



VOL. 6, NO. 13
NOVEMBER 2011

Economic Letter

Insights from the
FEDERAL RESERVE BANK OF DALLAS

*When large in number,
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those reputed for high
risk and correlated
strategies—exhibit
substantial diversity
that adds an important
element of stability to
the financial system.*

Financiers of the World, Disunite

by Jiaqi Chen and Jeffery W. Gunther

Diversity across banks and other financial firms promotes a resilient financial system because differing risk profiles reduce the likelihood of systemic crises caused by shared economic shocks. Consolidation and uniformity among banks and other financial intermediaries do the opposite.

Yet some have suggested that any policy steps to reverse the financial system's dramatic consolidation might yield little stability benefit because herd-like behavior among financial firms could still reduce diversity and mitigate any strengthening. If these firms moved in concert, the argument goes, they would make themselves susceptible to common shocks as if they had adopted a more consolidated structure.

Countering this concern are indications that financial firms, when allowed to flourish, display stability-enhancing diversity. We find that hedge funds—despite a reputation for high-risk strategies and correlated behavior—recently have exhibited significant strategic dissimilarities, to the benefit of system stability.

Benefits of Diversity

A single bank can reduce its risks by diversifying loans and investments. However, if all diversify similarly, they generate an unintended consequence—a lack of diversity. As all banks seek the same fully diversified portfolio, they begin to look increasingly alike. And as their portfolios become more similar, their returns run together too. An adverse shock could then strike all banks simultaneously—all would be identically exposed—inflicting losses across the board. Ironically then, individual banks' efforts to reduce risk can actually increase risk to the financial system as a whole.¹



Similar reasoning applies to financial system consolidation. Bank mergers do not appear capable of avoiding such systemic crisis. Consider a case where two banks fail, with each bank's assets worth less than its liabilities. If the two had merged, assets would still be less than liabilities on a combined basis, producing no crisis mitigation.

Moreover, not only does consolidation fail to avoid systemic crisis, it can actually lead to one. Suppose as separate entities two banks were diverse, with different risk profiles, so that when tough times came, the first failed by a large margin, while the second escaped failure, albeit narrowly. If the two had merged, their combined assets would be less than combined liabilities, resulting in total failure. Stability was enhanced, then, by leaving the two as separate, diverse institutions.²

Are Intermediaries Diverse?

Reflecting the concern that banks and other financial firms might assume similar strategies, part of industry regulation seeks to contain the propensity for such correlated risks.³ This would appear to be a great challenge, par-

ticularly during boom periods, when adverse risk is often incurred, since threat perception tends to be low and opposition to regulatory constraints is high.

But while concern over correlated risks is real, it appears exaggerated. It is true that the largest banks have demonstrated a tendency to take similar risks, as with mortgage-related loans and investments during the financial crisis, resulting in severe and pervasive losses. Yet it is also true that among small and mid-sized banks, exposures and losses have been much more varied, pointing to considerable diversity for these size classes.⁴

Hedge Fund Diversity

Hedge funds provide an example of intermediary diversity and crisis experience. A prominent historical example of correlated losses occurred when numerous hedge funds needed to close out similar portfolio positions simultaneously as Long-Term Capital Management (LTCM) collapsed in 1998 under the weight of its highly leveraged, derivative-laden holdings.

After that experience, financial

authorities became especially wary of the potential for correlated risks in the hedge fund industry, making it a particularly interesting intermediary class for a diversity assessment. For data, we examined compound monthly returns by year for 1,190 dollar-based hedge funds that reported continuously in the Lipper TASS database from 2004 through June 2011.⁵

Chart 1 displays the distribution of returns for our sample of hedge funds. The uppermost line represents the 95th percentile, with only 5 percent of the funds earning a higher return. The lowest line is the fifth percentile, with 95 percent of the funds earning a higher return. The middle line (50th percentile) is the median return. The percentiles are calculated for each year separately, and the position of an individual hedge fund within the distribution may change from year to year, depending on how it is performing relative to the others.

