Pennsylvania Association of Public Employee Retirement Systems
PO Box 61543, Harrisburg, PA 17106-1543
Website: *www.pa-pers.org*

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In This Issue

6th annual PAPERS Forum - May 18-19, 2010
See page 3 for details

News Break!

PAPERS has now been authorized by the State Board of Accountancy, Commonwealth of Pennsylvania, to offer Continuing Professional Education (CPE) credits for participants at all its conferences.

The mission of the Pennsylvania Association of Public Employee Retirement Systems (PAPERS)

shall be to encourage and facilitate the education of its membership in all matters related to their duties as fiduciaries overseeing the assets of the pension funds with which they have been entrusted. It will be PAPERS' primary purpose to conduct an annual educational forum that provides the basis for improved financial and operational performance of the public employee retirement systems in the State. PAPERS will function as a central resource for educational purposes and act as a networking agent for all public plan staff and board members.

It's PAPERS Membership Renewal Time

Opening Doors for Participating, Affiliate & Associate Members

Membership in the Pennsylvania Association of Public Employee Retirement Systems (PAPERS) opens doors for persons involved in all phases of the state's public pension industry. PAPERS provides educational and networking opportunities at its two annual conferences – *the 2-day spring Forum and the 1-day Fall Workshop*. Only one membership per organization is required and enables all representatives, trustees and staff of that organization to participate in the conferences.

Public pension funds are encouraged to become PAPERS **Participating Members.** Annual dues for Participating Members are $95 which includes one complimentary registration each to the Forum and the Fall Workshop. Forum registration for additional Participating Member attendees at the Forum is $75.

Asset managers and firms providing legal services to public pension funds may become PAPERS **Associate Members** for annual dues of $1,000. Forum registration for Associate Members is $750 per representative.

Non-profit organizations, union pension plans and consultants not directly managing pension plan assets may become PAPERS **Affiliate Members** for annual dues of $500. Forum registration for Affiliate Members is $375 per representative.

Current and former PAPERS members will automatically receive a dues renewal invoice in late November. Payments may be made to PAPERS either by check or electronically through PayPal; see the PAPERS website for details.

Forum Sponsorships Sought

The annual Forum and Fall Workshop are made possible by the generous support of both Associate and Affiliate Members that become sponsors. Sponsor levels established for the 2010 Forum are:

- **GOLD SPONSOR - $5,000**
  Gold Sponsors receive priority for speaking slots, four complimentary registrations to the Forum, complimentary exhibit space, a two-page ad in the Forum program notebook plus recognition on Forum posters and in the agenda
- **SILVER SPONSOR - $2,500.**
  Silver Sponsors receive two complimentary registrations for the Forum, a one page ad in the Forum program notebook plus recognition on Forum posters and in the agenda
- **SILVER EXHIBITOR - $3,000**
  Same as Silver Sponsor plus exhibit space

Sponsors are now being accepted for the spring 2010 Forum; details are available from the Executive Director.

Executive Director's Corner

Despite competing with the G-20 Summit meeting in Pittsburgh, we had a very good turnout for the Fall Workshop at the Holiday Inn in Monroeville on Sept. 23rd. The speakers all did an excellent job of preparing and presenting their material on the very interesting agenda of current pension topics.

We began with our ***"Keynote Address"*** presented by **Ken Mertz,** Chief Investment Officer and President of Emerald Advisors Inc. Ken talked about the future of the pension industry and discussed the impact of the economic downturn on pension funds and other investors. He outlined the state of the financial environment, identifying possible changes in the regulatory environment and what steps government regulators and managers might take to insure they are not caught up in a similar situation in the future.

Following Ken we had a Trustee Roundtable featuring a discussion of ***"Issues Facing Local Pennsylvania Pension Plans"***. The panel was moderated by **Michael Shone**, Peirce Park Group. The panelists included **Cassimir Kwitowski**, Controller, City of Erie; **Ed Cernic**, Controller Cambria County; **Michael Namie**, Controller Washington County and **Chris Kanezo**, Acting Budget Director City of Reading.

Jeffrey B. Clay Esq., Executive Director of the Public School Employees' Retirement System, presented a very informative presentation and discussion on ***"Understanding the Fiduciary Duty of a Public Fund Trustee"***. Jeff talked about the basic duties of a fiduciary and some of the potential pitfalls of trustees who ignore their fiduciary duties.

Next **Mark Meyer**, Nomura Asset Management, presented a discussion entitled ***"Things Every Trustee Should Know"***. Mark talked about the basic things trustees need to know to be able to make sound decisions at the Board table. After lunch **Frank Burnette**, Morrison Fiduciary Advisors, moderated a panel on ***"Asset Allocation from a Trustee's Perspective".*** Frank had **Stacy Marino**, Portfolio Manager State Street Global Advisors and **Carmen Pedicone**, Controller of Westmoreland County, speak on the topic.

James Allen, Secretary of the Pennsylvania Municipal Retirement System, and **Bill Asay**, President, Mockenhaupt Benefits Group, presented ***"A Discussion of the Status of Pennsylvania Local Pension Plan Funding and a Look at Proposed State Legislation Being Developed to Deal with Some of these Issues"***. The legislation was subsequently passed but I don't think it dealt with many of the issues it was supposed to address.

Jason Fine, Consulting Actuary from the Hay Group, talked about ***"Solving the Mystery Surrounding the Calculation of Pension Liabilities and Actuarial Contribution Rates"***. The final session was presented by **Michael Ruggerio**, Vice President BNY Mellon Asset Servicing. He discussed ***"The Rewards and Risks from Securities Lending"***.

We had a very successful meeting. I would like to thank all who participated, especially our seven Corporate Sponsors:

- **BNY Mellon Asset Servicing**
  One Mellon, Room 410
  Pittsburgh, PA 15258-0001
- **D. E. Shaw**
  120 West 45th Street, 39th Floor
  New York, NY 10036
- **Federated Investments**
  1101 Liberty Avenue
  Pittsburgh, PA 15222
- **Lord, Abbett & Co.**
  90 Hudson Street, 6th Floor
  Jersey City, NJ 07302
- **Nomura Asset Management USA Inc.**
  Two World Financial Center, 22nd Floor
  New York, NY 10281-1712
- **Spector Roseman Kodroff & Willis, P.C.**
  1818 Market St., Suite 2500
  Philadelphia, PA 19103
- **State Street Global Advisors**
  State Street Financial Center
  One Lincoln Street, 33rd Floor
  Boston, MA 02100-2900

We look forward to seeing all of you in 2010 at the 6th Annual PAPERS Forum on May 18th & 19th at the Hilton Hotel in downtown Harrisburg.

