Empirical Research Partners

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October 29, 2013

Stock Selection: Research and Results October 2013

Technology: Big and Little Uglies, Earnings and the Great Margin Debate, The Equity Yield Curve: A Capacity Story

Technology: There's Ugly, and Then There's the Big Uglies

- Technology stocks generating high ROEs thought to be unsustainable and priced accordingly (i.e., to high free cash flow yields) have an excellent track record as investments. Their return premium to the sector has been almost +10 percentage points per annum over 60 years, since 2000 and again this year. Four of the big uglies had those attributes at the outset of this year and one did well, Microsoft. It was disk drive and software companies that carried the day. As was true elsewhere in the market, selling at a low multiple of gross profits was a virtue, generating almost +25 percentage points of alpha.
- Most technology stocks are priced to free cash flow yields above that of the market, as cyclical risks and that of obsolescence loom large. We found two dozen issues with the winning combination of attributes, with semiconductors a theme, that are listed in Exhibit 11 on page 5. We expect that big buybacks will tilt the odds further in our favor, and a third of the stocks have done them.

Earnings and the Great Margin Debate

- This year S&P 500 profit margins have held up, despite sub-par global-economic and top-line growth. For example in the quarter now being reported, non-financial earnings per share will be up by about +9% on revenue growth of around +6%. It looks like S&P 500 earnings per share will rise by roughly +12% in 2013 in a setting where global real-GDP increased by a bit less than +3%. The consensus expectations for next year that envision a similar earnings gain look reasonable.
- We've believed that margins aren't in a bubble and would hold up. In a setting of lackluster growth, that's exactly what's happened, as managements have sought to protect what they have. We don't yet see enough optimism to undermine the status quo, and believe that the money will be made by betting on sustainability. Worldwide, the top quintile of free cash flow yield has outperformed by +13 percentage points this year, and produced alpha of six to seven points per annum over the last three-, five- and ten-year periods. The effects of globalization remain deterministic to the outcome.

The Equity Yield Curve: A Capacity Story

- The advantage coming from longer holding periods has increased as institutions and high-net-worth individuals have tried to go vol-less. Since the beginning-of-2008 they've pulled $1.2 trillion from active managers of U.S. equities, a quarter of their assets under management. Just less than half that money ended up in indexed vehicles and the rest left the asset class altogether. In the last five years, the assets of equity-oriented hedge funds have tracked those of long managers as both their performance and outflows were less. The amount of capacity trying to exploit long-dated stories has diminished materially.
- We think that the equity yield curve has steepened as investors have fled from the volatility inherent at its long end. The returns generated from exploiting misvaluation and managements' capital allocation decisions have remained strong, and perhaps improved, while those tied to shorter-term phenomena have degraded badly. We're being rewarded for outlasting the other guy. The marginal investor is information-rich and volatility-phobic, to an irrational degree.

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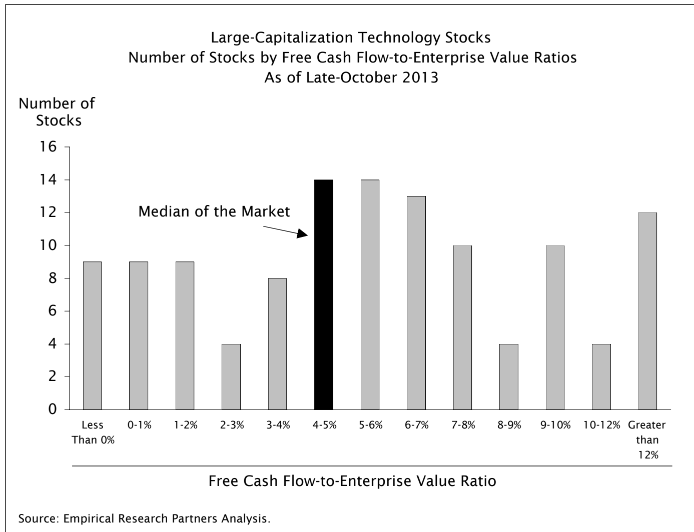
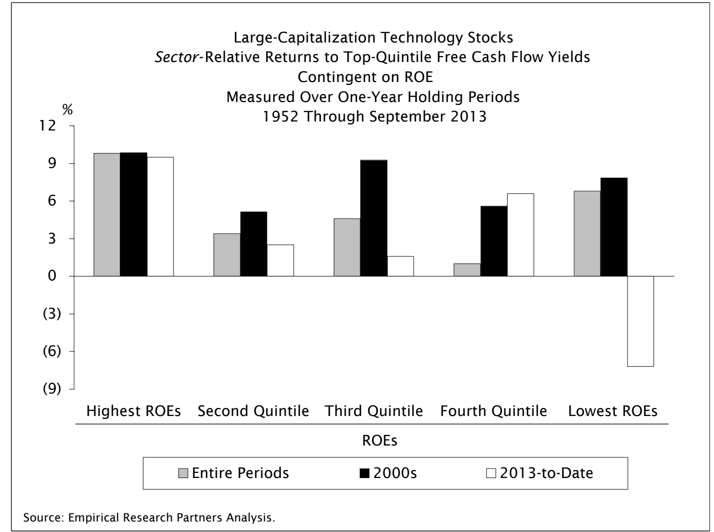
Conclusions in Brief

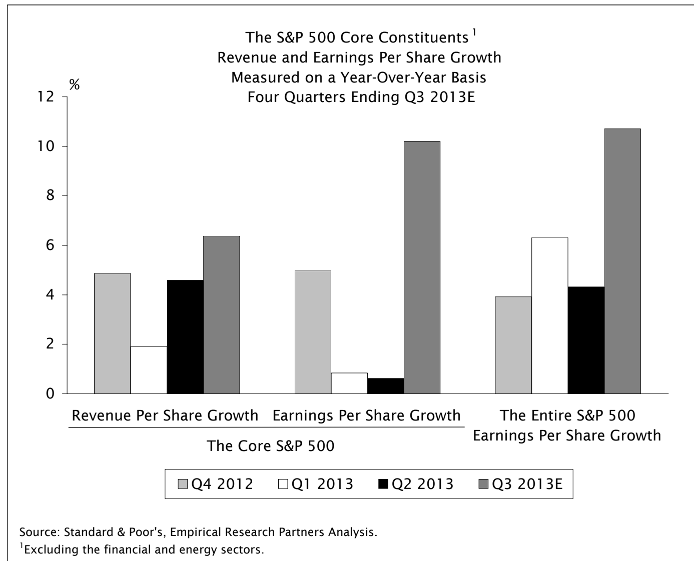
- Today most tech stocks have value characteristics…



