

7) Understand your role in your customer's business

The importance of a company's product is not the same for all customers—nor is its value always proportionate to its cost. Some products require high levels of reliability because failure can have serious consequences. Examples of this include parts for motor vehicle engines or aircraft—where components representing a small fraction of the cost are vital to effective operation. In such cases, discounting these products in the face of a downturn may prove an unnecessary step. Before discounting to safeguard volume, companies should think carefully about two things: their product cost position relative to that of any alternative suppliers and the cost of the product relative to the cost of the customer's end product.

8) Try to avoid a price war

Rather than competing by offering ever-lower prices, propose new pricing schemes that are better suited to customer needs. Offering financing schemes has been a staple of new pricing models in downturns ever since General Electric began offering financing on its refrigerators during the Great Depression. Recent developments in subscription models—such as the online movie service Netflix—and GE charging for aircraft engines on the basis of hours of use are good examples of how to change the pricing rules of competition. Another way to change the rules is to adjust secondary pricing—by either increasing or reducing it. For instance, banks regularly offer lower headline-rate credit cards, but then apply fees to service requests or late payments.

9) Monitor customer behavior and competitors' prices more carefully

As the economic outlook changes, customer behavior will evolve—sometimes in surprising ways, such as an increased demand for bulk packaging driven by lower shopping frequency, or an increased demand

for small-business software as unemployed professionals decide to create their own companies. Observing customer behavior and analyzing price sensitivity will be necessary to optimize your product offering and prices. Look for unusual buying habits and changes in spending patterns. A German consumer-goods company observed recently that shoppers were actively shifting to private-label products. The company began deliberately pricing its value offering at 50 percent below leading brands in order to take advantage of the trend. This strategy has helped drive up sales of certain products by as much as 60 percent in the past six months. Similarly, to manage the risk of price wars or to exploit price gaps, companies will need to obtain the most reliable intelligence possible on competitors' pricing behavior, looking for not just price-level changes but also promotional activities and discounting schemes.

10) Increase the responsiveness and accuracy of pricing-management processes

Set up more regular price reviews in order to be able to react quickly to changes in the marketplace. Carefully monitor account profitability and set the right indicators to track the actual prices realized by the sales force in the market. One challenge is to define pricing indicators that are accurate enough—too often, pricing indicators are highly aggregated and do not take into account the full chain of pricing decisions and discounts.

11) Use index pricing to anticipate and manage volatility

Raw-material prices are much more volatile and are likely to continue to soften as the recession takes hold. One way to reduce risks is to link prices to raw-material costs. Competitors are likely to use any opportunity to use mispricing to gain share in shrinking markets.

12) Ensure that new pricing policies are implemented

The volatility and uncertainty of the current climate call for a stepped-up focus on pricing: a 1 percent price change can add up to 10 percent on the bottom line. Senior management should be allocating a large proportion of their time to pricing. With direct relevance to a company's sourcing strategy, competitive position, and the management of capacity and fixed costs, the pricing issue has become too strategic to be left solely in the hands of the sales and marketing teams.

Nonetheless, the sales force and other stakeholders need to be fully briefed on the new approaches to pricing, and they need to have appropriate incentives to ensure that the strategy works. A failure to adjust the incentive system might be damaging to business—there is a big risk in operating in depressed markets with a depressed sales force.

As we have made clear, we would urge executives to prepare their companies for a downturn that will be both deep and long. We have argued in all three of the papers in the Collateral Damage series that we do not expect any region to escape unscathed. Developed markets will generally face recessions, with the unwelcome additional risk of deflation. Rapidly developing markets will see slower growth as export demand falls. Well-prepared companies that act early and deliberately can expect to perform relatively well—and some may even prosper. In subsequent papers, we will try and capture what we have learned from those companies that acted early.

Appendix: So Who Is Really to Blame?

“Greedy,” “stupid,” “reckless,” or “lacking care”: these are easy and emotive words to bandy about at a time when everyone wants a scapegoat. So were the bankers the villains of the story? Should we be absolving everyone else? Undoubtedly, the bankers made mistakes. But if this crisis is to be prevented from happening again, then it is essential to take a step back and really understand who and what were the causes of the current mess.