Jim Perry,

PAPERS Executive Director

Forum Returns to the Harrisburg Hilton

The PAPERS Forum will be returning to downtown Harrisburg again for its 6th annual edition on May 18-19, 2010. Please reserve the dates now so you won't miss anything at this 2-day educational and networking event for Participating, Associate and Affiliate Members. As many as 200 persons representing all phases of the public pension industry in Pennsylvania have attended past Forums.

There are plenty of sponsorship opportunities still available for PAPERS' Associate and Affiliate Members. Details on the various levels of sponsorship are shown on page 1 of this newsletter. More details are available from PAPERS Executive Director Jim Perry at: perryja1@comcast.net.

Registration materials and information about lodging at the Harrisburg Hilton will be available in February, 2010.

From PAPERS' Fall Workshop

Jeff Clay

Stacey Marino & Frank Burnette

PAPERS Board of Directors

Brian Beader
County Commissioner, Mercer County, PA

Jeffrey Clay
Executive Director,
PA Public School Employees' Retirement System

Craig Ebersole
County Treasurer, Lancaster Co. Retirement

Cleveland Forrester
(Retired) Director of Finance, Borough of Chambersburg

Bernard Mengeringhausen
City Controller, City of Wilkes-Barre

Joauna Riley
City of Philadelphia, Board of Pensions & Retirement

Krista Rogers
Controller, Lycoming County

PAPERS Corporate Advisory Committee

Andy Abramowitz
Spector, Roseman & Kodroff, P.C.

Steven Hanson
Lord, Abbett & Co.

Rosemary Kelly
Broadridge Investor Services

Mark Meyer
Nomura Asset Management

Bob Podgorny
Dow Jones Indexes

Nick Stanojev
State Street Global Advisors.

Rebecca Vollmer
D.E. Shaw

PAPERS Staff

James A. Perry ***(perryja1@comcast.net)***
Executive Director

Douglas A. Bonsall ***(douglas.b@verizon.net)***
Newsletter Editor/Office Manager

Shareholder Education Website

PAPERS Associate Member Broadridge Financial Solutions has launched a new shareholder education website www.shareholdereducation.com designed to provide retail shareholders with important information about the proxy voting process. The website details the proxy voting process and includes information on proxy materials, methods in which shareholders can cast their votes, and a brief history of the evolution of the proxy process – including the new Notice and Access form of proxy materials that many shareholders have begun to receive.

Shareholders can also find helpful investor links, as well as a glossary of investment and proxy terms that could be important to retail shareholders as they track their investments and vote their proxies. The site also features an interactive tutorial that guides users through the proxy voting process from start to finish.

The goal is to provide education and information to the investing public – and to increase awareness of, and participation in, the important proxy voting process.

Corporate Governance Under TARP

By: Andrew D. Abramowitz

PAPERS Corporate Advisory Committee & Partner, Spector Roseman Kodroff & Willis, P.C.

In the wake of the great economic collapse, the federal government took steps to try to alleviate the impact of the failure of some of our biggest financial institutions. Stability was needed on an emergency basis, and thus was born the Emergency Economic Stabilization Act of 2008. That statute gave rise to the Troubled Asset Relief Program (TARP), which authorized the Department of Treasury to purchase or insure up to $700 billion worth of "troubled assets" – namely, mortgages and securities based on mortgages.

Fortunately, the government seems to have recognized that the economic crisis presented an opportunity not merely to hand out money, but to at least attempt to effect change. Nobody disputes that Wall Street is in dire need of reform; we've been watching investors suffer at the hands of greedy corporate insiders since Enron entered our lexicon as a hallmark of nefarious back in 2001. The only questions - although questions are often paralyzing – are how do we do it and how much is enough. We don't need another subprime mortgage meltdown. One is plenty.

TARP contains several provisions regarding corporate governance and executive compensation for which compliance is required if you want TARP money. Its provisions strive for greater accountability among the behemoths of our economy – recipients of relief include Citigroup, Bank of America, AIG, and JP Morgan Chase, to name but a few. Upon receipt of TARP funds, participants were required to ensure compliance with executive compensation and governance provisions. The enactment of Interim Final Rules goes a step further by requiring documentation of such compliance.

In terms of specifics, among the corporate governance rules and executive compensation restrictions imposed by the Program, TARP requires:

- **the regulation (in some cases, outright prohibition) of bonuses and retention awards to senior executives;**
- **a prohibition on the excessively generous, if not completely obscene, parting packages known as "golden parachutes";**
- **shareholder voting on executive compensation;**
- **the "clawback" of compensation paid to senior management where such compensation was extended on the basis of financial performance that was later deemed false or inaccurate;**
- **compensation committees within the company that are charged with ensuring that executive compensation is aligned with the principle of avoiding "unnecessary and excessive" risks in business judgment; and**
- **the public disclosure of a company's participation in TARP, including the amount of assets sold to the Program.**

It is unlikely that anyone will consider TARP's governance measures to be comprehensive or even particularly novel. In fact, merely reading them might cause you to wonder why corporations or regulatory bodies didn't impose such obligations long ago. Regardless, if they achieve anything resembling the self-monitoring and risk management that the Program seems intended to accomplish, our faith in corporate integrity is one step closer to being restored.

Address Reminder

PAPERS changed its mailing address earlier this year. Mail should now be sent to PAPERS @: **PO Box 61543, Harrisburg, PA 17106-1543**

Private Equity Firms are Seeking Liquidity in Revived IPO Market

By: Melanie Hase, Vice President, Renaissance Capital LLC, Greenwich, CT

The IPO market has taken the first steps toward healing, as evidenced by the significant recent pick-up in issuance volume. In fact, the week of September 21, 2009 marked the busiest week for IPOs since mid-December 2007, with seven companies making their debut on one of the major US stock exchanges. A glimpse into the growing pipeline reveals that the path to full recovery will be different than those that followed prior economic downturns. This time around, Real Estate Investment Trusts (REITs) expecting to benefit from TALF and PPIP programs and private equity firms seeking to liquidate vintage holdings are major drivers of the new issues calendar.

