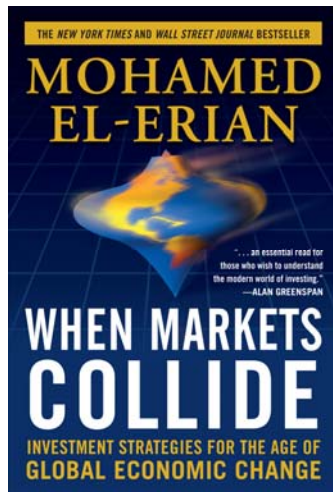


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### When Markets Collide: Investment Strategies for the Age of Global Economic Change

#### Introduction: Finding Signals Within the Noise



By the standards of the financial markets, I entered the investment world late. I was 39 years old when I left the relative predictability and stability of a career at the International Monetary Fund (IMF) at the end of 1997 for the rough and tumble world of Salomon Smith Barney in London. A fascinating journey followed during which I had the privilege of witnessing at close hand the slow but steady transformation of the global economic and financial landscape.

At first, the changes impacted relatively small areas of the investment and policy world—essentially, the specialized segment of emerging market investing and the even more specialized and arcane world of derivative instruments and risk transference. But the phenomena—and the related good, bad, and ugly that came with them—gathered momentum, and they are now critically relevant to a broad spectrum of investors, policy makers, and international institutions.

By discussing these phenomena in some depth, *When Markets Collide* seeks to shed light on how the ongoing economic and technical shifts, what I refer to throughout the book as “transformations,” are impacting the world we live in—present and future. The book offers analytical anchors for identifying the key elements of what, for some, have become drivers in an unusually fluid environment. In so doing, I will uncover many of the understandable reasons that otherwise rational and well informed investors can be late in recognizing important turning points and, subsequently, be prone to mistakes. In some cases, such mistakes have resulted in market turmoil, liquidity sudden stops,<sup>1</sup> institutional failures, and emergency policy responses—and they will continue to do so.

The information in this book has important practical implications for investment strategies, business approaches, and policy making. It provides readers with insights on how best to exploit new opportunities and minimize exposure to changing patterns of risks. Or in market jargon, the aim is to minimize the left (that is, unfavorable) tail of the distribution of outcomes while simultaneously exploiting the right (that is, favorable) tail.

In this new economic and financial age, both tails are fatter.

#### Transformations: Inherently Tricky

Transformations are not easy to recognize or navigate, especially when they are initially unanticipated and evolve rapidly. By challenging conventional wisdom and

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historic entitlements, transformations feed a dynamic that is inevitably uneven and, at times, unpredictable. Indeed, the phenomena accentuate in an important manner the difficulties that people face in the run-up to the more familiar long-term (i.e., secular) turns. Here, the issues tend to revolve essentially around the timing and the orderliness of the turn as opposed to the secondary considerations that pertain to time and system consistency.

As transformations in individual markets are gathering momentum, it becomes evident that the market and policy infrastructures cannot yet adequately support the emerging realities—at either the national or international levels. Activities that have been newly enabled by the transformations tend to outrun the ability of the system to accommodate and sustain them. The result is a series of blockages and other “plumbing problems” whose prevalence gives rise to an initial bewilderment, turmoil, a blame game, and a subsequent realization that some type of change is needed.

Then when the needed refinements are being undertaken, market participants—investors and national and multilateral policy makers—face uncertainty and worry about the prospect of further turbulence. The market turmoil that started in the summer of 2007 illustrates the type of overshoots and dislocations that are likely to continue to occur. I would go so far as to say that the turmoil will shake the foundation of our global financial system. What started as a problem peculiar to the subprime segment of the U.S. mortgage market has morphed into a series of collapses whose impacts are being felt on both Wall Street and Main Street.

The responses of both the private and public sector market participants were initially undermined by their lack of understanding of the causes and consequences of the turmoil. Too many observers were quick to dismiss it as transitory and of limited impact. Investors, particularly in the equity markets, regarded it as an isolated event that would not prove contagious. Policy makers initially remained on the sidelines, also influenced by the understandable desire to allow greedy borrowers and unscrupulous lenders to suffer the consequences of their actions.

