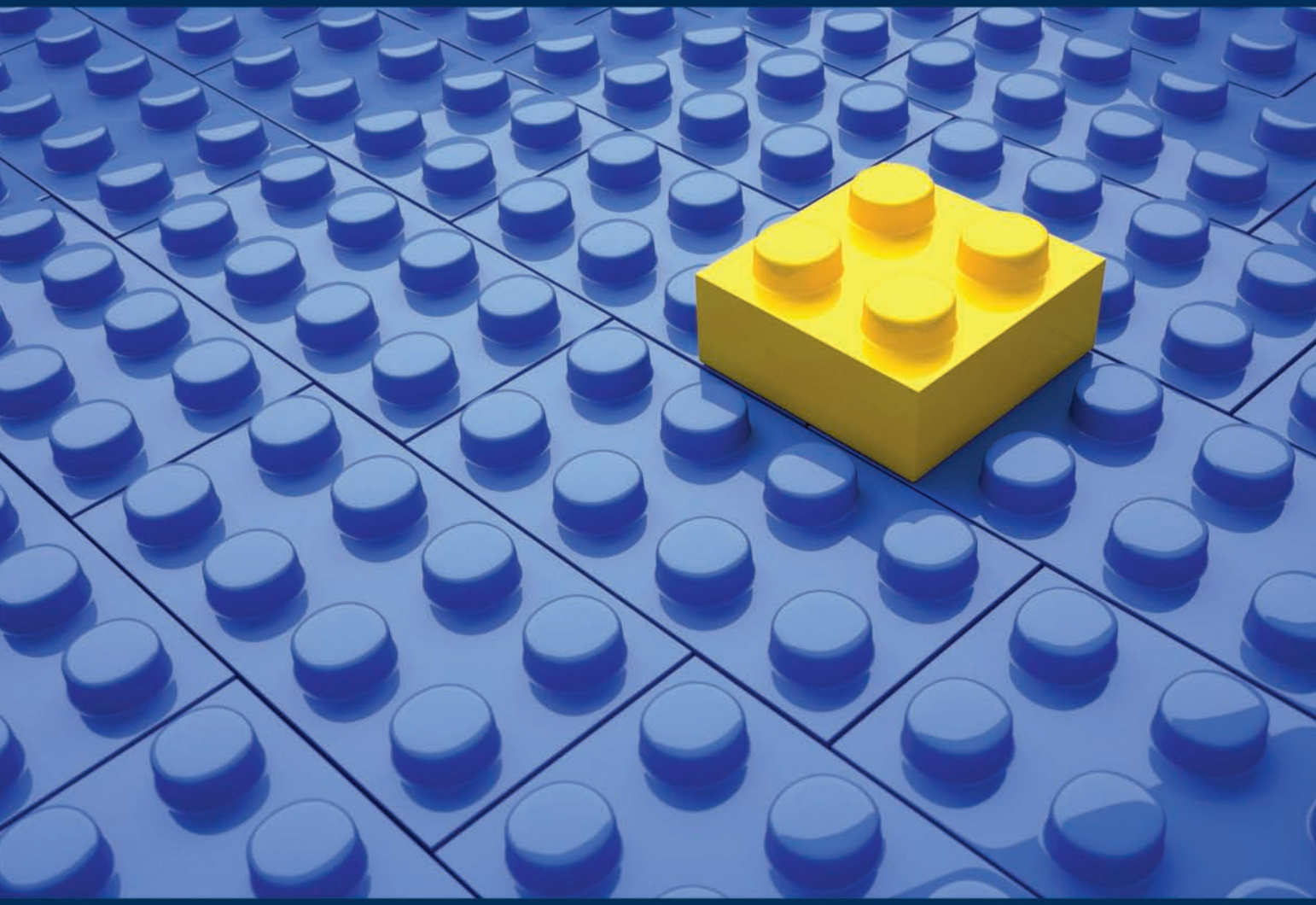
Journal of Indexes

www.journalofindexes.com

back to basics

May / June 2011



Is Core Investing Dead?
Agustin Fleites

Reconsidering Global Fixed Income
Christopher Philips, Joseph Davis, Andrew Patterson and Charles Thomas

How Active Investing Fails Investors
Richard Ferri

The Core Of The Matter: A Roundtable
Featuring Burton Malkiel, William Bernstein, David Armstrong, Tyler Mordy, Blair Shein and Ian Ayres

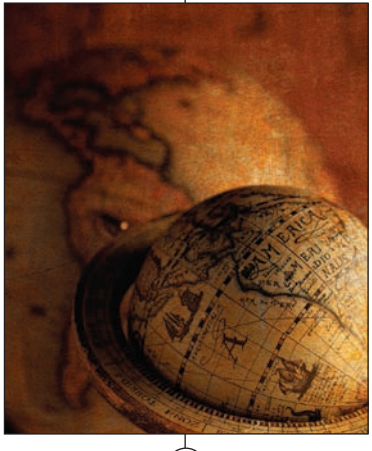
Plus Blitzer on hedging the core, Slivka et al. on China futures strategies and Bell being funny

Journal of Indexes
www.journalofindexes.com

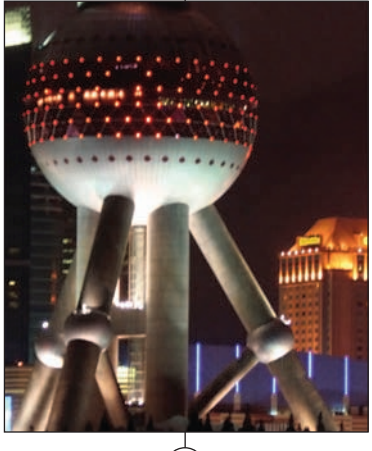
Vol. 14 No. 3

features

10



18



42

news

data

POSTMASTER: Send all address changes to Charter Financial Publishing Network, Inc., P.O. Box 7550, Shrewsbury, N.J. 07702. Reproduction, photocopying or incorporation into any information-retrieval system for external or internal use is prohibited unless permission is obtained in writing beforehand from the *Journal Of Indexes* in each case for a specific article. The subscription fee entitles the subscriber to one copy only. Unauthorized copying is considered theft.

Contributors


David Blitzer


Joseph Davis


Richard Ferri


Agustin Fleites


Xin Li


Christopher Philips


Ronald Slivka

David Blitzer is managing director and chairman of the Standard & Poor's Index Committee. He has overall responsibility for security selection for S&P's indexes and index analysis and management. Blitzer previously served as chief economist for S&P and corporate economist at The McGraw-Hill Companies, S&P's parent corporation. A graduate of Cornell University with a B.S. in engineering, he received his M.A. in economics from George Washington University and his Ph.D. in economics from Columbia University.

Joseph Davis is a Vanguard principal and the firm's chief economist. He is the head of Vanguard Investment Strategy Group, whose research team is responsible for helping to oversee the firm's investment methodologies and asset allocation strategies. In addition, Davis is a member of the senior portfolio management team for Vanguard Fixed Income Group. He earned his Ph.D. in macroeconomics and finance at Duke University.

Richard Ferri, CFA, is the founder of Portfolio Solutions LLC, a low-fee investment advisor firm located in Troy, Mich. He is a financial analyst, portfolio manager, nationally recognized speaker, columnist, and author of several books. Ferri earned a B.S. in business administration from the University of Rhode Island and a Master of Science in finance from Walsh College of Accountancy and Business. He is also a retired Marine Corps officer.

Agustin Fleites, CFA, is the founder and managing director of Beta Capital Advisors LLC, which offers core asset allocation tools for financial advisors. Earlier in his career, Fleites established and managed the asset allocation group at State Street Global Advisors, where he worked with pension plans, endowments, foundations and government organizations to develop and implement their investment programs. Fleites was also responsible for the development and launch of the SSgA and ProShares ETF platforms.

Xin Li is an economics system analyst at the International Monetary Fund, where he supports senior economists on analysis and data consolidation for Asian countries. Prior to joining the IMF, he provided analytic support for the interest rate derivatives desk of the Bank of Communications in Beijing. Li holds a B.S. in economics from East China University of Science and Technology and an M.S. in financial engineering from the Polytechnic Institute of New York University.

Christopher Philips, CFA, is a senior investment analyst for Vanguard Investment Strategy Group. This group is responsible for capital markets research, the asset allocations used in solutions for Vanguard's funds-of-funds, and maintaining and enhancing the investment methodology used for advice-based relationships with high-net-worth and institutional clients. Philips has authored several research papers on topics of concern to institutional and high-net-worth audiences. He holds a B.A. from Franklin & Marshall College.

Ronald Slivka is an adjunct professor at the Polytechnic Institute of New York University and a faculty member of the New York Institute of Finance. During his more than 35 years of practical Wall Street experience, Slivka held equity derivative sales and management positions at Salomon Brothers, J.P. Morgan and ABN AMRO. He has written over 25 articles and book chapters on a broad range of derivative topics and holds a Ph.D. in physics from the University of Pennsylvania.

Invesco PowerShares

Deutsche Bank

DBC

THE POWERSHARES DB COMMODITY INDEX TRACKING FUND

To download a copy of the prospectus, visit PowerShares.com/DBCpro

The fund is not a mutual fund or any other type of Investment Company within the meaning of the Investment Company Act of 1940 and is not subject to its regulation.
DB Commodity Services LLC, a wholly owned subsidiary of Deutsche Bank AG, is the managing owner of the fund. Certain marketing services may be provided to the fund by Invesco Distributors, Inc. or its affiliate, Invesco PowerShares Capital Management LLC (together, "Invesco"). Invesco will be compensated by Deutsche Bank or its affiliates. ALPS Distributors, Inc. is the distributor of the fund. Invesco, Deutsche Bank and ALPS Distributors, Inc. are not affiliated.
Commodity futures contracts generally are volatile and are not suitable for all investors. An investor may lose all or substantially all of an investment in the fund.

powerSHARES®
Xchange traded funds™

Register Now

FA FINANCIAL ADVISOR & Private Wealth

Present

The Premier Alternative Investments Event

designed exclusively for financial advisors, wealth managers and family offices!

SECOND ANNUAL

Innovative Alternative Strategies

HOW ADVISORS CAN ACHIEVE PORTFOLIO DIVERSIFICATION AND ALPHA

The Palmer House Hilton, Chicago
June 21–22, 2011

This event will bring together readers from *Financial Advisor* and *Private Wealth* magazines, including financial advisors, RIAs, independent and wire house reps, private bankers, wealth advisors, trust officers and family offices to learn about and discuss various categories of alternative investments, including: REITs, Hedge Funds, Specialty ETFs and Mutual Funds, Private Equity, Managed Futures, Options, Commodities, Derivatives and Structured Products, Life Settlements and Premium Finance.

For more information visit www.altinvconference.com

For information on sponsorship opportunities please contact group publisher David Smith at 732.450.8866, ext. 26 or dsmith@pw-mag.com

Journal of Indexes

Jim Wiandt
Editor
jwiandt@indexuniverse.com

Heather Bell
Managing Editor
hbell@indexuniverse.com

Matt Hougan
Senior Editor
mhougan@indexuniverse.com

Lisa Barr
Copy Editor

Laura Zavetz
Creative Director

Jodie Battaglia
Art Director

Merri Chapin
Graphics Manager

Andres Fonseca
Online Art Director

Aimee Melli
Production Manager

Editorial Board

David Blitzer: *Standard & Poor's*
Lisa Dallmer: *NYSE Euronext*
Deborah Fuhr: *BlackRock*
Gary Gastineau: *ETF Consultants*
Joanne Hill: *ProShare and ProFund Advisors LLC*
John Jacobs: *The Nasdaq Stock Market*
Kathleen Moriarty: *Katten Muchin Rosenman*
Jerry Moskowitz: *FTSE*
Don Phillips: *Morningstar*
John Prestbo: *Dow Jones Indexes*
James Ross: *State Street Global Advisors*
Gus Sauter: *The Vanguard Group*
Cliff Weber: *NYSE Euronext*
Steven Schoenfeld: *Global Index Strategies*

Review Board

Jan Altmann, Sanjay Arya, Jay Baker, William Bernstein, Herb Blank, Srikant Dash, Fred Delva, Gary Eisenreich, Richard Evans, Gus Fleites, Bill Fouse, Christian Gast, Thomas Jardine, Paul Kaplan, Joe Keenan, Steve Kim, David Krein, Ananth Madhavan, Brian Mattes, Daniel McCabe, Kris Monaco, Matthew Moran, Ranga Nathan, Jim Novakoff, Rick Redding, Anthony Scamardella, Larry Swedroe, Jason Toussaint, Mike Traynor, Jeff Troutner, Peter Vann, Wayne Wagner, Peter Wall, Brad Zigler

Copyright © 2011 by Index Publications LLC and Charter Financial Publishing Network Inc. All rights reserved.

There's nothing passive about commodities.

Investors have been down a rocky road. Bumped around by the markets, they're looking for new ways to diversify their portfolios — and keep inflation in check.

Diversify with real asset solutions that track S&P Indices.
Gain exposure to natural resources, metals & mining, or 24 commodity futures through widely traded S&P-linked ETFs.

- Consider equity-based strategies for exposure to the common stocks of commodity producers.
- Invest easily in a global basket of commodity futures linked to the S&P GSCI® — the industry's preeminent benchmark for commodities.
- Gain perspective from S&P Indices' commentary and research, which give in-depth insight into commodities and other real asset solutions.

S&P Indices offers solutions so you can activate your real asset strategies.

www.spindices.com/financialadvisors

S&P INDICES

This information does not constitute an offer of services in jurisdictions where Standard & Poor's does not have necessary licenses. Standard & Poor's receives compensation in connection with licensing its indices to third parties. It is not possible to invest directly in an index. Exposure to an asset class is available through investable instruments based on an index. There is no assurance that investment products based on an index will accurately track index performance or provide positive investment returns. Standard & Poor's does not sponsor, endorse, sell, promote or manage any investment fund or other vehicle that is offered by third parties and that seeks to provide an investment return based on the returns of any of our indices. For more information on any S&P Index and any further disclosures please go to www.standardandpoors.com. Copyright © 2010 Standard & Poor's Financial Services LLC, a subsidiary of The McGraw-Hill Companies, Inc. All rights reserved. STANDARD & POOR'S, S&P and GSCI are registered trademarks of Standard & Poor's Financial Services LLC.

The McGraw-Hill Companies

FREE SUBSCRIPTION OFFER!

The *Journal of Indexes* is the premier source for financial index research, news and data. Written by and for industry experts and financial practioners, it is the book of record for the index industry. To order your **FREE** subscription, complete and fax this form to 732.450.8877 or subscribe online at **www.indexuniverse.com/subscriptions.**

Yes! Send me a free subscription to *Journal of Indexes* magazine

Journal of Indexes

Signature Date

Name

Title

Company

Address

City State ZIP

Phone Fax

E-mail

The following best describes my primary business activity (check one):

(1) Plan Sponsor (2) Financial Advisor
(3) Investment Management (4) Mutual Fund Management
(5) Pension Fund Consulting (6) Pension Fund Management
(7) Brokerage (8) Academic
(9) Ordinary Investor (10) Other:_____

Do you personally sell, recommend or manage investments, work in the index industry or advise clients on investment and/or asset management?

Yes No

If you advise clients as to their investments, how do you charge them?

Commission only Fee only Fee and commission

If you manage investments, what are your total assets under management?

(1) Over $500 million (2) $100 million - $500 million
(3) $50 million - $99.9 million (4) $25 million - $49.9 million
(5) $10 million - $24.9 million (6) Under $10 million

All questions must be answered to qualify for free subscription. Publisher reserves the right to reject unqualified applications.

Journal of Indexes

David Smith
Publisher
dsmith@fa-mag.com
732.450.8866 ext. 26

Jim Wiandt
Director of Operations
jim_wiandt@journalofindexes.com
415.659.9007 • Fax: 415.659.9005

Don Friedman
Director of Business Development
dfriedman@indexuniverse.com
415.659.9009 • Fax: 415.659.9005

Caren Paradise Kohl
New England Advertising Director
cparadise@fa-mag.com
610.692.3646 • Fax: 610.692.9793

Diane Rogala
East Region Advertising Director
drogala@fa-mag.com
732.493.2159

Dawn Zarcaro
Advertising Manager
dzarcaro@fa-mag.com
732.450.8866 ext. 22

Andie Goldfinger
Reprint Sales Director
330.983.9648

Susanna Marra
Circulation Manager
732.450.8866 ext. 24

Charter Financial
Publishing Network Inc.
499 Broad Street, Suite 120
Shrewsbury, NJ 07702
732.450.8866 • Fax 732.450.8877
Charlie Stroller, President/CEO/CFO
cstroller@fa-mag.com

Index Publications LLC
353 Sacramento Street, Suite 1520
San Francisco, CA 94111
1.877.6INDEX6 • Fax 415.659.9005
Jim Wiandt, President
jim_wiandt@journalofindexes.com

cfpn Charter Financial Publishing Network

Charter Financial Publishing Network Inc. also publishes: *Financial Advisor* magazine, *Private Wealth* magazine, *Nick Murray Interactive* and *Exchange-Traded Funds Report.*

For a free subscription to the *Journal of Indexes,* IndexUniverse.com or *Financial Advisor* magazine, or a paid subscription to *ETFR,* please visit www.indexuniverse.com/subscriptions.

STOXX LIMITED

INDEXING ENTERS A NEW ERA

STOXX has globally expanded its index portfolio. Based on our know-how and expertise, from now on STOXX will offer a truly global index range, including countries and regions as well as innovative concepts such as Risk Control Indices. Our new comprehensive portfolio is clearly set up, transparent, and designed to meet investors' needs, such as asset allocation, performance assessment, and financial products. With this new direction comes a new look that matches our idea of indexing: global, clear, and transparent. Learn more about our products and our new branding: **www.stoxx.com**

STOXX

INNOVATIVE. GLOBAL. INDICES.

STOXX is part of Deutsche Börse and SIX Group
STOXX® indices are protected through intellectual property rights. 'STOXX' and 'EURO STOXX 50' are registered trademarks. The use of the STOXX® indices for financial products or for other purposes requires a license from STOXX. STOXX does not make any warranties or representations, express or implied with respect to the timeliness, sequence, accuracy, completeness, currentness, merchantability, quality or fitness for any particular purpose of its index data. STOXX is not providing investment advice through the publication of the STOXX® indices or in connection therewith.

Jim Wiandt
Editor

Revisiting Underlying Principles

For all the attention we give to the margins of investing, we sometimes miss the basics. We argue about a handful of basis points, when there are hundreds—if not thousands—of bps at stake depending on how we set our asset allocations, or even on how we define the boundaries between asset classes. The truth of the matter is that we often neglect the basic parts of our portfolios. It's in recognition of this tendency that we revisit the very foundations of our industry.

First up is a wake-up call from Agustin Fleites discussing the supposed demise of core investing. He suggests that recent market turmoil and volatility have caused investors to lose faith in the basic principles of core investing, but that would be a mistake—and he offers proof.

Vanguard's Christopher Philips, Joseph Davis, Andrew Patterson and Charles Thomas follow with a comprehensive article on the very nature of a huge piece of the asset allocation puzzle. We allocate a large part of our portfolios to fixed income (approaching half, and often increasing as we near retirement). And yet unlike with equities, few of us consider the value of international diversification in that chunk of our investments. This analysis is a healthy portion of food for thought, of the "fistfuls of basis points" variety.

Next up is a provocative contribution from Richard Ferri that attacks the follies of market timing and tactical asset allocation and champions passive investment in the form of strategic asset allocation. Investors—both individual and institutional—need a disciplined investment framework, lest they fall in with the "dumb money."

David Blitzer weighs in from another angle on core/satellite, suggesting that losing some dogma and hedging your bets may not be such a bad idea. And our roundtable of financial advisors and academics featuring the likes of Burton Malkiel, William Bernstein and David Armstrong, among others, wraps up the issue's theme with some varied opinions on key questions.

Ronald Slivka and Xin Li are also back—with Yikai Zhang—further exploring the potential of China's budding futures market, while Heather Bell closes out the issue with some words of wisdom from one of her investing heroes.

As an index investor, these are the golden years, where our investment options are boundless … but at the same time, the amount of opacity and confusion as to what one might do with his or her portfolio remains. We and our contributors suggest that you keep a clear head, stay realistic and get back to the basics.

Jim Wiandt
Editor

Russell Indexes
by Russell Investments | It's the Market.®

Expect everything.

Investment insight.
Indexes. Sectors. Universes.
Accurate. Investable. Practical.
Representative. Objective.
Float-adjusted. Replicable.
Transparent. Rules-based.
Rigorously maintained.
Elegantly constructed.
Modular. Innovative.

Compromise nothing.

GLOBAL CLIENT SERVICE: AMERICAS: +1-877-503-6437
APAC: +65-6880-5003
EMEA: +44-0-20-7024-6600

www.russell.com/indexes

Is Core Investing Dead?

Revisiting some enduring principles

By Agustin Fleites

Substantial losses realized over the past decade have forced many to reassess future goals and retirement objectives, and dramatically reduce allocations to risk in their portfolios. Confidence in the long-term contribution of equity markets to investment portfolios has substantially eroded, with the S&P 500 posting a 10-year cumulative decline of 9.1 percent, even after the 26.5 percent rebound for 2009. Investors conditioned to believe that well-diversified equity exposures would achieve growth over long-term horizons experienced not one, but two dramatic corrections over the past 10 years: the bursting of the technology bubble (2000-2002) and then the housing bubble (2007-2009).

What happened? Does all that we learned about investing for the long term no longer apply? Do we need to develop new investment frameworks to meet long-term objectives? Do we need to adopt the yet-to-be-proven aggressive trading and market-timing strategies that many are advocating as the "new normal" to meet our investment goals? Or do we need to adopt more conservative, realistic and sustainable goals going forward?

The goal of this paper is to demonstrate that the "old approach" to core investing is not dead. Time-proven tenets of investing for the long term—*realistic expectations, asset allocation driven by sustainable long-term objectives and prudent diversification*—will continue to provide the foundation for successful long-term investing.

