

July 15, 2008

The Sociology of Markets

Financial Institutions, Incentives, and Asset Pricing

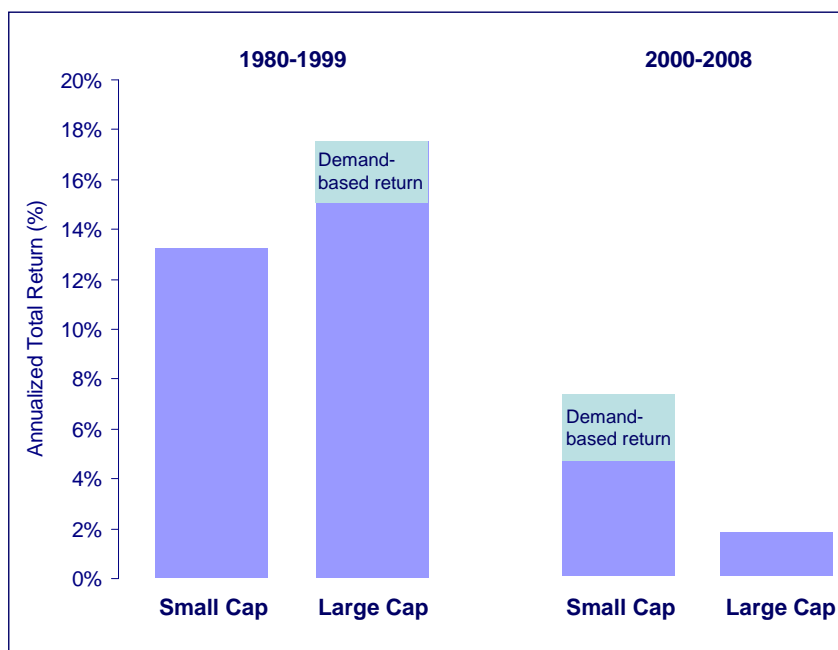
Financial institutions matter for asset pricing. This is both because they create an agency problem and because of their role in providing liquidity. We need to move away from the old view that asset pricing is all about risk and corporate finance is all about agency problems. Both areas can usefully adopt part of the perspective of the other.

Franklin Allen ¹

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Source: Paul A. Gompers and Andrew Metrick, "Institutional Investors and Equity Prices," *The Quarterly Journal of Economics*, Vol. 116, 1, February 2001; Bloomberg; LMCM estimates.

- **Financial institutions *do* matter. This reality has not fully seeped into the asset pricing literature, but it will.**
- **Several case studies reveal that money flows can alter asset prices and that demand curves are not horizontal.**
- **New power brokers are emerging, marked by the rise of Asian central banks and petrodollar countries.**
- **The sociology of markets suggests investors need to follow the money and consider incentives.**

Introduction

The sociology of markets is an important yet largely unexamined issue for financial market participants. By sociology, we mean the role of financial institutions in asset price setting. Traditional finance theory posits that investors directly buy assets in the market, with the relationship between risk and return guiding their decisions. A sociological examination moves beyond this narrow focus and asks whether the rise and fall of financial institutions, and their associated incentives, has an impact on asset prices.

This report has three parts. First, we ask whether financial institutions matter. The theoretical answer is no but the practical answer is yes. Second, we explore three case studies that show how institutions matter. Finally, we consider where we might go from here—that is, where the money flows are, what the incentives look like, and what those two drivers may mean for asset prices.

Extending Agency Theory to Asset Pricing

Franklin Allen’s 2001 presidential address to the *American Finance Association* provided the inspiration for this report. In that talk, Allen pointed out a puzzling dichotomy: in corporate finance, agency theory is well understood and has been explored extensively, starting over 75 years ago. Yet, agency theory is nearly absent in asset pricing theory (see Exhibit 1). While there has been a trickle of papers, they are overwhelmed by the papers that assume away the role of institutions.²

Several market observers, including Jack Bogle, Charley Ellis, and David Swensen, have been vocal in pointing out that the agents—professional money managers—have incentives that lead to behavior that is not in the interest of investors. But for the most part they have not dwelled on the specific implications of agency theory for asset pricing.

Exhibit 1: Agency Theory in Corporate Finance and Asset Pricing

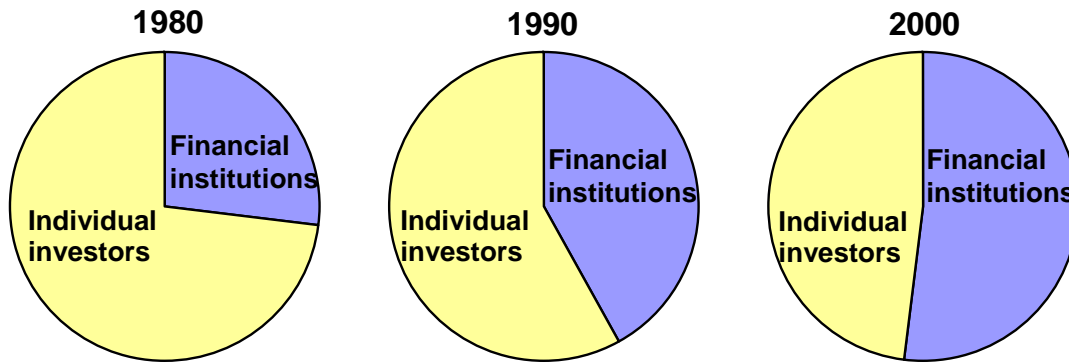
<u>Corporate finance</u>	<u>Asset pricing</u>
◆ Robust literature	◆ Limited literature
◆ Berle and Means (1932)	◆ Allen (2001)
◆ Jensen and Meckling (1976)	◆ Roll and Cornell (2004)
◆ Corporate governance	◆ Bogle, Swensen, Ellis

Source: Franklin Allen, “Do Financial Institutions Matter?” *The Journal of Finance*, Vol. 56, 4, Papers and Proceedings of the Sixty-First Annual Meeting of the American Finance Association, New Orleans, Louisiana, January 5-7, 2001, August 2001, 1165-1175.

So the question is: Why haven’t financial institutions and related agency cost issues been central to asset pricing theory? There are a couple of good reasons.

First, for a long time there was no principal-agent problem. As recently as 1980, individuals owned almost three-quarters of all stocks (see Exhibit 2). Only recently have principals delegated a majority of assets to agents—financial institutions such as pension funds and mutual funds—but principals dominated agents as asset pricing theory developed in the 1950s and 1960s. For instance, in 1950 individuals directly controlled over 90 percent of corporate equities. Agency theory wasn’t in the models because agents weren’t in the picture.³

Exhibit 2: The Shrinking Share Ownership of Individual Investors



Source: Paul A. Gompers and Andrew Metrick, "Institutional Investors and Equity Prices," *The Quarterly Journal of Economics*, Vol. 116, 1, February 2001; LMCM estimates.

The second reason reflects the development of asset pricing theory. There are two standard ways to support the efficient market hypothesis:

- *Mean/variance efficiency*: Rational investors understand their preferences and the distribution of asset price returns and rationally trade off risk and reward.
- *Absence of arbitrage*: This relaxes the assumption that everyone is rational and assumes only that a smart subset of investors—arbitrageurs—cruise markets and close price-to-value gaps.⁴

Note that in both cases, the details don't matter. By assuming the mechanism, we get efficient asset prices. Almost all of the models in asset pricing—the capital asset pricing model, the Black-Scholes options pricing model, the Modigliani and Miller invariance proposition—use one of these two approaches as a foundation.

So where are we today?

First, agency theory is relevant because agents now control the market. And, not surprisingly, agents have very different incentives than principals do. And this game is close to zero sum: The more the agents extract, the lower the returns for the principals.