Private Equity: Liquidity at Last?

As we predicted in our 2009 Outlook piece (available at www.renaissancecapital.com), the private equity industry is emerging as a major contributor to the IPO pipeline. On the supply side, buyout debt and pools with early-to-mid-decade vintages are approaching maturity, meaning that portfolio companies will have to be monetized. Thus, it is not surprising that one third of the active IPOs in registration are private equity-backed. On the demand side, the welcoming reception of LBO companies Emdeon (EM) and Avago (AVGO) may signal increasing investor appetite for strong cash generators, even if they come to market with less-than-stellar balance sheets. Nonetheless, valuation remains the key to successful new offerings. Will private equity fund managers' internal valuations stand up to the scrutiny of public investors? If not, how eager will they be to trade off performance fees for liquidity?

Recent Private Equity Filings

Company	Filing Date	Business Description	LTM Sales (in MM)	EBITDA Margin	Proposed Deal Size (in MM)
Dollar General	20-Aug-09	The largest discount retailer in the US by number of stores.	$10,834.1	9%	$750.0
AEI	18-Aug-09	Global operator of power and natural gas infrastructure.	$8,310.0	13%	$862.5
InfrastruX Group	10-Aug-09	Leading electric power and natural gas infrastructure contractor.	$800.1	11%	$290.0
Vitamin Shoppe	23-Jul-09	A leading specialty retailer and direct marketer of vitamins.	$620.4	10%	$143.8
RailAmerica	28-Jul-09	Owner and operator of short line and regional freight railroads.	$486.6	29%	$300.0
HealthPort	17-Aug-09	Provides information technology to the healthcare industry.	$285.1	13%	$100.0
Addus HomeCare	17-Jul-09	Provides home-based personal, skilled nursing and rehab care.	$252.2	8%	$69.0
Ancestry.com	3-Aug-09	Operates an online community for researching family histories.	$210.3	32%	$75.0
Mirion Technologies	13-Aug-09	American Capital-backed provider of radiation detection systems.	$191.5	16%	$100.0
Gain Capital	31-Aug-09	Offers an online foreign exchange trading platform.	$180.0	44%	$125.0

** Source: Renaissance Capital.*

In addition to Dollar General, leading private equity firm KKR has indicated that it is preparing as many as five other portfolio companies for an IPO. With a backlog of companies snapped up during the bubble years, it is unlikely that private equity peers will let KKR have all the fun, which could provide a regular stream of new filings for some time to come.

Large Private Equity-owned Companies

Company	LTM Sales (in MM)	Private Equity Owner(s)
HCA	$29,181.0	KKR, Bain Capital, Merrill Lynch
Toys R Us	$13,482.0	KKR, Bain Capital, Vornado Realty
Aramark	$12,791.6	Goldman Sachs, CCMP, THL, Warburg Pincus
Dollar General	$10,834.1	KKR
CDW*	$8,150.0	Madison Dearborn
First Data	$8,765.3	KKR
Hilton Hotels	$8,100.0	Blackstone Group
Freescale Semiconductor	$4,013.0	Blackstone Group, The Carlyle Group, Permira, TPG Capital

** Financial data is for the FY 2007. Source: PEdatabase.com.*

The Bottom Line

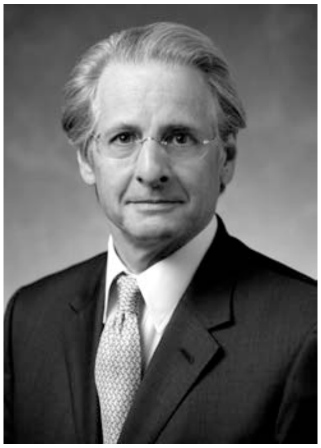
With 78 companies currently in our IPO pipeline and a significant uptick in new registration filings (35 in the third quarter of 2009 as opposed to only four in the first half of the year), we foresee strong activity in the IPO market for the remainder of the year. Due to the supply/demand imbalance that prevails in the IPO space, where a large number of IPO companies are seeking capital from a cautious and price-sensitive buyer base, investors are in a sweet spot and can demand deep valuation discounts. This is reflected in the return of the FTSE Renaissance IPO Composite Index, a benchmark index that captures the performance of IPOs from the end of their first trading day for a period of two years. The Index is up 38% so far in 2009 as compared to the S&P 500, which has generated a 17% return through September 29, 2009.

About Us

Renaissance Capital LLC, founded in Greenwich, CT in 1991, is the global leader in IPO research. Its clients represent the "Who's Who" list of the largest and most active institutional IPO investors. In addition to IPO research, Renaissance Capital, in conjunction with its index partner FTSE Group, maintains the FTSE Renaissance IPO Composite Index, the definitive benchmark of IPO activity and performance. Renaissance Capital also provides IPO-focused investment management services as the advisor to the IPO Plus Fund (IPOSX), the first mutual fund to focus solely on investing in IPOs, and through separately managed institutional accounts.

Economic Insights: EARNINGS AND VALUATION

by Milton Ezrati



Milton Ezrati, Partner, Senior Economic and Market Strategist, has been widely published in a wide variety of magazines, scholarly journals, and newspapers, including The New York Times, Financial Times, The Wall Street Journal, The Christian Science Monitor, *and* Foreign Affairs, *on a broad spectrum of investment management topics. Prior to joining Lord Abbett, Mr. Ezrati was Senior Vice President and head of investing in the Americas for Nomura Asset Management, where he helped direct investment strategies for both equity and fixed-income investment management.*

Though the arithmetic is straightforward enough, one of the slipperiest exercises in investing is to make independent projections of earnings and multiples to forecast markets. Small differences in assumptions can radically alter investment conclusions. Still, the exercise is worthwhile, if only to test the plausibility of expectations. Here, the exercise concludes, with greater assurance than usual, that earnings growth, even in a relatively sluggish economic expansion, can support a continued rise in equity markets, even after this year's rally.