What Is Core Investing?

Before we can assess its suitability, we need to define what the "old approach" to core investing is all about.

A core investment program is the result of a careful assessment of how to deploy existing assets and projected earnings to fund future goals and objectives (liabilities). Investment portfolios need to be structured to protect future purchasing power from inflation, provide reasonable and sustainable growth to fund projected liabilities, meet projected income distribution needs, and ensure risks taken are consistent with individual circumstances and investment horizons.

The keys to successful implementation of a core investment program are: setting reasonable growth objectives to meet projected liabilities, developing realistic asset class return expectations, and deploying resources across asset classes to capture their long-term risk premia in mixes consistent with meeting growth objectives and investor risk profiles.

It is important that return objectives be defined and set to match projected liabilities. All too often, investment objectives are set at absolute levels of return or at a target excess level of performance over an asset benchmark. This approach may not provide for the funding of projected liabilities, or worse, may introduce unnecessary risk to the investment program.

Asset classes are the fundamental building blocks for a core investment approach. Realistic projections of asset class expected returns and their projected contributions to portfolio risk are critical to the development of asset allocations consistent with funding projected liabilities. Appropriate allocations across fixed income, equity, real estate, commodities, private equity and other alternative asset classes result in prudent levels of diversification, minimizing risk and improving investors' ability to meet long-term objectives.

Notable studies demonstrated[1] and reaffirmed[2] that strategic asset allocation is the primary determinant of returns variability for investment portfolios over long-term investment horizons.

Once the asset allocation has been determined, a core investment program will deploy portfolio assets across investment pools. These investment pools should provide well-diversified exposure across the asset class to maximize the opportunity to capture its long-term risk premium (reward for assuming systemic risk) and to minimize the impact of issuer risk (diversifiable risk not compensated by markets).

Core investing is all about implementing sustainable investment programs where asset allocations and exposures can be sustained through difficult times in order to realize long-term returns to meet projected liabilities.

What Happened?

Why did advocates of a core investment approach endure such pain over the past decade? Investor experience could have been substantially improved with a greater focus on three key tenets of a core investment program: realistic return expectations, sustainable asset allocations and appropriate levels of diversification.

Historical Experience

Capital markets history provides us with a good perspective of how markets reward risk. While nominal asset class returns are volatile over time, long-term real returns

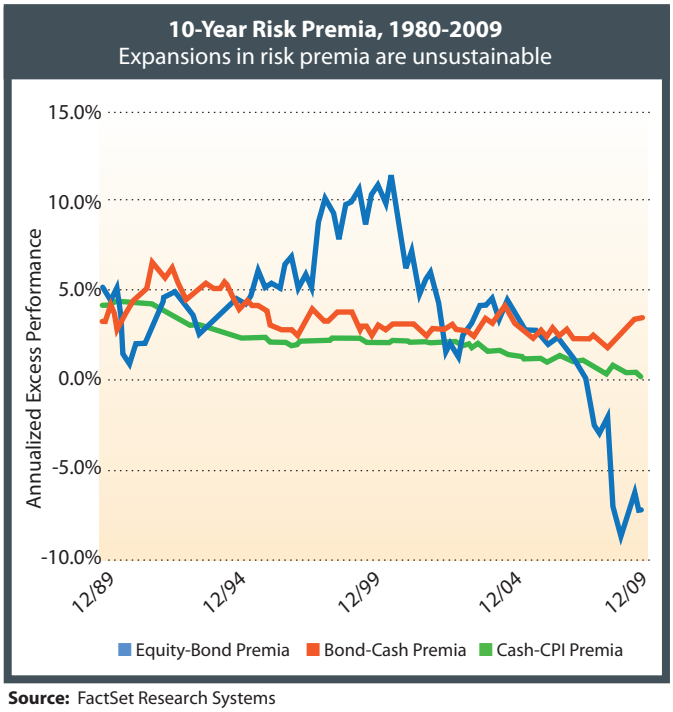
Figure 1

Risk Premia As Indicators Of Market Valuation
Historical Risk Premia Annualized Performance Spread (%)

	Long-Term 1926-2006	1980-2009	1980-1989	1990-1999	2000-2009
Equity-Bond	4.9	2.4	5.1	10.5	-7.3
Bond-Cash	1.8	3.1	3.2	2.6	3.5
Cash-Inflation	0.7	2.2	4.1	2.1	0.3

Source: Mayo, Herbert B., Investments: An Introduction, p. 349; and FactSet Research Systems

Figure 2



Source: FactSet Research Systems

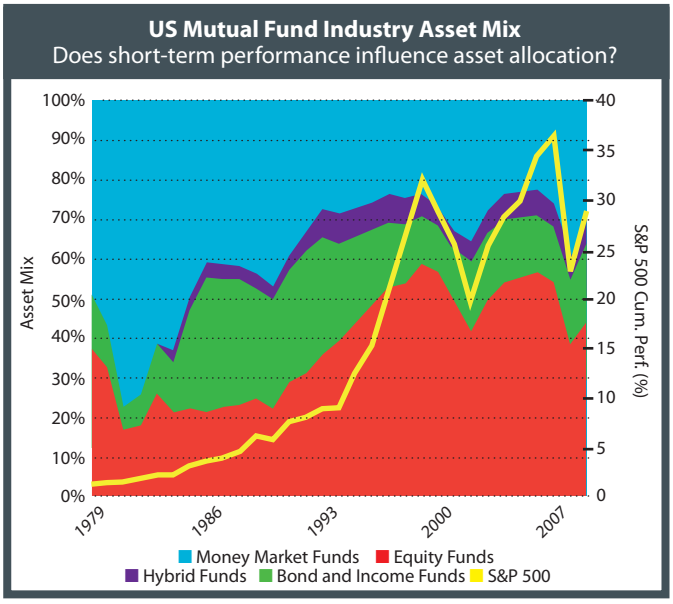
Figure 3

S&P 500 Historical Performance
Equity rewards are not risk free

	Annualized		Max Downside	
	Return	Risk	Perf	Duration
1970-1979	5.88%	18.52%	-42.64%	7 Q
1980-1989	17.55%	16.82%	-22.53%	1 Q
1990-1999	18.21%	13.66%	-13.74%	1 Q
2000-2009	-0.95%	17.84%	-45.80%	6 Q

Source: FactSet Research Systems

Figure 4



Source: Investment Company Institute

and risk premia are more stable. Figure 1 illustrates the long-term annualized risk premia earned by equities, bonds and cash investments from 1926-2006 together with behavior of the same premia over the last 30 years, collectively and by decade.

Markets become overextended as a result of many variables, not the least of which is investor psychology, which can result in bubbles developing as irrational expectations trump fundamental linkages across markets. As a result, shorter-term risk premia can vary significantly from long-term averages. History has shown they oscillate around some presumed longer-term averages, with temporal expansions (contractions) in risk premia resulting in markets becoming overvalued (undervalued) and market forces eventually stepping in to bring valuations, and risk premia, back into line with long-term estimates of fair value.

Figure 2 illustrates variability of the equity risk premium over the past three decades. The 2.4 percent average equity premium earned over the last 30 years is materially below the 4.9 percent premium earned since 1926, but reflects the dramatic sell-off the markets experienced since 2000. During the 1980s and 1990s, equity market returns outpaced historical norms. For the 10 years ending in 1999, equity markets outperformed bonds by over 10 percent per annum, a substantial—but unsustainable—expansion in the equity risk premium. Over the 10 years ending 2009, equity markets sold off dramatically, as the bursting of both the technology and the housing bubbles forced investors to reassess the risk inherent in equity valuations and forced a flight to quality from equities to cash and fixed-income markets. Over this 10-year period, investors contributed a net $787.6 billion to equity mutual funds, but over $1.2 trillion to cash and bond mutual funds.[3]

Unrealistic Expectations Led To Unsustainable Allocations

The experience of the 1980s and 1990s conditioned investors to downplay the risks associated with equity investing. Over the period 1980-1999, equity investors were not subject to any prolonged declines in equity markets (see Figure 3).

Using the S&P 500 as a proxy for large-capitalization equities, we see that during the 1980s, the worst quarterly drawdown for the market was 22.53 percent (Black Monday in October 1987), a significant downswing, but the market posted a return of 5.25 percent that year and 16.61 percent the following. In the 1990s, the worst drawdown was 13.74%, experienced over the third quarter of 1990. The 1990s experience also shows a dramatic decline in the volatility of the market, with S&P 500 annualized volatility dropping from long-term averages of nearly 20 percent to about 13 percent.

Investors clearly forgot the dramatic declines experienced in the 1970s, when the Arab oil embargo took the market down over 42 percent over almost two years. The last decade, however, brought reality back into focus. With the bursting of the tech bubble during 2000-2002—when the market lost over 43 percent—and the bursting of the housing bubble during 2007-2009 that resulted in a 45 percent loss,

the worst decline since the Great Depression, investors were reintroduced to the risks of equity investing.

With the 1980-1999 experience to support them, investors came to believe in a "new normal," where equity market multiples would continue to expand and markets would deliver above-average returns with much lower downside risk. In fact, over this time period, investor allocations to equity markets dramatically increased. Allocations to equity mutual funds grew from 38 percent of all mutual fund assets at the end of 1979 to a peak of 59 percent by 2000 (see Figure 4). While these figures may not reflect the relative equity and bond allocations of individual investors, they do reflect the magnitude of the shift in risk aversion across the U.S. investing public.

In fact, the net flow of assets across equity and fixed-income funds only reinforces the dramatic change in America's risk appetite for equity exposure. Figure 5 depicts fund flows from 1984 to 2009 (flow figures are not available from 1980-1983). Over this period, investors allocated a net $1.3 trillion to equity funds versus $420 billion to fixed-income funds.[4]

Close parallels between increases in equity exposure and short-term strength in equity returns raise concern. Figures 4 and 5 depict growth in allocations to and flows into equity funds over 1979 to 2009 compared to the cumulative performance of the S&P 500. It does not appear as if investors were setting strategic asset allocations to risk assets based on projections of long-term liabilities, but rather on chasing short-term performance. It is very curious to witness the declines in equity exposure and flows with the market corrections of both 2000-2002 and 2007-2009. Reductions in equity exposure, unfortunately, led many to miss the strong rebound after both the tech (28.7 percent in 2003) and housing (26.5 percent in 2009) bubbles burst.

While not as pronounced, institutional investors may also be letting recent performance drive their allocations to equity markets. Figure 6 provides historical asset allocations for a broad sample of endowment funds.

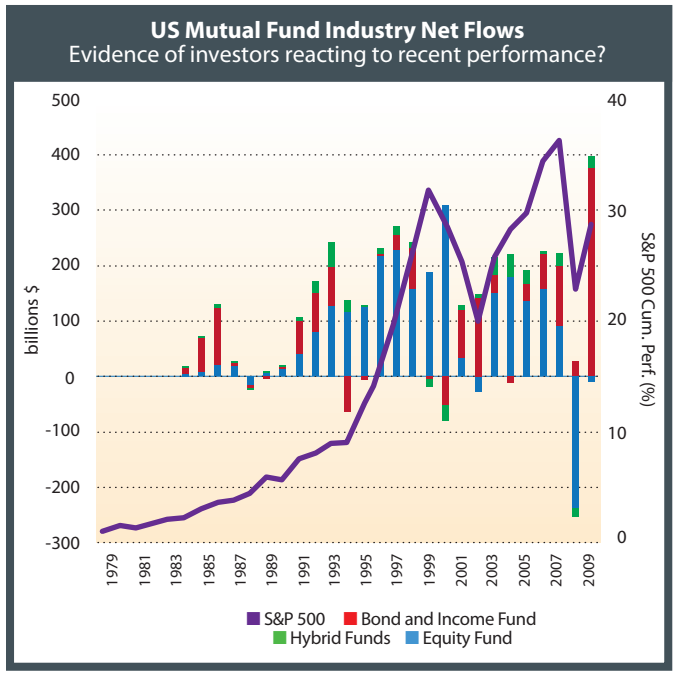
Endowments increased their equity allocations from 50 percent in 1989 to more than 60 percent by the end of 2000. As with individual investors, endowments were increasing their equity allocations at progressively higher valuations.

Over this time frame, endowments were also substantially increasing allocations to alternative investments through reductions in fixed-income exposures. Alternatives grew from less than 5 percent in 1993 to 25 percent of portfolios by 2009, with hedge fund investments accounting for approximately one-half of the allocation.

School budgets were increasingly relying on above-average gains generated by their endowments to support a greater proportion of their operating and capital budgets. Endowments also came to depend on a higher equity risk premium as a new normal. And again, as with individual investors, endowments substantially reduced their equity exposures in 2000-2002 and again in 2008 in reaction to the market corrections, proving that equity allocation levels had introduced more risk than these institutions were able to sustain.

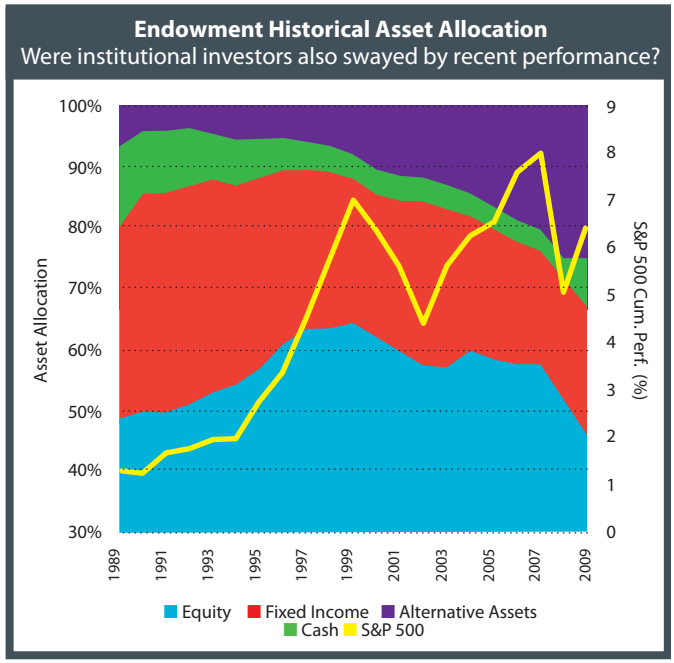
Successful core investment programs set asset allocations to match long-term return objectives with projected growth in liabilities. To best capture the asset class risk premium implied in the strategic asset allocation, investors need to maintain asset class exposures over long-term horizons. It is therefore critical for allocations to risky asset classes to be both sustainable *and* based on realistic expectations. The experience of the past 30 years raises serious questions as to whether long-term investment objectives were set to be consistent with projected growth in liabilities, reasonable asset class return expectations and prudent asset allocations.

Figure 5



Source: Investment Company Institute

Figure 6



Source: Nacubo Endowment Studies

Figure 7

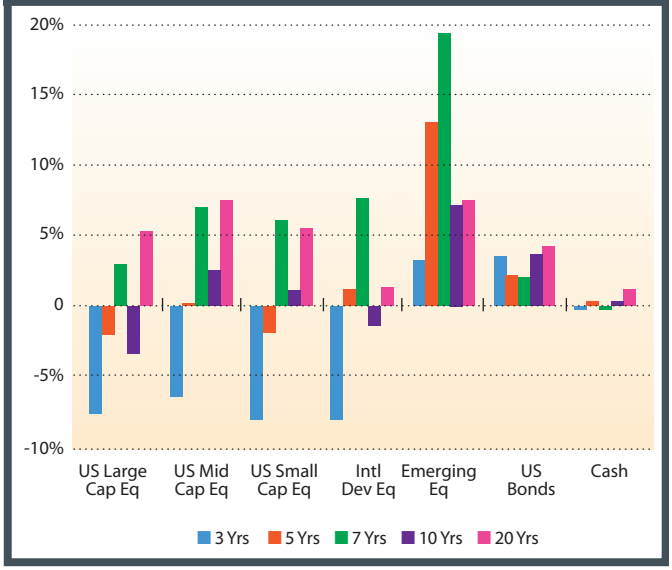
Correlations With S&P 500, Periods Ending Dec. 31, 2009
Equity markets increasingly correlated

Portfolio/Index	S&P MidCap 400	Russell 2000	EAFE	Europe Equity	Far East Equity	Emerging Equity	Barclays Aggregate	T-Bills
3 years	0.98	0.96	0.94	0.96	0.82	0.90	-0.08	-0.04
10 years	0.97	0.94	0.94	0.95	0.72	0.87	-0.05	-0.03
20 years	0.94	0.88	0.83	0.86	0.58	0.67	-0.04	0.09
30 years	0.95	0.89	0.75	0.81	0.54	0.68	0.16	0.09

Source: FactSet Research Systems

Figure 8

Annualized Real Returns, Periods Ending Dec. 31, 2009
Over extended time frames, diversification opportunities still exist



Source: FactSet Research Systems

Diversification

Investors have long enjoyed the benefits of diversification as espoused by modern portfolio theory. They have benefited from the opportunity to expand return and reduce overall portfolio risk through allocations to asset classes with less-than-perfect correlations. The experience of the last decade, however, with equity markets apparently moving in lock step as they plunged in value, has led many to question the core value of diversifying risk exposures. Did the opportunities for diversification disappear?

Figure 7 shows that correlations across equity markets have been increasing. The highest correlations across equity markets occur over the three-year and 10-year periods, during which the markets experienced severe setbacks with the bursting of the technology and housing bubbles. Beyond the last 10 years, a few observations are noteworthy.

First, small- and midcap U.S. equities continue to have high correlations with domestic large-cap equities, as do developed international equity markets. It appears investors now need to move into emerging equity markets to enjoy the low correlations today's developed—then developing—equity markets once enjoyed with the U.S. Second, across all time frames, bonds and cash offered significant levels of diversification when combined with equities.

However, a simple reliance on historical correlations masks the significant opportunities to reduce risk and create wealth over the long term through allocations to a diversified group of equity markets. Equity allocations are made with the objective to not only preserve purchasing power over time, but to generate real wealth to help offset projected liabilities.

Not all equity markets experienced the technology and housing bubble corrections in the same way, and they also recovered at different paces and varying levels of rigor. Over the last three years ending in 2009, all equity markets suffered significant losses in purchasing power ranging from -6.3 percent to -7.9 percent annualized real returns, with the exception of emerging markets, which were up 3.3 percent (see Figure 8).

Surprisingly, with the inclusion of both the housing and tech bubble busts, midcap, small-cap and emerging equities posted 10-year real annualized gains over inflation ranging from 1.0 percent for small-cap to 7.2 percent for emerging equity markets. Only large-cap U.S. and developed international equities posted annualized real losses over the 10-year horizon of 3.4 percent and 1.3 percent, respectively. Although real equity market returns are far below the approximately 7.0 percent long-term average, the performance range demonstrates the benefits to holding a diversified pool of equity asset classes. Moreover, while equity market performance created significant challenges for investors, fixed-income markets continued to post strong returns as bond yields continued to fall to levels not seen in over 40 years.

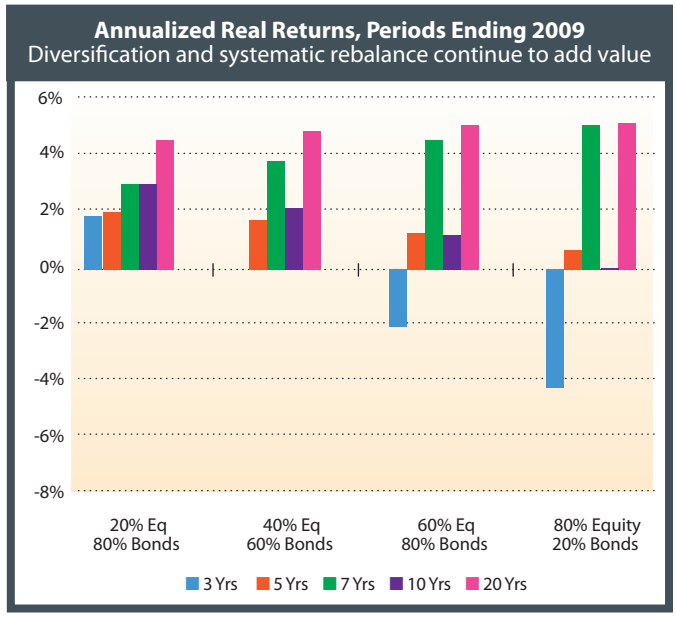
The benefits of diversification are fully realized when many asset classes are combined in an appropriate mix to help generate long-term growth consistent with projected liabilities. We extend the analysis conducted above with an examination of the returns of portfolios with allocations both to equity and fixed-income asset classes in order to gain insight on the potential impact of the tech and housing crises on portfolios with broader diversification.

Figure 9 provides the realized rates of return for four balanced portfolios, including increasing levels of strategic allocation to equity risk (20 percent, 40 percent, 60

percent and 80 percent). Allocation within each portfolio's equity exposure is consistent across the four mixes, with domestic equity representing 75 percent of overall equity mix and—within domestic equities—large-, mid- and small-cap representing 75 percent, 15 percent and 10 percent of the allocation, respectively. The 25 percent international equity exposure is represented with 75 percent exposure to developed and 25 percent to emerging markets. Bond exposure decreases from 80 percent to 20 percent across the four portfolios as the equity allocation increases and is proxied by the returns of the Barclays U.S. Aggregate Bond Index.