However, it did not take long for all this to change as elements of the financial industry and the economy as a whole fell with a loud thud. Wider recognition triggered a catch-up process involving massive injections of emergency liquidity by central banks around the world. When such injections failed to halt the collapse, the U.S. government was forced to adopt a large fiscal stimulus package and directly support the housing sector. Meanwhile, senior executives of major western investment banks headed to Asia and the Middle East in a massive capital raising campaign—one that was described on the front pages of the financial media as involving “lifelines” (*Wall Street Journal*),<sup>2</sup> “bailouts” (*Financial Times*),<sup>3</sup> and the “invasion of the sovereign wealth funds” (*The Economist*).<sup>4</sup>

To some of us, the financial market turmoil that started in the summer of 2007 reflects the secular transformation of the global economy. There are now economic and

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financial forces in play whose impacts are of great consequence but that cannot as yet be adequately sustained by the world's current policy and market infrastructures. As such, the efficiency gains that they bring are associated with higher risks of short term disruptions.

Indeed, one of the important messages of this book is *that the present turmoil is neither the beginning nor the end of the transformation phase.*

A series of inconsistencies and anomalies, which will be detailed throughout the book, acted as early *signals* of the growing tension between what participants or actors on the global finance stage were pressing for and what could be reasonably and safely accommodated by the existing systems in order to minimize the risk of turmoil. The signals also indicated the extent to which cross-border wealth hand-offs were empowering a new set of actors and products when it came to global influence.

As you read this book, it is important to realize that the forces behind the recent financial crises have not gone away. Instead, underlying global transformations will play a major role in defining and influencing the investment and policy landscape for years to come.

### When Noise Matters

This bumpy process is nothing less than a collision of markets, in which *the markets of yesterday collide with those of tomorrow.* The underlying dynamic is one of hand-offs being made between actors, instruments, products, and institutions. In this environment, the basic challenge is to understand the inevitable bumpiness of such hand-offs and to manage them appropriately without losing sight of the nature and implications of the new destinations.

Market participants first become aware of transformations through what is commonly known as "noise." This noise comes initially from the sudden emergence of anomalies to long-standing relationships that participants take for granted. The typical human inclination is to treat the anomalies as both temporary and reversible. People tend to dismiss the noise as containing no meaningful information. Consequently, they believe there is little point in thinking about the longer-term implications for investment strategies, business models, or national and multilateral policies. But a careful reading of history and theory suggests otherwise. Noise can matter in so far as it contains signals of fundamental changes that, as yet, are not captured by conventional monitoring tools.

During my first year as an analyst on the Salomon Smith Barney trade floor in London in the late 1990s, I learned through observations a simple but powerful lesson about how to approach market noise. Rather than automatically dismissing it, one should ask whether there are *signals within the noise.* This lesson came from observing a smart colleague—a trader in his early twenties—who was working on the emerging markets

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bond desk. His name was Edward Cowen. I remember Edward as a talented trader and a diehard supporter of Arsenal in the English football league.

Edward was particularly well versed in one of the three qualities that Bill Gross, PIMCO's founder and widely respected "Bond King," argues are essential for an ideal portfolio manager or, more realistically, an ideal portfolio management team: street smarts. And to the outsider, Edward seemed to know it and be proud of it—so much so, I am told, that at one stage early in his career, he preferred to be seen walking to his desk in the morning with a tabloid under his arm as opposed to the *Financial Times* or the *Wall Street Journal*.

Edward's market instincts were so sharp that they more than complemented the other two qualities that Bill Gross had identified: a rigorous training in economics and a command of finance mathematics. These qualities made Edward a moneymaker for the firm at a young age. Indeed, he illustrated back then what work, particularly in behavioral finance and neuro-science, has confirmed: The importance of instincts, especially during periods of market stress. This was most visible in the manner he would treat analysts like me. On some occasions, he would step back from the markets to listen to our views—in fact, he aggressively sought them. In the process, he would push us hard on whether the turmoil reflected a potential realignment of fundamentals. On other occasions, he would ask us (mostly politely, but not always) to stay away from his desk lest we confuse him with some fundamental analysis that bore no relationship whatsoever to the realities of that day's market action.