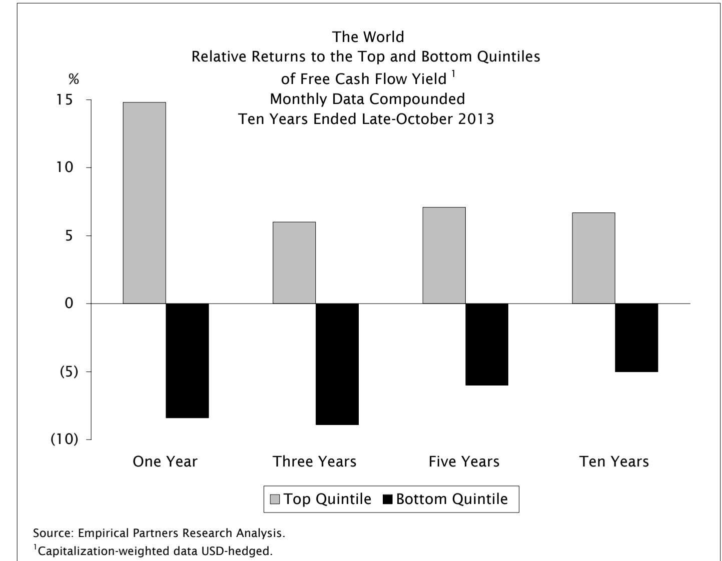
- …And high and disbelieved profitability has been a source of alpha:



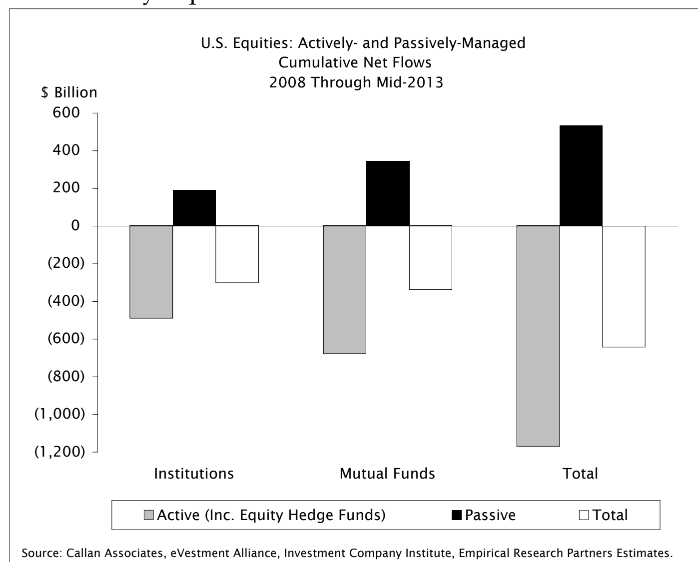
- S&P 500 margins have held up…



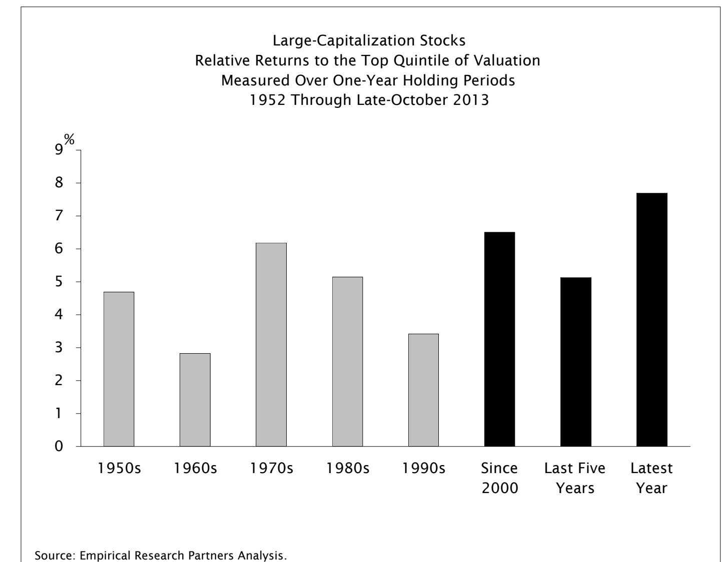
- …To the benefit of the believers:



- The capacity of the active equity management business is down by a quarter…



- …And patience has been rewarded:



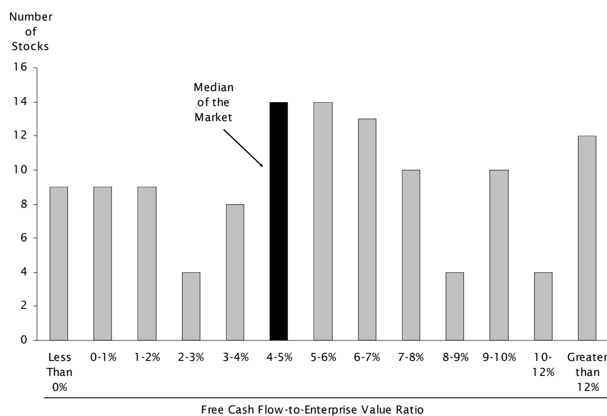
Technology: Uglies Everywhere

Big, and Littler Uglies

The technology sector remains, along with energy, a center of controversy within the equity market. There's widespread concern that the adoption of cloud computing will undermine the business models of many profitable companies that serve enterprises. The breadth of the worries is apparent in the distribution of free cash flow yields, and two-thirds of the sector's 120 large-cap stocks are priced to yield more than the market (see Exhibit 1). Only ten of them produce no free cash flow at all.

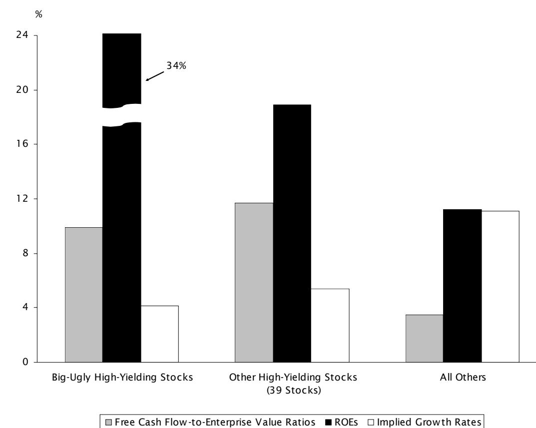
Thus far the validity of those worries has remained up in the air, and while the cap-weighted sector trails the large-cap market by around six percentage points this year, the average stock is several points ahead of it, and almost 60% of the issues have generated a premium. The handful of "big ugly" tech stocks have lagged badly, with only Microsoft besting the market. There are 39 other issues that offer free cash flow yields similar to those of the big uglies, albeit at lower ROEs, and they don't carry the burdens of scale (see Exhibit 2).

Exhibit 1: Large-Capitalization Technology Stocks
Distribution of Free Cash Flow-to-Enterprise Value Ratios
As of Late-October 2013



Source: Empirical Research Partners Analysis.

Exhibit 2: Large-Capitalization Technology Stocks
Big Uglies, High-Yielding Issues and Others[1]
Free Cash Flow-to-Enterprise Value Ratios, ROEs and Implied Growth Rates
As of Late-October 2013



Source: Corporate Reports, Empirical Research Partners Analysis.

[1]The big-ugly stocks are MSFT, AAPL, ORCL, IBM, CSCO and INTC. High-yielding stocks are those with free cash flow-to-enterprise value ratios that top 7%.