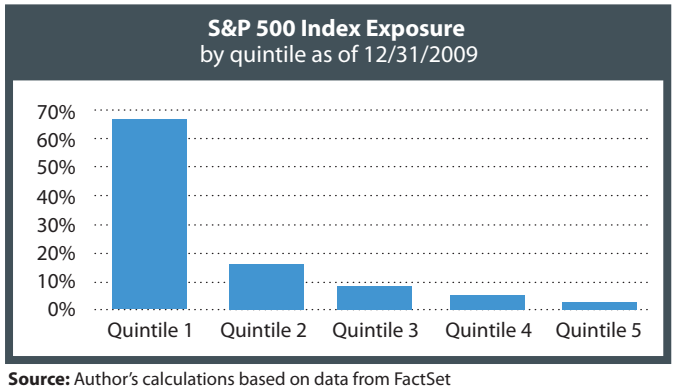
As Figure 9 illustrates, poor equity returns continued to weigh on annualized real returns up to 10 years out. But broader diversification of the equity allocation and the inclusion of bonds in a more balanced portfolio substantially reduce the impact of underperforming large-cap U.S. equities and developed market equities. Ten-year annualized real returns for balanced portfolios with equity allocations from 20 percent to 80 percent range from 3.0 percent to 0.1 percent. Clearly these are not returns to get excited about, but they represent significant improvements on the annualized real loss of 3.4 percent for the S&P 500, with no loss in purchasing power and—for those portfolios with more balanced allocations—reasonable real growth. Furthermore, allocations to real estate, commodities and other alternative classes could have further mitigated exposures to the dramatic downturn of U.S. and developed market equities.

Figure 9



Source: FactSet Research Systems

Figure 10



Source: Author's calculations based on data from FactSet

Are Beta Instruments Properly Diversified?

Sustained commitment to long-term asset allocation is the first step to realize asset class risk premia. Well-diversified exposures within asset classes are also critical. More recently, there have been serious questions posed as to whether traditional capitalization-weighted indexes are well-diversified.

Regardless of whether you adopt an active or passive approach, there is strong evidence that many active managers stay very close to the risk profile of their benchmarks. (These managers are known as "closet indexers," or the more impertinent "benchmark huggers"). If portfolios are not properly diversified, investors may not capture the benefit of long-term beta exposure, the equity risk premium.

A quick snapshot provides support to this skepticism. The S&P 500 Index bills itself as a good proxy for the behavior of large-cap U.S. equities. A better descriptor might be a good proxy for the handful of mega-cap equities listed in the U.S. Figure 10 illustrates the concentration risk inherent in the construction of the index. The top 50 names represent over 50 percent of the market capitalization of the index, and the top 100 stocks (Quintile 1) over 67 percent. Put differently, the bottom 100 stocks in the index would need to move more than 22 times the movement of the top 100 in order to have the same impact on the index. So much for an index that is meant to be representative!

From a sector allocation perspective, there is also room for concern. As with all capitalization-weighted indexes, sector allocations within the S&P 500 Index will oscillate over time depending on the relative valuation of all of the companies represented in each sector. The tech and housing bubbles highlight the risks of this approach. As Figure 11 illustrates, information technology stocks at the height of the Internet bubble represented close to 30 percent of the S&P 500 Index.

Leading up to the peak of the housing bubble, financial companies represented 22 percent of the index. It is not hard to understand how this approach to index construction exacerbated the poor performance experienced after both market corrections.

Did concentration risks impact the ability of investors to gain proper beta exposure, and hence their abilities to capture the equity risk premium over time?

Alternative Passive Approaches

Alternative construction approaches for equity indexes have surfaced over the last few years to address the limitations of capitalization-weighted methodologies. The first approach simply equal-weights all of the securities in the index, thereby providing equal representation to each security. While this approach may result in high levels of turn-

over, since it was released in 2003—and used as the basis for an ETF (the Rydex S&P 500 Equal Weight ETF; NYSE Arca: RSP)—it has significantly outperformed the S&P 500 Index. During the five years ended in 2009, RSP outperformed the S&P 500 Index by 1.2 percent per annum, not an insignificant performance differential if it is sustained over time. Backtested results for the index suggest such an approach would consistently outperform over long-term horizons.

Another approach seeks to weight securities based on their "economic impact" by looking at nonprice variables, including book value, revenues, cash flow and dividends to determine relative weights of companies within an index. Again, while extensive live results are not available, the RAFI 1000 large-cap equity index has outperformed the S&P 500 Index since its release in late 2005. The PowerShares FTSE RAFI U.S. 1000 Portfolio (NYSE Arca: PRF), an ETF benchmarked against the index, outperformed the S&P 500 Index by approximately 0.9 percent annually over the three years ending in 2009. As with the S&P 500 Equal Weight Index, backtested results here also suggest long-term excess performance versus the cap-weighted index.

How can we gauge over longer time horizons the potential impact of concentration in the traditional cap-weighted benchmarks?

One simple approach would be to take the S&P 500 Index, equal-weight each of its 10 sectors and then rebalance each quarter. While not as diverse as an equal-weight approach at the constituent level, it does spread exposure more broadly than the S&P 500 Index and ensures that all sectors have the same influence on the behavior of the index. A corollary benefit to this approach is lower turnover relative to both the S&P 500 Equal Weight and RAFI US 1000 indexes, which is more consistent with the buy-and-hold investment philosophies of most core investors.

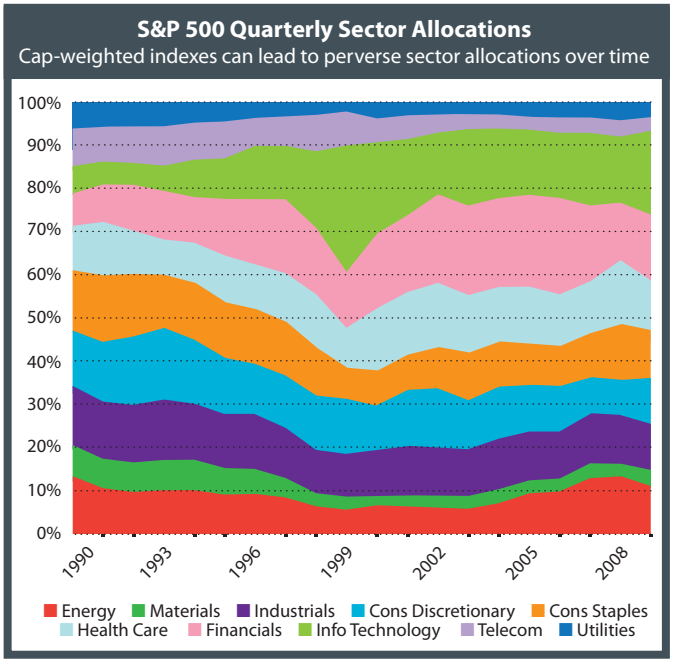
How would this approach have performed historically? Figure 12 illustrates excess annualized gains ranging from 1.2 percent to 3.0 percent over the past 20 years, with the S&P 500 outperforming by a narrow margin only over the 12 months ending 2009.

A similar exercise can be performed with international equity exposure, but rather than equal-weighting sectors, each market can be equally weighted to provide for more diverse market exposures. Figure 12 also illustrates the power of this approach for developed as well as emerging markets.

How would these approaches impact the four balanced

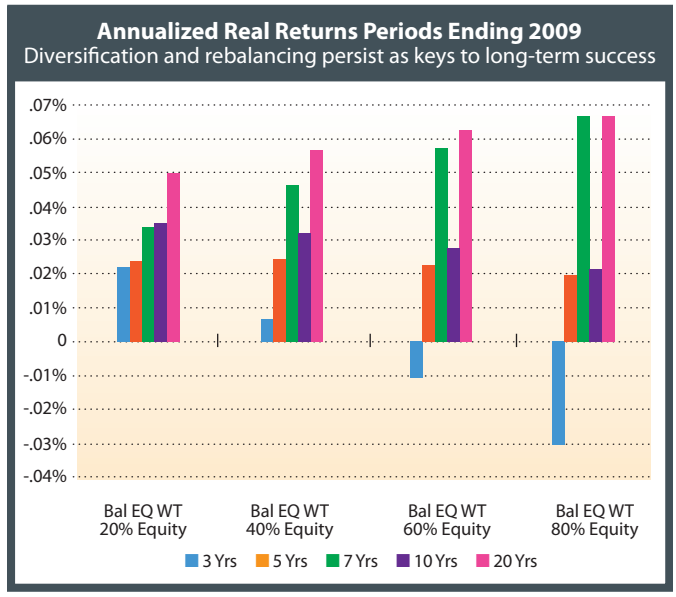
continued on page 48

Figure 11



Source: Bespoke Investment Group

Figure 13



Source: FactSet Research Systems

Figure 12

Diversified Alternatives To Cap-Weighted Indexes
Annualized Excess Performance (%)

	1 Year	3 Years	5 Years	10 Years	20 Years
S&P 500 Sector Equal Weight	-0.4	2.4	2.2	3.0	1.2
EAFE Country Equal Weight	10.6	-0.9	0.6	2.6	4.3
Emerging Country Equal Weight	-4.7	3.7	4.3	5.8	5.4

Source: Author's calculations based on data from Morningstar

GIVE YOUR CLIENTS A SOURCE OF INCOME AND THEY'LL RETURN THE FAVOR.

Investors have a wonderful way of showing their gratitude. Recommend a product that offers regular dividends and it's likely they'll come back for more. If you're looking for that kind of loyalty, check out the SPDR® family of funds. We have a number of precise ETFs which seek to provide steady returns for your clients. This means they may continue to receive dividends in all kinds of markets. So scan the QR code with your smartphone to visit spdrs.com/dividends. It's a place where grazing is most definitely allowed.

SPDR S&P® Dividend ETF	*SDY*
SPDR S&P International Dividend ETF	*DWX*
SPDR S&P 500 ETF	*SPY*
SPDR Dow Jones Industrial Average ETF	*DIA*

SPDR®
STATE STREET GLOBAL ADVISORS

Precise in a world that isn't.℠

STATE STREET®

LISTED NYSE ARCA

Before investing, consider the funds' investment objectives, risks, charges and expenses. To obtain a prospectus or summary prospectus, which contains this and other information, call 1.866.787.2257 or visit www.spdrs.com. Read it carefully.

ETFs trade like stocks, fluctuate in market value and may trade at prices above or below the ETFs net asset value. Brokerage commissions and ETF expenses will reduce returns.

The ETFs listed above have historically paid dividends to investors, however there is no guarantee that they will continue to do so in the future nor that they will appreciate in value. Investors could lose money by investing in ETFs.

The SPDR S&P 500 ETF Trust is a unit investment trust with the investment objective to track the price and yield performance of the S&P 500 Index. The SPDR Dow Jones Industrial Average ETF Trust is a unit investment trust with the investment objective to track the price and yield performance of the Dow Jones Industrial Average. Prior to March 1, 2010, the SPDR Dow Jones Industrial Average ETF Trust was known as the Dow Diamonds Trust, Series 1.

Foreign investments involve greater risks than US investments, including political and economic risks and the risk of currency fluctuations.

"SPDR" and S&P are registered trademarks of Standard & Poor's Financial Services, LLC ("S&P") and have been licensed for use by State Street Corporation. No financial product offered by State Street or its affiliates is sponsored, endorsed, sold or promoted by S&P.

"Dow Jones®", "The Dow®", "Dow Jones Industrial Average℠" and "DJIA®" are trademarks of the Dow Jones & Company, Inc. ("Dow Jones") and have been licensed for use by State Street Bank & Trust. The Products are not sponsored, endorsed, sold or promoted by Dow Jones and Dow Jones makes no representation regarding the advisability of investing in the product.

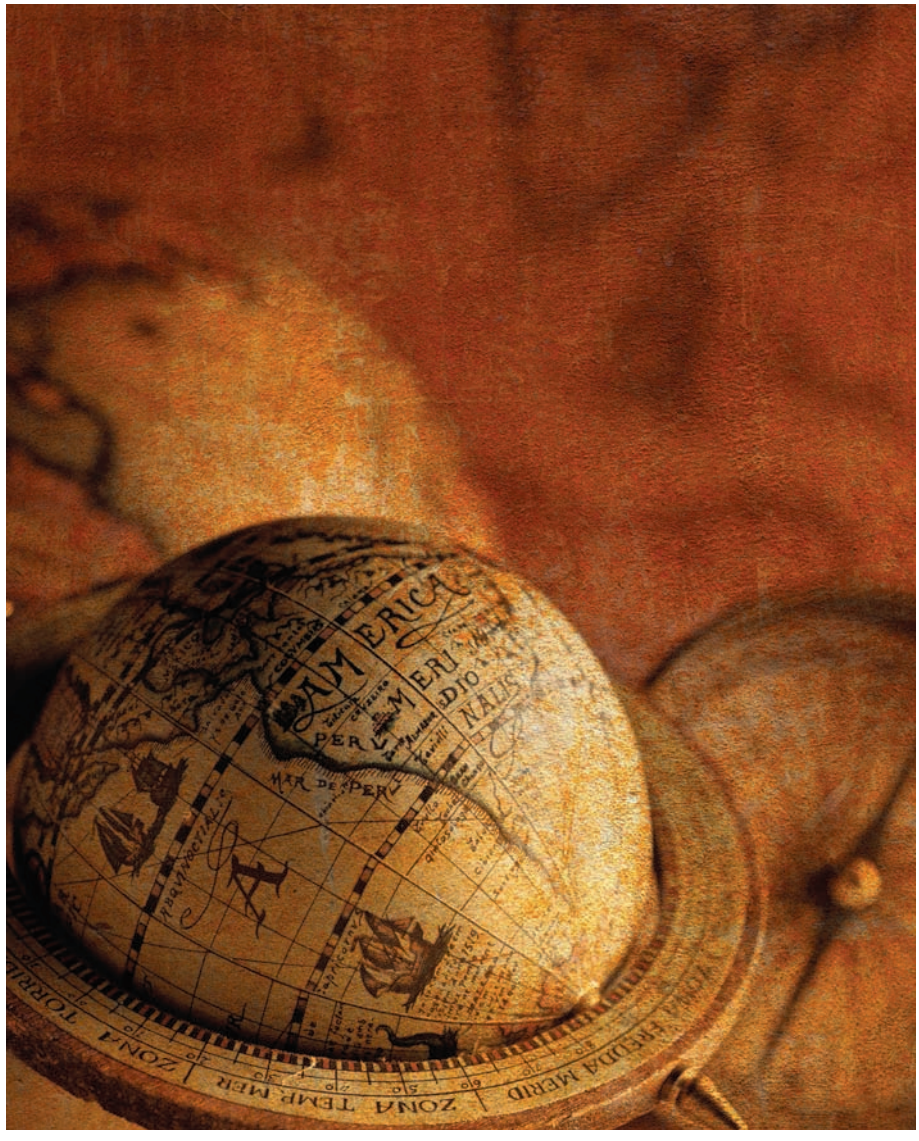
Distributor: State Street Global Markets, LLC, member FINRA, SIPC, a wholly owned subsidiary of State Street Corporation. References to State Street may include State Street Corporation and its affiliates. ALPS Distributors, Inc., a registered broker-dealer, is distributor for SPDR S&P 500 ETF and SPDR Dow Jones Industrial Average ETF.

IBG–2595

Global Fixed Income Considered

Key findings for U.S. investors

By Christopher Philips, Joseph Davis,
Andrew Patterson and Charles Thomas



Traditionally, U.S. investors have achieved diversification of a domestically focused portfolio primarily through the use of international equities. However, over the past 10 years, the global investable market has changed markedly, largely as a result of the growth and maturation of world bond markets, combined with the ongoing globalization of businesses and capital flow. International bonds now make up more than 35 percent of the world's investable assets, and yet many domestic investors have little or no exposure to these securities. Are there empirical or practical considerations that would justify such a home bias in U.S. investors' portfolios?

We examine the strategic case for an allocation to international bonds by addressing their potential diversification benefits, risks and costs, paying particular attention to the role of currency. For the average investor seeking to minimize volatility in a diversified portfolio, we find that allocating from 20 to 40 percent of the fixed-income portion to international bonds can provide a reasonable balance between diversification and cost, assuming that the currency risk inherent to this asset class is hedged.

Why International Bonds?

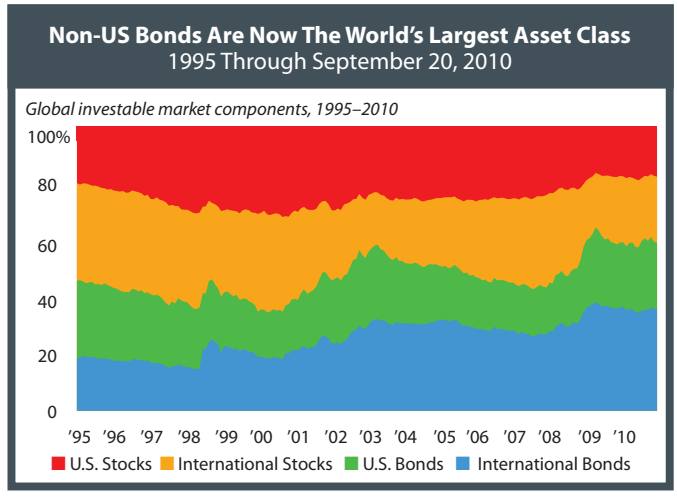
International bonds can be defined as debt securities issued by non-U.S. governments and corporations.[1] Although these securities have always represented a significant part of the global investable market, historically they have entailed very real practical challenges that prevented their widespread use by U.S.-based investors (institutional as well as individual). Typically these markets have been illiquid, costly and generally difficult to navigate.

However, the first decade of the 2000s brought an acceleration of globalization, increased access to information, a general liberalization of world credit markets, and widespread growth of debt issuance abroad, primarily by governments. The net result, in terms of the global investable market, has been a near doubling of the relative weight of the non-U.S. bond market from approximately 19 percent in 2000 to approximately 37 percent in 2010 (see Figure 1).[2] And, in a reflection of the easing of investment barriers, investors today have access to vehicles such as broadly diversified, low-cost exchange-traded funds (ETFs), which make adding an international bond allocation to a portfolio easy. The implication is clear: Investors can now view global bonds as an accessible and viable asset class with the potential to help reduce portfolio return volatility in a manner similar to the diversification benefit expected from international equities.

As with international stocks, international bonds expose investors to interest rate fluctuations, inflation and economic cycles, and issues associated with changing or unstable political regimes. While these risk factors may seem worrisome to U.S. investors, it is important to view them in the appropriate context. For example, while the bonds of any one country may be more volatile than comparable bonds in the United States, an investment that includes the bonds of all countries and issuers would benefit from imperfect correlations across those issuers. In fact, our analysis shows that in aggregate, and with the appropriate hedging of currency risk, an investment in the broad international bond market can be less volatile than an investment in the broad U.S. bond market.[3] For this reason, investors might consider approaching the international bond markets through a broadly diversified index fund or ETF that is weighted according to market capitalization.

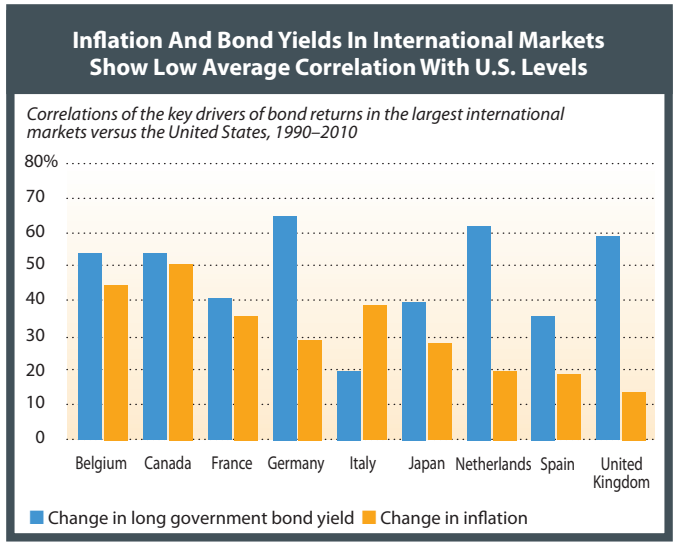
Perhaps even more important, exposure to international risk factors may be worthwhile if the outlook for the U.S. fixed-income market is poor. In addition, exposure to international bonds could offer clear long-term diversification benefits if international and U.S. market factors are sufficiently different, on average, over time. Figure 2 indicates that this is the case: It shows how various countries' levels of interest rates and inflation—the two most impor-

Figure 1



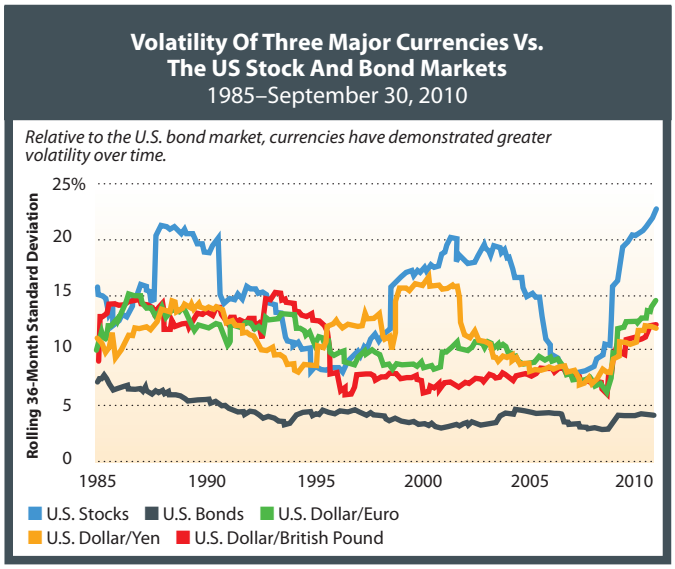
Sources: Thomson Reuters Datastream, Barclays Capital, MSCI and Vanguard
Notes: International bonds are represented by the Barclays Capital Global Aggregate ex-USD Bond Index through 2000 and by that index plus the Barclays Capital Global Emerging Markets Index thereafter. U.S. bonds are represented by the Barclays Capital U.S. Aggregate Bond Index. U.S. stocks are represented by the MSCI USA Index. International stocks are represented by the MSCI All-Country World Index ex-USA.