For the earnings part of this ever-popular calculation, it is hard in this economic climate to look for rapid revenues growth. The economy, of course, seems to have turned upward, but chances are that this recovery will proceed more slowly than it has in past cycles. Clearly, a shift toward rebuilding inventories could produce a quarter or two of extraordinarily rapid growth, but the underlying situation nonetheless should remain moderate. If nominal gross domestic product (GDP) is a good proxy for growth in domestic U.S. sales and revenues, then a reasonable base-line expectation on domestic revenues growth would seem to center on 4.5–5% in 2010, comprised of 2–2.5% real growth and 2–2.5% inflation.

But the companies in the S&P 500® Index[1] (which usually forms the basis of these calculations) will likely have more rapid revenues growth than the general economy. At the very least, they have a larger international presence, and Asia, in particular, has returned to rapid growth. What is more, the dollar's weakness should help America's export competitiveness, which should further boost S&P 500 revenues growth above that of the economy in general. Asian demand also should push up commodity prices—though obviously not at a rate that resembles the ridiculous speculation of 2007 and 2008, but enough, including oil prices, to add still more to S&P 500 revenues growth.

But beyond a slight premium on revenues growth, an unmistakable operating leverage should permit S&P 500 earnings to far outpace measures of GDP or revenues growth. That leverage is certainly clear in historical earnings movements, especially around periods of serious cyclical adjustment, such as the economy is going through now. In 2000, for example, S&P 500 operating earnings fell by more than 30%, even though the economy and revenues had the mildest of cyclical corrections. In the following modest recovery, during which the overall economy and revenues expanded at an annual rate of only a little more than 4%, operating earnings surged at almost 19% a year for three years, and in 2004, a modest acceleration in revenues growth produced an almost 25% surge in S&P 500 operating profits. The same thing happened around the correction of 1990–91. In the contraction part of that cycle, revenues actually continued to expand at an annual pace of just a bit more than 4%, but the deceleration from prior years was great enough and the operating leverage powerful enough to drive down operating earnings at almost an 11% annual rate for two successive years. In the following recovery, even though the nominal economy and, hence, revenues grew about only 5%, that same operating leverage allowed earnings to jump by almost 30% in 1993.

There are reasons to expect similar relative patterns this time. The leverage on earnings certainly has been evident on the downside. In 2008, even as revenues growth only flattened, operating earnings for the S&P 500 plunged 40%. Now, looking forward, even without consideration of a foreign boost, the reacceleration of revenues in 2010 back toward 4.5–5% growth could easily produce a 30–35% surge in S&P 500 operating profits, from this year's likely $55 per share to about $75 a share. Of course, reported earnings should grow more rapidly as the pace of write-offs—$35 a share last year, and at that rate so far this year—get written back or just cease depressing the figures. But even if these considerations take the reported figures up close to the operating figure, the market will almost certainly take its cue from the more modest growth of operating earnings.

Against this backdrop of earnings growth, valuations suggest that the market should reflect at least some of the improvement. Price-to-earnings (P/E) multiples for the S&P 500 stand a touch over 19 times this year's likely operating earnings at present and about 14 times next year's. Since this forward-looking multiple is lower than any recorded for any year in the past 15, the implication is that the market remains attractively priced, even after the rally. Benchmarking the multiple to bonds reinforces this case. Though typically the stock market's earnings yield (the inverse of its P/E multiple) is lower than long-term Treasury yields and certainly lower than long-term corporate yields, it is currently higher than Treasury bond yields and about the same as corporate yields. Either perspective implies that the market should have little difficulty sustaining its present multiple and easily support a higher ratio of, say, 15 times forward earnings.

If the S&P 500 can reach such a conservative multiple of 15 times operating earnings, then, as investors become more secure about next year's $75 earnings figure, the index could rise to 1125, up about 7% from its present level. But, of course, by early 2010, investors will begin to take their cue from still more distant earnings. If, as expected, a continued moderate economic expansion can conservatively generate an earnings growth in the high single digits, then the market's reference increasingly will be to 2011 earnings of about $82 a share. Sustaining a multiple of 15 times that future earnings power should by the middle of next year produce an index level of 1230, about 17% above today's levels, a reasonably handsome return.

For those who prefer the figures spread out in tabular form, Table 1 shows the estimates of each year's earnings, the multiples applied to the coming year's earnings, and the calculations of a market level. It also shows the implied percentage change in the market from mid-September levels. But tempting as it may be to rely on such precision, it is always a mistake. Instead, this exercise should produce three more general conclusions: 1) although the market will doubtless have its transitory corrections, even after this year's rally, the fundamentals easily support its current level; 2) conservative valuations leave ample cushion for the market to realize a portion of the anticipated earnings growth, at least, especially because that expectation itself is conservative; and 3) anymore mechanical reference to historical earnings and valuation relationships would produce a stronger market expectation.

Table 1. Market Projection Calculations for the S&P 500® Index

Year	*Estimated Operating Earnings Per Share*	*% Change from the Previous Year*	*Estimated Multiple on the Coming Year's Estimated Earnings*	*Year-End Fair Value Estimate*	*Percentage Difference from Market's Mid-September Level*
2009	*$55*	*10.0%*	*15*	*1125*	*6.8%*
2010	*$75*	*36.4*	*15*	*1230*	*16.8*
2011	$82	9.3	—	—	—

Source: Standard & Poor's.
[1]The S&P 500® Index is widely regarded as the standard for measuring large cap U.S. stock market performance and includes a representative sample of leading companies in leading industries.

Convergent/Divergent Fund of Hedge Fund Diversification That Delivered in 2008

By Robert P. Covino Jr., CAIA, Senior Vice President, Product Development, SSARIS Advisors, LLC

SSgA is the investment management business of State Street Corp., one of the world's leading providers of financial services to institutional investors. SSARIS, an affiliate of SSgA, is the hedge fund and fund-of-funds investment platform for State Street's institutional clientele. The senior management team at SSARIS has been managing alternative assets since 1983. SSARIS combines the strength of a world class asset management company with experienced professionals who have expertise in selecting and monitoring hedge funds and other absolute return investments for institutional investors.

The credit crisis, while noteworthy for its size, scope and damaging reach, is not unique over the last several decades. A shared characteristic of many past crises has been increased correlation of the major asset classes during volatile periods. In 2008, increased correlation appeared to be particularly damaging, as the traditional mix of investments in an institutional portfolio failed to deliver the diversification needed to protect capital under highly volatile conditions.[1]

There have been many financial crises and investment bubbles of note over the last several decades, and some have underscored the shortcomings of traditional asset class diversification during volatile periods. We have found, however, that a disciplined fund of hedge funds approach that combines investment strategies tailored for both smooth and volatile markets provided investors improved portfolio diversification and lower capital drawdown.