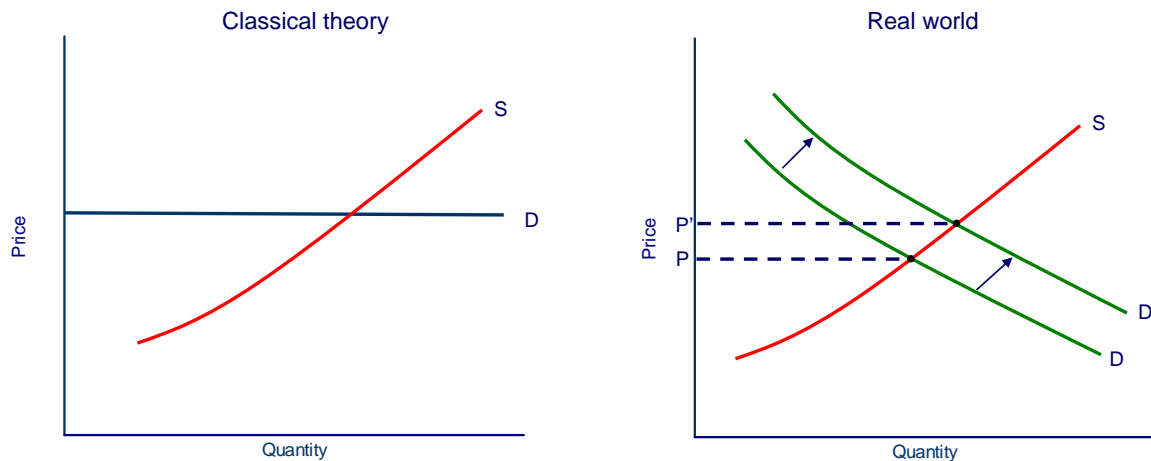
Second, there are now a number of robust challenges to the classical theory—some going so far as to question the practical usefulness of these approaches.⁵

Taken together, these two factors argue that financial institutions absolutely do matter, just as Professor Allen argued in his speech. More directly, we need to understand where the money is, who will invest it, and what the incentives look like all around. But before delving in, let's spend a moment on theory.

One of the crucial implications of mean/variance and absence of arbitrage is a nearly horizontal demand curve for stocks (see Exhibit 3, left). The rationale is straightforward: The price equals the present value of future cash flows. If price deviates from value, arbitrageurs will step in and bring price and value back into line.

The real world probably looks more like the illustration on the right—that is, downward sloping demand curves. While it is not trivial to figure this out from empirical data, the work on index additions and deletions is instructive—and on balance suggests demand curves slope downward.⁶

Exhibit 3: Demand Curve for Stocks: Theory and Practice



Source: LMCM analysis.

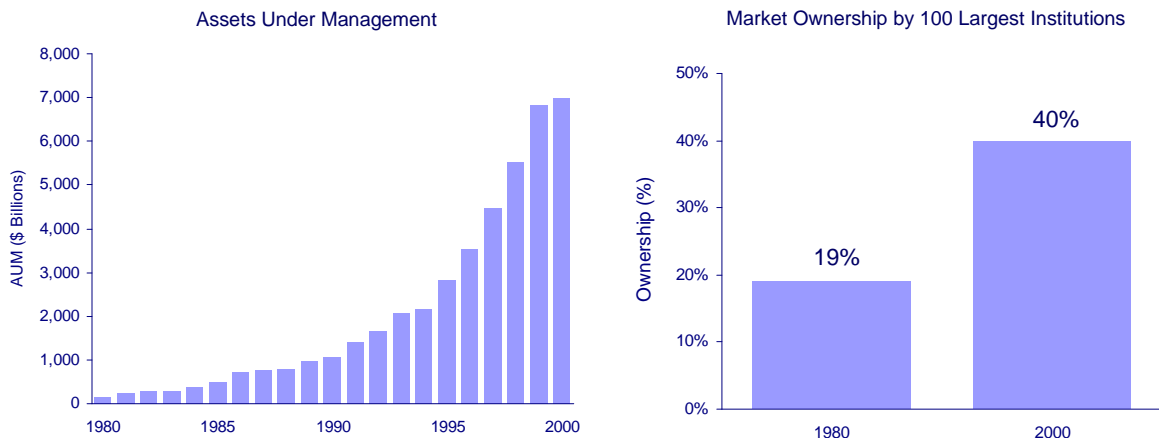
The key point is if demand curves are downward sloping, then demand shocks do change the asset price. In fact, demand shocks can lead to an asset price different from the present value of future free cash flows.

Case Study 1: Large Capitalization Outperformance

Let's start with the first of our case studies: the story of large institutions and large capitalization stocks. In the early 1980s, research showed that from 1926–1979, small-cap stocks outperformed large-cap stocks by about 400 basis points annually. That pattern, however, didn't hold up for the 1980s and 1990s, when returns from large-cap stocks trounced those of small-caps.⁷

A paper by Paul Gompers and Andrew Metrick tells the story behind this. They start by noting there was a large increase in flows to mutual funds (see Exhibit 4, left) and that this capital largely went to large institutions (Exhibit 4, right). In fact, these large institutions saw their market ownership double from 1980 through 2000.⁸

Exhibit 4: US Mutual Fund Industry



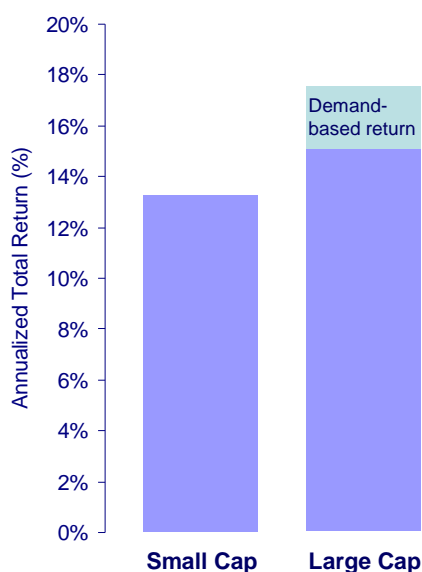
Source: 2008 ICI Fact Book, 48th edition; Paul A. Gompers and Andrew Metrick, "Institutional Investors and Equity Prices," *The Quarterly Journal of Economics*, Vol. 116, 1, February 2001; LMCM estimates.

So how did these institutions invest the money? Not surprisingly, they showed a preference for large-cap stocks that were liquid. Further, large-cap stocks were cheap in the early 1980s.

These large institutions also recognized that investment management is a scalable business. Estimates suggest that large fund groups have expense-to-asset ratios that are roughly 40 percent lower than small funds.⁹ Gompers and Metrick argue these institutions created a demand shock which, when combined with a downward sloping demand curve, drove the prices of large-cap stocks higher.

The result is that for the 20 years ended 1999, large-cap stocks outperformed small-cap stocks by 430 basis points annually. The Gompers and Metrick analysis suggests that up to 230 basis points of this outperformance is attributable to the flows into large institutions. Financial institutions *do* matter.¹⁰

Exhibit 5: Annualized Total Returns, 1980-1999

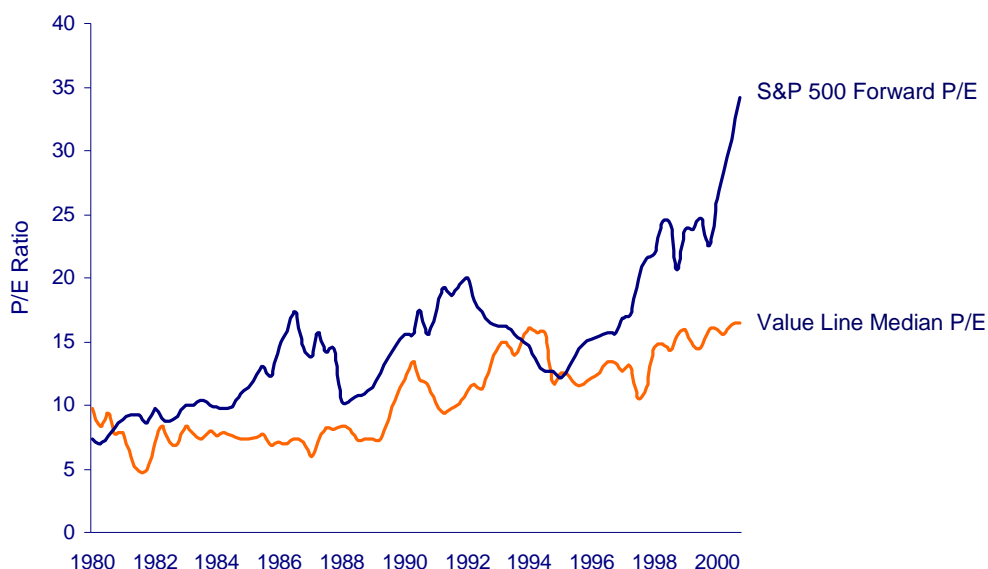


Source: Paul A. Gompers and Andrew Metrick, "Institutional Investors and Equity Prices," *The Quarterly Journal of Economics*, Vol. 116, 1, February 2001; Bloomberg; LMCM estimates.