There's been a stark difference in what's motivated the performance of large- and small-cap tech stocks this year. In the larger-end of the sector a GARP strategy has been successful, as less bad has once again turned out to be good enough, and high yields, derived using free cash flow or gross profits have been rewarded (see Exhibit 3). So too was capital spending that had fallen far below trend along with the aggressive return of capital to shareholders. A high-and-rising ROE has been a good thing too, and good stock price trends were extrapolated (see Exhibit 4). In the smaller-cap end of the sector momentum strategies have once again carried the day.

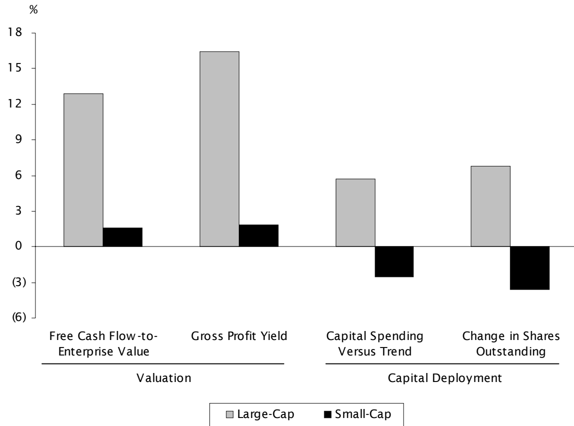
A Winning Combination: Skepticism and Strong Profitability

In technology there's a legitimate fear of failure, because as we've seen in recent years, business models can disintegrate. We're far less likely to be drawn into those vortexes if we look for companies that are both profitable and priced to high free cash flow yields (see Exhibit 5). Selling a modest multiple of gross profits has also been a virtue, particularly in the past decade or so when margins have been in steady ascent.

The bottom line is that it's good to make lots of money because it tells us that obsolescence isn't right around the corner. Skepticism in the face of high profitability has often been misplaced, and that's once again proven to be true this year. Exhibit 6 presents the *sector*-relative returns to tech stocks with the highest free cash flow yields, contingent upon the ROEs they're generating. The combination of a high yield (today 9% or more) and a top ROE (24% or more) has an exceptional record. In general the signal from the yield is the dominant one, although that was less true in 2013. A top ROE is most valuable when investors don't believe it will persist. Exhibit 7 presents the relative returns of high-ROE stocks sorted by their cash flow yields. As illustrated by the white bars what's worked this

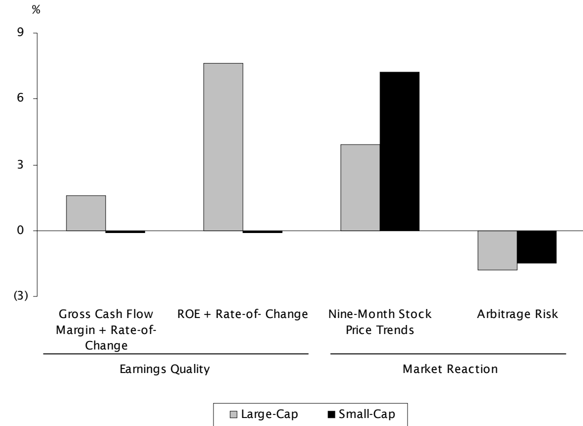
year was the combination we've just described along with high flyers generating little free cash flow. The latter group is now richly-valued (see Exhibit 8). If we substitute gross profits for free cash flow into the yield equation the story remains the same (see Exhibit 9). Gross margins have held up, to the surprise of investors, and the wall of worry was surmounted, at least in the most-profitable tech companies.

Exhibit 3: Large- and Small-Capitalization Technology Stocks *Sector*-Relative Returns to the Top Quintile of Select Valuation and Capital Deployment Variables Monthly Data Compounded 2013 Through Late-October



Source: Empirical Research Partners Analysis.

Exhibit 4: Large- and Small-Capitalization Technology Stocks *Sector*-Relative Returns to the Top Quintile of Select Earnings Quality and Market Reaction Variables Monthly Data Compounded 2013 Through Late-October

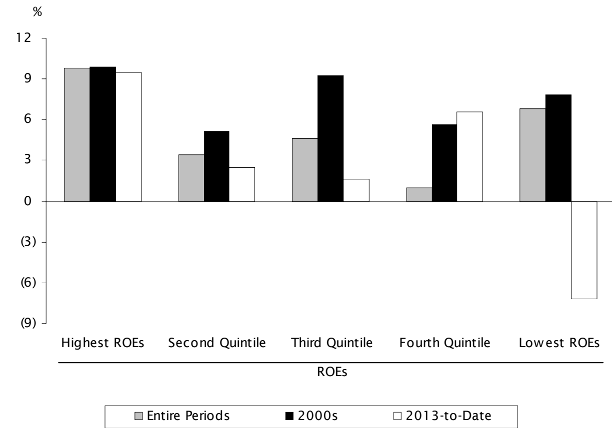


Source: Empirical Research Partners Analysis.

Exhibit 5: Large-Capitalization Technology Stocks *Sector*-Relative Returns to the Top Quintile of Free Cash Flow Yield Measured Over One-Year Holding Periods 1952 Through Late-October 2013

Source: Empirical Research Partners Analysis.

Exhibit 6: Large-Capitalization Technology Stocks *Sector*-Relative Returns to the Top Quintile of Free Cash Flow Yield Contingent on ROE Measured Over One-Year Holding Periods 1952 Through September 2013



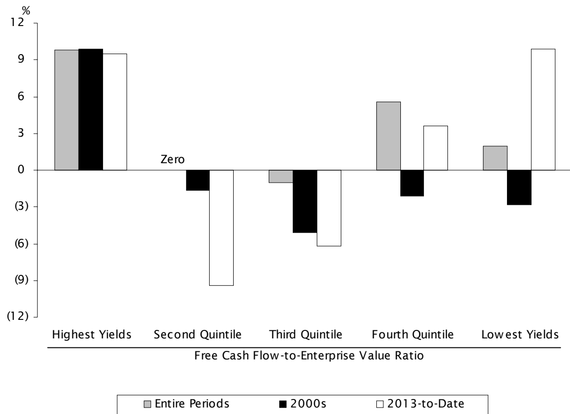
Source: Empirical Research Partners Analysis.

Conclusion: The GARP Premium is Intact

The possibility of business model failure has clearly risen within the technology sector as the acceptance of cloud-computing solutions has called into question the need for enterprise infrastructure. That shift has been underway for years now and the cash flow and profit yields of the stocks embody at least some of the risk. The way we'll win is if the pace of change turns out to be glacial, and at least some of the enormous free cash flow is deployed to the benefit of shareholders.