While crises are the exception, not the norm, markets do experience periodic episodes of significant volatility. During these episodes, asset prices tend to exhibit positive serial correlation. Such conditions may potentially yield opportunities for investors whose portfolios are strategically positioned to capture this divergence. By combining investment approaches that are built for both rational (convergent) and irrational (divergent) markets, investors may significantly improve portfolio diversification, limit capital drawdown during volatile times, and improve the risk/return profiles of their portfolios.

Convergent and Divergent Hedge Fund Strategies

There are many hedge fund strategies and approaches available to investors, though most can be categorized as either convergent or divergent. Convergent strategies are based on the notion that the intrinsic value of securities and asset classes can be measured using fundamental data. The value of a stock, for example, is typically derived from a company's future earnings, dividends and growth rates. Using fundamental data, a convergent manager will express an opinion on whether a security is over/undervalued, believing that the price will "converge" to its intrinsic value over time. Most investment strategies fall into the convergent camp, including those with hedge funds and alternatives asset classes. As markets became disconnected from fundamental valuations in 2008, it was not surprising that most convergent strategies performed poorly, as was reflected in the broad universe of hedge fund returns.[2]

The divergent strategist, conversely, aims to profit when fundamental valuations are ignored by the market. Divergent strategies seek to identify and exploit serial price movement (trends and momentum) which reflect changing market themes and investor sentiment. Divergent strategies have been applied to equities, currency and commodities, among others, and often fall under the "global macro" and/or "managed futures" style of hedge fund investing. Many divergent strategies performed well in 2008, as shown in Chart 1 on the following page, proving that they can be beneficial when market correlations across assets increase. Divergent strategies tend to have positive convexity, or are said to be "long volatility," which means they are geared to capture upside during volatile markets. Asset prices hit extreme levels last year, creating ideal conditions for some divergent strategies. Portfolios constructed with a convergent/divergent diversification approach had less beta exposure and were well-suited for the volatile conditions last year.[3]

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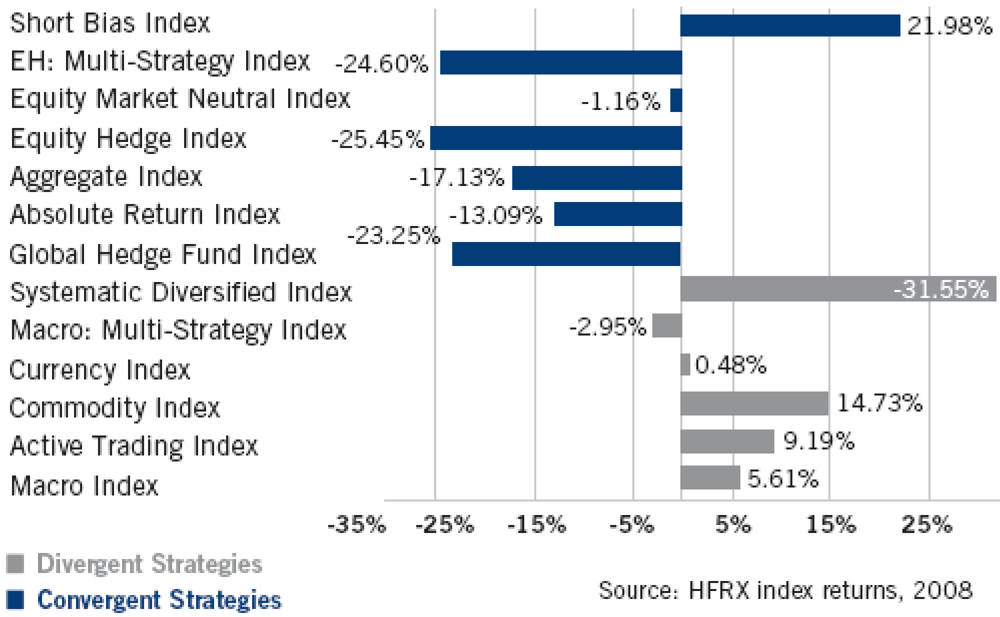
[1] "Sinking Ships, Rising correlations between asset classes," J.P. Morgan, January 31, 2009.
[2] Based on the returns of HFRX indexes that track convergent-style strategies.
[3] SSARIS, HFRX April 2009.

Figure 1: Convergent/Divergent 2008 Returns



Past performance is not a guarantee of future results.

Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income. Investors cannot invest directly in an index.

Markets are rational most of the time, as asset prices mostly appear to reflect fundamental data. However, as was the case last year, there have been periods of market irrationality and high volatility, when asset prices become disconnected with their underlying fundamental characteristics. These periods can be destructive to investor portfolios designed to perform when fundamentals drive pricing. When this happens, supply and demand for a security are all that matters, not, for example, the future earnings potential of a company. Price movement can result from macroeconomic factors, such as changing investor attitudes, political and economic factors, which is why some divergent strategies fall under the "macro" label.

Equity Risk Concentration Dominated Traditional and Some Hedge Fund Portfolios

During the credit crisis of 2008 many investors were unable to find reliable safe havens. For investors with the traditional 60/40 stock and bond asset mix, the negative returns were particularly painful as it has been observed that the risk in such portfolios was more than 90%-correlated to US and global equities over the last two decades.[4] While capital may have been adequately diversified in the traditional 60/40 portfolio, risk was not diversified, in our opinion, and even worse, downside protection was minimal. The events of 2008 proved that despite the increased sophistication of market participants, there still exists a strong element of behavioral bias and investor over/under reaction to market and macro events. As the crisis evolved, it became apparent that the market values of securities and asset classes in general became detached from fundamental values, as extreme fear gripped the marketplace and irrationality took hold. Hedge funds and fund of hedge funds were not immune to the crisis and rising correlations as many managers experienced poor returns, indicating that leverage and beta exposure may have been return drivers for some managers in recent years.[5] Some hedge fund index returns also showed increased correlation to equity markets, creating questions about their efficacy as portfolio diversifiers.