This asset price performance also had clear implications for valuation.

The forward price-to-earnings (P/E) multiple for the S&P 500 ended the two decades roughly four times higher than it started, and over two times its average during that period. Said differently, a meaningful part of the total returns was attributable to multiple expansion (see Exhibit 6).¹¹

Exhibit 6: Value Line Median P/E and S&P 500 Forward P/E



Source: Value Line, Inc.; Standard & Poor's; and Raymond James & Associates.

Meanwhile, the small- to mid-cap universe saw a reasonably modest multiple increase, and ended the two decades with a P/E multiple only 30-40 percent higher than where it started.¹² We use the Value Line median P/E as a proxy for this universe.

As an illustration of the valuation disparity extremity, at the NASDAQ's price peak in March 2000, the S&P 500 P/E was a historically rich 26 times while the median Value Line multiple was just 12.7 times.¹³ Said differently, as the market was hitting new highs, fully one-half of the stocks of the money-making companies in Value Line's universe traded below 13 times earnings.

The late 1990s was a tale of two markets, which set up the next shift.

Case Study 2: Small Capitalization Outperformance

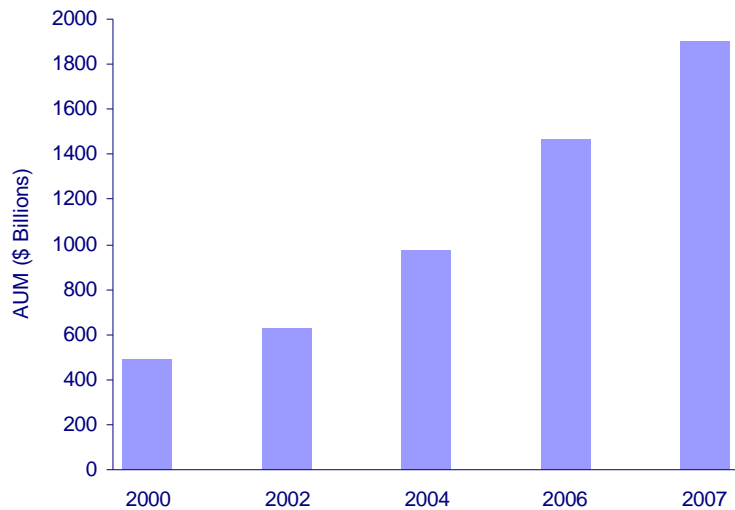
If the 1980s and 1990s were the decades of the mutual fund, the 2000s have been the decade of the hedge fund.

Hedge fund assets under management have exploded from \$500 billion in 2000 to nearly \$2 trillion today (see Exhibit 7). Since hedge funds generally employ leverage, their purchasing power is actually quite a bit larger than the assets under management suggest. In fact, some estimates peg hedge fund buying power at close to \$6 trillion.¹⁴

To provide some sense of the punching power of hedge funds, consider that while they are only about 3 percent of equity assets, they represent 30-40 percent of the trading volume on the average Wall Street trading desk.¹⁵

Now, of course, not all of this capital is dedicated to equities. But equities are the largest component of hedge fund assets.

Exhibit 7: Hedge Fund Assets Under Management

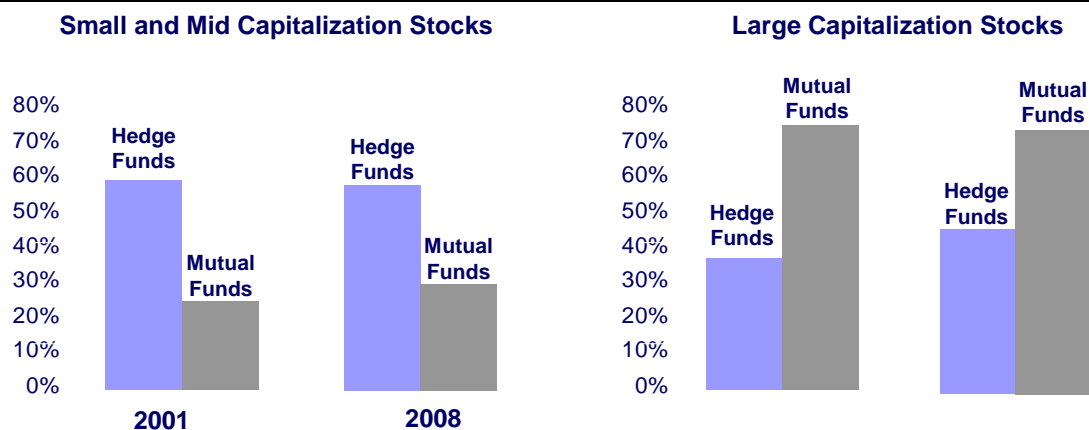


Source: Diana Farrell, Susan Lund, Eva Geleemann, and Peter Seeburger, "The New Power Brokers: How Oil, Asia, Hedge Funds, and Private Equity Are Shaping Global Capital Markets," *McKinsey Global Institute*, October, 2007, 98; LMCM estimates.

While the large institutions had incentives to grow to achieve scale, hedge funds have a much more lucrative fee structure, so excess returns create a lot of wealth for the hedge fund manager.

Seeing the large-cap/small-cap valuation disparity in 2000, and being generally smaller than the large institutions, the hedge funds logically gravitated toward small- and mid-cap stocks. As the left side of Exhibit 8 shows, hedge funds have a much higher percentage of their assets in small- to mid-cap stocks than mutual funds do. Further, as the figure on the right shows, hedge funds have a much smaller percentage in large-caps than mutual funds do.¹⁶

Exhibit 8: Aggregate Assets

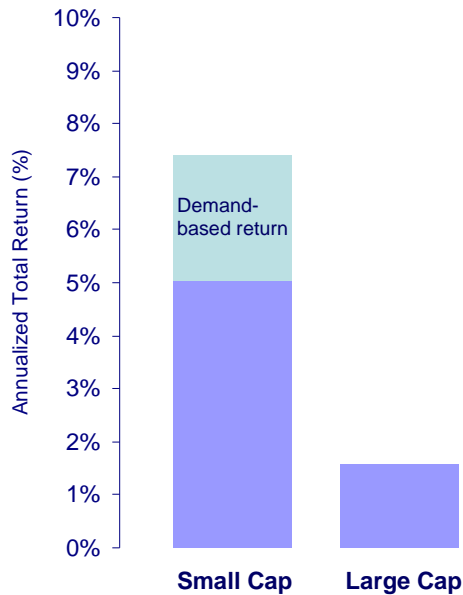


Source: David J. Kostin, Nicole Fox, Caesar Maastry, Anders Nielsen, and Amanda Sneider, "Hedge Fund Trend Monitor," *Goldman Sachs Research*, May 20, 2008.