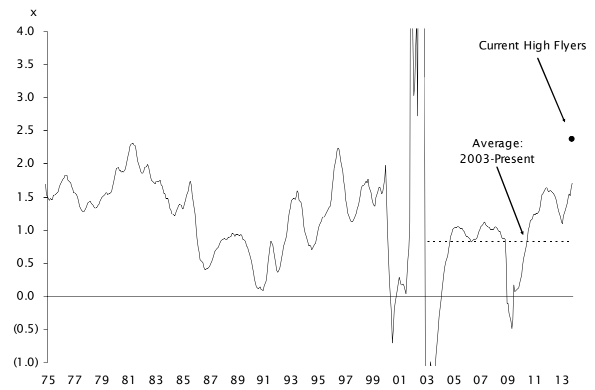
The empirical evidence convinces us that we can beat the sector by looking for strong profitability (and financial flexibility) that's at least temporarily disbelieved. That's what our growth stock selection model that has a strong track record within the sector tries to capture (see Exhibit 10). The magnitude of the free cash flow yields speak to the depth of the disbelief. What's gone on lately is consistent with the precedents and fortunately the options available to us extend far beyond the "big uglies." Exhibit 11 highlights tech companies with the winning combination of free cash flow yield and profitability.

Exhibit 7: Large-Capitalization Technology Stocks
***Sector*-Relative Returns to the Top Quintile of ROE**
Contingent on Free Cash Flow Yield
Measured Over One-Year Holding Periods
1952 Through September 2013



Source: Empirical Research Partners Analysis.

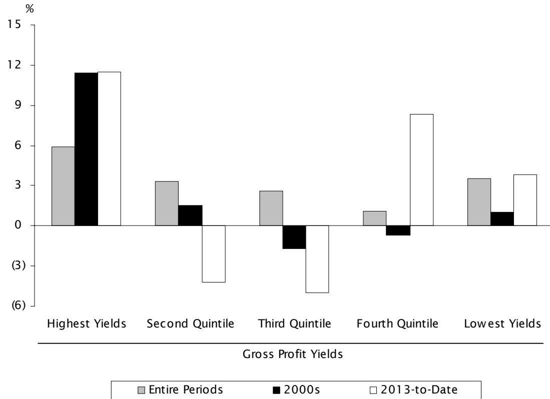
Exhibit 8: Large-Capitalization Technology Stocks
High Flyers Versus the Sector as a Whole
Relative Trailing-P/E Ratios[1]
1975 Through Late-October 2013



Source: Corporate Reports, Empirical Research Partners Analysis.

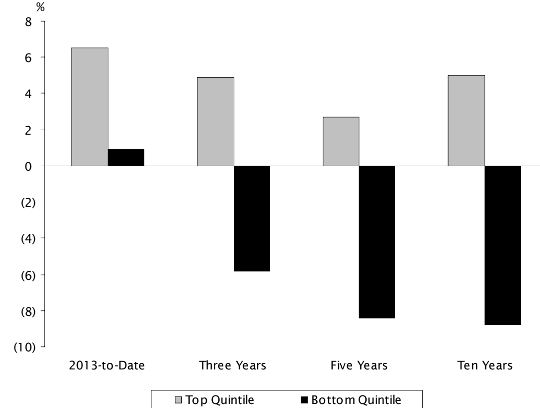
[1]Equally-weighted data smoothed on a trailing six-month basis.

Exhibit 9: Large-Capitalization Technology Stocks
***Sector*-Relative Returns to the Top Quintile of ROE**
Contingent on Gross Profit Yield
Measured Over One-Year Holding Periods
1952 Through September 2013



Source: Empirical Research Partners Analysis.

Exhibit 10: Large-Capitalization Technology Stocks
***Sector*-Relative Returns to the Top and Bottom**
Quintiles of the Growth Model
Monthly Data Compounded to Annual Periods
Ten Years Ending Late-October 2013



Source: Empirical Research Partners Analysis.

Exhibit 11: Large-Capitalization Technology Stocks
***Sector*-Relative Ranking Based on Free Cash Flow and Gross Profit Yield and ROE**
Sorted by Free Cash Flow and Gross Profit Yield
As of Late-October 2013

			Quintile Ranks (1=Best; 5=Worst)															
			Valuation			Earnings Quality			Capital Deployment				Market Reaction					
Symbol	Company	Price	**Free Cash Flow-to-Enterprise Value**	**Gross Profit Yield**	Valuation	**ROE**	Gross Cash Flow Margin with Incremental Change	Earnings Quality	Capital Spending Versus Trend	Dividend Growth	Change in Shares Outstanding	Capital Deployment	Nine-Month Price Trend	Arbitrage Risk	Market Reaction	Growth Model Rank	Forward P/E-Ratio	Market Capitalization ($ Billion)
MSFT	MICROSOFT CORP	$33.72	**1**	**2**	1	**1**	5	2	5	3	3	2	3	4	4	1	13.0 x	$281.4
STX	SEAGATE TECHNOLOGY PLC	48.56	**1**	**2**	1	**1**	5	2	2	2	1	2	3	3	3	1	9.3	17.5
HRS	HARRIS CORP	60.06	**1**	**2**	1	**1**	1	1	2	4	1	2	3	1	2	1	12.4	6.4
CSCO	CISCO SYSTEMS INC	22.37	**1**	**2**	2	**2**	1	2	2	1	4	1	3	2	4	2	10.9	120.6
CA	CA INC	30.39	**1**	**2**	1	**2**	5	4	1	5	2	1	3	1	3	2	10.3	13.6
ORCL	ORACLE CORP	33.07	**1**	**3**	1	**1**	1	1	5	1	1	1	5	1	5	1	11.4	151.1
AAPL	APPLE INC	531.91	**1**	**4**	1	**1**	5	2	5	1	2	5	4	4	4	4	11.6	483.2
INTC	INTEL CORP	23.78	**2**	**1**	1	**2**	4	3	4	5	3	3	4	2	4	3	12.7	118.4
JBL	JABIL CIRCUIT INC	22.41	**2**	**1**	2	**2**	3	3	5	5	2	4	3	4	4	4	9.2	4.5
TEL	TE CONNECTIVITY LTD	53.74	**2**	**2**	4	**2**	1	1	4	3	1	3	2	1	1	1	14.1	22.2
TDC	TERADATA CORP	45.45	**2**	**2**	2	**2**	5	5	5	5	1	3	5	5	5	5	14.0	7.4
KLAC	KLA-TENCOR CORP	63.73	**2**	**3**	3	**2**	5	3	5	4	3	2	3	2	3	4	16.0	10.5
MXIM	MAXIM INTEGRATED PRODUCTS	29.05	**2**	**3**	3	**2**	1	1	4	5	2	2	5	2	4	1	17.4	8.4
FFIV	F5 NETWORKS INC	85.15	**2**	**3**	3	**2**	1	3	2	5	3	4	5	4	5	5	15.0	6.6
ADI	ANALOG DEVICES	46.95	**2**	**4**	4	**2**	1	1	3	3	5	1	4	1	4	2	19.3	14.6
LLTC	LINEAR TECHNOLOGY CORP	38.95	**2**	**5**	4	**1**	1	1	1	5	4	1	4	1	5	2	20.5	9.1
VRSN	VERISIGN INC	53.06	**2**	**5**	3	**1**	1	1	1	5	1	1	2	1	2	1	21.3	7.3
CHKP	CHECK POINT SOFTWARE TECHNOLOGIES	58.59	**2**	**5**	2	**2**	1	1	5	5	1	3	3	2	4	2	16.5	11.7
IBM	IBM CORP	177.80	**3**	**2**	2	**1**	5	2	2	4	1	3	5	2	5	4	10.0	193.8
CSC	COMPUTER SCIENCES CORP	51.77	**4**	**1**	1	**2**	3	2	1	5	1	1	3	4	2	1	13.9	7.7
MSI	MOTOROLA SOLUTIONS INC	62.51	**4**	**2**	4	**1**	5	3	3	3	1	1	5	1	3	4	14.3	16.2
GPN	GLOBAL PAYMENTS INC	59.64	**5**	**1**	3	**2**	4	4	2	5	1	2	5	4	3	3	14.0	4.3
NCR	NCR CORP	40.53	**5**	**2**	4	**2**	4	5	1	5	5	5	1	2	1	4	13.8	6.7