[4] SSgA, January 2009

[5] "The Hedge Fund of Tomorrow: Building an Enduring Firm," The Bank of New York Mellon and CaseyQuirk, April 2009

Combining Convergent and Divergent Strategies for Potentially Improved Portfolio Diversification

Based on the study sourced below, we believe that a portfolio that combines convergent and divergent investment approaches provides improved diversification and risk management benefits for investors in the alternatives space.[6] A study of portfolios using the combined convergent/divergent approach built using indexes that track specific hedge fund strategies found that the combination of both approaches reduced portfolio volatility and negative outliers and increased the chances for capturing upside "fat tails," which are returns more than three standard deviations away from the mean.[7] The study used hypothetical portfolios composed of 80% convergent strategies and 20% divergent strategies. The combined approach also found that the addition of divergent strategies gave the portfolio return potential during environments when the convergent strategies did not perform well.

The research held true in 2008, one of the most challenging years on record, as divergent strategies outperformed and provided some much-needed upside for investors who were exposed to these types of approaches.[8]

The Convergent/Divergent Advantage

We believe that alternative asset portfolios containing largely convergent strategies will stand to benefit with the inclusion of divergent strategies. Fund of hedge fund strategies that combine convergent and divergent hedge fund investments can achieve an optimal risk/return profile for an investor and can help meet challenges presented in a variety of market conditions. Fund of fund managers who adhere to a "top down, bottom up" approach incorporate forward-looking macroeconomic themes (top down) with the best ideas from the most talented hedge fund managers around the globe (bottom up). An active top down/bottom up approach can potentially add value versus managers who passively aggregate hedge fund strategies for a portfolio.

Those who will be successful, in our view, are those who aim to add value through actively under/overweighting allocations to various asset classes and investment approaches, depending on the current theme and available opportunity set. We believe the best fund of funds approach however, is a tactical asset allocation strategy that manages various factor risks, including credit, commodities, emerging markets, global equities and structured products, among others. Managers who took the view that markets were trending towards increased volatility, and subsequently increased allocations to divergent strategies before the recent crisis, for example, likely experienced superior returns than those who focused exclusively on convergent strategies in 2008, based on the returns of indexes that follow these strategies.

[6] Sam Chung, Mark Rosenberg and James F. Tomeo, "Hedge Fund of Fund Allocations: Using a Convergent and Divergent Strategy Approach," The Journal of Alternative Investments, Summer 2004.
[7] *Ibid.*
[8] HFRX return data for the 12 months ended Dec. 31, 2008.

Why TIPS May Be a Good Investment Now…and In The Future

Prepared by Neuberger Berman Fixed Income LLC

From 2007 through early 2009, investors have witnessed what many leading economists have called the worst financial crisis since the Great Depression, contributing to the failure of key businesses, substantial declines in consumer wealth and a sharp reduction in economic activity.

In a coordinated response, the U.S. Federal Reserve (the "Fed") and central banks around the world took steps to cut interest rates to extremely low levels and expanded money supply in order to arrest the collapse in economic activity. Governments enacted large fiscal stimulus packages, by borrowing and spending to offset the reduction in private sector demand caused by the economic crisis. The U.S. alone deployed two stimulus packages, totaling nearly $1 trillion during 2008 and 2009.

While significant risks may still remain, recent indications that the recession is drawing to an end have buoyed the financial markets. At the same time it appears that there may be an increased risk of inflation given the record fiscal and monetary stimuli that have and will continue to be deployed, as well as the resulting budget deficits that can be expected in the coming years.

These issues have resulted in increased attention on inflation-sensitive investments that can help investors defend themselves against this risk. This article seeks to provide an introduction to Treasury Inflation Protected Securities "TIPS" and highlight the benefits of investing in this type of security in this or other economic environments.

Market Overview

The TIPS market is relatively small in size but such securities are finding a place in more and more portfolios. The TIPS market has grown into a $530 billion market, as of September 2009, up from $35 billion when they were first issued by the U.S. Treasury Department in 1997. In 2010, issuance is expected to increase and may top $100 billion. Today, TIPS are still a fraction (approximately 7%) of the overall U.S. Treasury market, which stands at $3.4 trillion dollars.[9]

Concurrent with market growth, TIPS now include three terms to maturity: 5 years, 10 years, and 20 years. The Treasury auctions 5-year and 20-year TIPS semiannually and 10-year TIPS quarterly. The Treasury may also issue 30-year TIPS in the future.

How They Work

TIPs are an important addition to the vast array of government debt instruments available today. Backed by the U.S. government, TIPS provide investors with a means to hedge against inflation and offer some protection against deflation.

Like traditional bonds, TIPS pay coupon interest semi-annually. However, unlike traditional Treasury bonds, the face value of a TIPS bond rises and falls with changes in inflation, and is continually adjusted over the life of the security. As the Consumer Price Index (CPI) fluctuates due to inflation, the face value of TIPS adjusts monthly to reflect these changes. Since inflation rates tend to increase, these adjustments are generally positive, but they can be negative in the event that the CPI declines. When TIPS mature, the bonds are redeemed at their inflation-adjusted or their original face value, whichever is greater.

> **For example: A U.S. TIPS bond has a face value of $1,000 and is issued with a 3% coupon. If inflation rises 4% over the next 12 months after 1 year the face value of the bond is adjusted to $1,040. Total return includes the coupon plus the inflation rate which equals 7% assuming interest rates remain stable.**

If we move into a deflationary climate before the TIPS matures, what happens then? The Treasury will pay either the original face amount or the inflation-adjusted amount when the bond matures, whichever is greater. So in a deflationary environment, interest payments may be lower than anticipated, but an investor would still receive at least the original face value of the bond when it matures.