The hedge fund move into small-caps created a meaningful demand shock, paving the way for small-cap returns. And indeed that's exactly what we have seen. Small-caps have trounced large-caps in the 2000s, providing 710 basis points of annual outperformance (see Exhibit 9). Estimates suggest that roughly one-third of that excess return is attributable to the rise in hedge fund demand. This development prompted Goldman Sachs strategist David Kostin to write, "The

massive capital flow into hedge funds may explain why the Russell 2000 outperformed the S&P 500 so dramatically since 2000.”¹⁷

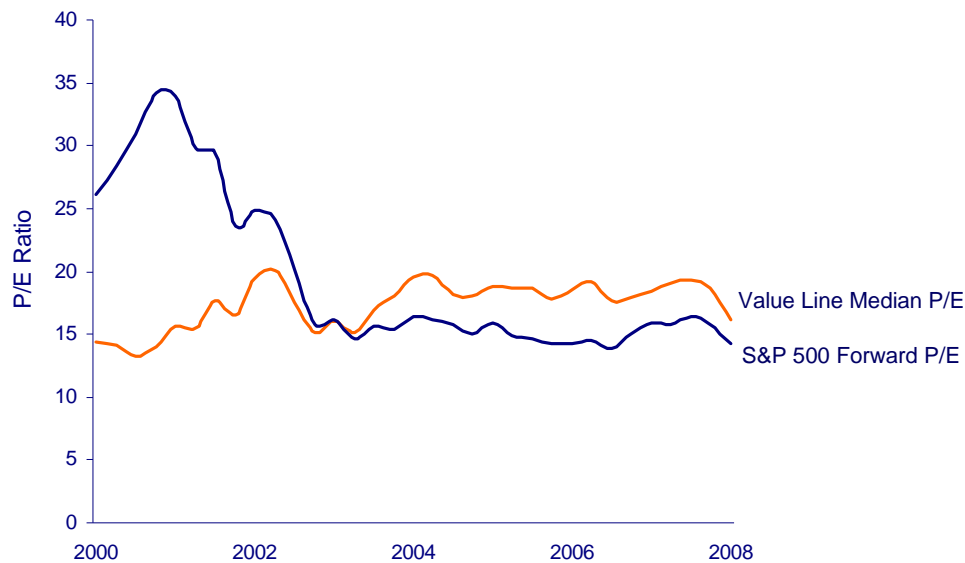
Exhibit 9: Annualized Total Returns, 2000-2008



Source: Bloomberg; Note: Small cap represented by Russell 2000, large cap represented by S&P 500.

Once again, we see a large demand increase leave its footprint on valuation. After spending the vast majority of the 1980s and 1990s trading at a P/E less than the S&P 500, the Value Line median P/E has been consistently above the S&P 500 P/E since 2003.¹⁸ The massive valuation disparity in March 2000 is an ancient memory.

Exhibit 10: Value Line Median P/E and S&P 500 Forward P/E



Source: Value Line, Inc.; Standard & Poor's; and Raymond James & Associates.

Where we go from here is anyone's guess, but it is fair to say the market for large-caps has atoned for its sins of the late 1990s by delivering poor returns in the 2000s. As of the time of this writing, the S&P 500 has delivered negative real returns over the past decade.

Case Study 3: Interest Rate Conundrum

Our last case study turns to fixed income, and addresses what Alan Greenspan called "the interest rate conundrum."¹⁹ Greenspan asked: Why didn't long-term rates rise while the Fed was raising short-term rates in the mid-2000s?

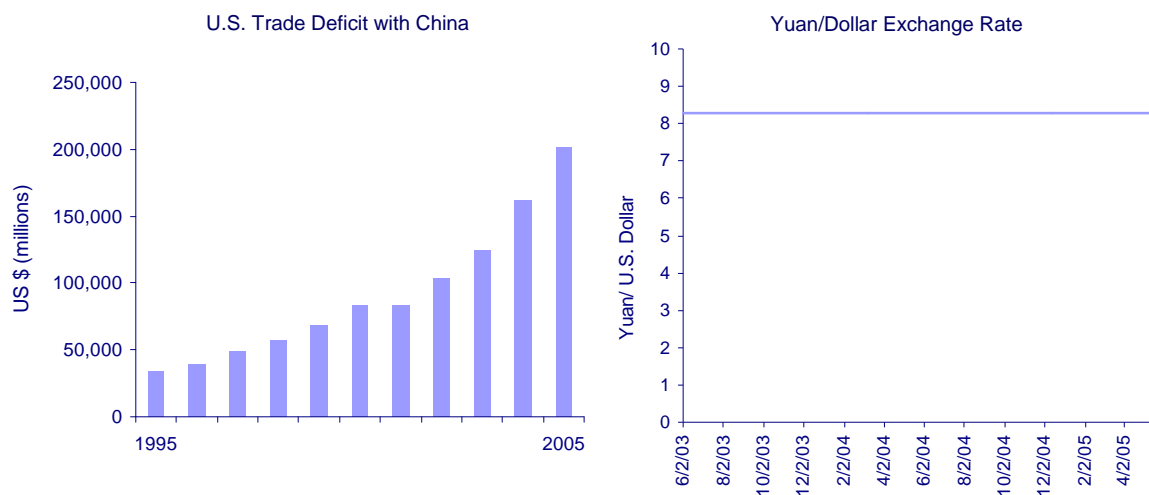
The answer was demand for long-term U.S. government debt. The source of demand was principally foreign central governments, most notably in Asia, and specifically, China.

Take China as a case. The broad story is China followed a mercantilist strategy, based on:

- Strong exports (see the trade deficit with the U.S. in Exhibit 11, left).
- A pegged and undervalued currency (see the yuan/dollar relationship, on the right).
- The leveraging of a relative cheap work force.

A natural outgrowth of China's policy was a surge in foreign exchange reserves.

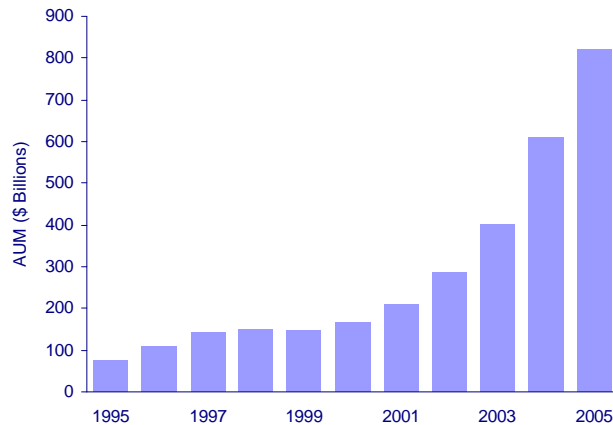
Exhibit 11: Components of China's Mercantilist Strategy



Source: U.S. Census Bureau; Federal Reserve.

As you can see from Exhibit 12, Chinese foreign exchange reserves nearly doubled from 2001 to 2003, and effectively doubled again from 2003 to 2005.²⁰ Today, they stand at twice the 2005 levels.

Exhibit 12: China Foreign Exchange Reserves



Source: Chinability.com.

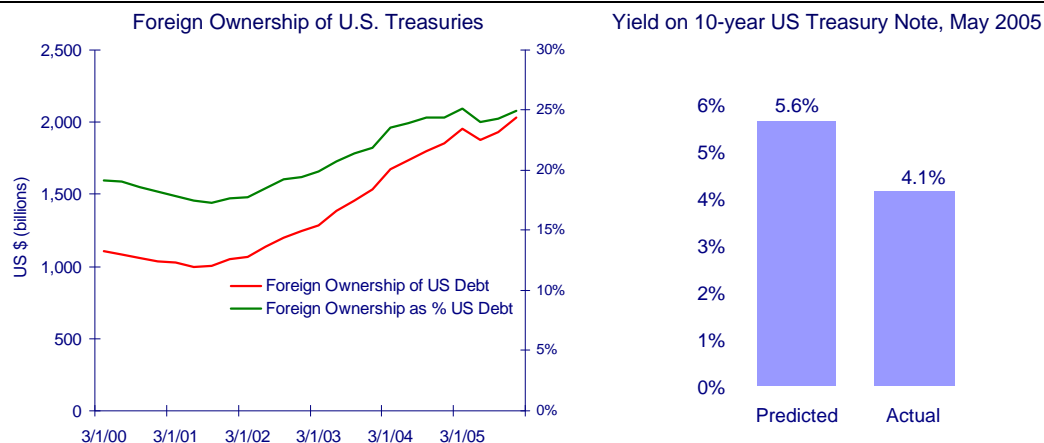
While China is not the only country in this story, it was the most significant marginal investor. So how did the Chinese central bankers invest these foreign exchange reserves?