While banks of all types have lost money, and in many cases a great deal of it, many of the real losses were suffered by institutions that were in the risk-taking business, such as Bear Stearns or Lehman Brothers. Given the relatively lax way in which these institutions managed their risks in recent times, and given the incentive schemes that paid huge bonuses for only notional gains, it could be argued that the banks got what they deserved (and what was statistically probable if one accepts the existence of “fat tails” rather than normal distributions for risk).

It is clear that some of the investment banks and capital-markets players were leveraged to an unsustainable degree. They chased higher volumes of thin-margin products, compensating for low margins through higher leverage. There were failures in both risk management and executive oversight at these institutions. Risk managers failed to properly assess the risk inherent in the collateral, the high leverage, and the investment structures. Senior executives either did not understand the situation or did not supervise it closely enough.

But the same cannot be said of large numbers of “Main Street” banks, many of which were innocent of serious wrongdoing—although public opinion has not differentiated among the various players. These banks lent quite prudently, funding themselves from a mix of retail and wholesale funds. The calamitous and sudden loss of confidence that led to the freezing of the interbank markets was arguably a *force majeure*. It was a liquidity crisis rather than a solvency crisis for these banks, although probably they should have stress-tested their liquidity risk more stringently.

So who really is to blame?

1) Consumers

For years, U.S. consumers have been living beyond their means. Between 1972 and 2008, U.S. consumer indebtedness, as a share of GDP, grew from 60 percent to 120 percent. Even when we exclude mortgage debt, U.S. consumers are carrying more than \$2.5 trillion in consumer credit—up more than 50 percent from its \$1.6 trillion level in 2000. Indeed, the explosion in mortgage lending was driven, in part, by consumers using the boom in housing prices to take on more debt in order to fuel further consumption—on the theory that still-higher prices later would pay for money borrowed today.

The wide availability of cheap debt was a key factor fueling the growth of the U.S. economy—and, to the degree that the U.S. economy has been an engine of global economic expansion, that of the world economy as well. U.S. household consumption accounts for an unusually high—and unsustainable—70 percent of the country’s GDP. As a consequence, the savings rate of U.S. households, now barely above zero, has reached its lowest level since the Great Depression.

2) The Salesmen

The reason we have a worldwide crisis is not that banks made bad loans—although they certainly did—because the losses on these loans could almost certainly have been absorbed in the normal course of business. The loans that turned toxic and caused the problems are loans that originated outside of the regulated system—among unregulated salesmen, particularly mortgage brokers in the United States. This group was happy to give out loans almost without regard for the ability of the recipient to repay. Because the broker knew that the loans would later be sold and that there was a significant appetite for these loans, he or she had every incentive to make as many loans as possible, regardless of quality.

3) The Packagers

Complicit in this scheme were bankers who had built complex collateralized debt and mortgage obligations to feed the insatiable investor appetite for AAA-rated securities with enhanced returns. The bankers split each obligation into three tranches, backed by assets of differing quality. The first tranche of good assets was then given a AAA rating by the rating agencies; the middle tranche typically earned a BBB rating, leaving the packager to put the unrated, toxic part of the debt in special-purpose vehicles offshore and off the balance sheet. Supercharged with leverage and kept off the balance sheet through technical structuring rather than risk mitigation, these toxic time bombs were an accident waiting to happen. In the meantime, the bankers were only interested in their bonuses—payable on creation and distribution—while the mortgage brokers had already collected their fees in the act of origination. The unhappy pairing of mortgage brokers and bankers, combined with the structure of their reward systems, was the ultimate trigger of the current crisis.

4) Greedy Investors

There were many investors who were only too happy to buy the packaged investments. Flush with funds from Asia's boom and from the rising price of oil, and enjoying low interest rates, these investors were hungry for anything with marginally higher returns. They also encouraged companies to boost short-term returns through leverage—even though they had a responsibility, as shareholders and therefore owners of these businesses, to push for better corporate governance and better-aligned management incentives.

5) Governments

Governments today are busy taking the credit for saving the banking system with their multibillion-dollar bailouts. But irrespective of what they say (and ultimately do), many governments were disinclined to prick the asset bubble. This is because asset bubbles typically make people feel wealthy and encourage them to take on debt to finance additional spending, which drives growth in the retail and manufacturing sectors, which in turn drives growth in the broader economy—which increases the governments' tax receipts. Even when it was clear that indebtedness was reaching unsustainable levels, particularly in the United States and the United Kingdom, governments refused to admit that there was a problem. In fact, the U.K. government has continued to encourage the mortgage market in general and first-time buyers in particular, pumping millions into key-worker and shared-equity schemes and cutting property transfer taxes as recently as September 2008. If governments will not control bubbles, who will?