Figure 2



Sources: U.S. Federal Reserve, U.S. Bureau of Labor Statistics, various international government agencies via Thomson Reuters Datastream and Vanguard

Figure 3



Sources: Thomson Reuters Datastream, U.S. Federal Reserve, Barclays Capital, Dow Jones, MSCI and Vanguard

Notes: Currency volatility is represented by changes in the exchange rate of each currency shown relative to the U.S. dollar. U.S. bonds are represented by the Barclays Capital U.S. Aggregate Bond Index. U.S. stocks are represented by the Dow Jones Wilshire 5000 Index through May 2005 and the MSCI US Broad Market Index thereafter. For the period 1985 to 1999, before the creation of the euro, we use the exchange rate of the German deutsche mark to the U.S. dollar, as the German economy represents the primary driver of the euro's value. The deutsche mark is very similar to a number of synthetic euro series designed to measure the currency's value prior to its inception. For example, prior to 1999, the deutsche mark is highly correlated with the euro series from Moody's Analytics, with a correlation of 1.00.

tant drivers of bond returns—have correlated with the U.S. levels since 1990. These low and varied correlations are evidence of the potential diversification benefit of adding international bonds to a U.S.-only bond portfolio.

The Impact Of Adding International Bonds To A Diversified Portfolio

Investing in international bonds entails exposure to the movements of global currencies. Although currency movements tend to be driven by fundamental factors over long horizons, it is well-documented that currencies can and do deviate significantly from fair value in the short-to-intermediate term.[4] These deviations create return volatility above the level inherent to the underlying investment. For example, if a U.S. investor were to purchase a German bund denominated in euros, both the interest payments and the principal repayment would need to be converted from euros into U.S. dollars. The conversion would take place at the future exchange rate, which can change in ways either adverse or favorable to the bondholder. If the U.S. dollar were to appreciate, the investor would receive fewer dollars when the payment in euros was exchanged. The opposite would be true if the dollar depreciated.

Figure 3 plots the volatility, defined here as the rolling 36-month standard deviation of returns, inherent to the U.S. dollar versus three major currencies, as well as the volatility inherent to the broad U.S. stock market and the broad investment-grade U.S. bond market. It's clear that, while the value of the dollar has cycled between periods of lower and higher volatility, on average, its volatility has been between that of U.S. bonds and stocks. Because international bonds entail exposure to currency exchange rates, which in themselves are more volatile than the broad U.S. bond market, adding international bonds to a portfolio would likely lead to a fixed-income allocation with greater volatility than is traditionally associated with U.S. bonds. The key question is whether the low correlation of currency to traditional financial assets offers enough benefit to investors to overcome the inherent volatility of currency.[5]

In Figure 4, we evaluate the historical impact of adding unhedged international stocks as well as unhedged international bonds to a 60 percent U.S. stock/40 percent U.S. bond portfolio.[6] Portfolio volatility, defined as the annualized standard deviation of monthly returns, is minimized in areas with the darkest green shading. The coloring of the figure implies that adding any amount of unhedged international bonds to any combination of U.S. stocks, international stocks and U.S. bonds would have resulted in a portfolio more volatile, on average, than one without international bonds.[7] In fact, the least-volatile portfolio, highlighted at the top of the chart, has no international bonds at all—it is 42 percent U.S. stocks, 18 percent international stocks and 40 percent U.S. bonds. Given an objective of minimizing volatility, Figure 4 also shows that as investors increase their allocation to international bonds, international stocks are replaced, so that an investor allocating 100 percent of a fixed-income portfolio to international bonds would want a 0 percent allocation to international equities.[8]

Of particular interest is the contrast between Figure 2 and Figure 4. Intuitively, if the components of international bond returns are imperfectly correlated with those of U.S. bond returns, it stands to reason that a diversification benefit should ensue: Overall portfolio volatility should be reduced. However, Figure 4 reflects the reality that any such correlation benefit is overwhelmed by the sheer magnitude of the currency volatilities shown in Figure 3.[9] In other words, the currency exposure inherent in international bonds dominates their volatility, negating any diversification benefits that might be expected otherwise. This results in a negative correlation between unhedged international bonds and the U.S. dollar, and further demonstrates that any allocation to unhedged international bonds represents a bearish view about the performance of the U.S. dollar, whether that is the investor's intended objective or not (see Figure 5).

Although an allocation to unhedged international bonds would be expected to increase a portfolio's average volatility over time, there may be circumstances in which such an allocation would be desirable. First, perceived diversification benefits may depend more on physical exposure than on volatility: Some investors may consider the latter to be a marginal concern compared with the implications of excluding the world's single largest asset class from a diversified portfolio. In addition, some investors may have liabilities denominated in foreign currency

Figure 4

Currency Exposure In Bonds Historically Has Increased The Volatility Of Balanced Portfolios

This chart shows how average volatility changes for a 60% stock/40% bond portfolio when unhedged international securities are added by degrees, based on data for the period 1985–2010. Numbers in the chart represent the annualized standard deviation of monthly returns, with green indicating the lowest average volatility (i.e., the best outcome) and red the highest (i.e., the worst). The least-volatile portfolio, circled in the top row, contains no international bonds.

Percentage Of International Bonds	Percentage Of International Stocks																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
0	10.0	9.9	9.8	9.8	9.7	9.7	9.7	9.7	9.7	9.7	9.8	9.9	10.0	10.1	10.2	10.3	10.5	10.6	10.8	11.0	11.2
5	10.0	9.9	9.8	9.8	9.7	9.7	9.7	9.7	9.7	9.8	9.8	9.9	10.0	10.1	10.2	10.4	10.5	10.7	10.8	11.0	11.2
10	10.0	9.9	9.8	9.8	9.7	9.7	9.7	9.7	9.8	9.8	9.9	10.0	10.1	10.2	10.3	10.4	10.6	10.7	10.9	11.1	11.3
15	10.0	9.9	9.8	9.8	9.8	9.7	9.8	9.8	9.8	9.9	9.9	10.0	10.1	10.2	10.3	10.5	10.6	10.8	11.0	11.2	11.4
20	10.0	9.9	9.9	9.8	9.8	9.8	9.8	9.8	9.8	9.9	10.0	10.1	10.2	10.3	10.4	10.6	10.7	10.9	11.1	11.3	11.5
25	10.0	9.9	9.9	9.8	9.8	9.8	9.8	9.8	9.9	9.9	10.0	10.1	10.2	10.3	10.5	10.6	10.8	11.0	11.1	11.3	11.5
30	10.0	9.9	9.9	9.9	9.8	9.8	9.9	9.9	9.9	10.0	10.1	10.2	10.3	10.4	10.5	10.7	10.9	11.0	11.2	11.4	11.6
35	10.0	10.0	9.9	9.9	9.9	9.9	9.9	9.9	10.0	10.0	10.1	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.3	11.5	11.7
40	10.0	10.0	9.9	9.9	9.9	9.9	9.9	10.0	10.0	10.1	10.2	10.3	10.4	10.5	10.7	10.8	11.0	11.2	11.4	11.6	11.8
45	10.1	10.0	10.0	9.9	9.9	10.0	10.0	10.0	10.1	10.2	10.2	10.4	10.5	10.6	10.8	10.9	11.1	11.3	11.5	11.7	11.9
50	10.1	10.0	10.0	10.0	10.0	10.0	10.0	10.1	10.1	10.2	10.3	10.4	10.5	10.7	10.8	11.0	11.2	11.4	11.6	11.8	12.0
55	10.1	10.1	10.0	10.0	10.0	10.0	10.1	10.1	10.2	10.3	10.4	10.5	10.6	10.8	10.9	11.1	11.3	11.4	11.6	11.8	12.1
60	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.2	10.3	10.3	10.4	10.6	10.7	10.8	11.0	11.2	11.3	11.5	11.7	11.9	12.2
65	10.2	10.1	10.1	10.1	10.1	10.2	10.2	10.3	10.3	10.4	10.5	10.6	10.8	10.9	11.1	11.2	11.4	11.6	11.8	12.0	12.3
70	10.2	10.2	10.2	10.2	10.2	10.2	10.3	10.3	10.4	10.5	10.6	10.7	10.9	11.0	11.2	11.3	11.5	11.7	11.9	12.1	12.4
75	10.2	10.2	10.2	10.2	10.2	10.3	10.3	10.4	10.5	10.6	10.7	10.8	10.9	11.1	11.3	11.4	11.6	11.8	12.0	12.2	12.5
80	10.3	10.3	10.3	10.3	10.3	10.3	10.4	10.5	10.5	10.6	10.8	10.9	11.0	11.2	11.3	11.5	11.7	11.9	12.1	12.3	12.6
85	10.3	10.3	10.3	10.3	10.3	10.4	10.5	10.5	10.6	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.8	12.0	12.2	12.4	12.7
90	10.4	10.4	10.4	10.4	10.4	10.5	10.5	10.6	10.7	10.8	10.9	11.1	11.2	11.4	11.5	11.7	11.9	12.1	12.3	12.5	12.8
95	10.4	10.4	10.4	10.4	10.5	10.5	10.6	10.7	10.8	10.9	11.0	11.1	11.3	11.5	11.6	11.8	12.0	12.2	12.4	12.6	12.9
100	10.5	10.5	10.5	10.5	10.5	10.6	10.7	10.8	10.9	11.0	11.1	11.2	11.4	11.5	11.7	11.9	12.1	12.3	12.5	12.8	13.0

Sources: Thomson Reuters Datastream, Barclays Capital, Citigroup, Dow Jones, MSCI and Vanguard
Notes: U.S. stocks are represented by the Dow Jones Wilshire 5000 Index through May 2005 and the MSCI US Broad Market Index thereafter. U.S. bonds are represented by the Barclays Capital U.S. Aggregate Bond Index. International stocks are represented by the MSCI World ex USA Index through 1987 and the MSCI All-Country World Index ex USA thereafter. International bonds are represented by the Citigroup World Government Bond Ex-US Index through 1989 and the Barclays Capital Global Aggregate ex-USD Index thereafter.

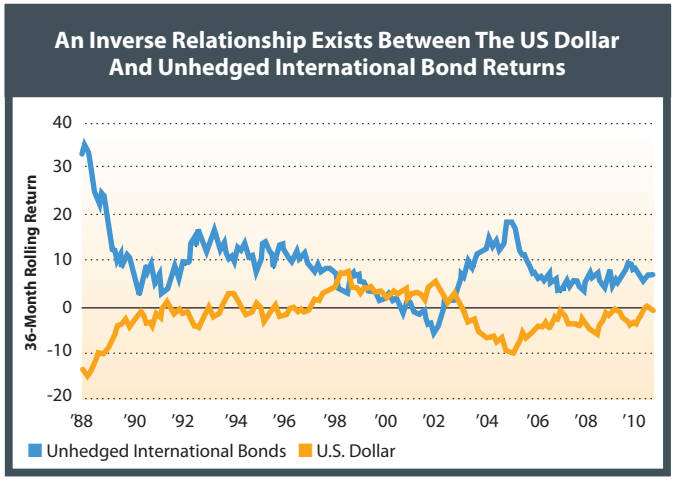
that they wish to more closely match with their assets. For example, an institution may have a foreign-domiciled pension requirement that could be better managed through the use of unhedged foreign bonds.[10] Finally, investors may not have the desire or capability to manage currency risk. In any case, the implications of including international bonds in a portfolio, with or without hedging, depend on each investor's specific objective.

The Case For Hedging Currency Risk

When investing in any foreign asset, investors must decide whether to leave the currency exposure intact or attempt to remove it through hedging. By hedging currency exposure, the investment return is tied to the performance of the underlying asset alone (less the costs of hedging). For example, Figure 6 shows that when the effect of currency exposure is removed, international bonds assume a return profile that is much more "bondlike."

Figure 7 shows the historical impact of including a hedged international bond allocation in a balanced portfolio. As in Figure 4, portfolio volatility is minimized at the area with the darkest-green shading. It is interesting that, once the currency risk is removed through hedging, the least-volatile portfolio is 42 percent U.S. stocks, 18 percent international stocks and 40 percent international bonds. Further, with bond currency risk negated, the inclusion of international bonds has relatively little effect on the allocation decision regarding international stocks. In other words, a 30 percent allocation to international stocks within the equity portion of the portfolio (18 percent divided by 60 percent) remains optimal for reducing volatility over the period analyzed, regardless of the level of international bond allocation. This makes it easier for investors to assess the impact of adding international bonds to a portfolio. In addition, we find that hedged international bonds have offered consistent risk-reduction benefits: Portfolio volatility decreases with each incremental allocation to international bonds.

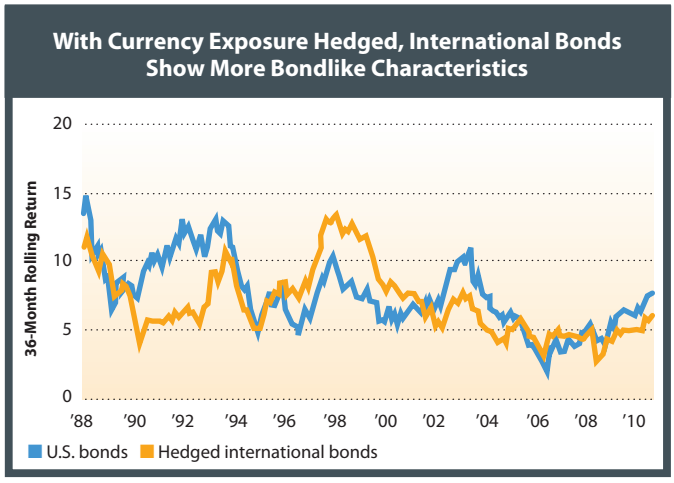
Figure 5



Sources: Thomson Reuters Datastream, Barclays Capital, Citigroup, U.S. Federal Reserve and Vanguard

Notes: International bonds are represented by the Citigroup World Government Bond Ex-US Index through 1989 and the Barclays Capital Global Aggregate ex-USD Index thereafter. The U.S. dollar is represented by the Federal Reserve's Nominal Major Currencies Trade-Weighted Dollar Index. The correlation of monthly returns for unhedged international bonds to the U.S. dollar index is –0.6.

Figure 6



Sources: Thomson Reuters Datastream, Barclays Capital, Citigroup, U.S. Federal Reserve and Vanguard

Notes: International bonds are represented by the Citigroup World Government Bond Ex-US Hedged Index through 1989 and the Barclays Capital Global Aggregate ex-USD Hedged Index thereafter. U.S. bonds are represented by the Barclays Capital U.S. Aggregate Bond Index. The correlation of monthly returns for hedged international bonds to U.S. bonds is 0.6.

A Framework For Asset Allocation

Figure 7 shows that, on the basis of historical data, a volatility-minimizing investor would have been better off over the last 25 years with a sizable allocation to hedged international bonds. It is, however, important to consider the economic and financial environment in the quarter-century that produced these results. During this period, the United States and other developed markets experienced falling interest rates, disinflation and the anchoring of long-term inflation expectations. Together, these trends created a favorable return environment for bond investors (returns averaged 9.2 percent annually for diversified U.S. bonds, 9.6 percent annually for unhedged international bonds and 7.2 percent annually for hedged international bonds). Given the environment today, bond investors must ask:

1. Are return expectations based on history reasonable?
2. Should hedging currency risk be expected to lead to lower returns?
3. Do asset allocation conclusions change as return expectations change?

To address the first question, it is important to note that interest rates today are much lower than they were in 1985. Absent high yields at the start, the historical return scenario is not likely to be repeated. In addition, current inflation expectations—arguably the most important driver of interest rate levels—are largely stable across developed markets. This suggests that a scenario in which interest rates climb significantly to the levels seen in the 1980s—though *possible*—may be viewed as having a low probability. Given the market and economic conditions in 2010, a likely forward-looking scenario is one in which nominal yields across developed markets rise gradually, creating a drag on bond returns in the short term, but compensating investors with higher yields over time.[11] As a result, investors may want to start with current levels of yield as the baseline for forward long-term return expectations and then possibly factor in a modest premium to account for an increase in income as yields rise to more normal levels.

The last 25-plus years also were characterized by long-term depreciation of the U.S. dollar. This is why unhedged international bonds outperformed hedged bonds by 2.4 percentage points a year, on average. Since unhedged bonds heighten portfolio volatility and suggest a bearish view on the U.S. dollar, the critical questions then are: Should investors expect the U.S. dollar to remain on a long-term downward trend, and would such depreciation effectively counter the higher volatility? Investors considering these points should note that short-term currency movements are widely thought to follow a random walk (Solnik, 1974; Meese and Rogoff, 1983; Perold and Schulman, 1988). Although there is evidence that over a long-enough time horizon, structural differences between countries can force currencies to a fundamental equilibrium (Meredith and Chinn, 1998; Mark, 1995), these structural factors—price levels and trade flows, for example—are inherently long term in nature, and changes in them therefore tend to be anticipated and priced in by securities markets. As a result, we believe that an allocation to unhedged international bonds that is driven by views on potential currency returns should be considered with care.

Finally, we turn to the question of how return expectations might affect our previous volatility-focused analysis. For this purpose, it is useful to construct an efficient frontier, a graph showing the entire set of asset combinations that would achieve a given expected return with the least expected risk under specified assumptions. In this analysis, we use long-run projections of returns, volatilities and correlations of the four primary asset classes.[12] The output can be viewed as a reasonable starting point for the construction of a strategic long-term portfolio. Figure 8 displays the effi-

Figure 7

Adding Hedged International Bonds HIstorically Has Decreased The Volatility Of Balanced Portfolios

This chart shows how average volatility changes for a 60% stock/40% bond portfolio with the addition of hedged international bonds and unhedged international stocks. Like Figure 4, it is based on data for the period 1985–2010; the numbers represent the annualized standard deviation of monthly returns, with green indicating the lowest volatility. Unlike Figure 4, in this chart the least-volatile portfolio (circled) holds only international bonds for its fixed-income portion.

Percentage Of International Bonds	Percentage Of International Stocks																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
0	10.0	9.9	9.8	9.8	9.7	9.7	9.7	9.7	9.7	9.7	9.8	9.9	10.0	10.1	10.2	10.3	10.5	10.6	10.8	11.0	11.2
5	10.0	9.9	9.8	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.8	9.9	9.9	10.1	10.2	10.3	10.4	10.6	10.8	11.0	11.2
10	10.0	9.9	9.8	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.8	9.8	9.9	10.0	10.2	10.3	10.4	10.6	10.8	11.0	11.1
15	9.9	9.9	9.8	9.7	9.7	9.6	9.6	9.6	9.7	9.7	9.8	9.8	9.9	10.0	10.1	10.3	10.4	10.6	10.8	10.9	11.1
20	9.9	9.8	9.8	9.7	9.7	9.6	9.6	9.6	9.7	9.7	9.8	9.8	9.9	10.0	10.1	10.3	10.4	10.6	10.8	10.9	11.1
25	9.9	9.8	9.8	9.7	9.7	9.6	9.6	9.6	9.6	9.7	9.7	9.8	9.9	10.0	10.1	10.3	10.4	10.6	10.8	10.9	11.1
30	9.9	9.8	9.7	9.7	9.6	9.6	9.6	9.6	9.6	9.7	9.7	9.8	9.9	10.0	10.1	10.3	10.4	10.6	10.7	10.9	11.1
35	9.9	9.8	9.7	9.7	9.6	9.6	9.6	9.6	9.6	9.7	9.7	9.8	9.9	10.0	10.1	10.3	10.4	10.6	10.7	10.9	11.1
40	9.9	9.8	9.7	9.7	9.6	9.6	9.6	9.6	9.6	9.7	9.7	9.8	9.9	10.0	10.1	10.2	10.4	10.6	10.7	10.9	11.1
45	9.9	9.8	9.7	9.6	9.6	9.6	9.6	9.6	9.6	9.7	9.7	9.8	9.9	10.0	10.1	10.2	10.4	10.6	10.7	10.9	11.1
50	9.9	9.8	9.7	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.7	9.8	9.9	10.0	10.1	10.2	10.4	10.6	10.7	10.9	11.1
55	9.8	9.8	9.7	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.7	9.8	9.9	10.0	10.1	10.2	10.4	10.5	10.7	10.9	11.1
60	9.8	9.7	9.7	9.6	9.6	9.5	9.5	9.6	9.6	9.6	9.7	9.8	9.9	10.0	10.1	10.2	10.4	10.5	10.7	10.9	11.1
65	9.8	9.7	9.7	9.6	9.6	9.5	9.5	9.5	9.6	9.6	9.7	9.8	9.9	10.0	10.1	10.2	10.4	10.5	10.7	10.9	11.1
70	9.8	9.7	9.6	9.6	9.6	9.5	9.5	9.5	9.6	9.6	9.7	9.8	9.8	10.0	10.1	10.2	10.4	10.5	10.7	10.9	11.1
75	9.8	9.7	9.6	9.6	9.5	9.5	9.5	9.5	9.6	9.6	9.7	9.7	9.8	10.0	10.1	10.2	10.4	10.5	10.7	10.9	11.1
80	9.8	9.7	9.6	9.6	9.5	9.5	9.5	9.5	9.6	9.6	9.7	9.7	9.8	9.9	10.1	10.2	10.4	10.5	10.7	10.9	11.1
85	9.8	9.7	9.6	9.6	9.5	9.5	9.5	9.5	9.5	9.6	9.7	9.7	9.8	9.9	10.1	10.2	10.4	10.5	10.7	10.9	11.1
90	9.8	9.7	9.6	9.6	9.5	9.5	9.5	9.5	9.5	9.6	9.7	9.7	9.8	9.9	10.1	10.2	10.4	10.5	10.7	10.9	11.1
95	9.8	9.7	9.6	9.6	9.5	9.5	9.5	9.5	9.5	9.6	9.7	9.7	9.8	9.9	10.1	10.2	10.4	10.5	10.7	10.9	11.1
100	9.8	9.7	9.6	9.5	9.5	9.5	9.5	9.5	9.5	9.6	9.6	9.7	9.8	9.9	10.1	10.2	10.4	10.5	10.7	10.9	11.1

Sources: Thomson Reuters Datastream, Barclays Capital, Citigroup, Dow Jones, MSCI and Vanguard
Notes: U.S. stocks are defined as the Dow Jones Wilshire 5000 Index through May 2005 and the MSCI US Broad Market Index thereafter. U.S. bonds are defined as the Barclays Capital U.S. Aggregate Bond Index. International stocks are defined as the MSCI World ex USA Index through 1987 and the MSCI All-Country World Index ex USA thereafter. International bonds are defined as the Citigroup World Government Bond Index Ex-US Hedged Index through 1989 and the Barclays Capital Global Aggregate ex-USD Hedged Index thereafter.

cient frontiers we generated under two scenarios.