Since the goal was to manage foreign exchange risk and to shelter against shocks, the central banks invested largely in safe government debt—and in particular, U.S. Treasuries. This demand was not insignificant:

- Foreign ownership of U.S. Treasuries basically doubled from \$1 trillion to \$2 trillion in the 2001 through 2005 period (see Exhibit 13, left).
- Looking at the same data differently, foreign ownership of U.S. debt rose from 17 percent in 2001 to about 25 percent in 2005.²¹

While this analysis is not without controversy, in a Fed discussion paper, two economists estimated that this strong foreign demand dampened the yield on the 10-year note by 50 to 150 basis points (see Exhibit 13, right).²² Said differently, in the absence of this large demand from foreign central banks, the 10-year yield could have been as high as 5.6% in the spring of 2005 instead of the 4.1% we actually enjoyed.²³

Exhibit 13: Foreign Appetite for U.S. Treasuries Kept a Lid on Yields



Source: Office of Debt Management, Office of the Under Secretary for Domestic Finance; Francis E. Warnock and Veronica Caccac Warnock, "International Capital Flows and U.S. Interest Rates," *Federal Reserve Discussion Paper*, Number 840, September 2005.

Note the same pattern in all of the cases:

1. Conditions create a flow of money.
2. The beneficiaries of those flows have incentives to invest the money a certain way.
3. The money and incentives combine to create demand—and perhaps even a demand shock.
4. This leads to asset price performance and a revaluation.

Provided this pattern is plausible, the next obvious question is: Where do we go from here?

What's Next

Last fall, the McKinsey Global Institute (MGI) published a fascinating report called “The New Power Brokers.” It’s a must-read to gain appreciation for the sociology of markets.

In that report, MGI quite logically points to four power brokers. You can think of two of them—Asian central banks and petrodollar assets—as sources of capital, and the other two—hedge funds and private equity—as agents who will invest the capital.

Exhibit 14: McKinsey Power Brokers

<u>Sources of capital</u>	<u>Intermediaries</u>
Asian central banks	Hedge funds
Petrodollar assets	Private equity

Source: Diana Farrell, Susan Lund, Eva Geleermann, and Peter Seeburger, “The New Power Brokers: How Oil, Asia, Hedge Funds, and Private Equity Are Shaping Global Capital Markets,” *McKinsey Global Institute*, October, 2007.

While identifying these power brokers may not appear earth shattering, and in fact may prove off the mark, the value in the report is in its detailed analysis and discussion.

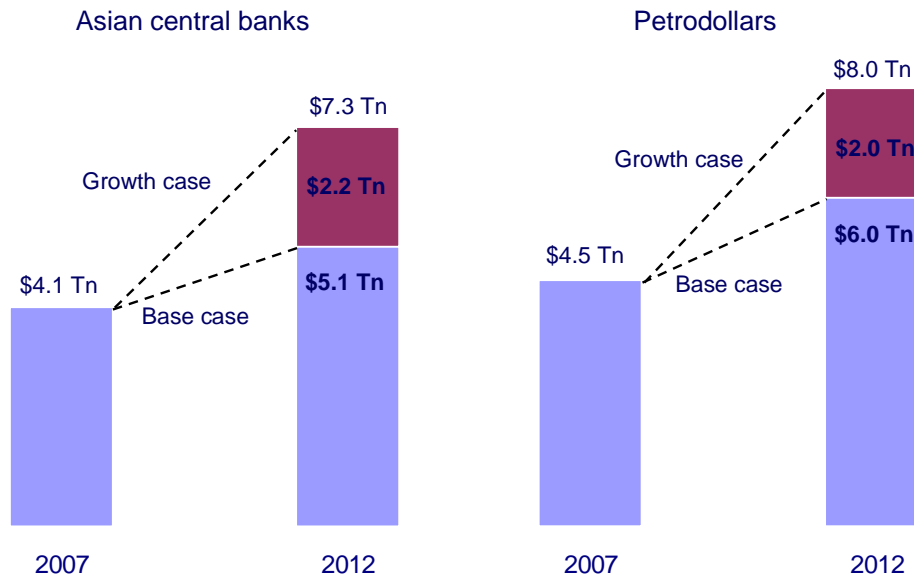
So how big a factor will these power brokers be? Let’s start with the sources of capital.

Asian central banks today represent over \$4 trillion in capital, with China and Japan accounting for the majority of the total. Estimates suggest this sum will swell to \$5 to \$7 trillion in the next five years, depending on what scenario unfolds (see Exhibit 15, left).

The petrodollar inflows are even more impressive. From its current \$4.5 trillion base, forecasts suggest these assets may surge to \$6 to \$8 trillion over the next five years (see Exhibit 15, right). The bulk will flow, not surprisingly, to Gulf countries like Saudi Arabia and Kuwait. But other countries, including Norway and Russia, will be large beneficiaries as well.²⁴

It’s worth noting these forecasts are based on oil prices quite a bit lower than what we are experiencing today.

Exhibit 15: The Rise of Asian Central Banks and Petrodollar Economies

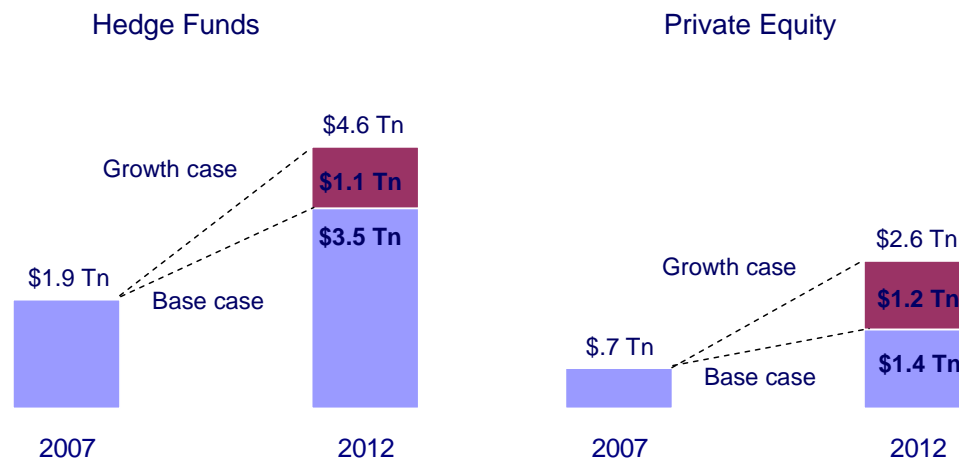


Source: Diana Farrell, Susan Lund, Eva Geleemann, and Peter Seeburger, "The New Power Brokers: How Oil, Asia, Hedge Funds, and Private Equity Are Shaping Global Capital Markets," *McKinsey Global Institute*, October, 2007; LMCM estimates.

So who will invest the money?

McKinsey points to continued growth in hedge funds and private equity. While this conclusion is certainly open for debate, you'll see some of the rationale in a moment. Hedge funds, as we saw before, currently have roughly \$1.9 trillion in assets under management. Projections suggest that sum may be in the \$3.5 to \$4.5 trillion range in five years (see Exhibit 16, left). Private equity is much smaller, working off a current base of \$700 billion. But estimates call for this power broker to see its assets under management double or triple in the next five years (see Exhibit 16, right).²⁵ Of course, both hedge funds and private equity use leverage, which amplifies their impact.

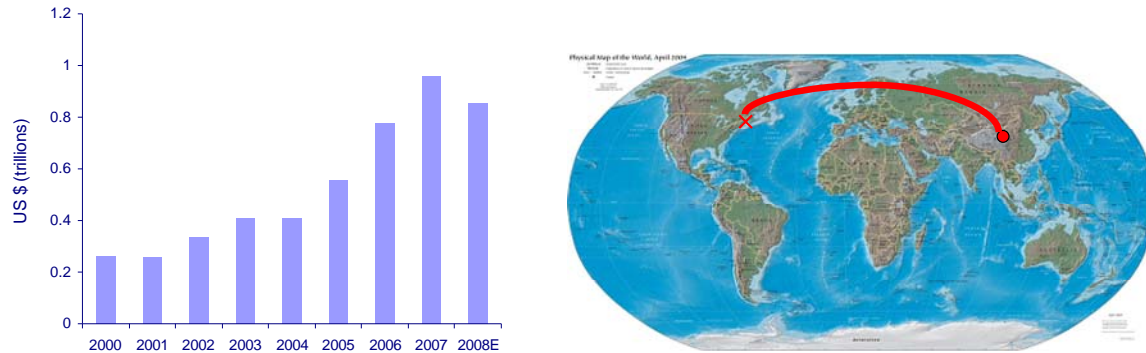
Exhibit 16: Alternative Assets May Continue to Grow



Source: Diana Farrell, Susan Lund, Eva Geleemann, and Peter Seeburger, "The New Power Brokers: How Oil, Asia, Hedge Funds, and Private Equity Are Shaping Global Capital Markets," *McKinsey Global Institute*, October, 2007; LMCM estimates.