Source: Empirical Research Partners Analysis.

Earnings and the Great Margin Debate, Circa 2013

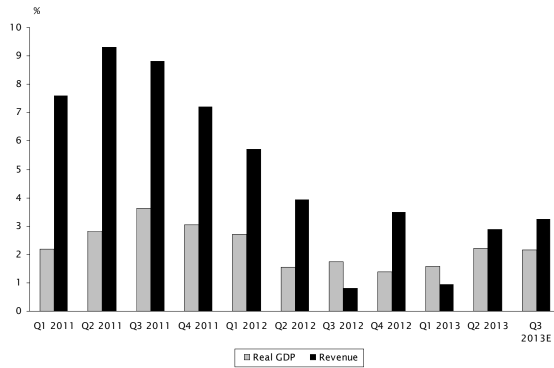
The Great Margin Debate Rolls On

The level of profit margins is one of the most contentious topics on Wall Street. One camp believes they're at unsustainable levels, far above the long-term average, buoyed by the federal government's deficit spending and the largess of central banks. They believe the recovery from the financial crisis has been a mirage, and the future is hostage to demographics and debt that papered over a myriad of mistakes. They're convinced we're overdue for a move back to the mean in margins, sooner rather than later. The end of quantitative easing will reveal the cracks in the foundation and make that happen.

The other camp, that we're in, thinks there are fundamental reasons why margins are so high, having to do with globalization of the labor pool, the benefits of robotics on the plant floor and the application of technology to supply chain management. Our bloc expects that margins will stay high until a major shift takes place in the world economic order. Like in a political campaign, the third-quarter earnings that are now being reported can be spun to support either position.

The top-line of the S&P 500 moves in tandem with *global* GDP growth and the global part of the descriptor has become more critical over time. The share of income sourced by U.S. companies in foreign markets has moved up from 25% in 2003 to around 45% now. Lately there's been a modest pick-up in global growth, that's still well below trend, that's flowed through to the top line (see Exhibit 12). Around three-quarters of all large-cap companies have seen revenue gains, that average about +6% (see Exhibit 13). In the third-quarter real global GDP growth was just shy of three percent, or about (70) basis points below normal. The tailwind was more like a breeze.

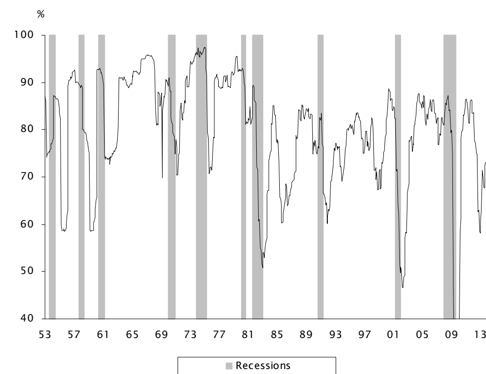
Exhibit 12: The S&P 500 Core Constituents[1]
Real Global-GDP and Revenue Growth Rates
Measured on a Year-Over-Year Basis
2011 Through Q3 2013E



Source: Bloomberg LP, Empirical Research Partners Analysis.

[1]Excluding financial and commodity-related businesses.

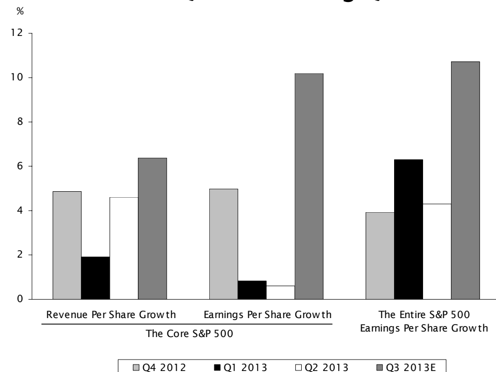
Exhibit 13: Large-Capitalization Stocks[1]
Share with Revenue Gains
Measured on a Year-Over-Year Basis
1953 Through Q3 2013E



Source: National Bureau of Economic Research, Corporate Reports, Empirical Research Partners Analysis.

[1]Excluding financials.

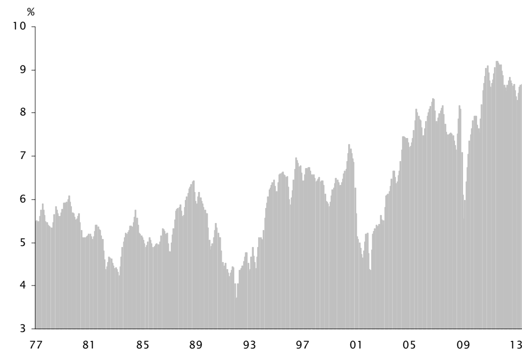
Exhibit 14: The S&P 500 Core Constituents[1]
Revenue and Earnings Per Share Growth
Measured on a Year-Over-Year Basis
Four Quarters Ending Q3 2013E



Source: Standard & Poor's, Empirical Research Partners Analysis.

[1]Excluding the financial and energy sectors.

Exhibit 15: The S&P 500
Quarterly Net Profit Margins[1]
1977 Through Q3 2013E

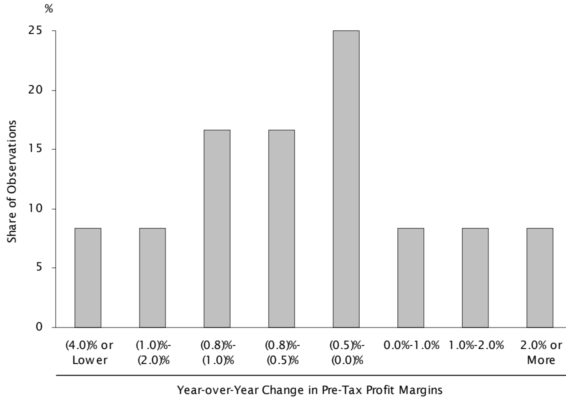


Source: Corporate Reports, Empirical Research Partners Analysis.