The portfolios shown in Figure 8a exclude any potential return related to long-term appreciation or depreciation of the U.S. dollar. In other words, we imposed a baseline assumption that the presence or absence of currency hedging makes no meaningful difference to long-term return expectations. The results show that any allocation to unhedged international bonds is inefficient; that is, there are other portfolios with less risk that offer the same expected return. This analysis validates the results we discussed earlier: The most risk-averse investors may consider an allocation to hedged international bonds for diversification purposes. Investors with less risk aversion may look more to the U.S. bond market for diversification. The rationale here is that because of the exposure to corporate bonds, the U.S. bond market may be incrementally more volatile but may also offer incrementally higher returns (because of the typically higher yields offered on corporate bonds).[13] Nonetheless, Figure 8a suggests that hedged international bonds may have a place in a broadly diversified portfolio.

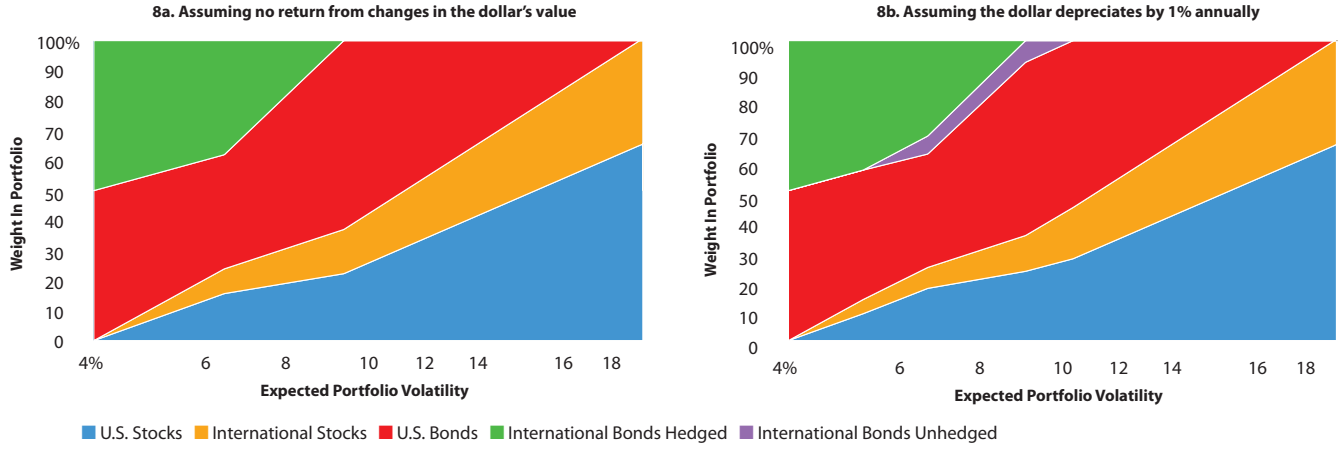
Because unhedged international bonds do not appear in Figure 8a, it is reasonable to ask whether they might show up in the optimized portfolio allocations under different assumptions. Since the volatility impact of currency exposure is unlikely to go away, we focused on returns—specifically, how much depreciation in the value of the U.S. dollar would be needed for unhedged international bonds to warrant an allocation?

Figure 8b shows the portfolio combinations that result if we assume that the U.S. dollar depreciates by 100 basis points a year (100 basis points of additional return was the first level at which unhedged international bonds appeared at a meaningful allocation). Under this assumption—which would imply a roughly 10 percent cumulative decline in the dollar over the next 10 years—unhedged bonds do appear, albeit in marginal quantities (at most, 8 percent of the portfolio in this example). Of

Figure 8

Efficient-Frontier Analysis: Portfolio Simulation Results With And Without Assumed Return From US Currency Depreciation

With reasonable forward-looking expectations for returns and covariances, hedged international bonds can be considered a viable diversification tool for more risk-averse investors. These charts show the portfolio weight of each major asset class over the efficient frontier: the set of portfolios with the highest expected return for a given level of expected volatility. We show two different currency return scenarios, demonstrating that holding unhedged international bonds represents a bearish view toward the dollar.



Sources: Vanguard projections using data derived from the Vanguard Capital Markets Model and Barclays Capital
Notes: For this analysis we applied one constraint—no portfolio may weight international assets above their global market-cap weighting. Although not shown above, the results based on an opportunity set specifically excluding hedged bonds indicate that an overall portfolio allocation to unhedged international bonds does appear for certain investors, with or without the assumption of 1% annual dollar depreciation. Unhedged international bonds are absent from Figure 8a because they were not optimal in any scenario lacking assumptions about the U.S. dollar. In Figure 8b, which assumes steady depreciation of the dollar over 10 years, unhedged bonds do appear, though minimally.

course, with more aggressive assumptions regarding the dollar's decline, the incremental allocation to unhedged bonds would possibly increase.

A follow-up question is: How reasonable is it to expect 1 percent of additional yearly return from exposure to a basket of currencies over the long term? Note that this additional return would have to result from *unexpected* future dislocations between the U.S. and global economies. That is because securities markets are forward-looking. In other words, if investors collectively believed currencies would head in a certain direction, the anticipated currency return would be factored into intermediate and long-maturity bond prices today. That said, given the elevated levels of uncertainty in the global economic environment, unexpected future developments could result in sizable currency movement.

Investors wishing to position their portfolios for the possibility of such extreme, unexpected dollar depreciation may consider using unhedged international bonds. For example, although U.S. stocks and U.S. bonds historically have performed well during periods of significant dollar depreciation, there is no clear and consistent relationship, as there is between unhedged international bonds and the dollar during such periods.[14]

Practical Considerations For A Long-Term Strategic Investor

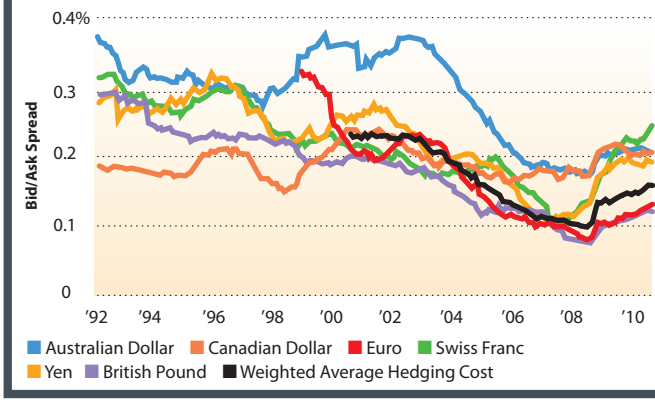
Beyond empirical analysis, additional qualitative factors such as portfolio objectives, costs and other operational considerations could influence the decision to include international bonds in a diversified portfolio. For example:

• Holding no U.S. bonds (as observed in Figure 7) would represent a significant deviation not only from the capitalization weightings in the global bond market but also from

Figure 9

The Cost Of Hedging Currency Risk Has Trended Downward Over Time

Hedging costs: annualized bid/ask spread for 1-month forward relative to U.S. dollar



Sources: Thomson Reuters Datastream, Barclays Capital and Vanguard
Notes: We used the annualized bid/ask spread on a 1-month currency forward contract as a proxy for the cost of implementing a constant rolling hedge for each individual currency. In practice, 3- or 6-month forwards may be used. The weighted average hedging cost is approximated by combining the currency forwards according to the historical market weight of the outstanding debt of each entity.

the standard asset allocation framework for U.S. investors.

• Ignoring the U.S. fixed-income market in favor of bonds issued abroad leaves no exposure to U.S. Treasury securities, a proven diversifier during economic and financial downturns.

• Correlations across developed markets have displayed a persistent rising trend in equity as well as fixed-income markets. If this trend continues, the diversification benefits of international securities will likely decrease in magnitude (though not disappear).

• International bonds are generally government bonds. For investors seeking higher yields, U.S. corporate bonds may be a better fit.

• Foreign fixed-income markets are still not as easily accessed as foreign equity markets, as demonstrated by generally higher transaction costs.

The Costs Of Hedging

An important consideration for an investor weighing the benefits of international bonds is the potential cost of implementing a currency hedge. To examine this issue, Figure 9 shows the historical annualized bid/ask spread on one-month currency forward contracts, a reasonable approximation of the annual trading costs of hedging. Notwithstanding the spike in 2008-09 as the global recession took hold, spreads have trended downward and remain at low levels, suggesting that investors might expect minimal drag on their returns relative to the diversification benefits that can be achieved.

Conclusion

International fixed-income securities make up a significant portion of the global investable market. While investors in international bonds are exposed to the risk of interest rate movements, the political landscape and the economies of many different markets, we've shown that the primary factors driving international bond prices are relatively uncorrelated to the same U.S. factors, which implies a diversification benefit. Of course, investors are also exposed to currency movements, which have an important role in determining the risk of international bonds. We've shown that on average, the volatility of currencies can overwhelm any diversification benefit that international bonds may bring to a diversified portfolio. On the other hand, with that currency risk hedged, an allocation to international bonds can lead to lower average portfolio volatility over time.

To make the strategic decision to include international bonds in a diversified portfolio, an investor should weigh the trade-offs among several factors: the potential to reduce portfolio volatility; exposure to the largest global asset class; the costs of implementation; and the investor's own views on the future path of the U.S. dollar. Based on our findings, we believe that a strategic allocation to hedged international bonds in the range of 20 to 40 percent of the fixed-income portion of a portfolio represents a reasonable starting point to improve portfolio diversification.

References

Davis, Joseph H., Daniel W. Wallick, and Roger Aliaga-Díaz, 2010. "Vanguard's Economic and Capital Markets Outlook." Valley Forge, Pa.: The Vanguard Group.

LaBarge, Karin Peterson, 2010. "Currency Management: Considerations for the Equity Hedging Decision." Valley Forge, Pa.: The Vanguard Group.

Lemco, Jonathan, Roger Aliaga-Díaz, and Charles J. Thomas, 2010. "What's Next for the Eurozone?" Valley Forge, Pa.: The Vanguard Group.

Mark, Nelson C., 1995. "Exchange Rates and Fundamentals: Evidence on Long-Horizon Predictability." *American Economic Review* 85(1): 201-18.

Meese, Richard A., and Kenneth S. Rogoff, 1983. "Empirical Exchange Rate Models of the Seventies. Do They Fit Out of Sample?" *Journal of International Economics* 14: 3-24.

Meredith, Guy, and Menzie D. Chinn, 1998. "Long-Horizon Uncovered Interest Rate Parity." *NBER Working Paper* 6797. Cambridge, Mass.: National Bureau of Economic Research.

Perold, André F., and Evan C. Schulman, 1988. "The Free Lunch in Currency Hedging: Implications for Investment Policy and Performance Standards." *Financial Analysts Journal* 44(3): 45-50.

Philips, Christopher B., 2009. "Considerations for International Equity." Valley Forge, Pa.: The Vanguard Group.

Philips, Christopher B., 2010. "The Case for Indexing." Valley Forge, Pa.: The Vanguard Group.

Solnik, Bruno, 1974. "An Equilibrium Model of the International Capital Market." *Journal of Economic Theory* 8(4): 500-524.

Stockton, Kimberly A., Scott J. Donaldson, and Anatoly Shtekhman, 2008. "Liability-Driven Investing: A Tool for Managing Pension Plan Funding Volatility." Valley Forge, Pa.: The Vanguard Group.

Wallick, Daniel W., Roger Aliaga-Díaz, and Joseph H. Davis, 2009. "Vanguard Capital Markets Model." Valley Forge, Pa.: The Vanguard Group.

Endnotes

[1] While recognizing that usage varies widely, for the purposes of this paper, we use the term "international" to refer to bonds issued in markets outside the United States. However, because most of these bonds are investment-grade securities issued by developed countries, we focus on emerging market bonds separately.

[2] The implications of such growth in government debt are widely debated, but are one possible reason why investors may shy away from a globally market-weighted bond portfolio.

[3] Throughout this analysis, we use the terms "risk," "volatility" and "standard deviation of returns" interchangeably.

[4] Two theoretical models of currency value involve price level and interest rate differences between countries. Purchasing power parity (PPP) states that identical goods sold in different countries must sell at the same price when translated into the same base currency. If PPP holds at the country level, real returns will be the same across countries, as exchange-rate movements and inflation differentials will offset each other. Interest rate parity (IRP) is based on the notion that the interest rate differential between the home and foreign markets will determine the change in the exchange rate, so that the realized rate of return on a risk-free government bond is the same in any market.

[5] Portfolio variance is a function of the weight and variance of each asset in the portfolio, as well as the covariance of each asset with every other asset: $\Theta^2_{portfolio} = (w_d^2 * \Theta_d^2) + (w_f^2 * \Theta_f^2) + (w_c^2 * \Theta_c^2) + (2 * w_d * w_f * cov_{df}) + (2 * w_d * w_c * cov_{dc}) + (2 * w_f * w_c * cov_{fc})$, where $w_{d,f,c}$ represents the weights of domestic bonds, international bonds and currency in the

Continued on page 51

The Power Of Passive Investing

An excerpt

By Richard Ferri

"The Power Of Passive Investing: More Wealth With Less Work," by Richard Ferri, hit shelves in December 2010. The book, which includes a foreword by Vanguard founder John Bogle, makes the argument for buy-and-hold index investing based on numerous academic studies, while offering guidance on how to construct low-cost portfolios with index-based investment vehicles.

Chapter 8, "Active and Passive Asset Allocation," addresses the issue of "timing" by comparing the approaches of so-called tactical asset allocators and passive investors. It is excerpted below.

ACTIVE AND PASSIVE ASSET ALLOCATION

A key facet of the active versus passive debate goes beyond mutual fund selection into the timing of purchases and sales. Asset allocation is how and when an investor diversifies among different types of investments in a portfolio. An investor following a *tactical* asset allocation strategy attempts to beat the market by changing asset class weights using market valuation forecasts or price trends. In contrast, an investor following a passive or *strategic* asset allocation strategy holds a fixed allocation among several broad asset classes in their portfolio over the long term. Passive asset allocation strategies have proven to be a more effective long-term solution for investors.

Tactical Vs. Strategic

Many investors try to achieve superior returns or reduce risk in their portfolios by varying the allocations among the asset classes at the right times. This method is commonly referred to as tactical asset allocation. To be successful, an investor must rotate money into mutual funds that represent asset classes or market sectors before the superior performance occurs and out of the sectors prior to poor performance. These tactical shifts in allocation can be large or small depending on an investor's strategy and conviction.

Market timing strategies are a zero-sum game in the marketplace. The financial markets don't earn any more or any less return just because one person is buying and another is selling. If one investor buys in at the right time it means another investor must have sold at the wrong time.

There is academic precedence that points to measurable losses for investors who frequently trade their accounts. Using recent findings from behavioral finance and survey data involving a large sample of online brokerage clients, Arvid Hoffmann, Hersh Shefrin and Joost Pennings found that nearly all equity trading strategies produced lower returns than the markets. Trading based on technical analysis (or charting) was the worst strategy. The raw net results of using trends and other chart patterns to predict returns was negative 0.92 percent per month. Trading based on financial news, intuition and professional advice was the second worst, with a raw net return of negative 0.65 percent per month.[1]

Many mutual fund investors are also poor market timers. They have a long history of trend-following behavior, similar to the trend-following behavior that Hoffmann, Shefrin and Pennings noted in their study. Fund investors shift money into asset classes that have recently gone up in value and take money out of asset classes that have recently gone down in value. Buying high and selling low has never been a good way to invest. I estimate these tactical asset allocation errors cost investors about 1 percent per year.

Strategic asset allocation is a better strategy. Asset class weightings are set based on investors' personal needs and only change when their circumstances change. This fixed allocation of asset classes is maintained religiously through regular rebalancing back to asset class targets regardless of market conditions.

Mutual Fund Flows Show Bad Timing

Mutual fund companies regularly report new purchases and sales of their funds, making it possible to track investors' buying and selling habits. This information is available to the public through a number of databases.

Studies of fund flow data over the decades suggest that fund investors are chronic trend followers. They invest more money in funds that have recently performed well and take money out of funds that have recently performed poorly. This behavior can be characterized as a buy-high sell-low mentality. These bad habits of fund investors show up in individual portfolios as a timing gap between what could have been earned in a strategic asset allocation strategy and what investors actually earned using a tactical asset allocation strategy. This gap represents a cost to active investors.

Mutual fund flow data is the subject of many articles in the financial media. The story of these articles is almost always the same: "Fund investors are poor market timers." They then quote a new study highlighting the knife wounds that fund investors inflict on themselves from their trend-following behavior. Some studies have concluded that fund investors lose several percent per year from poor market timing.

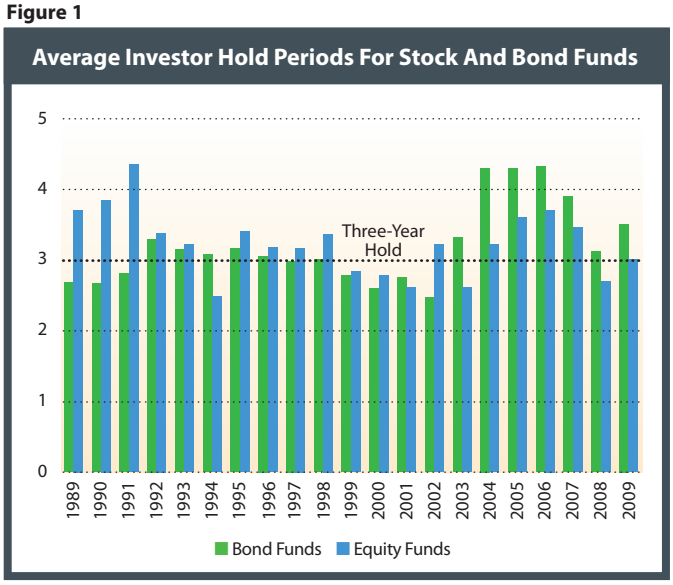
Mutual Fund Turnover Rates

We live in a rent-a-fund society. Investors typically hold onto their mutual funds for about the same time period as they hold onto a leased car or truck. That's about three years. They then tire of the funds or become dissatisfied with performance and follow the next bright idea. Mutual fund holding times tend to increase during a bull market and decrease during a bear market. Figure 1 illustrates the turnover rate for equity funds and bond funds for U.S. investors.

Exchange-traded fund (ETF) data isn't included in Figure 1, and for good reason. The ETF industry has astronomically high turnover rates because these products are used extensively by traders and institutional investors as hedge vehicles. Some funds average turnover rates of several hundred percent per year. There are also highly leveraged ETFs that are specifically designed to be held for only one day or less.

High turnover among ETFs isn't necessarily a bad thing. It keeps hedge funds and active traders out of traditional open-end funds and away from long-term investors. They also create liquidity in the individual securities that lie inside open-end mutual funds and that lower trading costs.

Figure 1



Source: Dalbar, 2010

Flow Of Funds Studies

Any analysis of mutual fund cash flows will uncover interesting information about how and when mutual fund investors make decisions. It provides a chronology of trading decisions made before the fact (ex-ante), which can then be compared to market outcomes (ex-post).

One use for fund flow data is a measurement of market timing skill among fund investors. This is done by studying changes in inflows and outflows among asset classes and then comparing this data to future moves in the markets. The overwhelming evidence shows from these analyses that people don't have timing skill. In fact, frequent changes in asset selection hurt portfolio performance by a significant amount.

Flow of funds studies go back several decades, with the early studies finding that investors chase top-performing funds. One study from 1978 titled "Is Fund Growth Related to Fund Performance?" found that investors disproportionally added to top-performing funds over a 10-year period from 1966 to 1975.[2] A similar study conducted in 1992 concluded that investors responded more strongly to high performance in aggressive actively managed funds by purchasing more of them than less aggressive funds.[3]

Fund ratings were also a factor in fund-chasing decisions. The Boston Globe and the Wall Street Journal both reported in 1995 that about 97 percent of new investments that year went into mutual funds that had previously been awarded four or five stars by Morningstar. A 2001 study found that an initial Morningstar five-star rating results, on average, in six months of abnormal flows (53 percent above the normal expected flow). The authors of that study also found significant abnormal flow in the case of rating changes, with positive flow for rating upgrades and negative flow for downgrades.[4]

The Federal Reserve Bank of Atlanta conducted its own study and found that "mutual fund investors use raw return performance and flock disproportionately to recent winners but do not withdraw assets from recent losers." The Federal Reserve report noted that because of this behavior, "mutual fund managers have an implicit incentive to alter the risk of their portfolios to increase the chances that they are among the winners."[5]

ETFs tend to be used by people who are more active traders than traditional mutual fund investors, and this leads to more mistakes. Cash flow studies show extremely poor market-timing results by active ETF investors. TrimTabs Investment Research, a consolidator of mutual fund flow data, concluded that equity prices tend to fall after equity ETFs rake in large sums of money and rise after equity ETFs post heavy outflows. Regression analysis suggests the probability that equity ETF flows are a contrary leading indicator of equity prices is more than 99 percent. This means the flow of ETF money predicts market changes with high accuracy—in the opposite direction![6]

One mutual fund cash flow study after another has consistently shown the same performance-chasing phenomenon. Fund styles with superior performance and high fund ratings raked in the most money, and this usually occurs close to the time when these investment styles peak in performance.