This lesson—and specifically the discipline to think about potentially different interpretations of market noise—stayed with me as I moved from analyzing markets at Salomon to directly investing in them at PIMCO and at the Harvard Management Company (HMC). And over the years, I have found validation for this approach from thoughtful academic work on imperfect and asymmetrical information, market failures, and behavioral finance.

Most of the time, I have applied the lesson to specific strategies and trades. Early in my investing career, I was lucky to be involved in an asset class (emerging market bonds) inherently prone to noise and investor overreaction. After all, it was still in its early maturation phases. The challenge was to identify the causes of the noise and derive their implications. And the outcome was often good—not only through the calls that PIMCO made on Argentina's bond price collapse in 2000 to 2001 and on Brazil's sharp bond price recovery after the summer of 2002 but also in the contrarian positions taken vis-à-vis smaller market events (for example, the manner in which the markets was extrapolating in early 2002 the impact of Argentina's default on Mexico and the impact of Zimbabwe's unstable political situation on South Africa).<sup>5</sup>

The methodology was a simple one: Observe and analyze the underlying causes of the noise; see how those causes relate to a separate and distinct analysis of valuations based on economics and financial fundamentals and market technicals; test the initial

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findings against the views of experts in the markets; and derive short- and long-term implications for the impacted financial asset valuations and those that are connected through common ownership or other drivers of correlation.

In many instances, the right answer was to “fade” the noise—that is, treat it as a temporary and reversible deviation. But in some important cases, the correct response was to interpret the noise as containing signals—that is, pointing to meaningful changes in parameters governing both absolute and relative prices in certain market segments. Always, the right approach was to resist the initial temptation to simply dismiss, and therefore ignore, the noise.

With time, I inadvertently documented the process through a regular publication that I wrote for PIMCO and in op-ed pieces for the *Financial Times* and *Newsweek*.<sup>6</sup> The articles had a simple objective: to explain recent market developments and trends, including how they impacted investment strategies and policies going forward. In the process, I ended up compiling a body of evidence suggesting that the noise was signaling the emergence of deep and, as yet, little-understood changes impacting the global economic and financial landscape.

A shift in the nature of the noise coming out of the markets supported this evidence. Starting in 2004 and 2005, we moved from a world where noise was generally associated with *sequential* inconsistencies in markets to a world where *simultaneous* inconsistencies were notable. In other words, rather than just being inconsistent *over time*, the progressively louder signals coming from various market segments also became increasingly inconsistent *at the same time*.

### Some Recent Inconsistencies

There are many examples of recent anomalies, several of which are discussed in detail in Chapter 1. Perhaps the most vivid public illustration of this change came in early 2005 when Alan Greenspan, the former chairman of the U.S. Federal Reserve, described as a “conundrum” the fact that successive and meaningful upward moves in short-term interest rates (the federal funds rate) had been accompanied by downward moves in long-term interest rates in the United States.<sup>7</sup> Indeed, for what seemed an eternity for investors (many of whom feel that a week is a long time), the U.S. bond market provided signals about the economy that conflicted with those coming out of the other most liquid market in the world, the U.S. equity market.

This inconsistency was accompanied by a rather peculiar situation among Fed watchers, that group of economists and analysts on Wall Street who make their living from predicting the course of the most influential interest rate in the world—the fed funds rate. In the middle of 2006, with the rate at 5 1/4 percent, the vast majority of Fed watchers fell into two distinct and opposite camps. One confidently predicted rate *hikes*—to 6 percent; the other equally confidently predicted *cuts*—to 4 percent. I remember noting several times that I could not recall such divergence in sign and size among such credible market observers.

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Yet, despite such divergent views and inconsistent signals from the two most liquid financial markets in the world, the traditional indicators of market volatility and uncertainty (or market fear) continued to reach new lows. Too many market participants started to confuse the decline in market volatility with a decline in overall risk. This led them to make ever riskier trades. Questionable loans were made, and, with financial alchemy working over time, a host of balance sheets were excessively leveraged (including those of U.S. homeowners) using overly complex investment vehicles, products, and instruments.<sup>8</sup>

The work that I carried out with colleagues at PIMCO and HMC to explain the economic and financial inconsistencies pointed to three structural forces. As these factors played out, they emitted unusual signals on both a standalone basis and through their interactions. In the process, they confused existing models and the accepted rules of thumb. And while they were not the only factors in play, they were influential enough to explain much of what puzzled investors and policy makers.