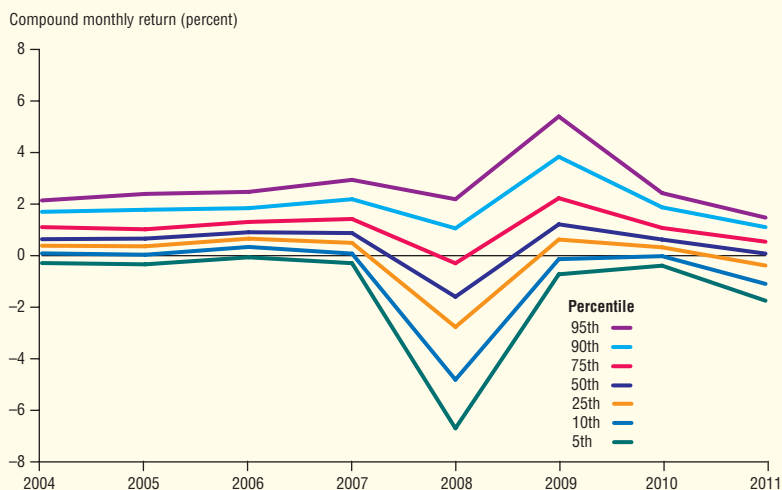
The first pattern of note involves the distribution of returns during the boom of 2004–06. Little change occurred over this period, other than a slight upward trend. But more importantly, even under these highly favorable operating conditions, a substantial level of diversity in returns is apparent, with the return percentiles during the boom period covering a fairly broad range, from around zero to more than 2 percent.⁶

In 2007, the return distribution widened further as the crisis began. Severe losses ensued for many funds in 2008 in the midst of the crisis. But interestingly, in this down year, the 95th percentile held fairly firm, with some funds managing to earn high profits even in the toughest of environments.

Coming out of the crisis, 2009 was a banner year for many funds, presumably reflecting strategic positioning ahead of a market bounceback. But then in 2010, returns declined to more normal levels and kept falling during the first half of 2011, with the current year turning out to be a rough one for

Chart 1

Profits Differ Greatly Across Hedge Funds



SOURCE: Lipper TASS Hedge Fund Database; authors' calculations.



the industry. The return distribution has remained a little wider following the crisis than prior to it.

Overall, return disparities across hedge funds suggest considerable diversity in risk exposures and outcomes. Of particular interest is how the risk differences observed across hedge funds played out during the boom years and subsequent crisis; that is, were the same funds always among the top performers, year after year, or did the relative rankings of individual funds change significantly?

To answer this question, Chart 2 shows individual hedge fund returns over the entire sample period for two groups. Those in red were the top 10 percent return performers in 2006, the peak of the boom years. Those in blue were the bottom 10 percent return performers in 2006. By construction, then, a gap in returns exists between the two groups in the base year of 2006, representing the mid-level performance range of the remaining 80 percent of funds.

Many of the top performers from 2006 also tended to have high returns in the earlier boom years of 2004 and 2005. But in 2007, the performance of these funds began deteriorating, and their returns plummeted in 2008. They rebounded in 2009 but have since drifted lower. Given the high return volatility displayed by this group, we characterize them as pursuing high-variance, or aggressive, investment strategies.

Meanwhile, returns for the worst performers in 2006 were relatively constant over the entire sample period. Remarkably, this was true even during the height of the crisis in 2008. These appear to be low-variance, or conservatively managed, funds. Note that in 2008, when the crisis hit in earnest, the conservatively managed funds actually generated superior performance, thereby providing an important degree of stability to both the upper portion of the return distribution and the hedge fund industry in general.