The case for funds flow from Asia is essentially: more of the same. Even if current account surpluses moderate, which economists anticipate, reserves should continue to grow at a healthy clip (see Exhibit 17). While Asian central banks have historically invested quite conservatively, there is evidence now that Asian governments are starting to seek higher returns.²⁶ This shift in risk appetite, should it occur, would have important implications for asset pricing in a number of markets.

Exhibit 17: China's Current Account Surplus—Smaller but Still Large



Source: International Monetary Fund; CIA World Factbook.

This shift fits nicely with the four-phase process PIMCO's Mohamed El-Erian describes in his book *When Markets Collide*. As emerging economies transition from debtor to creditor status, they shift their emphasis in predictable phases:

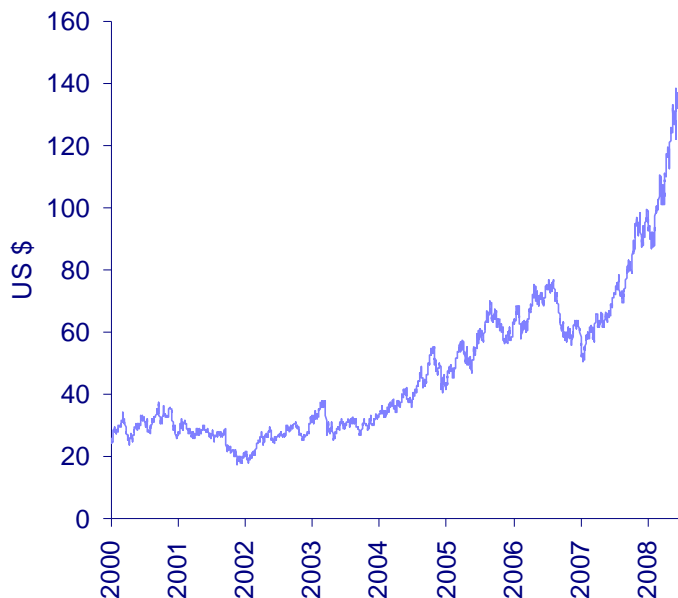
1. *Benign neglect.* Countries are slow to appreciate the extent of the change in their external accounts, and when they do recognize the shift, they ignore it, believing it to be temporary. It is perceived as “benign” at first because the reserves serve as a cushion of insurance for these traditionally poor economies. But as reserves continue to build, countries begin to fear inflation and/or a perceived excessive appreciation of the exchange rate.
2. *Sterilization.* Emerging economies try to “sterilize” the large capital inflows. They issue domestic debt, generating inflows, and then invest this capital abroad in high-quality, liquid instruments such as US Treasuries. This “mops up” the externally induced liquidity, alleviating the negative impact of the excessive capital inflows. However, it often results in “negative carry,” in which countries pay more to finance their debt than they earn on their reserves.
3. *Liability and asset management.* The emerging economies expand their liability management and asset allocation strategies in order to limit the negative carry. They issue debt in foreign currency, enlarging their investor base. And they become more assertive asset managers, seeking higher returns through vehicles such as sovereign wealth funds.
4. *Embracing change.* As emerging economies recognize their shift from debtor to creditor status is not temporary, they must reconsider their macroeconomic policies. They are forced to choose between continuing to rely on external components of demand or encouraging domestic demand. The ongoing discussion over whether China should “let its currency go” is a good example of the issues countries face in this phase.

Naturally, the petrodollar funds-flow story largely hinges on the price of oil (see Exhibit 18). But under almost any scenario, the dollar sums here are very large for the next few years. According to McKinsey's calculations, at \$70 per barrel, roughly \$3 trillion of petrodollars will be available for

capital outflows over the next five years. At \$90 per barrel, that figure rises to roughly \$4 trillion dollars, or comfortably in excess of \$2 billion a day. Predicting the price of oil is obviously difficult, as the last few years have shown. But over the next five to ten years, petrodollar capital flows will be material.²⁷

Both Asian central banks and petrodollar entities appear to be shifting from phase 2 to phases 3 and 4 in El-Erian's framework.

Exhibit 18: Price of Oil *



Source: Energy Information Administration; McKinsey Global Institute.
(*) = NYMEX Light Sweet Crude, Contract 1.

As we turn to intermediaries, there's another important driver going on within the U.S.—the return demands of pension funds. Many large companies try to strike a balance between properly provisioning for their future liabilities and maximizing short-term earnings. As you might guess, the provisioning suffers when the two go head-to-head.

In his 2007 letter to Berkshire Hathaway shareholders, Warren Buffett notes that the 363 S&P 500 companies with pension plans had an eight percent rate of return assumption. Given that the plans hold 28 percent of those assets in fixed income and cash—which are unlikely to earn more than five percent—the funds need to get a higher-than-historical-average return with the equity and alternative balance.²⁸

Exhibit 19: Asset Allocation and Required Returns for S&P 500 Pension Plans

Current portfolio allocation

	<u>Weight</u>	<u>Expected return</u>
Cash and bonds	28%	5.0%
Equities and alternatives	<u>72</u>	<u>9.2</u>
	100%	8.0%

Source: Berkshire Hathaway 2007 Annual Report; Greenwich Associates.

Not surprisingly, this has led to a meaningful move into alternatives, including hedge funds, private equity, and most recently, commodities. Rightly or wrongly, there's hope these

alternatives will help solve this liability problem. Surveys suggest pension funds expect double-digit returns from alternative asset classes.

This asset allocation shift is also clear in the survey data from Greenwich Associates (see Exhibit 20).²⁹

Exhibit 20: Pension Funds Continue to Look to Alternatives



- **47%** expect to substantially increase allocation to **private equity**
- **44%** expect to substantially increase allocation to **hedge funds**



- **18%** expect to substantially decrease allocation to **U.S. equities**
- **11%** expect to substantially decrease allocation to **fixed income assets**

Source: Greenwich Associates.

Returning to the central banks and petrodollar countries, there is clear evidence that both groups are shifting away from conservative investments, like Treasuries, toward more risky assets, like equities. This is consistent with El-Erian's framework. And these funds are big enough to move the needle. Sovereign wealth funds, estimated at \$3.7 trillion today, are projected to reach \$12 trillion by 2015.³⁰

The crucial point is that Asian central banks and petrodollar countries will be flush and looking to allocate capital out a bit on the risk spectrum, while U.S. pension funds are looking for higher returns. Hedge funds and private equity firms stand to benefit from both trends.