### Missing the Signals

The increasing prevalence of unusual signals was not accompanied by an adjustment meaningful enough on the part of market participants. Rather than seek out new analytical and operational anchors to better understand developments, too many investors went full steam ahead, taking on more risk and heavily engaging in new activities with backward-looking approaches. Policy makers expressed some discomfort, but they seemed either unwilling or unable to take much action. Indeed, along with the majority of market observers, policy makers shifted to becoming “data dependent” as their long-standing and seemingly robust models failed to explain modern-day realities. This data dependency was adopted notwithstanding the recognition that high-frequency economic and financial information is inevitably volatile and subject to important ex post revisions.

Such a situation begs for a disorderly unwind. Indeed, one problem of navigating markets without robust analytical anchors is the potential severity of the consequences when there is a sudden turn in the high-frequency data and/or prices. This phenomenon was, of course, vividly illustrated starting in the summer of 2007. In the intense period that followed, the financial system suffered a tremendous amount of damage. As the smoke initially started to clear, the media’s first estimate of \$18 billion in losses for the “big banks”<sup>9</sup> was subsequently revised up to \$400 billion by analysts at Deutsche Bank.

An \$8 billion write-off by Merrill Lynch was followed by the resignation of its CEO, Stan O’Neil. The CEO of Citigroup, Chuck Prince, followed after an additional \$8 to \$11 billion in losses. More was to come. A few weeks later, both institutions announced another round of losses that stunned Wall Street; yet another round followed a few weeks after that.

They were not the only ones.

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An initial upbeat assessment by UBS gave way to a multibillion-dollar, subprime write-down that would lead to an overall loss for the year. A similar series of events happened at Morgan Stanley and elsewhere on Wall Street and in Europe. Indeed, Goldman Sachs seemed to be the only large investment bank that managed to navigate well through the turmoil.<sup>10</sup> And it also stood out as one of the few large institutions not forced to embark on an urgent capital raising campaign to safeguard its balance sheet.

The turmoil in the banking system was only part of the story in the financial markets. Several mortgage companies went bankrupt. AAA companies that insure bonds issued by municipalities and others faced large losses and the prospect of downgrades, forcing them to also look for emergency injections of capital.

The damage in the financial markets pushed governments and central banks into crisis management mode. This was vividly illustrated in the dramatic interest rate cuts in the United States and the U.S. government's emergency fiscal stimulus package. Yet the credibility of the official sector (i.e., governments, central banks, and regulatory agencies) suffered, including the Bank of England, which was forced into a very public U-turn on policy. Indeed, virtually every regulatory and oversight body in the major industrial countries came in for some criticism, as did the rating agencies.

Let us not forget Main Street. The turmoil in the financial markets raised legitimate concerns about collateral damage in the economy. References to a "credit crunch" multiplied, which drew the attention of politicians and acted as a catalyst for multiple legislative hearings, particularly in the U.S. Congress. Questioning went well beyond the nearest trigger (namely, the debacle in the subprime mortgage market) and the potential consequences (higher actual and expected foreclosures). It also encompassed the breakdown in consumer protection and financial regulation, the role of fraud, the near paralysis of money markets, the fragility of interbank activities, and the activities of credit rating agencies. And, in looking at the potentially stabilizing role of the fresh and patient capital waiting on the sidelines, some politicians questioned its motives rather than welcoming its involvement.<sup>11</sup>

No wonder observers have started to question the long term impact of this episode. Instead of a cyclical hiccup, some have expressed concern that it will pull the legs out from under the globalization process and, more precisely, derail the integration of markets across geographical boundaries and financial instruments.

### **The New Secular Reality**

The reaction of some observers in the recent past—in particular, the once-eager supporters of financial globalization who are now willing to ditch it—reminds me of the way five- to seven-year-olds play soccer: Players on both teams tend to chase the ball in the manner of a noisy herd. They are, in effect, totally data dependent. Their approach stands in sharp contrast to the behavior of older kids. Anchored by a better

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understanding of the game and more of a strategic mindset, the older players seek to maintain positions on the field and rely more on letting the ball do the work.