Valuation

The difference in yield for TIPS versus the nominal yield of Treasury securities with a comparable maturity is often called the "breakeven inflation rate." If the market believes inflation will continue to increase and exceed the breakeven inflation rate, then TIPS may be an attractive investment compared to Treasuries or other securities. Higher inflationary

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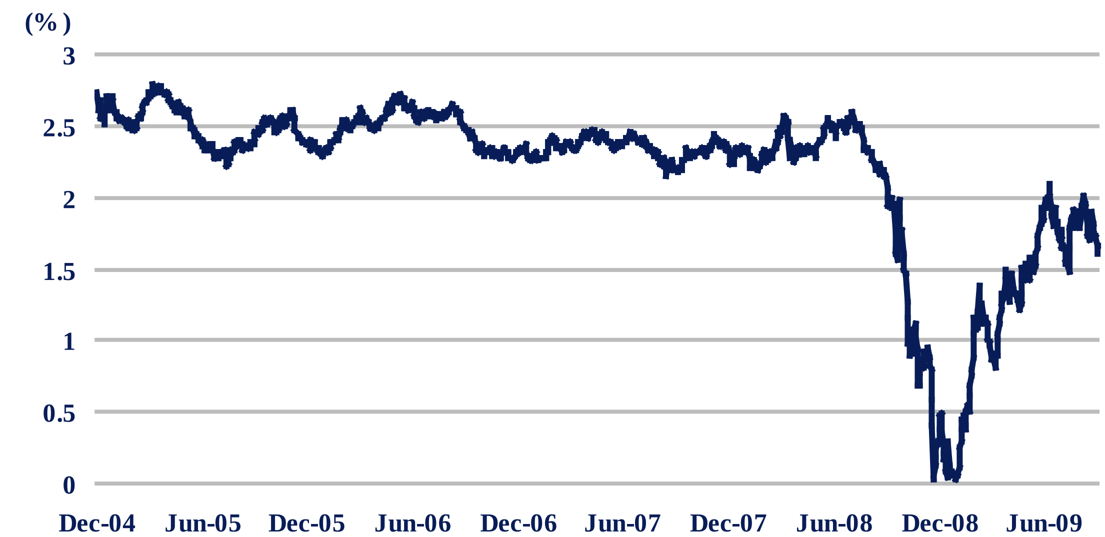
[9] Source: Barclays Capital

expectations can increase the value of TIPS. In contrast, nominal Treasuries tend to lose value because inflation eats into their fixed interest payments over time.

As can be seen in Figure 1, prior to the economic crisis, the long-term breakeven inflation rate ranged from 2-3%. However, during the economic crisis, the breakeven rate tumbled to zero as the market was pricing in deflation. Since the Fed began increasing money supply in 2008, inflation expectations have slightly normalized but still remain relatively low. As of September 30, 2009, the breakeven inflation rate was 1.78% compared to the 10 year average of approximately 2.5%.

10 Year Breakeven Inflation

Figure 1

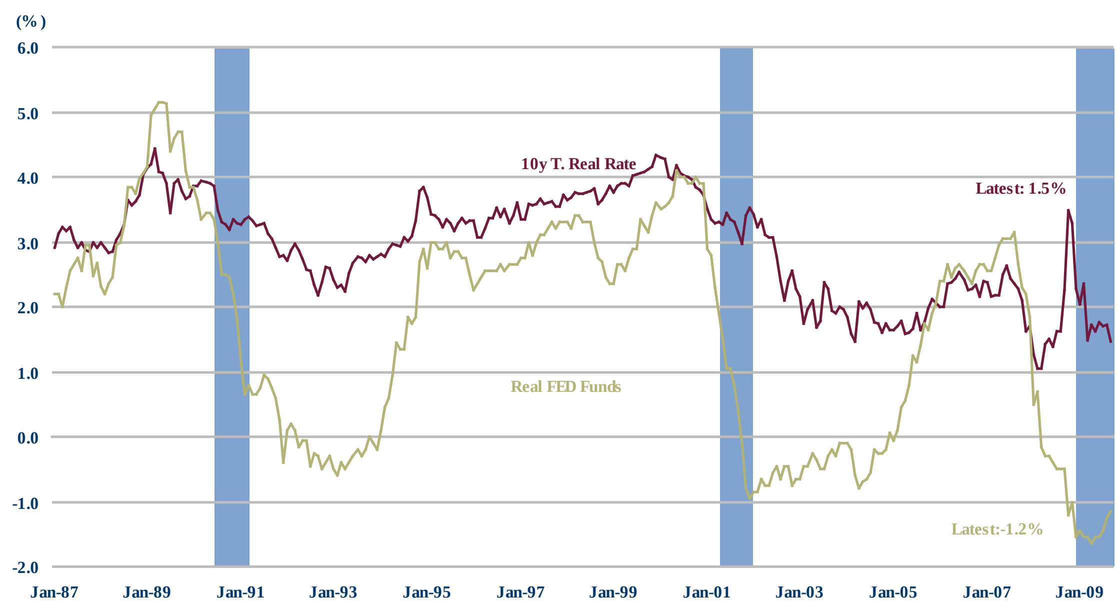


Source: Bloomberg as of September 30, 2009

In addition to the breakeven inflation rate, the maturity of a security is of equal importance when valuing TIPS because it affects the real coupon of the bond. Figure 2 shows the term structure of real rates. During prior periods of loose monetary policy, real rates were very low or even negative at the front-end of the yield curve but normalized further out along the yield curve. Longer maturity TIPS, which have higher duration (price sensitivity), may be less attractive in the current environment because the Fed may raise interest rates as the economy improves.

10-Year Treasury and Fed Funds Historical Real Rate: 1987 – YTD 2009

Figure 2



As of September 30, 2009
Source: Bloomberg and Neuberger Berman calculations; Blue bars denote recessionary periods

Benefits

We believe an allocation to TIPs can be beneficial to some investors regardless of the economic or financial environment. These securities may impart diversification benefits to a portfolio given their historically low correlation to equities. Even though TIPS are more correlated with other fixed income asset classes such as U.S. Treasuries, investment grade credit or commodities, they had among the highest risk adjusted returns after cash over the past 10 years. (See Figures 3a and 3b)