[1]Excluding financials; data smoothed on a trailing three-month basis.

Profit margins moved up in the quarter, and they've been flattish over the past four (see Exhibits 14 and 15 overleaf). Being flat is an impressive result as typically margins have declined when top-line growth falls below +3% (see Exhibit 16). The cost discipline has been impressive.

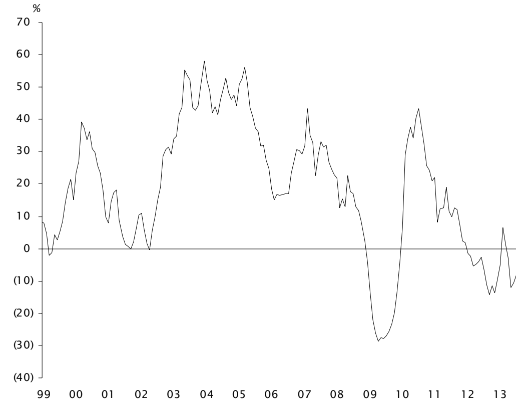
Exhibit 16: The S&P 500 Core Constituents[1]
Pre-Tax Profit Margins
When Sales Growth is Positive But Below 3%
Measured on a Year-Over-Year Basis
1976 Through Q3 2013E



Source: Corporate Reports, Empirical Research Partners Analysis.

[1]Excluding financial and commodity-related businesses.

Exhibit 17: Chinese Exports to the European Union
Measured on a Year-Over-Year Basis [1]
1999 Through September 2013



Source: CEIC, Empirical Research Partners Analysis.

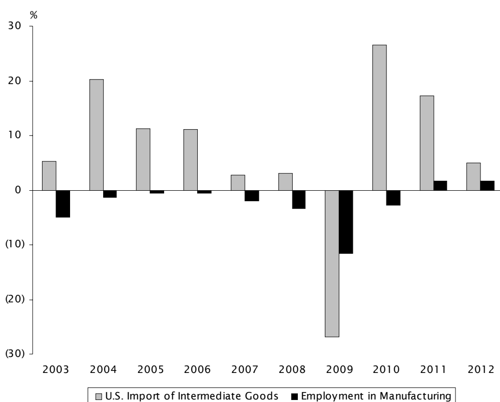
[1]In local currency, data smoothed on a trailing three-month basis.

Conclusion: The Profit Story is Intact

Should the global economy deteriorate further, earnings are of course vulnerable. Right now it looks like we're heading in the opposite direction, and the drag from Europe that's echoed through Asia is finally ending. The rate-of-change in Chinese exports to Europe tells the tale (see Exhibit 17). It's finally about to turn positive after several years of contraction.

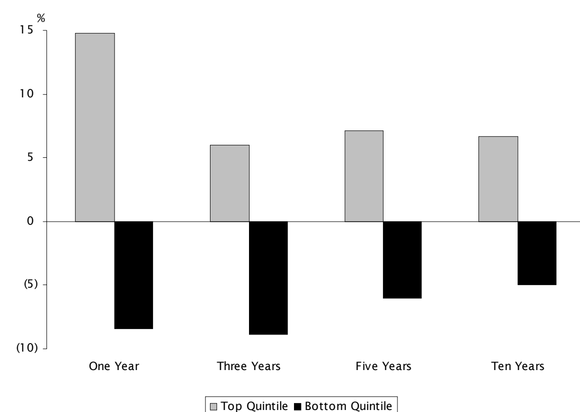
We see the third-quarter results as consistent with our constructive, intermediate-term view on margin sustainability and earnings power. The market has consistently underestimated the effects of globalization and margins are less vulnerable than is generally thought. An ever-greater share of the supply chain originates offshore as apparent in Exhibit 18 that juxtaposes the growth rates of U.S. intermediate goods imports and manufacturing employment. The deflation in the prices of imports from China tells us that the Bretton Woods II regime is still in place. The prosperity isn't being competed or frittered away because the economic backdrop hasn't been rosy enough to encourage such behavior. We believe that the alpha will accrue to the believers and free cash flow yields demarcate where the line in the sand is drawn (see Exhibit 19). This year earnings will be up by +12%, and the expectations for next year, that envision a similar gain, look reasonable.

Exhibit 18: U.S. Imports of Intermediate Goods and
Employment in Manufacturing
Measured on a Year-Over-Year Basis
2003 Through 2012



Source: UN Comtrade Database, Bureau of Labor Statistics.

Exhibit 19: The World
Relative Returns to the Top and Bottom Quintiles
of Free Cash Flow Yield[1]
Monthly Data Compounded
Ten Years Ended Late-October 2013



Source: Empirical Research Partners Analysis.

[1]Capitalization-weighted data USD-hedged.

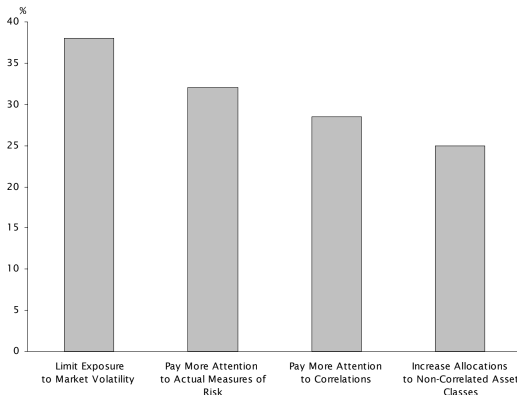
The Equity Yield Curve: A Capacity Story

Vol-Less

We read an interesting paper entitled "How Much Would You Pay to Resolve Long-Run Risk?" that includes estimates of how much of their lifetime consumption people would give up in order to have all their financial issues resolved in the next month, whatever the outcome.[1] After making that decision the risks that they face wouldn't disappear, it would however eliminate the anxiety that comes from waiting to learn how it all turns out. The authors conclude, that in theory at least, people would be willing to reduce their consumption by around a quarter to be rid of the stress. That analysis reminded us of what's going on in the market for equity money management, where investors with long horizons have run from volatility like the plague.

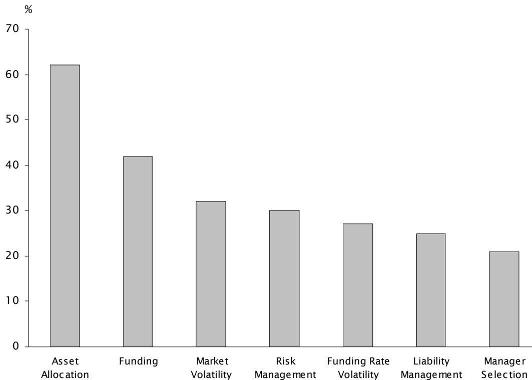
Surveys reveal that the primary concern of institutions is now to reduce the volatility and perceived downside risk of their investment portfolios (see Exhibit 20). Maximizing returns, the old imperative, is long gone. Asset allocation is the most-used tool to accomplish those objectives, and manager selection ranks far down their list of priorities (see Exhibit 21). Hedge funds are part of the arsenal being brought to bear to reduce risk, and sponsors now not only want them to produce returns that are unrelated to those of the plan itself, they also want them to have a different character from those of other hedge fund managers (see Exhibits 22 and 23). That's because they've already built up a stable of managers in that category. The imperative to escape from the ups and downs of the capital markets is quite different from that which had long prevailed, and volatility and risk have become synonymous.