So, you ask, what are the structural factors that help explain the noise, and why has it been so difficult for market participants to develop appropriate analytical tools and approaches? I am sure you have come across these three factors under various labels:

- The first is a fundamental realignment of global economic power and influence, including a gradual hand-off to a set of countries that previously had little if any systemic influence.
- The second is the pronounced accumulation of financial wealth by a set of countries that includes some that were previously more used to being debtors and borrowers than creditors and investors. This has fueled the systemic influence of sovereign wealth funds (SWFs),<sup>12</sup> reinforced the natural desire to diversify the allocation of their capital, and attracted the attention of politicians in industrial countries.
- The third is the proliferation of new financial instruments that have deeply altered the barriers of entry to many markets. For some, such as Greenspan, they are an important source of risk transfer and risk diversification; for others, such as Warren Buffett, the well-known value investor, they constitute “time bombs” akin to weapons of financial mass destruction.<sup>13</sup>

The interaction of these three factors has resulted and will continue to result in deep changes to the drivers of key global economic and financial relationships. Markets collide as new actors, instruments, products, and institutions assume greater systemic importance and do so in a manner that is different from that exercised by the previous sets. No wonder it has been difficult for market participants to adapt quickly and effectively.

These phenomena are being seen in the appearance of new, and in some cases previously unimaginable, drivers for such basic variables as global economic growth, trade, price formation, and capital flows—variables that investors should take seriously because they carry enormous weight in selecting appropriate investment strategies, business models, and policies. They are also seen in the stress faced by previously dominant players in the financial industry, some of whom are adjusting more quickly than others. Witness as well the way in which the interlinkages among markets are changing. As a result, diversification no longer delivers for investors the same amount of comfort as it once did. And all this inevitably leads to excessively large swings in the *production and consumption* of new, complex “structured products” and related investment vehicles, with the resulting need for costly “clean-up” operations.

### **Plumbing Problems Arise Out of the New Reality**

There is another reason history tells us that such fundamental structural changes are not easy to navigate. It is not just because the recognition of risks is delayed and the risks are configured differently. It is also because the changes are yet to be

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accompanied by a retooling of enabling functions, including the “pipes” and infrastructure of the financial markets. Yet many investors feel compelled to jump in, either willingly or otherwise.

This combination results in a typical plumbing problem: The pipes are simply unable to handle the flow of new and old transactions. This is true at the level of the individual firm, where the willingness of the portfolio managers to use new strategies is yet to be accompanied by the ability of the middle and back offices to adequately process and maintain them. It is true at the level of the financial system as a whole where basic parameters—such as valuations, price discoveries, transparency and adequate supervision—risk being overwhelmed. It is also true at the level of policy where traditional instruments are less potent.

Like plumbing problems that you may experience at home, the result is a cleaning process that is often unpleasant. The costs can also be significant since they relate not only to the problem itself but also to the collateral damage. Indeed, investors face more than just the difficult challenge of understanding the new *destination* (or “steady state”), including what it implies for institutional and organizational set-ups. They also have to understand and navigate a *journey* that is inevitably turbulent and nonlinear. And with that comes the probability of *market accidents and policy mistakes*.

Due to the difficulties in being able to rapidly identify and adapt to multiple structural changes, it is inevitable that some investors (including previously successful investors) will trip, some firms will fail, some admired policy makers will be slow in reacting, and some international institutions will lose relevance. As long as the numbers remain contained, they will constitute only “flesh wounds” for a generally robust secular transformation. But if few become many, the world faces the prospect of a disorderly adjustment characterized by disappointing economic growth, higher unemployment, greater poverty, trade wars, capital controls, and financial market instability.

### **A Framework for Understanding the New Reality**

Against this background, the purpose of this book is to document and detail the fundamental structural changes that are now in play—both their individual impacts and the manner in which they come together in defining a new secular destination. In doing so, the book also sheds light on the journey. This combination offers the readers analytical anchors—mental models, if you will—that can help in the formulation and implementation of strategies for an age of economic and financial change.

I would view this book as meeting its objective if it helps readers better understand the nature and implications of the emerging global secular realities. To this end, it details the challenges that face market participants and suggests ways to address them. The focus is on the ability to address both the most likely secular results (that is, the results that anchor the belly of the distribution of outcomes) and potential major disruptions (that is, the fat left tail of the distribution).