This conclusion receives additional support from Chart 3, showing

Chart 2

Boom-Period Underperforming Hedge Funds Aid Stability

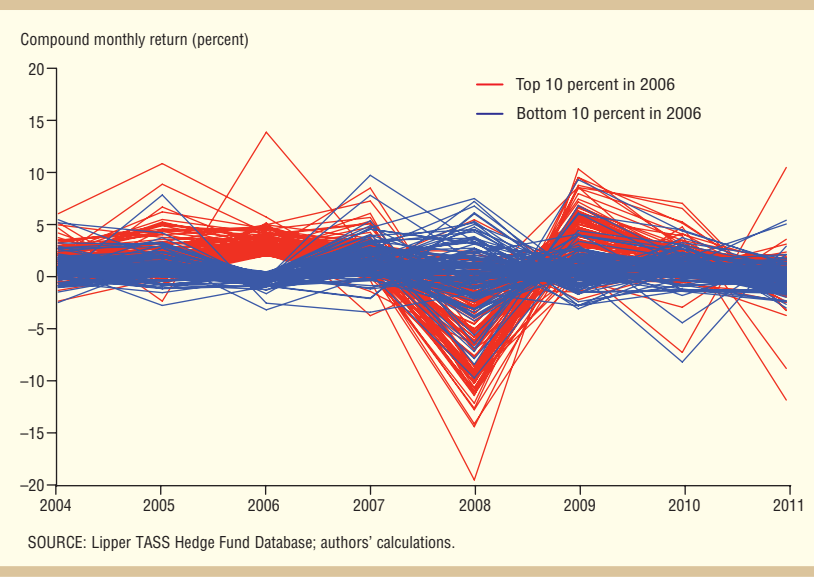
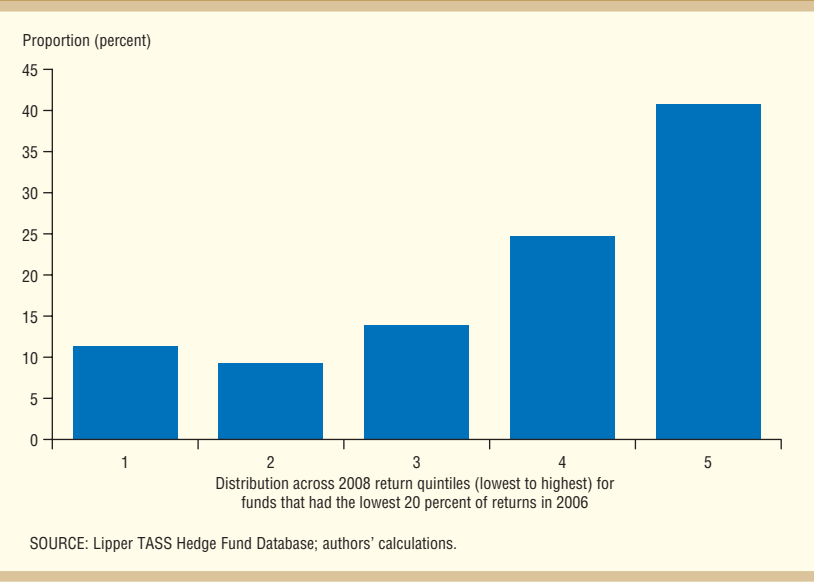


Chart 3

Hedge Funds' Apparent Conservative Strategy Pays Off



the distribution of returns in 2008 for those hedge funds that were among the lowest 20 percent of all performers in 2006, a somewhat broader slice than just the bottom 10 percent funds examined previously. Although these funds had been the worst performers,

about 40 percent of them ascended to the top fifth of the return distribution for 2008. Only about 10 percent of these previously underperforming funds remained in the lowest quintile during the crisis. Therefore, it seems that conservative strategies served their

role, providing stable and superior returns when the operating environment turned sour.

Diversity Emerges

Theory suggests diversity across numerous financial intermediaries in terms of risk postures and exposures can enhance financial system stability. However, some have suggested intermediaries, even if numerous, tend to act as a herd, adopting highly similar strategies and yielding little stability benefit. While this is a valid concern, available data suggest the situation is often otherwise: When large in number, intermediaries—even those reputed for high risk and correlated strategies—exhibit substantial diversity that adds an important element of stability to the financial system.

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Notes

¹ For formal arguments in this area, see “Pooling Intensifies Joint Failure Risk,” by Sherrill Shaffer, *Research in Financial Services*, vol. 6, 1994, pp. 249–80; “Diversification at Financial Institutions and Systemic Crises,” by Wolf Wagner, *Journal of Financial Intermediation*, vol. 19, no. 3, 2010, pp. 373–86; and “Diversification Disasters,” by Rustam Ibragimov, Dwight Jaffee and Johan Walden, *Journal of Financial Economics*, vol. 99, no. 2, 2011, pp. 333–48.

² This discussion focuses on the combination versus separation of a given set of assets across banks and, thus, abstracts from various potential influences of bank size and market structure on other aspects of risk and risk taking. For example, if large banks are comparatively prone to risk taking, bank mergers could reduce financial system stability not only through the combination effect discussed here, but also by creating more risk-inclined banks.

³ See “A Theory of Systemic Risk and Design of Prudential Bank Regulation,” by Viral V. Acharya, *Journal of Financial Stability*, vol. 5, no. 3, 2009, pp. 224–55.

⁴ Some point to the Great Depression as a case of widespread failure among smaller banks. However, that episode occurred under different institutional arrangements than exist today and arguably may have represented more of a system liquidity issue than a case of pervasive high risk taking among so many individual banks.

⁵ Because we wish to track the return experience of individual hedge funds over time, we restrict our sample to a panel of actively reporting funds that operated over our entire sample period. As such, our results may not necessarily reflect the experience of the entire hedge fund industry, because many funds possess relatively short lives and their risk propensities and outcomes may differ from those of longer-lived funds.

⁶ The full set of dollar-based hedge funds reporting to Lipper TASS in 2006, as opposed to the restricted number contained in our panel of funds, shows a similar level of return dispersion, with –0.25, 0.2, 0.59, 0.89, 1.27, 1.84 and 2.50 percent for the fifth, 10th, 25th, 50th, 75th, 90th and 95th percentiles, respectively.

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