Institutions Are Also Trend Followers

Performance chasing isn't limited to individual investors. Pension fund committees exhibit similar behavior, although not to the same degree. Amit Goyal and Sunil Wahal examined the selection and termination of private investment managers by 3,400 pension plans between 1994 and 2003. Plan trustees showed a tendency to hire investment managers after they delivered positive excess returns. However, these new managers failed to deliver returns better than the managers who were terminated for poor performance.[7]

In a more recent study, Jeffrey Busse, Amit Goyal, and Sunil Wahalu used a new, survivorship bias-free database to examine the performance and persistence in performance of 4,617 active domestic equity institutional products managed by 1,448 investment management firms between 1991 and 2008. Controlling for the Fama-French three factors and momentum, the trio found no distinguishable alpha in the data.[8]

The previously mentioned study done by the Federal Reserve Bank of Atlanta also looked at pension fund flows and found that trustees do act differently than individual investors in one regard. For pension funds, it is whether a manager beat a benchmark that's important. For individual investors, it's the magnitude of outperformance.[9]

Pension trustees who oversee employee-directed retirement accounts such as 401(k) and 403(b) plans are tasked with selecting funds for the plans. The investment committees for these plans exhibit a strong preference for past top-performing mutual funds. One recent study shows that as trustees change fund options, they tend to choose funds that outperformed in the past, but after the change, the new funds performed no better than the underperforming dropped funds.[10]

Large university endowment investment committees also exhibit performance-chasing behavior in their asset allocation decisions. Developed international markets posted equity returns of 24 percent over a three-year peri-

od ending in 2006 and emerging markets posted returns of 36 percent while the U.S. equity markets posted returns of only 13 percent. In response, college endowments boosted their allocation to foreign markets from 14 percent in 2003 to 20 percent in 2006.[11]

Investors who jump on a trend expecting to see above-market returns more often find themselves standing in the slow lane at the checkout counter. The consequences of this losing tactical allocation strategy are clearly evident in the portfolios of individual investors and many institutional investors.

Measuring The Timing Gap

The timing gap is consistent, predictable and measurable. But before you can appreciate this, a brief explanation of performance calculation methods is required.

Flip through the mutual fund section of your local newspaper or look at any website to find the performance of your favorite mutual fund. The result you see is a *time-weighted* return of the fund. This is an internal rate of return number that assumes no cash flows into or out of the fund. It's used strictly for comparing the return of the fund to the return of an appropriate index.

Time-weighted returns assume that $100 is invested in a fund at the beginning of a period and remains invested throughout the period. The calculation is the same regardless of the time period. It doesn't matter if the returns are year-to-date, 1 year, 5 years or 25 years.

A fund's time-weighted return rarely reflects the actual return of an individual investor because it doesn't account for the money that investors add to the fund or deduct from the fund. These additions and withdrawals from a fund over time create real dollar profits and losses for investors. These real profits and losses are known as *dollar-weighted* returns.

The shortfall in return caused by tactical asset allocation is a timing gap that can be measured by comparing mutual fund cash flows to the subsequent performance of sectors and markets. A negative return from timing occurs when money is shifted out of a poorly performing asset class that subsequently outperforms or flows into an asset class that subsequently underperforms.

Dalbar Studies The Performance Gap

Early attempts to measure the timing gap began in 1994 with Dalbar, Inc. The firm was commissioned by the active mutual fund industry to investigate the differences in holding times between load funds and no-load funds. The theory put forth by the fund companies was that investors stayed invested longer in load funds than they did in no-load funds, thus giving the load fund investor higher returns. The fund companies hoped to use this information to counter the criticism they were receiving for selling funds with high sales commissions.

The Dalbar study did show that load fund investors held onto funds longer than no-load investors, but this finding wasn't what made this study famous. Dalbar revealed huge timing gaps for both load fund investors and no-load fund investors. These gaps were so large that they astonished the investment industry. Some people tried to discredit the study by pointing to flawed calculation methodologies. However, even when new calculation methods were used, the gaps remained sizable. It appeared that the Dalbar study was onto something important.

The most recent Dalbar study covering a 20-year period ending in 2009 found that equity mutual fund investors had average annual returns of only 3.2 percent while the S&P 500 averaged 8.2 percent, and fixed-income fund investors had average annual returns of 1.0 percent, while the benchmark Barclays Capital Aggregate Bond Index averaged 7.0 percent.

Dalbar found a nearly 5 percentage point gap between equity funds and fund investors, and a 6 percentage point gap between bond funds and fund investors. These are extremely large shortfalls for investors. Are individual investors and advisors really that bad at timing the markets? The data compiled to date suggests they are.

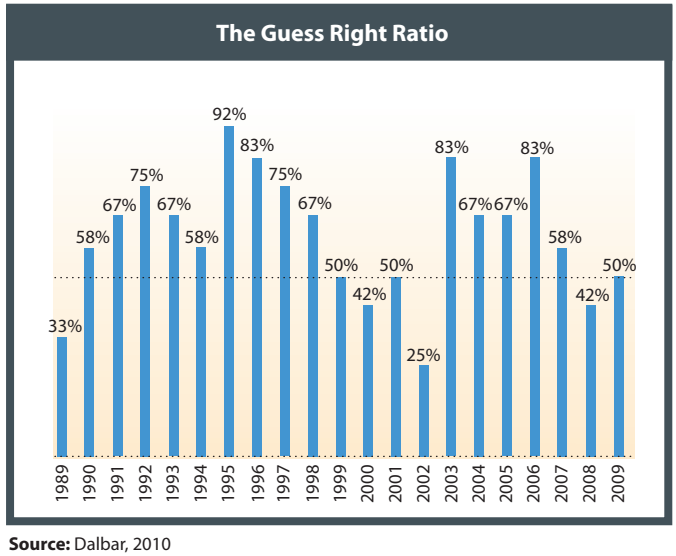
Market Timing Gaps

A bear market in stocks tends to happen about every five years and lasts about a year and a half. Studies on investor behavior show that people act very differently during down markets than they do in up markets. Basically, they're scared in bear markets and brave during bull markets.

The Dalbar Guess Right Ratio measures how often and when the average investor makes smart decisions to get in or out of the stock market in general. This ratio also shows how often the average investor realizes a short-term gain by either buying or selling mutual funds before a market rises or falls. A reading above 50 percent is positive and a reading below 50 percent is negative. Figure 2 illustrates the Guess Right Ratio through 2009.[12]

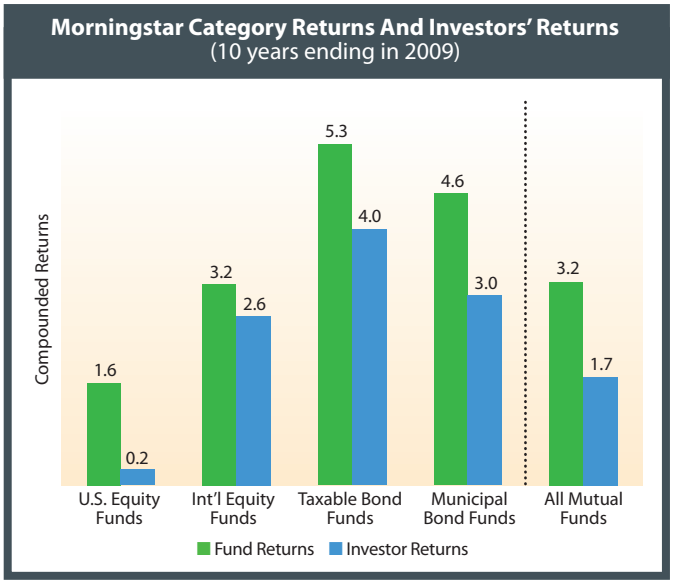
Ironically, investors are right about the stock market's direction in more years than they are wrong, as shown by the disproportionate number of years when the ratio was over 50 percent. However, when investors are pessimistic, they dump stocks. The wrong years tend to occur in the recovery after a bear market, and investors miss the rebound.

Figure 2



Source: Dalbar, 2010

Figure 3



Source: Morningstar, news.morningstar.com/PDFs/avginvret.pdf

In a Gallup Poll of investors taken on March 4, 2009, just a few days before the market bottom, only 18 percent of investors believed the stock market would show a sustained recovery by year end; 27 percent thought it would take two years, 25 percent said three years; 19 percent said longer. About 2 percent said the stock market would never recover.

Only 18 percent of the investors surveyed in the Gallup Poll guessed right. The S&P 500 gained 67 percent from its intraday low on March 9 until year end.

Morningstar Studies

Morningstar weighed in with a comprehensive study on dollar-weighted versus time-weighted returns. They calculated the 1-, 3-, 5- and 10-year time-weighted returns and dollar-weighted returns through 2009 for open-end mutual funds based in the United States.

The Morningstar study found significant deficiencies in investor timing decisions. U.S. equity fund investors experienced a negative 1.4 percent gap in return over 10 years while bond fund investors experienced a negative 1.3 percent gap over the same period. In aggregate, the timing gap was negative 1.5 percent across all asset classes and sectors.[13] Figure 3 illustrates the difference in major asset class returns for the period.

Broad asset classes see higher cash inflows after the markets have performed well and outflows after markets have done poorly. A deeper analysis shows that the biggest contributor to these performance gaps likely comes from sector rotation within asset classes; in other words, market timing.

Morningstar divides mutual funds into dozens of sectors, styles and industries to analyze dollar-weighted performance across the spectrum of fund categories. Investors fared poorly from their timing in most categories. Here are some 10-year results:

- Large-cap growth funds had returns of negative 2.2 percent, while investors in those funds had returns of negative 2.7 percent.
- Small-cap value funds earned 8.8 percent, while investors in those funds earned only 7.1 percent.
- Precious metals funds had the highest return of 18.6 percent, while investors in those funds earned only 15.9 percent.
- Diversified emerging markets funds performed well with returns of 9.0 percent, while investors beat that average with a return of 9.9 percent.
- U.S. taxable bond funds outperformed investors by about 1.3 percentage points.
- Municipal bond funds beat investors by 1.6 percentage points.
- Emerging markets bond funds earned 2.8 percent more than investors did in these funds.

The returns of mutual funds outperformed the returns of investors in most categories. In aggregate, investors hurt their performance by more than 1 percent per year. This is the penalty that active investors incur by thinking they can be successful market timers.

Dumb Money Vs. Smart Money

Investors who chase past performance are referred to by academics as *dumb money*. This is a "quiet" term because no academic is going to say publicly that these investors are dumb. Yet, mention this term at an analyst conference and everyone in the room knows exactly what it means. There are many investors, both individuals and institutions, that herd into sectors, strategies and asset classes based on the belief that past superior performance will continue into the future, and for no other reason.

An interesting paper by Andrea Frazzini and Owen Lamont outlines how smart money capitalizes on the way dumb money invests. First, the study explains why investors have a striking ability to do the wrong thing by sending their money to mutual funds that own stocks that do poorly over the subsequent years. Second, they develop a trading strategy based on this behavior to predict future stock returns. In a nutshell, doing the opposite of what most people believe will be profitable can lead to excess returns.[14]

Smart money attempts to take advantage of dumb money mistakes whenever possible. Recall the grilling of Goldman Sachs' trading desks by Congress in the spring of 2010. They decided to reduce their positions in subprime mortgages because they thought a lot of dumb money was buying. The firm is still in business today because they won that bet. However, this strategy doesn't always work.

There have been many occasions when betting against dumb money hasn't worked out. Long Term Capital Management thought they were betting against dumb money by purchasing Russian bonds as others were dumping them in 1998. Russia ultimately defaulted on its foreign debt obligations. This led to insolvency for Long Term Capital Management and put the country on the verge of a financial market meltdown. In order to avoid the crisis, the president of the New York Federal Reserve had to orchestrate a bailout by several leading Wall Street firms.

How The Dumb Money Gets Divided

Tactical asset allocation is a zero-sum game. When someone underperforms the market it means someone must have outperformed before fees and expenses. The grand total dollar-weighted return for the average investor in all funds over the past 10 years was a 1.68 percent annualized return compared with a time-weighted 3.18 percent for the average fund according to the Morningstar study. So, where did this 1.50 percent go?

Much of it went to brokers, brokerage firms and their trading desks. Another portion went to a handful of talented money managers who skillfully separate investors from their money. Finally, believe it or not, a portion went to investors who develop a passive strategic asset allocation strategy and rebalance asset classes annually.

Investors who lose with their tactical asset allocation strategies indirectly provide excess returns to investors who religiously rebalance their strategic allocation. This occurs because rebalancing naturally forces investors to sell some amount of their better-performing investments and buy more of their worse-performing ones. Although it seems counterintuitive to do this, over time, rebalancing increases portfolio returns and lowers risk.

Strategic asset allocation and regular rebalancing provides what is widely referred to as the only free lunch on Wall Street. It's a nice thought, but every economics student knows there's no such thing as a free lunch, especially on Wall Street. Any extra gain in one person's account means a loss in someone else's.

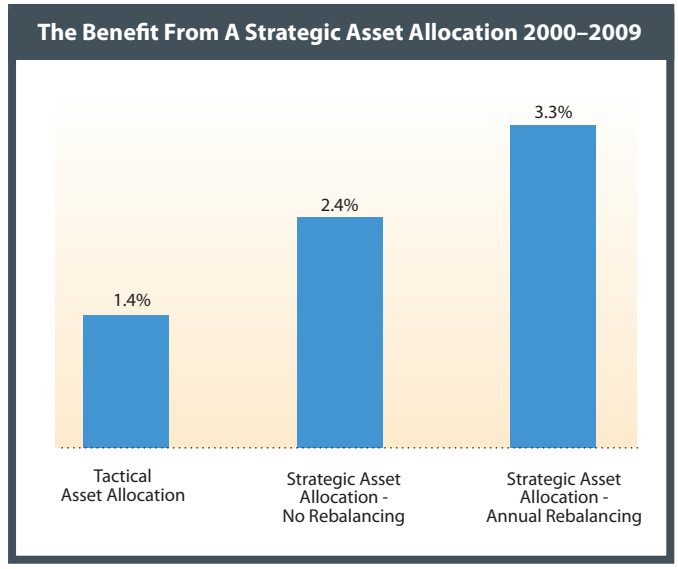
The loser in this case is the investor who believes sector rotation strategies and market-timing decisions can beat the market. That investor loses about 1.5 percent return annually according to Morningstar and a lot more according to Dalbar. This loss amount from trading mutual funds is controversial. My opinion is that investors lose at least 1 percent per year from these activities.

Assume three investors each start to invest in January 2000 with a portfolio of 45 percent in U.S. stocks as represented by the S&P 500, 15 percent in international stocks as represented by the MSCI EAFE Index, and 40 percent in bonds as represented by the Barclays Capital Aggregate Bond Index. One investor uses tactical asset allocation in an attempt to beat the markets and underperforms them by 1 percent annually. The second uses a buy-and-hold strategy and lets the portfolio sit over a 10-year period, thereby earning market returns. The third investor rebalances every year for 10 years and thereby outperforms the tactical asset allocator and the buy-and-hold investor. Figure 4 illustrates the outcomes.

The rebalanced portfolio in Figure 4 picked up an excess compounded return of 0.9 percentage points over the market portfolio that wasn't rebalanced during the last decade. This occurred because rebalancing is a natural way to sell high and buy low without having to make a market prediction.

The rebalancing benefit varies with market conditions. The benefit was high in the past decade because the markets were volatile. Over the long term, the benefit tends to be about 0.3 percentage points net of trading costs.[15]

Figure 4



Source: Author's calculations based on Morningstar data

Figure 5

Quantifying Portfolio Management Choices

	Index Funds and Market-Based ETFs	Actively Managed Mutual Funds and ETFs
Maintain a fixed strategic asset allocation	Passive/Passive Near market returns	Passive/Active 1.0 percent less
Employ a tactical active asset allocation	Active/Passive 1.0 percent less	Active/Active 2.0 percent less

Source: Author's calculations

This excess return earned from strategic asset allocation represents a real wealth transfer that takes place in the marketplace. This return is enough to make up all the fund fees and trading costs that index fund investors incur, leaving these investors with very close to market returns. You can't do much better than that.

Putting It All Together

Figure 5 quantifies four portfolio management choices and is overly generous to active investors. Investors who use low-cost index funds and ETFs and strategic asset allocation earn market returns. Investors using actively managed mutual funds lose about 1 percent over index funds, and investors who employ tactical timing strategies lose another 1 percent. Investors who use both active funds and a tactical asset allocation strategy are expected to underperform an all-index fund strategic allocation strategy by about 2 percentage points per year.

Disciplined passive investors are smart-money investors. They follow a long-term strategic asset allocation strategy based on their needs and fill their portfolios

continued on page 33

The Appeal Of Core And Satellite …

… or is it confidence and skepticism?

By David Blitzer

Core and satellite (C&S) approaches are a popularization of applying modern portfolio theory (MPT) to choosing asset classes and using ETFs or index funds for each asset class exposure. A true believer in modern portfolio theory would estimate returns and correlations, calculate the efficient frontier and implement the results. Of course, not all investors are true believers. Many follow MPT to some degree, but want to hedge their allocation bets. These investors will construct a portfolio with a core defined by their MPT calculations and then spin a few satellites around the core to gain other exposures or reduce their reliance on the MPT results and strategy. At first glance, this may seem inconsistent: Why do all the work of MPT and then only partially adopt it?

There is more going on behind the screens of the asset allocation. C&S might just as well stand for "confidence and skepticism." Subject though it is to all the usual assumptions that returns obey stable distributions with finite first and second moments, many still consider MPT to be superb at analyzing risks. Forecasts of the parameters needed for MPT calculations—subject to a lot of econometric theory—should be easy to estimate. Nevertheless, doubts remain and skeptics will wonder what may have been missed.

There are at least two levels of risk in any investment strategy: one inherent to developing the strategy based on unknown parameters and uncertain factors, and a second stemming from beliefs or doubts that the right theory for developing the strategy was chosen. The first risk comes in applying MPT or any other investment approach: Are the estimates of returns and risks correct? Is the data reliable? Does the mean-variance optimization software work? These concerns are dealt with all the time. Further, the risks can be gauged by looking at the reliability of past forecasts, the number of observations used and other factors. Once the investor is willing to accept these risks, the core in her C&S allocation will be the best possible given MPT and her inputs. However, the investor is *assuming* that the markets actually behave according to theory. That leaves us with the second, and possibly bigger, risk: Does the world work as the theory suggests? How much confidence do we have in the theory?

While MPT has been applied in the example here, we could be thinking about almost any theory, not just MPT. Consider gold, an asset that had stellar results in 2010—prices up 24 percent from Dec. 31, 2009 to Dec. 31, 2010, and up 72 percent from the end of 2006 to the end of 2010. Someone who looks at gold as only an input to industrial processes, various electronic components and fine jewelry—and studies the demand for these products—would build a theory of price appreciation based on trends in economic activity and consumer spending. That analyst would have had far too much confidence in his gold price theory, and far too little skepticism when he ignores the emotions and fears that can drive gold prices sky-high.

The appeal of C&S is not a better MPT solution or the right way to think about gold prices; it is the opportunity to hedge your beliefs by betting on more than one theory of how the world works. Investment strategies and asset allocations are built on assumptions, and theories can be disproven, but never truly proven. The temptation is to quantify the probability that each theory or idea is true, then use these numbers to assign theories to the core or satellites much the way mean-variance optimization models construct asset allocations. This is *reductio ad absurdum*: Are we any more confident of the probability numbers assigned to each theory than the theories themselves?

Think of an investor building a portfolio of stocks, bonds, cash, commodities and gold. He makes estimates of risks, returns and correlations, and calculates an (ordinary) allocation of 60 percent stocks, 30 percent bonds and cash, 10 percent commodities and zero allocation to gold. His economic analysis of the industrial and fine jewelry demand for gold argues that prices are far too high to invest in gold. All his analysis is carefully done, and any finance professor would give him an A+ with no questions asked. Then he looks at gold's price performance and listens to a few nervous investors and worried friends—and hedges his carefully tuned core allocation with a satellite of 10 percent gold. There is a lot of confidence in the core—it is 90 percent of his portfolio. There is also a lot of skepticism supporting the 10 percent-sized golden satellite. If our investor were asked to defend his portfolio, his honest answer would be, "Yes, I believe in modern portfolio theory, in my analysis and forecasts. But everyone seems very nervous, so I am more confident if I tuck away a bit of gold on the side."

Investing is not just piling up a lot of money; sleeping comfortably at night should also be an objective. Sleeping well depends on confidence and the courage of one's convictions that the models, allocations and hedges will work. Confidence and skepticism recognize that the theories used to choose investments are just that: theories.

Ferri continued from page 31

with low-cost index funds and ETFs to represent those asset classes. They don't mistakenly believe that they have the skill to pick outperforming funds and know they don't have the timing skill to rotate in and out of different asset classes and sectors.

Many investors use both a strategic allocation and a tactical allocation. This strategy has been called *core and explore, core and satellite, barbell, core plus* and a variety of other names. The idea is to place part of the portfolio in a strategic asset allocation using index funds and ETFs, and then play with the remaining part of the portfolio using tactical asset allocation.

I call these combined strategies *core and pay more* because that best describes the outcome. The cost of the explore side is more expensive than the core side, and there's no reason to believe that the active management results will be any better simply because there is less of it. Investors will likely earn market returns for their passive positions in index funds and below-market returns in that portion using tactical asset allocation.

Investment returns for a passive strategic asset allocation are much more likely to earn superior returns than those earned from tactical asset allocation strategies. The nuances of strategic and tactical asset allocation strategy go beyond the scope of this exploration.

Summary

A high percentage of new money flows into asset classes, sectors and styles that have had recent high returns. This trend-following behavior likely results in a loss of more than 1 percent per year in investors' portfolios. For active fund investors, the timing gap loss is in addition to the shortfalls from the actively managed funds they buy.

Passive investors outperform those who attempt tactical asset allocation. Through regular rebalancing, passive investors benefit from the mistakes of people who follow the crowd into past outperforming sectors. A passive strategy using index funds and ETFs that is followed religiously provides investors with the highest probability for investment success.

This article was lightly edited to reflect the editorial conventions of the Journal of Indexes.