Exhibit 20: Institutional Investors Top Four Priorities July 2012



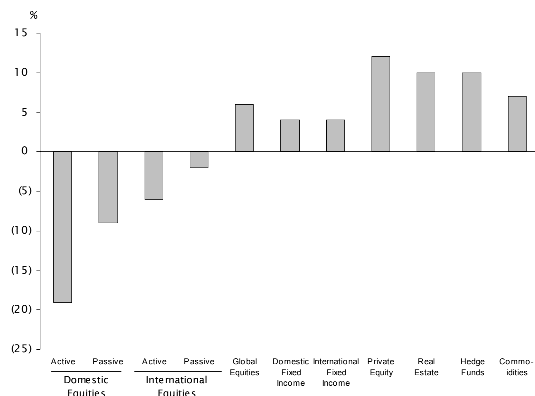
Source: Natixis Global Asset Management Survey.

Exhibit 21: U.S. Defined-Benefit Plan Sponsors Important Issues: Share of Respondents 2013



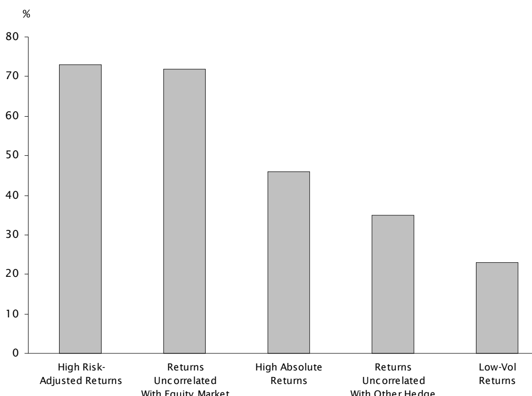
Source: Greenwich Associates Survey.

Exhibit 22: U.S. Defined-Benefit Plan Sponsors Net Share Planning to Significantly Increase Exposure Over the Next Three Years 2012



Source: Greenwich Associates, Empirical Research Partners Analysis.

Exhibit 23: Institutions' Objectives for Their Hedge Fund Investments 2013

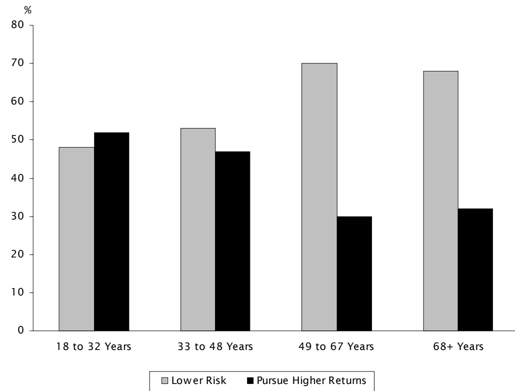


Source: Credit Suisse Survey.

[1] Epstein, L. G., Farhi, E. and Tomasz Strzalecki, 2013. "How Much Would You Pay to Resolve Long-Run Risk?" NBER Working Paper No. 19541.

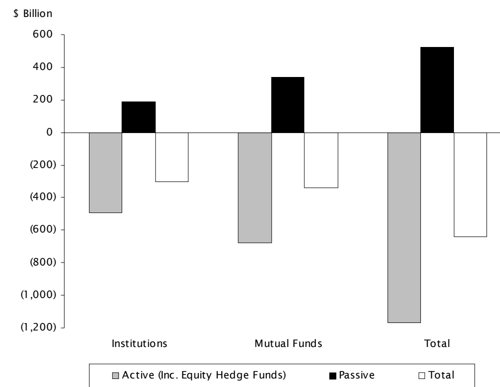
Older high-net-worth individuals claim to be in the risk reduction mode too, although their behavior has proven to be more changeable depending on the direction of the markets (see Exhibit 24). Both constituencies have retreated en masse from actively-managed equities, pulling around $1.2 trillion from those managers since 2008 (see Exhibit 25). That amounts to almost a quarter of the assets under management, and 45% of that money was redirected into indexed products. The assets of equity-oriented hedge funds have followed a similar trajectory and have consistently equated to about a tenth those of the long community in the past five years (see Exhibit 26). The number of hedge fund analysts is about 1½ times the size of that of their long brethren (see Exhibit 27).

Exhibit 24: High-Net-Worth Individuals Priorities for Managing Wealth by Age Group 2013



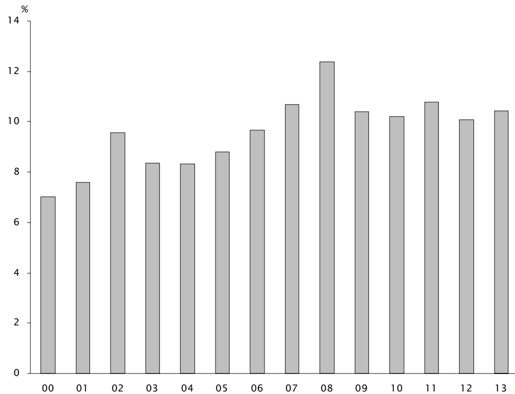
Source: U.S. Trust Survey.

Exhibit 25: U.S. Equities: Actively- and Passively-Managed Cumulative Net Flows 2008 Through Mid-2013



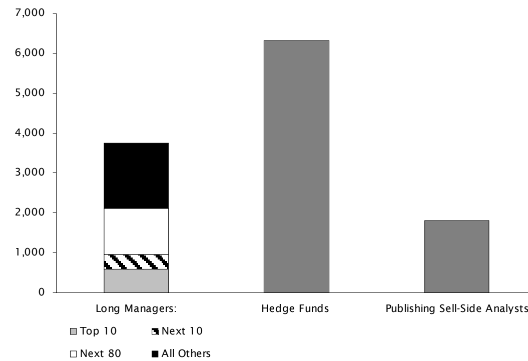
Source: Callan Associates, eVestment Alliance, Investment Company Institute, Empirical Research Partners Estimates.

Exhibit 26: Equity Hedge Funds Relative to Long-Only Active-Managers Share of Assets Under Management 2000 Through Q2 2013



Source: Investment Company Institute, Hedge Fund Research, Greenwich Associates, Federal Reserve Board, Empirical Research Partners Analysis.

Exhibit 27: U.S.-Based Equity Research Analysts 2012



Source: eVestment Alliance, Bigdough.com, Greenwich Associates, Empirical Research Partners Analysis.