Exhibit 21: How to Invest Newfound Wealth

Asian central banks		Petrodollars	
<u>Vehicle</u>	<u>Strategy</u>	<u>Vehicle</u>	<u>Strategy</u>
Central banks	Conservative / fixed income	High net worth individuals	Traditional asset allocation
Sovereign wealth funds	Traditional asset allocation	Sovereign wealth funds/ government investment corporations	Traditional / private equity

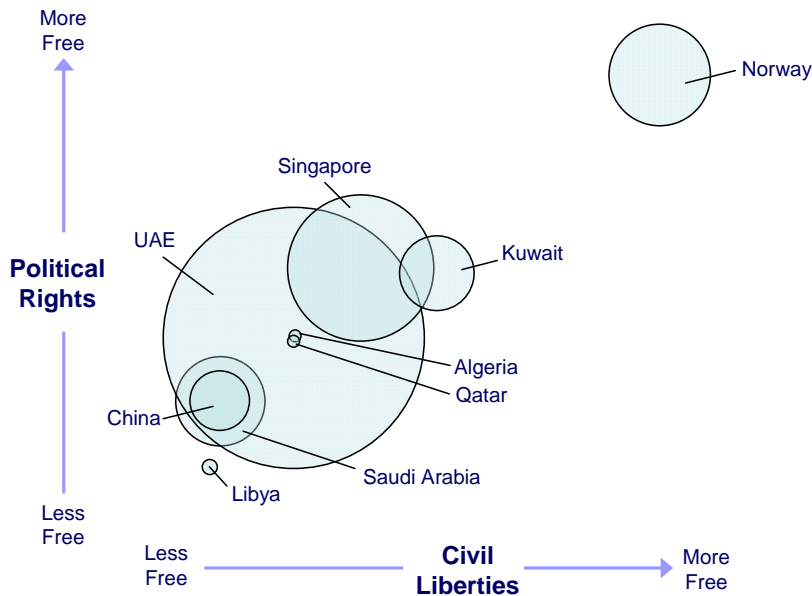
Source: Diana Farrell, Susan Lund, Eva Geleemann, and Peter Seeburger, "The New Power Brokers: How Oil, Asia, Hedge Funds, and Private Equity Are Shaping Global Capital Markets," *McKinsey Global Institute*, October, 2007; Sovereign Wealth Fund Institute.

While sovereign wealth funds only represent a subset of the capital that will be deployed, they are certainly important. There have been misgivings about the motivations and long-term incentives of sovereign wealth funds, although to date there have been no major problems. Larry Summers captured some of this concern in a *Financial Times* article from last year. He suggested the logic of the capitalist system depends on shareholders encouraging companies to maximize value. But, in his words:³¹

It is far from obvious that this will be the only motivation of governments as shareholders. They may want to see their national companies compete effectively, or to extract technology, or to achieve influence.

This is not an agency problem, but rather a principal problem: maximizing value may not be the goal. As Exhibit 22 shows, the governments that control most sovereign wealth funds are not, for the most part, the global model for civil liberties or political rights.³²

Exhibit 22: The Intersection of Money, Rights, and Liberties



Source: Bob Davis, "State Funds May Not Bolster Freedoms," *The Wall Street Journal*, February 11, 2008; Morgan Stanley; Freedom House.

The incentives for our intermediaries, however, look to be much more about the capitalist way: They are about the fees. The numbers today are staggering and, in fact, have raised a host of legitimate social and ethical questions. On the other hand, it's hard to begrudge hedge fund managers who are paid based on performance and who have entered into clear contractual agreements with their clients.

Still, the earnings for hedge fund managers are mind numbing. The top 10 managers alone earned \$16.1 billion in 2007, equal to the GDP of a reasonable group of countries.³³ But since hedge funds are structured to generate returns, they will be motivated to seek value wherever and whenever they see it.

As for private equity, the incentives are also about fees. This is a business that has ebbed and flowed over time. The biggest concern in good times is private equity firms can make lots of money for themselves and their fund holders without materially improving the performance of their portfolio companies. In a case that may make you pine for the good old days before the credit crunch, a trio of private equity firms were able to net \$3 billion on a \$2.3 billion investment in Hertz in less than a year (see Exhibit 23).³⁴ Verizon's June 2008 purchase of Alltel netted TPG and Goldman Sachs a tidy 28 percent return in just seven months.³⁵

Exhibit 23: Nice Work if You Can Get It

<u>Event</u>	<u>Gains / Losses</u>
Buyout	
• Three PE groups buy Hertz from Ford (Dec. 2005)	
• \$2.3 billion cash	- \$2.3 billion
• \$12.6 billion debt	
Dividend	
• Cash payment	+ \$1.4 billion
Fees	
• Separate from dividend	+\$0.4 billion
IPO	
• Priced at \$15/share (Nov. 2006)	
valuing Hertz equity at \$4.7 billion	\$3.5 billion remaining stake

~ \$3 billion in profits in less than one year!

Source: Allan Sloan, "Hertz on the Street," *Washington Post*, November 7, 2006; Bloomberg; LCM analysis.

So what does all of this mean for asset prices?

Let's start with the sovereign wealth funds (SWF).

These funds have played a substantial role in the capital raising of the U.S. banks, chipping in over \$50 billion to shore up ailing balance sheets (see Exhibit 24). They have also taken prominent stakes in private equity firms.³⁶ As these SWF invest directly and allocate capital to intermediaries, they are likely to move asset prices.

Exhibit 24: Sovereign Wealth Funds to the Rescue

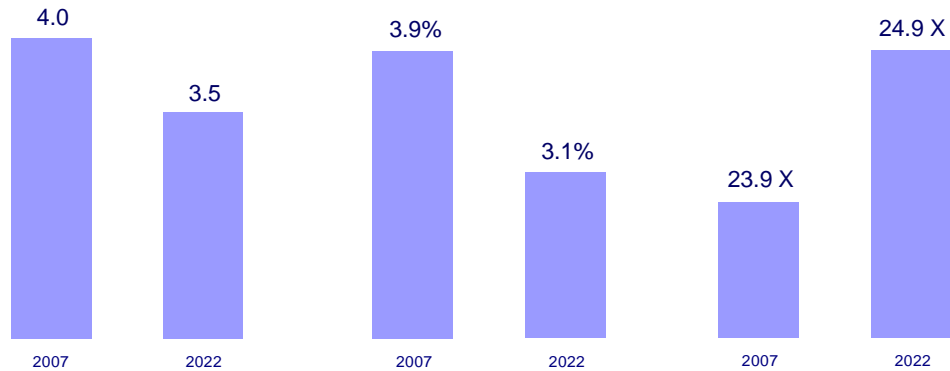
<u>Bank</u>	<u>Capital Infusion</u>	<u>Sovereign Wealth Fund Investors</u>
Citigroup	\$17.3 billion	Abu Dhabi Investment Authority, Government of Singapore Investment Corp, Kuwait Investment Authority
UBS	\$11.6	Government of Singapore Investment Corp, Saudi Arabian Monetary Agency
Merrill Lynch	\$8.4	Kuwait Investment Authority, Korean Investment Corp, Temasek Holdings
Morgan Stanley	\$5.0	China Investment Corp
Barclays	\$2.0	Temasek Holdings
Credit Suisse	\$0.6	Qatar Investment Authority

Source: Sovereign Wealth Fund Institute.

Here's a more concrete estimate of the impact, estimated by Morgan Stanley economists Stephen Jen and David Miles. The Jen and Miles argument is that as sovereign wealth funds shift their asset allocation away from bonds more toward equity, they are expressing lower risk aversion. This lower risk aversion (see Exhibit 25, left), in turn, serves to dampen equity risk premiums (middle) and ultimately increase valuation multiples (right). Note that, if true, this analysis suggests an upward re-pricing to gain a new equilibrium.³⁷

Exhibit 25: SWFs, Risk, and Valuation

Lower risk aversion . . . lowers the equity risk premium . . . and increases P/Es.
(Coefficient of relative risk aversion)



Source: David K. Miles and Stephen Jen, "SWFs and Bond and Equity Prices," *Morgan Stanley Research*, May 31, 2007.

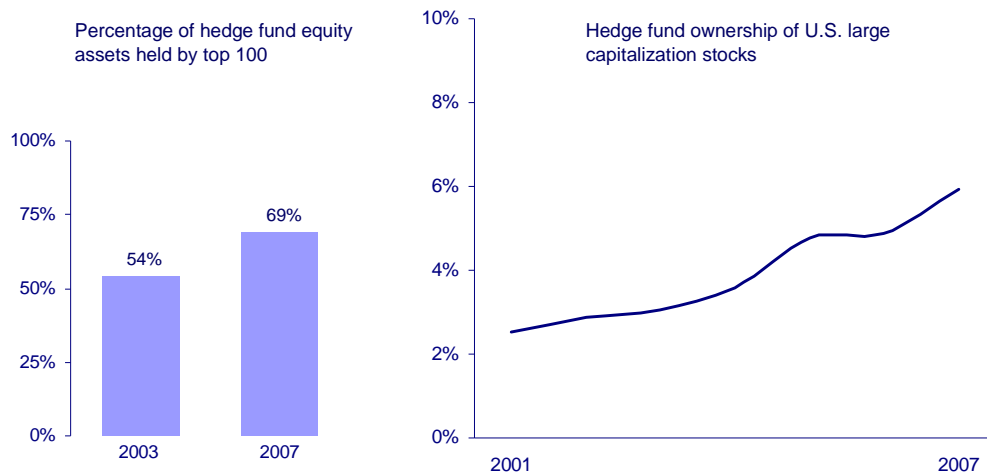
What about our intermediaries?