Copyright © 2011 by Richard A. Ferri. Reprinted with permission of John Wiley & Sons, Inc.

Endnotes

[1] Hoffmann, A. O. I., Hersh M. Shefrin, and Joost M. E. Pennings, Behavioral Portfolio Analysis of Individual Investors, Working Paper Series, June 24, 2010.

[2] K. Smith, "Is Fund Growth Related to Fund Performance?" Journal of Portfolio Management 2 (1978): 307–328.

[3] Richard A. Ippolito, "Consumer Reactions to Measures of Poor Quality: Evidence from the Mutual Fund Industry," Journal of Law and Economics 35 (1992): 45–70.

[4] Diane Del Guercio and Paula Tkac, "Star Power: The Effect of Morningstar Ratings on Mutual Fund Flows," (working paper, Federal Reserve Bank of Atlanta, March 2001). bnotes.indd 249 10/19/10 1:25:16 PM

[5] Diane Del Guercio and Paula Tkac, "The Determinants of the Flow of Funds of Managed Portfolios: Mutual Funds versus Pension Funds" (working paper, Federal Reserve Bank of Atlanta, November 2000).

[6] TrimTabs Investment Research, 2010, www.trimtabs.com/global/pdfs/ETF_Flows_and_Market_Returns.pdf.

[7] Amit Goyal and Sunil Wahal, "The Selection and Termination of Investment Management Firms by Plan Sponsors," The Journal of Finance 63, no. 4 (August 2008): 1805–1847.

[8] Jeffrey A. Busse, Amit Goyal, and Sunil Wahal, "Performance and Persistence in Institutional Investment Management," The Journal of Finance 65, no. 2 (April 2010): 765–790.

[9] Del Guercio and Tkac, 2000.

[10] Edwin Elton, Martin Gruber, and Christopher Blake, "Participant Reaction and the Performance of Funds Offered by 401(k) Plans" (working paper, New York University, 2006).

[11] Swensen, David F. Swensen, "Pioneering Portfolio Management," 2nd ed. (New York: Free Press, 2009), 172.

[12] DALBAR, Inc, "QAIB 2010 Quantitative Analysis of Investor Behavior," 2010, www.qaib.com.

[13] Russel Kinnel, "Bad Times Eats Away at Investor Returns," February 22, 2010 www.advisor.morningstar.com.

[14] Andrea Frazzini and Owen A. Lamont, "Dumb Money: Mutual Fund Flows and the Cross-Section of Stock Returns" (working paper, NBER, August 2005).

[15] Richard A. Ferri, "All About Asset Allocation," 2nd ed. (New York: McGraw-Hill, 2010).

The Core Of The Matter

Getting back to basics

The Journal of Indexes *recently polled a group of respected academics and financial advisors on some very basic questions surrounding the buy-and-hold approach and core investing.*

Burton Malkiel, Chemical Bank Chairman's Professor of Economics at Princeton University

JOI: Is buy-and-hold dead?

Malkiel: I don't think it is. Obviously, it would be much better if we knew when the market was going to go down 40 percent, and we could sell out at the top and buy at the bottom. But nobody can do that. The danger when you try to do it is that invariably your emotions get the best of you, and you do it incorrectly.

More money went into equity mutual funds in the first quarter of 2000, at the height of the bubble, than ever before, and it went into the hot Internet and tech-related funds. The value funds, which were in fact cheap, [were being liquidated]. Then, in the third quarter of 2002, at the bottom of the market, more money went out than ever before. People obviously thought the world was coming to an end, and they sold.

What happens when you try to time the market is that, invariably, individuals get it wrong. But I believe it's also true of institutions. If you look at the cash holdings of mutual funds and the cash holdings of pension funds, you will notice that they tend to have the least cash at the top of the market, and the most cash at the bottom of the market. Professionals tend to get it wrong, just like individuals.

JOI: Are investors allocating too much to alternatives?

Malkiel: It depends. I would say that for individual investors, alternatives are probably a bad deal because they're very expensive: The fees that are paid tend to be very large, and to the extent that there are good alternatives around, individuals are unlikely to get them because they're likely to be allocated to the best institutional investors.

For professional investors, I think it's fine if they know what they're doing, and particularly if they have a preferred position in the pecking order. Often, professional investors will cut deals with the sponsors of the alternatives, and they will often pay less than the so-called two and 20, which is the typical fee schedule. [In particular, it's fine for] those like my own university, which can stand the illiquidity, because they're permanent institutions, and you get paid for carrying illiquidity. But again, there's no simple answer—I think it depends upon the investor.

JOI: Are commodities part of a core investment philosophy? What about international fixed-income and hedge funds? Are these the types of things that should be in every portfolio?

Malkiel: I think [commodities] should be in every portfolio, but for individuals, my sense is that the way they should get them is through ensuring that they have in their portfolios companies that mine or manufacture the commodities. I'm not convinced that you ought to go out and buy copper for your portfolio, but I would think that it's very important that individuals be thoroughly diversified. That includes having securities in their portfolio from countries like Australia and Brazil, where the economies are geared to producing natural resources and where you can get the exposure by buying companies in those countries.

[With international fixed income], to the extent that one has bonds in one's portfolio, there is no reason why one shouldn't diversify, and have in the portfolio not only U.S. but international bonds as well.

I just don't think [hedge funds are] a good game for individuals. They're not likely to get into the better ones, and the fees that they will pay [will be exorbitant]. Hedge funds are a great deal for the purveyor of the product—I don't think they're a great deal for the individual.

JOI: How long is long term?

Malkiel: Probably at least five to 10 years, and probably longer than that. I think that long term for an equity investor is probably longer than 10 years—perhaps even 20 years. Only if you hold your equities over very long periods of time are you likely to earn the generous rate of return that equities have produced over the long run. We know that even over a 10-year period such as the first decade of the 2000s, equities did not produce a positive rate of return.

JOI: Should investors ever allow short-term performance to affect their investment decisions?

Malkiel: I don't think so. My own work suggests that there is very little persistence in performance, and today's hot funds are more likely than not to be tomorrow's turkeys. I think it's a mistake, and I think the press is in part responsible for this. At the end of every quarter or every year, you see news stories saying, "These are the best managers, these are the best funds." And I think people who then say, "Well, those are the ones that I want," are in for some disappointments.

One example of the lack of persistency in performance that I often use I took from an article in the Wall Street Journal. The article pointed out that there were 14 mutual funds that had beaten the S&P in each of the last nine years through 1997, and you look at that and you say, "Those are the ones you ought to buy." And then they followed it through to the end of 1998, and only one of the 14 beat the S&P. There are a lot of runs of good performance, both short term and long term. One should be very careful, however, about making one's decisions on that, because there's little if any reason to think the persistence will continue. My own work suggests that the things that are responsible for any persistence are the fees you pay and the portfolio turnover. The surest way of having a first-quartile mutual fund manager is to buy a mutual fund with lowest-quartile expenses and lowest-quartile

turnover. Of course, index funds are the quintessential low-fee, low-turnover funds.

JOI: Is active investing using passive products any better than stock picking?

Malkiel: I think it is dangerous to simply use country ETFs actively, thinking you will improve your returns, because you know that [people will say], "Japan is terrible now. We don't want to have any Japan. And Brazil is great now. We'll buy Brazil." And then if there's some problem later, "We will sell Brazil and buy India." I think that's a mistake. Having said that, I think that to the extent one uses country ETFs to gain additional diversification, it's a good thing. For example, I believe that most investors are underexposed to China, and one useful thing to do would be to use ETFs to increase one's exposure to China. But I say this in a buy-and-hold way—I don't think you can pick when the Chinese market is going to do better than the market in the United States, or vice versa. Simply to be adequately diversified, you want very strong international diversification, including emerging markets. It's within a buy-and-hold framework that I say using these ETFs is a good thing. But I wouldn't do it in an active way, trading in and out thinking that you're going to know exactly the right time when one particular country is going to outperform other countries.

JOI: Is passive investing appropriate with every asset class?

Malkiel: It's certainly not appropriate with every asset class. It is quite appropriate with marketable stocks and bonds. I'll give you an asset class where it clearly isn't appropriate, and that is alternatives. There are a number of private equity funds that have done very, very well. There's no way that you can get an index fund of all of these, because many of these are closed to new investors. In the alternatives space, I don't think it's possible to be passive by holding all the funds in a category.

William Bernstein, Co-founder of Efficient Frontier Advisors

JOI: Is buy-and-hold dead?

Bernstein: After every market decline, people always chatter about the death of buy-and-hold. And what they forget is that the name of the game is not buy-and-hold—it's buy, hold and rebalance. Think about what that's meant over the past 15 or 20 years. If you accumulated stocks during the early '90s, you sold them during the tech bubble—not all of them, but you sold a lot of them. You bought stocks back in 2001 and 2002, and then you sold them back at higher prices in 2006 and 2007. And then, in '08 and '09, you bought at low prices and now you're selling again. In fact, you're selling a lot again to maintain your constant policy. That has been a fairly successful strategy, and I imagine it will be successful going forward. I strongly suspect that if you look at the people who are now blathering about the death of buy-and-hold, they're the ones who never got into that rhythm and are behind the curve.

JOI: Are investors allocating too much to alternatives?

Bernstein: Any allocation that's greater than zero is too much, in my opinion. Investors really don't understand what they're buying; they think that they're buying commodities, and they're not. They're buying commodities futures and insurance against inflation. And the notion that there's this large pool of morons out there who will sell you insurance against the risk of inflation for cheap—particularly when that insurance is in such high demand now—is ludicrous.

The price of that high demand is the negative roll that's just devastated the returns of these vehicles over the past several years. Most of the commodities futures mutual funds have had returns at pretty close to zero over the past five or six years, a period when just about any commodity spot price has done well. Think about what's going to happen to these funds when the prices of commodities stay flat or fall.

JOI: Are commodities part of a core investment philosophy? What about international fixed-income and hedge funds? Are these the types of things that should be in every portfolio?

Bernstein: The answers are no, maybe, no and no. We've already discussed commodities. International bonds—that's an arcane point of portfolio theory. Basically, the question is, how much currency exposure should you have in your portfolio? It doesn't matter whether the currency exposure is in your stocks or your bonds. The euros and the yen and the pounds and the Swiss francs in your portfolio really don't know whether they're in bonds or whether they're in stocks. Your portfolio will behave the same way for the same degree of currency exposure. It doesn't matter where it is. Almost all of the foreign equity vehicles are unhedged, so you'll basically wind up with all that currency exposure in your foreign stocks. If you're going to buy international bonds, they should be hedged. Small allocations to hedged international bonds are not a bad idea. But I think it's a mistake to own unhedged international stocks *and* unhedged international bonds.

You can do it the other way around. You can theoretically buy hedged international stocks and unhedged bonds. But the problem is that the vehicles for the hedged stocks are very thin on the ground.

Hedge funds? They are the most efficient vehicle known to mankind for transferring wealth from shareholders to managers. They're just a bad idea. You know, when you're looking at two and 20, or even one and 10, you're putting 5 to 7 percent drag on the performance of your portfolio over the long term. And there's no active manager who can reliably overcome that.

JOI: How long is long term?

Bernstein: It's the time horizon of your liabilities, whatever

they are. If you're saving for a down payment for a house, it's a couple of years, in which case you obviously shouldn't be investing very aggressively. If you're a 40- or 50-year-old, it's the lifetime of your investing career and the rest of your life. And if you're going to be leaving money to heirs and charities, it may be on the order of a century. If you're the kind of person who's accumulated the kind of wealth that you only need to tap 1 percent of it per year to live on, then obviously your assets have a much longer lifetime than you do, because you're going to bequeath almost all of them to somebody else.

JOI: Should investors ever allow short-term performance to affect their investment decisions?

Bernstein: Only to the point that it affects your allocation. If stocks fall by 55, 60, 65 percent, which they did—depending upon the asset class—during the crisis, that makes them a good deal cheaper, so you are certainly going to want to rebalance. That will mean buying more stocks, and you may even want to up your allocation if you're brave and your portfolio can tolerate the risk of doing that without imperiling your future if there's a bad result. But should you be looking to change your allocation every five weeks? Should you be looking to do sector rotation? Those are mugs' games.

JOI: Is active investing using passive products any better than stock picking?

Bernstein: Oh, resoundingly yes. It [comes down to] two factors. You're dealing with simple arithmetic, which basically says that in the aggregate, active managers are going to have to get lower returns than passive managers, because they are the market. Active managers will get the market return minus costs, which is not only their fees, but also transactional costs and their commissions, and those are much higher [than for passive managers].

Now, if there were active managers who could reliably beat the market, it might be worthwhile to consider active management. But it turns out that there's almost no persistence. Five years ago, to convince people of this, I had to show them a lot of very dull and increasingly obscure studies. But now I just have two words for them: Bill Miller. The Legg Mason Value Trust outperformed the S&P 500 for 15 straight years, and I think that run ended in 2006. In the ensuing three or four years, he's almost completely wiped out his 15 previous years of performance so that if you invested with him from day one—in other words, you were lucky enough to pick this guy out before everybody realized that he might have skill—you are just a hair ahead of the S&P 500, and if you bought even halfway late in the game, you had your head handed to you.

JOI: Is passive investing appropriate with every asset class?

Bernstein: Every single asset class. There's this idea that there are some asset classes that are less efficient—like small stocks, international stocks, and particularly, emerging markets stocks and emerging markets bonds—and that somehow those efficiencies can be exploited by active managers. It doesn't pan out for two reasons. One is the theoretical reason—these markets may possibly be less efficient than large-cap U.S. stocks, but they're also much more expensive to trade. Any advantage that you might have is going to get wiped out by the trading costs. And then there's the empirical data: If you look at small stocks, small value stocks, international small stocks, international large stocks, emerging market stocks, buying the indexes in these spaces over the long period has blown the doors off the average active product.

David Armstrong, Managing Director, Monument Wealth Management

JOI: Is buy-and-hold dead?

Armstrong: Buy-and-hold is such a strange term now. I'm not even sure what it means anymore. Does that mean buy-and-hold from a standpoint of buying something and never selling? Or, is buy-and-hold a long-term investment strategy?

If people refer to buy-and-hold as you buy the S&P 500 Index and hold it for 30 years, it's absolutely dead. But do I think that buy-and-hold as it relates to a long-term investment strategy is dead? No, I don't. I think that you will always buy and hold certain asset classes. However, the percentage that's invested in each asset class can be tactically allocated given the business cycle or economic cycle where we are now, and where it could be thought of going in the next 12 to 18 months.

I think a long-term portfolio will always buy and hold exposure to [something like] the large-cap growth space. However, the allocation in terms of a percentage—its weighting inside of a portfolio—will always be increasing and decreasing tactically over that long-term period of time.

JOI: Are commodities part of a core investment philosophy? What about international fixed-income and hedge funds? Are these the types of things that should be in every portfolio?

Armstrong: In our practice, I think of a core portfolio as having a component of equity. So the equity component of somebody's asset allocation will have a core part and a satellite part. For the core part, I think of that as being the six style boxes—you know, your generally accepted style boxes of large growth, large value, midgrowth, midvalue, small growth, small value. In my mind, and in our practice, that is a core portfolio.

Under that definition, I do not think that commodities are part of that portfolio. Now, if you take the core portfolio and start to add satellites to it, I think that is where commodities have a place, although not necessarily all the time.

International fixed income is also a satellite strategy. Now we're talking about a different piece of the pie in the asset allocation—we're not talking about equity anymore. I think that if the interest rate scenario and the inflation scenario

and the growth scenario in the international space are more compelling than they are domestically in the U.S., there should be an allocation there. But to the extent that maybe there's more opportunity and a better interest rate, inflation and growth picture in the United States, you wouldn't allocate to international bonds. It's just dependent on the business and the economic cycle whether or not somebody is invested in international fixed income.

[With hedge funds,] as I was saying before about the alternative space, if somebody's complete and comprehensive financial plan has an output of an asset allocation that includes alternative investments, then hedge funds are completely appropriate. I don't know if hedge funds are part of a core portfolio. Using my definition of a core portfolio, hedge funds are a satellite portfolio.

JOI: How long is long term?

Armstrong: I define "the long term" as how long between today and a major change in lifestyle that takes place, where you are going to need the money to support a different lifestyle. A generalization would be time to retirement—so the long term could actually be the short term.

If you're a professional athlete, the long term is going to be how long you're in retirement: You're going to play sports for five years, and then you're going to be in retirement for 50, so long term is your time in retirement.

However, for the person who graduates from college and gets a job in a big company, the long term is his time until retirement. And those two things can be completely different situations.

JOI: Should investors ever allow short-term performance to affect their investment decisions?

Armstrong: Only if they're traders, or for a client who comes to me and says, "I want a complete and comprehensive financial plan done, and I'm going to follow the asset allocation in that plan. But to the extent that you can build in a portfolio that I can trade on a daily basis with my own money, and if the value of that portfolio went to zero it wouldn't impact my long-term financial goals, I would like to have that." That's appropriate—or, it's not *inappropriate*. They're making a conscious decision to have that capital at risk.

JOI: Is active investing using passive products any better than stock picking?

Armstrong: I believe it is. Our equity management style is exactly that: We actively manage passive investments. Given the difficulty for managers to outperform their benchmarks, I don't think there's a whole lot of value in determining whether investment A is better than investment B. I think that the value that a portfolio manager can really add is around reading the business and the economic cycle and then deciding whether to over- or underweight the passive investments that track the performance of given indices in a portfolio.

JOI: Is passive investing appropriate with every asset class?

Armstrong: No. [For example,] fixed income—I don't believe it's a good place to be a passive investor. I think clients are always well suited in the fixed income space in buying and holding individual bonds to maturity.

Tyler Mordy, Director of Research, HAHN Research

JOI: Is buy-and-hold dead?

Mordy: If you assume that buy-and-hold is synonymous with a strictly passive approach, then I would say it doesn't really exist. The only portfolio that a purely passive investor could hold is the overall market portfolio. Anything else is a type of active management. Even pure passive advocates must agree that the asset mix decision is unavoidable. If that weren't so, there would be no need for financial planning. As soon as you agree that investors require different portfolios to serve different objectives, you've effectively made an active decision.

Our view has always been to focus on risk management instead of returns, which really is a better way to protect portfolios against large drawdowns and increase longer-term returns. That means investors should look beyond static asset mixes, and shift to a more dynamic asset allocation process. I want to be clear here: I'm not advocating for a hyperactive trading strategy. Rather, focusing on material shifts when risk levels or evaluations reach extremes is the important aspect. And, of course, that needs to be structured in a disciplined, strong risk management framework. That should really drive the asset mix decisions.

When you're diversifying your portfolio, there are some risks that can be reduced, but that doesn't alter the fact that they still are risk assets. Investors working in this sort of dynamic asset allocation model within a disciplined framework have a decided advantage over others using a purely passive buy-and-hold approach.

JOI: Are investors allocating too much to alternatives?

Mordy: The alternative investment space isn't one monolithic asset class, so it's difficult to make general statements. But in many cases, investors are allocating too much to the area or simply have unrealistic expectations here. Recent studies show that alternatives in general have shown progressively high correlations to broad stock markets over the years, which is obviously the opposite of their stated noncorrelation purpose—2008 certainly pulled the curtain back there.

The most important point, however, is that while these alternatives often come in different wrappers, they are merely existing asset classes repackaged, normally with higher fees. There's nothing new here. So we are very cautious when we approach the alternative space. That doesn't mean that we avoid alternative strategies altogether. But our preference is to access cheap beta and to drive the alternative active strategy decisions ourselves.

JOI: Are commodities part of a core investment philosophy? What about international fixed-income and hedge funds? Are these the types of things that should be in every portfolio?

Mordy: Commodities, while an asset class, should not be part of a long-term strategic investment approach. Stocks and bonds exist because corporations use the proceeds to make capital investments. It's a method of acquiring capital for operations and so forth. And returns to investors are compensation with a contractual stream of cash flows, or residual payments in the form of dividends.

Commodities are different in that they are contract based with a buyer and seller and an expiring date. They don't have balance sheets with quantifiable assets, nor a stream of income attached. For the most part, they are a "flow" item, not a long-dated asset that can be accumulated *ad infinitum*. That makes valuation a less exact science. And in an industry known for its cyclicality, corrections can be more abrupt and more sensitive to the economic cycle, as well as additional factors such as weather, growing patterns and seasonal tendencies, and so forth.

They're not longer-dated asset classes in the traditional sense, and in our view, shouldn't have a strategic weight. That doesn't mean investors shouldn't use them, but they should be used more as tactical investments. The current environment of high fiscal and monetary activism, particularly in the West, is fertile ground for tactical commodity strategies.

I think international fixed income is the most underrated asset class in the world. Investors, particularly those domiciled in Western parts of the world, would do very well to add exposures here. For one, these have offered prized positive returns at times of major equity market downturns. We continually see that clients and investors are underweight, or have no exposure here. We look at this asset class favorably simply because forecasts for developing parts of the world remain much more robust than Western counterparts. We're finding numerous opportunities in investments tied to emerging market debt, where fundamental credit outlooks are improving. Of course there's the issue of currency risk. But we analyze those country currencies from a classical economics perspective and find their currencies extremely undervalued, particularly *vis-à-vis* the Western parts of the world. So there's another tail wind there in the form of currency appreciation.

We look at hedge funds as part of the alternative space. They're less regulated and have higher fees normally, but really there's nothing new under the sun there. They are the same asset classes repackaged at higher fees. Effectively it boils down to what active strategies you're paying for. Hedge funds really are more of a vehicle or a wrapper, with numerous underlying active strategies. Again, it is difficult to make generalized statements.

JOI: How long is long term?

Mordy: When we construct our return forecasts, we look at the long term as one complete market cycle—that typically takes anywhere from five to seven years. If your objective is to generate returns through active asset class decisions, then you're often focusing on the mean reversion process and, again, five to seven years is about the right time for financial series to mean-revert. It's a fantastic working model for portfolio managers.

JOI: Should investors ever allow short-term performance to affect their investment decisions?