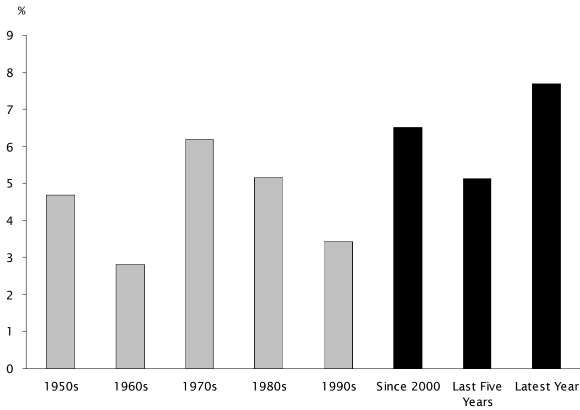
Conclusion: A Steeper Equity Yield Curve

We believe the equity yield curve has steepened, improving the outlook for alpha generation, as active managers saw a quarter of their assets flee. Given that, it's not surprising then that the payoff from modeling fundamentals, that typically takes three to five years to play out, has shown strong results. That's apparent in the relative returns of our valuation and capital deployment frameworks (see Exhibits 28 and 29). Their cousins, that exploit short-term behavior, have been undermined by the explosion in the number of traders (see Exhibits 30 and 31).

While we can't directly observe the shape of the equity yield curve there's evidence it's been steepening for some time. Three academics studied 105 million institutional trades made over a ten-year period and found that alpha came in positions held for one-to-four years (see Exhibit 32).[2] This year three-quarters of the retail money that's gone into equities this year ended up in indexed vehicles (see Exhibit 33). We're being paid to take on long-dated risks.

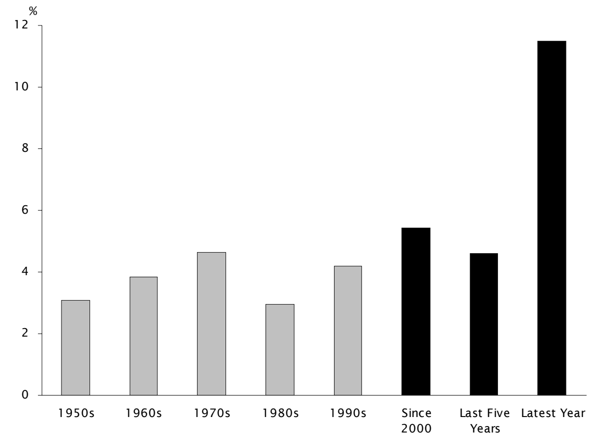
[2]Chakrabarty, B., Moulton, P. and Charles Trzcinka, 2013. "Institutional Holding Periods," Working Paper.

Exhibit 28: Large-Capitalization Stocks
Relative Returns to the Top Quintile of Valuation
Measured Over One-Year Holding Periods
1952 Through Late-October 2013



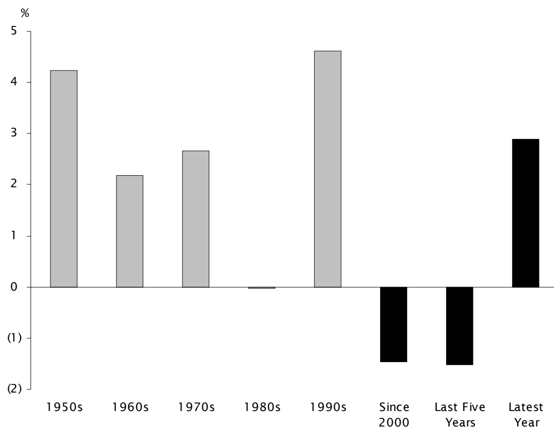
Source: Empirical Research Partners Analysis.

Exhibit 29: Large-Capitalization Stocks
Relative Returns to the Top Quintile of
Capital Deployment
Measured Over One-Year Holding Periods
1952 Through Late-October 2013



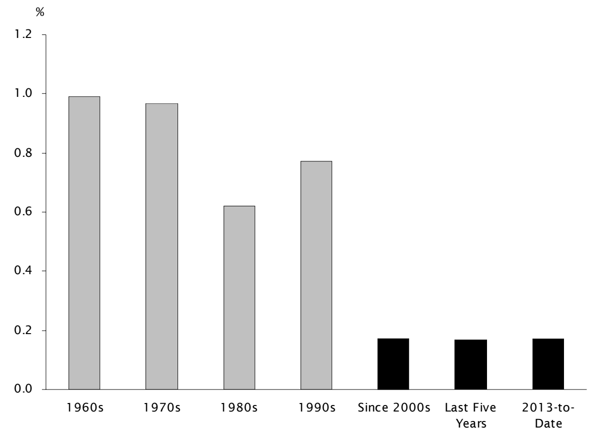
Source: Empirical Research Partners Analysis.

Exhibit 30: Large-Capitalization Stocks
Relative Returns to the Top Quintile of
Three-Month Price Momentum
Measured Over One-Year Holding Periods
1952 Through Late-October 2013



Source: Empirical Research Partners Analysis.

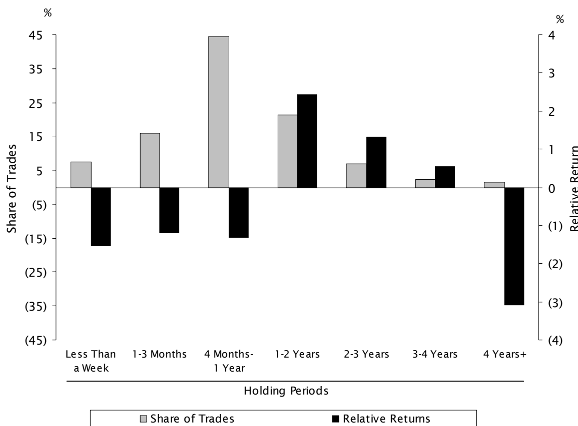
Exhibit 31: Large-Capitalization Stocks
The Reversal of Underperformance of Big Losers[1]
Measured over One-Month Holding Periods
1963 Through Late-October 2013



Source: Empirical Research Partners Analysis.

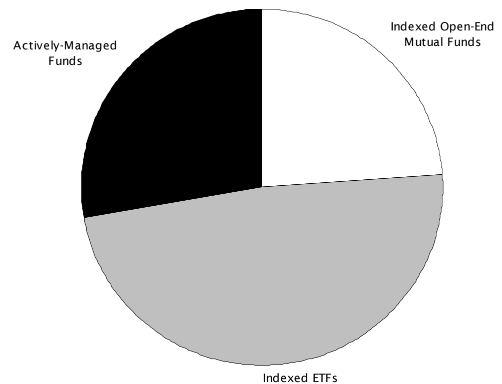
[1]Big losers are bottom-decile performers over the previous week.

Exhibit 32: Institutional Money Managers
Share of Trades and Relative Returns
By Holding Period
1999 Through 2009



Source: Chakrabarty, B., Moulton, P. and Charles Trzcinka, 2013. "Institutional Holding Periods," Working Paper.

Exhibit 33: Net Inflows Into Equity Mutual Funds
and Equity ETFs
Indexed Versus Actively-Managed
2013 Through September



Source: Strategic Insight Simfund.