While the lure of hedge funds is undeniable, it remains to be seen whether they will deliver market-beating returns. After all, today there are more hedge funds in the world than Taco Bells, and that can't be right!³⁸

On top of this rapid growth in assets under management is another ominous sign for hedge funds: concentration. Estimates suggest that the top 100 funds control nearly 70 percent of the assets, up from 55 percent just a few years ago.³⁹ (See Exhibit 26.) And size *does* seem to matter: bigger is not better.

A recent *TrimTabs* study, covering most of the 2000s, showed a direct relationship between hedge fund size and performance: Smaller was better than medium, which was better than mega. The smallest funds delivered returns that were 230 basis points better than the mega funds—a substantial margin.⁴⁰ If these results are predictive, then many investors in large funds may be disappointed in their results.

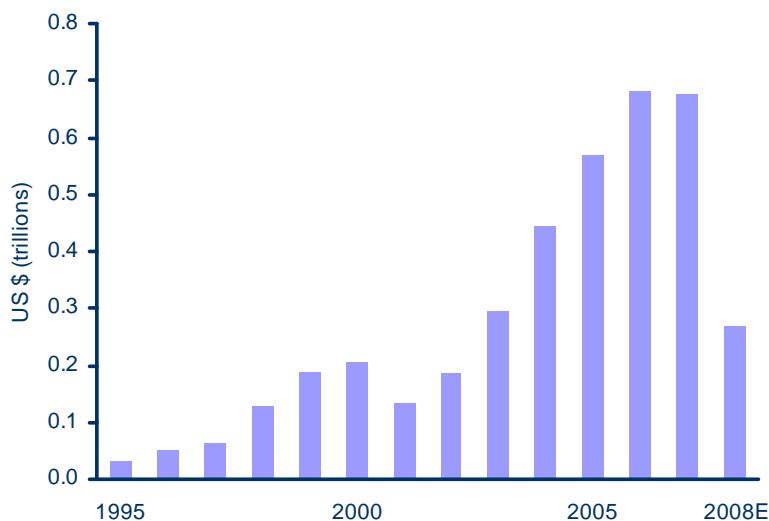
Exhibit 26: More and More in the Hands of Fewer and Fewer



Source: Hedge Fund Trend Monitor, *Goldman Sachs Research*, November 21, 2007; McKinsey Global Institute *New Power Brokers*, 98; Standard & Poor's; LMCM analysis.

The buyout business of private equity firms has quieted greatly since the credit crisis started last summer (see Exhibit 27), but these firms are still capital rich and will be opportunistic. A number of the large funds have launched distressed funds, in some cases buying back the same paper they sold at higher prices a year or more ago.⁴¹

Exhibit 27: M&A Deal Volume

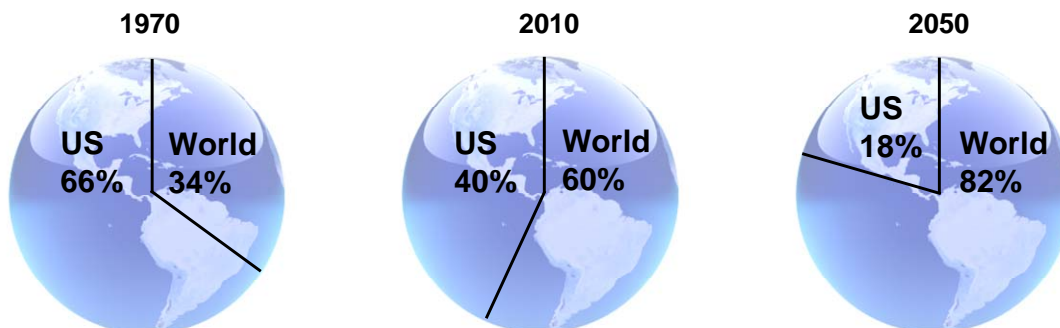


Source: Antonio Capaldo, Richard Dobbs, and Hannu Suonio, "Deal Making in 2007: Is the M&A boom over?" *McKinsey on Finance*, Number 26, Winter 2008; Bloomberg; LCMC estimates.

The other thing to bear in mind is it's a big world out there. While the U.S. still has the dominant share of the global equity market, most economists reckon the U.S. share will decline in the years to come. In this context, we highlight Fared Zakaria's book, *The Post-American World*, in which he argues not that the U.S. is in decline, but rather the rest of the world is in ascent.⁴²

Jeremy Siegel's long-term projections on market cap are consistent with Zakaria's outlook. His work suggests the U.S. will dip well below 20 percent of the global equity market capitalization by the middle of this century, while the share for China and the rest of the world will grow sharply.⁴³

Exhibit 28: The Rise of the Rest

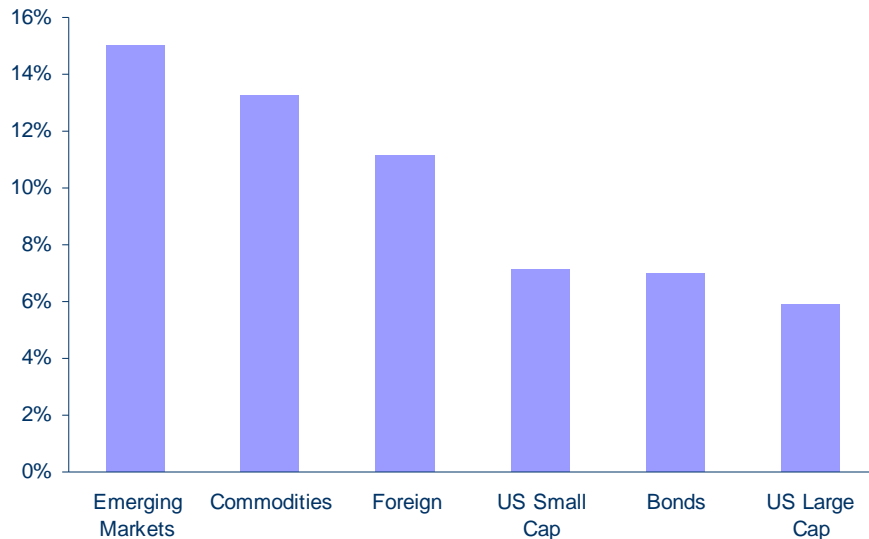


Source: Jeremy Siegel; MSCI Blue Book; LCMC estimates.

In thinking about where future returns may come from, it's often instructive to look at recent performance. Mean reversion is the core idea: Asset classes that are in vogue and have fared well tend to cool, while those that are unloved and have been sluggish do better.

Exhibit 29 shows the past 10 years of returns for a smattering of asset classes.⁴⁴ The globalization theme has lifted emerging markets and commodities, while working off the excesses of the 1990s has put a damper on U.S. large-caps. But again, trees don't grow to the sky, and some of the sovereign wealth funds's recent investments in unpopular sectors may still prove lucrative over time.

Exhibit 29: Annual Returns, 1998–2007



Source: Callan Associates; Bloomberg.

Summary

Here are the key takeaways:

1. Financial institutions *do* matter. This reality has not fully seeped into the asset pricing literature, but it will.
2. New power brokers are emerging. One always has to be careful about proclaiming new leaders, as we saw with Japan in the late 1980s and early 1990s. But it appears the foundation is in place for Asian central banks and petrodollar countries to play a major role in markets for the foreseeable future.
3. Money flows can alter asset prices. Demand curves are not horizontal. Our cases showed this, and this thinking may be relevant in today's commodity markets.
4. We'll end as we started: the sociology of markets suggests investors need to follow the money and consider incentives.

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²⁵ Ibid.

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