6) Central Banks

Central banks should certainly have taken a less political view of the financial landscape. Given their elevated position, they should surely have seen the trouble coming over the horizon. But if so, why did the Federal Reserve keep interest levels so low for so long in the period up through 2004, and then lower them again sharply in late 2007 and early 2008? Clearly, low interest rates were a significant factor in driving the housing bubble. Despite finally acknowledging the existence of the bubble, the Fed chose neither to apply the brakes nor to prick the bubble early. And in many countries, the central banks saw their main role as controlling consumer inflation, thereby ignoring the problem of disproportionate asset appreciation brought on by interest rates designed (in vain, as it turns out) to help beat the economic cycle.

7) Regulators

The International Corporate Governance Network (ICGN), a leading investor group accounting for more than \$10 trillion of assets, has publicly blamed the regulators for not responding decisively enough when it became clear that markets were mispricing risk. According to the ICGN, the regulators thereby allowed the banks to operate with too much leverage and too little capital. They also ignored liquidity risk, failed to pick up on poor management oversight, and overlooked poor lending practices in the mortgage market.

Most regulators actually spend a significant portion of their time trying to ensure that there is competition in the market, and that the consumer receives a fair deal. Unfortunately, even when regulators have focused on the fundamentals, they do not necessarily get it right. Indeed, regulators the world over must

currently be feeling a little foolish. Having presided over the implementation of the Basel II accord—which has taken several years and cost the banking system hundreds of millions of dollars—they have now found that not only was Basel II not very helpful, it was downright dangerous. Basel II is focused on capital requirements rather than on liquidity or the funding framework, which have been core to the current crisis. And it allowed some banks to actually reduce their capital requirements—a perilous concession in today's climate.

8) The Financial Models

The much-vaunted capital models used in the financial industry rely on historical data that few banks—and no regulators—credit with having any great degree of accuracy. It is small comfort to know that the dramatic events of the past 18 months should not have happened, at least according to the models. But even if the mechanics of the models could be fixed and the data fed into them improved—and despite the fact that the past is never a predictor of the future—would the models be the answer then? The answer is probably no. Regulators do not have the time, resources, or skills to adequately test these models. Instead, they look to internal risk practitioners, who may have the competence but not the business credibility, to verify them. This is hardly the most robust approach.

9) Rating Agencies

It is something of a mystery how the rating agencies could have gotten into the position of being paid for rating special-purpose vehicles and structured-investment vehicles. But there has been a great conspiracy of silence surrounding the issue. As long as the agencies kept rating toxic assets—most of which were coming from the United States—the originators could continue to sell mortgages, the banks could continue to be compensated for holding them briefly on their balance sheets, and the servicers could be paid for their role.

10) But individuals are not blameless...

To some degree, many individuals are also at fault. Banks are not the best sales and marketing organizations in the world because they do not need to be. They fulfill demand. Consumers want credit cards, loans, and mortgages because they want holidays, cars, and homes. And all over the world there are people who thought that the family home was an asset that would always appreciate, or that stock markets represented a one-way bet.

The crisis occurred as a result of a number of sins of omission, although none with any intended malice. What is more, these sins were spread across the financial system—and not entirely attributable to bankers, as many believe. The most important issues now are what we can do to ensure that the current situation never recurs and how we can strengthen the regulatory regime to detect the next situation before it becomes a crisis, remembering that each new crisis is different from every crisis that has come before.

First, better-quality regulation is required, focused on monitoring and regulating the market at a product level. The rating agencies need to be regulated, and the whole industry structure needs to be reviewed. For example, should the rating and structuring of products be separated? Should the payment model be changed so that investors, rather than issuers, pay? The regulatory framework governing banks' capital requirements, which has demonstrated itself to be ineffective, should be revisited. Finally, from a regulatory point of view, the banks' approaches to governance and risk management both need to be tightened to some extent.

Looking beyond the regulatory regime, the banks themselves must be encouraged to better understand the risks they hold within their businesses and to be more aware of the potential impacts of these risks. They also need to be encouraged to build better incentive schemes that would align bonuses more closely with actual, rather than notional, value creation.

As with any complex situation, we now know that there were many causes stemming from the behavior of a number of different groups. The big question is whether any of these groups can learn enough from today's crisis to head off the next one.

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