Figure 3a

Asset Class Correlation Matrix

10 Year Correlation Matrix	US TIPS	US Growth Stocks	US Value Stocks	US Small Cap Stocks	International Stocks	EMG Stocks	Long Treasuries	Cash	Intl Bonds	EM Bonds	High Yield	IG Credit	Securitized	Commodities	Global TIPS	CPI
US TIPS	100%															
US Growth Stocks	2%	100%														
US Value Stocks	9%	74%	100%													
US Small Cap Stocks	1%	80%	70%	100%												
International Stocks	14%	82%	82%	80%	100%											
EMG Stocks	14%	78%	70%	77%	89%	100%										
Long Treasuries	71%	-19%	-12%	-16%	-10%	-14%	100%									
CASH	2%	-7%	1%	-6%	-10%	-13%	3%	100%								
Intl Bonds	55%	3%	15%	6%	31%	18%	52%	-15%	100%							
EM Bonds	-1%	18%	4%	18%	9%	16%	-3%	6%	-1%	100%						
High Yield	26%	59%	59%	65%	66%	69%	-11%	-18%	15%	7%	100%					
IG Credit	73%	18%	23%	20%	34%	30%	65%	-6%	53%	-7%	52%	100%				
Securitized	72%	-3%	5%	-1%	8%	4%	76%	10%	53%	-6%	21%	77%	100%			
Commodities	30%	19%	19%	22%	37%	36%	-3%	1%	16%	-1%	24%	14%	0%	100%		
Global TIPS	82%	18%	27%	23%	43%	36%	53%	-9%	79%	-2%	41%	70%	62%	37%	100%	
CPI	8%	5%	2%	3%	5%	3%	-32%	10%	-10%	8%	13%	-19%	-15%	36%	9%	100%

As of September 30, 2009
Source: Bloomberg and Neuberger Berman calculations

Figure 3b*

Risk/Return Analysis

	10 Year Return	Risk (Standard Deviation)	Return/Risk
Cash	3.0%	0.6%	5.27
Securitized	6.2%	2.9%	2.12
CPI	2.5%	1.5%	1.66
US TIPS	7.5%	6.6%	1.13
IG Credit	6.5%	5.8%	1.12
EM bonds	12.5%	11.3%	1.10
Global TIPS	7.8%	8.5%	0.93
Long Treasuries	8.0%	10.0%	0.82
Intl Bonds	6.7%	8.7%	0.79
High Yield	6.2%	11.4%	0.59
EMG stocks	11.4%	25.2%	0.56
US Small Cap stocks	4.9%	21.6%	0.33
Commodities	4.5%	25.4%	0.30
International stocks	3.0%	18.2%	0.26
US Value stocks	2.6%	16.2%	0.24
US Growth stocks	-2.6%	19.4%	-0.03

As of September 30, 2009
Source: Bloomberg and Neuberger Berman calculations
Represents the Barclays Capital Indices for equities and fixed income.
Additional information about the source of this data is available upon request.

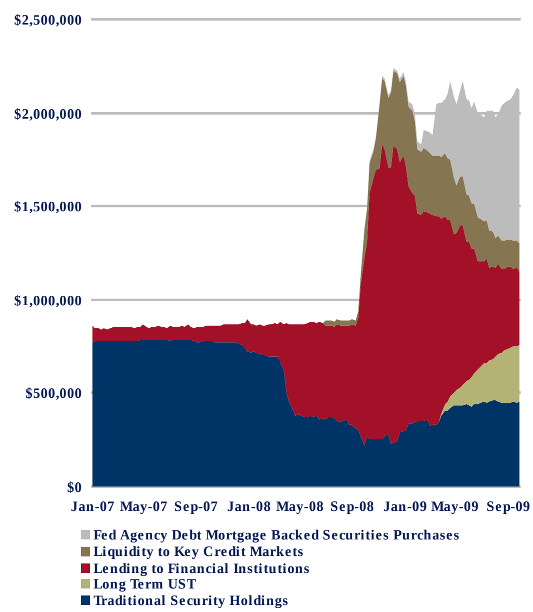
As previously discussed, they also provide a hedge against inflation. Many individuals/institutions have spending needs that grow with inflation. TIPS can help match future liabilities that tend to rise over time with inflation, such as retirement requirements and pension obligations. Additionally, during inflationary periods, TIPS may help protect a portfolio from the reduced purchasing power of the U.S. dollar.

Finally, we believe TIPS are well positioned for reasons previously mentioned given current and future monetary and government actions. The Federal Reserve's balance sheet has grown substantially over the past few years from $850 billion at the beginning of 2007 to greater than $2 trillion by the end of the third quarter of 2009 (See Figure 4). The central bank's current monetary policy, designed to stimulate the economy and expand balance sheet assets, has resulted in increased concern about rising inflation. TIPS are designed to buffer the effects of rising inflation and we believe they may add value to an investor's portfolio in this environment.

Fed Balance Sheet

Figure 4

Date	9/30/2009	12/31/08	01/03/07
Traditional security holdings	$ 454,473	$ 296,299	$ 771,569
Securities lend to dealers	$ 9,046	$ 179,662	$ 7,347
Repurchase agreements	$ -	$ 80,000	$ 40,857
Other fed assets	$ 85,284	$ 44,558	$ 39,609
Currency swaps	$ 56,756	$ 553,157	$ -
Term auction credit	$ 178,379	$ 450,219	$ -
Primary/other broker Dealer	$ -	$ 38,476	$ -
Primary credit	$ 27,977	$ 86,550	$ 180
Secondary credit	$ 503	$ 18	$ -
Seasoned credit	$ 117	$ 4	$ 54
Maiden lane 1	$ 26,199	$ 26,974	$ -
Maiden lane 2	$ 14,675	$ 20,059	$ -
Maiden lane 3	$ 20,556	$ 27,990	$ -
ABS CP	$ 79	$ 23,797	$ -
CP	$ 41,928	$ 332,410	$ -
Other credit	$ -	$ -	$ -
AIG credit	$ 38,306	$ 38,924	$ -
MBS	$ 692,196		
Agency	$ 130,050	$ 20,266	$ -
Term asset backed securties	$ 42,854		
Long term US Treasuries	$ 302,609		
Total	**$ 2,121,987**	**$ 2,219,363**	**$ 859,616**



As of September 30, 2009
Source: Federal Reserve Bank of Cleveland

Conclusion

We believe an allocation to TIPS may be beneficial to certain portfolios regardless of the financial or economic environment. These securities may serve as a natural hedge against rising inflation, offer some protection in a deflationary environment, provide diversification benefits, and generate attractive risk adjusted returns.

*Standard deviation shows how much a portfolio's returns vary from its average return; in general, a high standard deviation equals high volatility and potentially high risk. Indices are unmanaged and are not available for direct investment. Investing entails risks, including possible loss of principal. **Past performance is no guarantee of future results.**

<u>This information has been prepared and presented at the request of Pennsylvania Association of Public Employee Retirement Systems</u>