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In attempting to meet this objective, I also provide a framework for explaining developments in the financial industry and the policy world, including the recent market turmoil and liquidity disruptions that started in the summer of 2007. I demonstrate that these developments share a common root: the tendency of structural transformations to enable activities that initially outrun the ability of the system to accommodate and sustain them. This mismatch will continue to play out in the period ahead pending what is likely to be a protracted phase of reconciliation at the level of individual firms and nations and the multilateral system as a whole.

The analysis thus sheds light on such factors as the recent large-scale migration of financial activities beyond the purview of traditional regulatory and supervisory jurisdictions; the virtual 180-degree turnaround in the sources and victims of systemic disruptions; the difficulties that exist in valuing certain instruments; the proliferation of structured investment vehicles (SIVs) and other off-balance-sheet conduits; and the new influence of SWFs.

Finally, the analysis also speaks to the unusual spectacle of seeing the most sophisticated banking system in the world come under significant pressure. It sheds light on what was previously thought to be a highly unlikely and, for some, unimaginable shutdown of the vibrant market for commercial paper lending. It explains why investors have suddenly had to worry about the stability of their money market funds and long-standing financial institutions. And it details why authorities in countries with highly developed market mechanisms have been forced into crisis management and emergency policy actions.

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### Notes

1. As noted in a paper by Columbia University Professor Guillermo Calvo published by the IMF (Guillermo Calvo, "Explaining Sudden Stop, Growth Collapse, and BOP Crisis: The Case of Distortionary Output Taxes," IMF Staff Papers, vol. 50, 2003), the term "sudden stop" was coined by the MIT economist Rudi Dornbusch in 1995 (Rudiger Dornbusch, Ilan Golfajn, and Rodrigo O. Valdes, "Currency Crises and Collapses," Brookings Papers on Economic Activity, 1995). It was popularized by Calvo in the context of the emerging market crises of the 1990s.
2. David Enrich, Robin Sidel, and Susanne Craig, "World Rides to Wall Street's Rescue: Citigroup, Merrill Tap Foreign Aid Lifelines; Damage Tops \$90 Billion," Wall Street Journal, January 16, 2008, p.A-1.
3. Financial Times, "US Banks Get \$21 Billion Foreign Bail-Out," January 16, 2008, p.1.
4. The Economist, "Invasion of the Sovereign Wealth Funds," January 19-25, 2008, front cover.
5. The rationale for this was detailed in Mohamed A. El-Erian, "Development and Globalization: Friends or Foes," Emerging Markets Watch, PIMCO, March 2002.
6. The Emerging Markets Watch publication, which I had the privilege of authoring from December 1999 until I left PIMCO for HMC in early 2006, was taken over by my two PIMCO colleagues Michael Gomez and Curtis Mewbourne. The articles are available on [www.pimco.com](http://www.pimco.com). The columns that appeared in the Financial Times and Newsweek are available on [www.ft.com](http://www.ft.com) and [www.newsweek.com](http://www.newsweek.com).
7. See the related discussion in Chapter 1 that refers to the February 16, 2005 testimony of Chairmen Alan Greenspan before the Committee on Banking, Housing, and Urban Affairs of the U.S. Senate. Available on [www.federalreserve.gov/boarddocs/hh/2005/february/testimony.htm](http://www.federalreserve.gov/boarddocs/hh/2005/february/testimony.htm).

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8. Stephen Barrow, the CIO of Ironbridge Capital Management in London, put it in the following way in an interview that appeared in the August 20 edition of Barron's: "Wealth is not created by financial engineering. Financial engineering tends to be a transfer of wealth."
9. Ben White and David Wighton, "Credit Squeeze Costs Banks \$18 Billion," Financial Times, October 6, 2007, p. 1.
10. Christine Harper, "Goldman Doesn't Plan Significant Mortgage Write-downs, CEO Blaneifein Says," Bloomberg News, November 13, 2007.
11. Mohamed A. El-Erian, "Foreign Capital Must Not Be Blocked," Financial Times, October 2, 2007.
12. For an early discussion of SWFs, refer to the papers contained in Jennifer Johnson-Calari and Malan Rietveld, Sovereign Wealth Management, Central Banking Publications, London, 2007.
13. See, for example, Berkshire Hathaway Annual Report 2002.

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