Mordy: Having clients with a long-term orientation is a critical part of the success of every investment management firm. In general, short-term performance analysis should be discouraged, but for investment managers, we can't avoid the fact that markets are both irrational and prone to crises. From time to time, investors will be indiscriminately selling or euphorically buying. Money managers should be opportunistic during those periods. We're not traders; we're simply responding to risk levels in the market, which really liberates you from the short-term forecasting process. If you focus on risk instead of returns, you are always asking if risk is well-compensated or not. If it's not, then don't take the exposure, or, at the least, reduce your exposure. As long as you have a disciplined risk management framework—because emotion will always overtake both retail and professional investors—you should respond to extreme market volatility.

JOI: Is active investing using passive products any better than stock picking?

Mordy: Absolutely. It's the big-picture decisions that can add value. There's simply more to sink your teeth into. Most markets are efficient internally, but inefficient on the macro asset class basis. Therefore, there are more opportunities at the asset-class level than the individual-stock level.

ETFs are great vehicles—low cost, transparent, liquid and so forth. But those are the beneficial features of the wrapper itself. The primary benefit for investors with ETFs has been the opening of access to a variety of asset classes. The marriage of a dynamic, macro-asset-mix approach with the ETF is a perfect matrimony. It's shifted the focus away from stock picking more to the macro decisions—the big picture, really. Those are the decisions that count.

Blair Shein, Vice President, Compass Financial Group

JOI: Is buy-and-hold dead?

Shein: Regardless of whether buy-and-hold is dead, I don't believe it's the best approach to managing an investment portfolio. There's no single investment strategy that will work well in every market environment. On the other hand, almost any strategy can work if it's implemented during the right time period.

There has been much research that highlights the way that investors make poor decisions by selling at the bottoms and buying at the tops. The buy-and-hold solution says that

investors would do better if they just stayed invested, rather than getting in and out at the wrong times. While this may be true in theory, few investors have the investment discipline or time horizon to weather the ups and downs of the market. This can be further complicated when investors need to take money from their investment portfolio, particularly during a period when investments are down, because the funds withdrawn are never available to come back, even when the portfolio has good years in the future. Most investors claim that they have a long-term investment time horizon, but they usually have a very-short-term evaluation period. So, an investment plan should be long term in nature, but it should have the ability to incorporate—and change—multiple strategies that include both passive and active strategies to improve the overall risk-adjusted return of the portfolio—and to keep the investor on track for their long-term objectives.

JOI: Are investors allocating too much to alternatives?

Shein: I would say probably not, even though alternative investments seem to be becoming more accepted as part of an investment mix. Most investors that I see that have exposure to alternative investments limit their allocations to less than 5 percent of the portfolio—and we define alternative investments as hedge-fundlike or derivative investment strategies. While each individual has different investment needs and objectives, if you limit a portfolio to a 5 percent allocation, that may not have enough of an impact on the overall performance of the portfolio.

JOI: Are commodities part of a core investment philosophy? What about international fixed-income and hedge funds? Are these the types of things that should be in every portfolio?

Shein: Commodities, international fixed income, and hedge funds should all be considered for all portfolios, but in a manner that is consistent with the investor's objectives and tolerance and capacity for risk. The focus for including them in a portfolio should also be on whether or not there are opportunities within these asset classes.

How you are going to access these asset classes will also vary, depending on both the investor-specific circumstances and the size of the investment portfolio. Some of these strategies or vehicles may not be available to smaller portfolios. For example, a hedge fund may require a minimum contribution of $250,000 or more. A much larger portfolio may be necessary to achieve the desired portfolio diversification when including such an investment.

JOI: How long is long term?

Shein: I'd consider long term to be at least 10 years. If you agree with that concept of long term, then the first 10 years of this century has proven that assets don't always go up on a long-term basis, which is kind of a tenet of buy-and-hold: Hang in there long enough, and it will work out and be positive.

But even patient investors can be pretty discouraged after a 10- year roller coaster without making any real progress. If you look at the first 10 years of the century and you factor in fees or transaction costs, a broad measure of U.S. stocks actually had negative returns during that period. That would be even worse if you were an investor who was living off your investments—you would have seen even more erosion of your principal.

JOI: Should investors ever allow short-term performance to affect their investment decisions?

Shein: Yes. While this conflicts with a traditional buy-and-hold strategy, short-term performance can be a sign of things to come. As an example, there were a number of indications from late 2007 to mid-2008 that were warning signs of problems that eventually were brought to light in the latter part of 2008. While it's easy to look back in hindsight, I do feel that investors should pay attention to warning signs that could be pointing to bigger problems to come.

Standing in front of an oncoming train, just because you think you'll probably be able to get back up again after you're hit, is not a good investment approach. It's why many investors get derailed from their long term investment plan: When they get run over by a 2008, they have a hard time saying, "Gee, I want to do that again."

JOI: Is active investing using passive products any better than stock picking?

Shein: It depends on what you're trying to access. If your approach is that you want to get betalike exposure to a specific style, sector or industry of the market, then yes. Investing with passive products will eliminate some of the company-specific or single-stock risk that you would otherwise be exposed to if you were selecting an individual security. However, if you're not looking for broad exposure to a specific component of the market and are just trying to identify undervalued investments, then you may be better off selecting the individual stock positions. The best approach may be to have a combination of the two, or where you identify those individual securities that you feel are desirable to have in a portfolio and either overweight them in combination with a passive vehicle, or find a passive vehicle that includes a heavier weighting to the desired positions. If you like the technology sector but specifically like Apple and IBM, you might buy the "Q's" as well as IBM and Apple. Or you could find an exchange-traded fund that has a heavy weighting in IBM and Apple, and just buy that because you know it has some of the company exposure that you want.

JOI: Is passive investing appropriate with every asset class?

Shein: Not necessarily. Some asset classes don't have adequate market exposure through passive investing. One example of where it would be difficult to get true repre-

continued on page 50

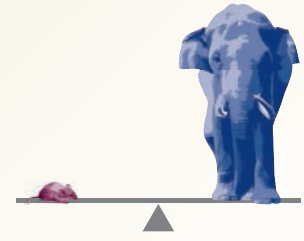
RSP. Beating the cap out of the cap-weighted S&P 500® Index since April 2003.

Average Annual Total Return Comparison

	1-Year	3-Year	5-Year	Since Fund Inception	*Expense Ratio	Inception Date
Rydex S&P 500® Equal Weight ETF (NAV)	21.32%	1.60%	4.10%	9.93%	0.40%	4/24/03
Rydex S&P 500® Equal Weight ETF (Market Close)	21.39%	1.72%	4.16%	9.94%	0.40%	4/24/03
S&P 500® Equal Weight Index	21.91%	2.45%	4.86%	10.56%	—	—
S&P 500® Index	15.06%	-2.86%	2.29%	6.39%	—	—

Performance displayed represents past performance, which is no guarantee of future results. Investment returns and principal value will fluctuate so that when shares are redeemed, they may be more or less than original cost. Returns reflect the reinvestment of all dividends. Current performance may be lower or higher than the performance data quoted. For up-to-date fund performance, including current to the most recent month end visit our web site at www.rydex-sgi.com. ETFs are subject to third party transaction fees/commissions. Net asst value (NAV) is calculated by subtracting total liabilities from total assets, then dividing by the number of shares outstanding. Market close is the last price at which shares are traded. Fund shares may trade at, above or below NAV.

Rydex S&P 500® Equal Weight ETF (RSP) has outperformed the S&P 500® cap-weighted Index since its inception in April 2003. Should RSP be part of your clients' well-allocated portfolio? Call 800.258.4332. Or visit www.rydex-sgi.com/equalweight



RYDEXShares®
The intelligent pursuit of wealth.

Rydex S&P 500® Equal Weight ETF seeks to replicate as closely as possible, before fees and expenses, the daily performance of the S&P 500® Equal Weight Index. S&P 500® Equal Weight Index is the equal-weight version of the S&P 500® Index. The index has the same constituents as the capitalization weighted S&P 500,® but each company in the equal weight is allocated equally. Performance shown for the S&P 500® Index is for comparative purposes only. Each index is unmanaged and not available for direct investment. Index returns do not reflect any management fees, transaction costs or expenses.

Rydex S&P Equal Weight ETF may not be suitable for all investors. • The fund is subject to the risk that unanticipated early closings of securities exchanges and other financial markets may result in the fund's inability to buy or sell securities or other financial instruments on that day. • In certain circumstances, it may be difficult for the fund to purchase and sell particular investments within a reasonable time at a fair price. • Investments in securities and derivatives, in general, are subject to market risks that may cause their prices to fluctuate over time. An investment in the fund may lose money. • Unlike many investment companies, the fund is not actively "managed." This means that, based on market and economic conditions, the fund's performance could be lower than other types of funds that may actively shift their portfolio assets to take advantage of market opportunities or to lessen the impact of a market decline.• Tracking error risk refers to the risk that the advisor may not be able to cause the fund's performance to match or correlate to that of the fund's underlying index, either on a daily or aggregate basis. Tracking error risk may cause the fund's performance to be less than you expect. • Shares may trade below their net asset value ("NAV"). The NAV of shares will fluctuate with changes in the market value of the fund's holdings. In addition, although the fund's shares are currently listed on NYSE Arca, Inc. there can be no assurance that an active trading market for shares will develop or be maintained. • The fund is subject to the risk that large-capitalization stocks may underperform other segments of the equity market or the equity market as a whole. See prospectus for more details.

For more complete information regarding RydexShares,® call 800.258.4332 or visit www.rydex-sgi.com for a prospectus and a summary prospectus (if available). Investors should carefully consider the investment objectives, risks, charges and expenses of a fund before investing. The fund's prospectus and its summary prospectus (if available) contain this and other information about the fund. Please read the prospectus and summary prospectus (if available) carefully before you invest or send money.

"Standard & Poor's,®" "S&P,®" "S&P 500,®" "Standard & Poor's 500" and "500" are trademarks of Standard & Poor's Financial Services LLC, and have been licensed for use by RydexISGI and its affiliates. The product is not sponsored, endorsed, sold or promoted by Standard & Poor's, and Standard & Poor's makes no representation regarding the advisability of investing in the product.

RydexShares® are distributed by Rydex Distributors, LLC (RDL). Security Investors, LLC (SI) is a registered investment advisor, and does business as Security Global Investors℠ and Rydex Investments. SI and RDL are affiliates and are subsidiaries of Security Benefit Corporation, which is wholly owned by Guggenheim SBC Holdings, LLC, a special purpose entity managed by an affiliate of Guggenheim Partners, LLC, a diversified financial services firm with more than $100 billion in assets under supervision. *The fund has adopted a distribution (12b-1) plan pursuant to which the fund may bear an annual 12b-1 fee of up to 0.25%. However, no such fee is currently charged to the fund and no such fees will be charged prior to 3/01/2012.

Calendar Spreads In China Stock Index Futures

Why is this type of order so important to this new market?

By Ronald Slivka, Xin Li and Yikai Zhang

The successful functioning of global stock index futures markets depends heavily upon the efficient execution of two essential recurring transactions: calendar spreads and stock index arbitrage. At this point in the development of China's new CSI 300 futures market index, arbitrage is highly inefficient at best, and often impossible. Because calendar spreads are not yet recognized as a legitimate order type for China futures brokers to accept, investors seeking position changes between calendar months are not assured of fair pricing. Using recent CSI 300 futures data, this article seeks to address the central characteristics of calendar spreads and the important uses for this transaction type in China's newest futures market.

Two important groups of futures market participants are likely to employ calendar spreads either to implement strategies having an investment horizon longer than that of the near-term contract or to capture short-term profits as prices move. The first class of participants would typically include hedgers such as qualified foreign institutional investors (QFIIs) and qualified domestic institutional investors (QDIIs), independent money managers, arbitrageurs, pension funds and mutual funds. The second class of participants is representative of speculators and includes individuals, hedge funds and traders. The different ways in which these two groups use calendar spreads is explored in more depth later in the article.

Establishing the legitimacy of this type of order in CSI 300 futures along with suitable margin controls is essential to ensuring the willingness both of domestic and foreign investors to seek participation in China's important growing capital market.

Origins And Classification Of Calendar Spread Orders

Calendar spread orders in global futures markets originate from investor requests to execute the simultaneous purchase of a futures contract expiring in one month and the sale of a second contract expiring in a different calendar month with the two orders to be filled at a specified price difference (spread) between the contracts. They are primarily a natural outcome of trading and investing strategies whose completion does not end on a standardized contract expiration date. Such transactions arise as a consequence of the finite lifetimes for futures contracts, a property that periodically forces long-term as well as short-term investors to exchange contracts with differing expiration dates.

In mature global futures markets where there is a balance of institutional, retail and arbitrage participants, there will often occur periods of time when the volume of market transactions is dominated by calendar spread orders from such market participants. As frequent and familiar as calendar spread orders are, there is surprisingly little written about these essential futures transactions. For China's CSI 300 futures, there is no literature at all. For foreign investors in China's stock market, understanding more about calendar spreads in these new contracts becomes important not only for institutional firms seeking to hedge but also for hedge funds seeking short-term profits. Assessing the risk of calendar spreads relative to outright futures positions is also important for regulators and exchanges that must set appropriate margin levels if such orders are to be officially recognized.

Calendar spread orders can be transacted intramarket (within the same market) or intermarket (between markets). The analysis in this paper deals strictly with intramarket transactions. Intramarket spreads have the same commodity or asset underlying each contract, while intermarket spreads involve two different commodities or assets. Such spreads, whether intramarket or intermarket, originate both from hedgers and speculators and can require several different combinations of opening and closing transactions (see Figure 1).

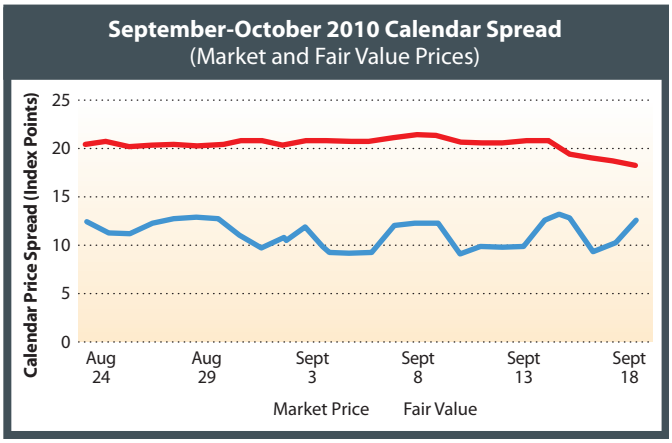
Certain hedgers, for example, may have a strategy of maintaining a short futures position on an asset over a fixed hedging horizon. In such cases, there will be a need to roll the futures position over to the next-term contract as the future already in place approaches expiration. Such a rollover can be accomplished by placing two separate futures orders or, more simply, by placing a single order to be executed at a specified price difference or spread. Placing two separate orders subjects the hedger to the risk of transactions taking place at unequal times and at a net price dif-

Figure 1

Intramarket Calendar Spread Orders

	Near-Term Contract	Next-Term Contract	Typical User
Rollover A Long Position	Closing Sale	Opening Purchase	Hedger
Rollover A Short Position	Closing Purchase	Opening Sale	Hedger
Buy A New Calendar Spread	Opening Sale	Opening Purchase	Speculator
Sell (Offset) An Existing Calendar Spread	Closing Purchase	Closing Sale	Speculator
Sell A New Calendar Spread (Reverse Calendar Spread)	Opening Purchase	Opening Sale	Speculator
Buy (Offset) An Existing Reverse Calendar Spread	Closing Sale	Closing Purchase	Speculator

Figure 2



Source: Authors' calculations

ference that degrades returns. Controlling this pricing risk during executions through a single spread order enables the hedger to manage that same risk. In either case, the hedger places a closing transaction for the near-term contract and an opening transaction for the next-term contract.

Traders and speculators, on the other hand, can create calendar spreads using two opening transactions. The purchase and sale of contracts in two different months creates an opportunity to obtain a profit when the spread widens or narrows. Such spread positions can be used effectively when the market participant has a strong view on the future direction of the price spread.

Calculating The Calendar Spread Fair Value

With index futures, fair value is not simply based on the underlying index's value; rather, it comprises the index's spot value at the time of the valuation as well as any interest the index will earn before the contract's expiration date and the exclusion of any dividends that will be foregone since the contract is not an actual basket of stocks. A long-hedger in futures will prefer to roll over a long position at a spread price not to exceed fair value, while a short-hedger will seek to roll over at a spread not priced below fair value. Systematically failing to execute at a fair value for the spread will adversely affect investment performance by degrading the hedger's returns. Therefore, setting a calendar spread order as a limit order based upon the spread's fair value price makes sense for both types of hedgers.

The fair value of a calendar spread is given by the following formula:

$$\text{Calendar Spread Fair Value} = FV_2 - FV_1 \quad (1)$$

where

FV_1 = Fair value of near-term contract
FV_2 = Fair value of next-term contract

The fair value for the near-term CSI 300 contract is given by:

$$FV_1 = I_o \times [1 + (r_1 - d_1) \times n_1/365] \quad (2)$$

where

I_o = level of the CSI 300 stated in index points
r_1 = interest rate for borrowing matched to the expiration date of the near-term contract
d_1 = dividend yield on the CSI 300 calculated to the expiration date of the near-term contract
n_1 = number of days to the expiration date of the near-term contract
$t_1 = n1 / 365$

Similarly, the fair value equation for the next-term contract is FV_2 with related definitions. So the calendar spread fair value is:

$$\text{FV Calendar Spread} = (I_o / 365)\,[(n_1 \times d_1 - n_2 \times d_2) + (n_2 \times r_2 - n_1 \times r_1)]$$

or

$$\text{FV Calendar Spread} = I_o\,[(d_1 \times t_1 - d_2 \times t_2) + (r_2 \times t_2 - r_1 \times t_1)] \quad (3)$$

Figure 3

June / July 2010 CSI 300 Calendar Spread Sensitivities

CSI 300 June / July 2010 Calendar Spread	No Change	Pricing Variables						
		I_o	r_1	r_2	d_1	d_2	n_1	n_2
Market Level	24-May-10	2873.47	6.00%	6.10%	5.50%	4.32%	26	53
Change in Variable	None	Up 1 Index Point	Up 1 bp	Up 1 bp	Up 1 bp	Up 1 bp	Down 1 day	Down 1 day
New Variable Level	Unchanged	2874.47	6.01%	6.11%	5.51%	4.33%	25	52
Revised Fair Value FV_1	2874.49	2875.49	2874.51	2874.49	2874.47	2874.49	2874.45	2874.45
Revised Fair Value FV_2	2880.90	2881.90	2880.90	2880.94	2880.90	2880.86	2880.76	2880.76
Calendar Spread	6.40	6.41	6.38	6.45	6.42	6.36	6.30	6.30
% Change in Spread Fair Value	0.00%	0.03%	-0.32%	0.65%	0.32%	-0.65%	-1.57%	-1.57%

Source: Authors' calculations

Appearing in Figure 2 are the fair value and market value of the September-October 2010 CSI 300 calendar spread. Throughout the life of the October 2010 contract, the market price of the calendar spread consistently traded below its fair value. Such behavior of the spread would have benefited QFIIs and QDIIs seeking to create synthetic index funds.[1] Such institutional investors could have sold their September contracts and replaced them with October contracts at a very cheap price, thereby adding incremental returns to their portfolios.

Figure 3 displays the calculated results on May 24, 2010 for the fair value price of the CSI 300 June-July 2010 calendar spread. As small changes are made in each of the pricing variables affecting the calendar spread, a percentage change in the spread's fair value is calculated and displayed. Rising interest rates and rising dividend yields change the spread in opposite directions. A decrease in the time to contract expiration also decreased the spread value, although this would have reversed if the difference in dividend yields, $d_1 - d_2$, had been negative. The results are typical for most calendar spreads.

Setting Calendar Spread Margins

Futures initial margins, sometimes called performance bonds, are normally set by global futures exchanges using a value-at-risk methodology in which the maximum potential loss for a contract is calculated based upon the standard deviation of price movements. Today as many as 50 registered global exchanges and clearing organizations utilize the SPAN (standard portfolio analysis of risk) system to set margin rates. SPAN was developed originally in 1988 by the Chicago Mercantile Exchange and offers a sophisticated approach to margin setting.

Since calendar spread orders for CSI 300 futures are not yet recognized by the China Financial Futures Exchange (CFFEX), no spread margin has yet been set. An estimate of this margin requirement, however, can be made as follows. Knowing the initial margin that applies to a single outright futures position (a minimum of 12 percent for a CSI 300 future) and the standard deviations of the price changes for both the outright future and for a calendar spread, regulators can estimate the margin for calendar spreads as:

$$\text{Calendar Spread Margin} = \text{Outright Margin} \times \frac{\text{(standard deviation of calendar spread price changes)}}{\text{(standard deviation of outright price changes)}} = \text{Outright Margin} \times \text{Risk Ratio} \quad (4)$$

Using closing price data from the May through October 2010 contracts, the risk ratio (ratio of standard deviations for calendar spread price changes to outright futures price changes) was found to be approximately 10.9 percent (see Figure 4). On average, the results suggest the minimum initial margin on a calendar spread for the period studied should be approximately 1.3 percent, as follows:

$$\text{Calendar Spread Initial Margin Estimate} = 12\% \text{ minimum} \times 10.9\% = 1.3\% \quad (5)$$

Figure 4

Estimated Minimum Margin Requirements For CSI 300 Calendar Spreads

CSI 300 2010 Calendar Spreads	Risk Ratio*	Calendar Spread Margin**
May-June	20.7%	2.5%
June-July	15.7%	1.9%
July-August	6.8%	0.8%
August-September	6.2%	0.7%
September-October	5.1%	0.6%
Average for CSI 300	10.9%	1.3%
S&P 500 Futures		0.7%

Source: Authors' calculations from CFFEX data
*Standard deviation of calendar spread price changes to standard deviation of futures price changes
**Estimate as % of outright futures margin

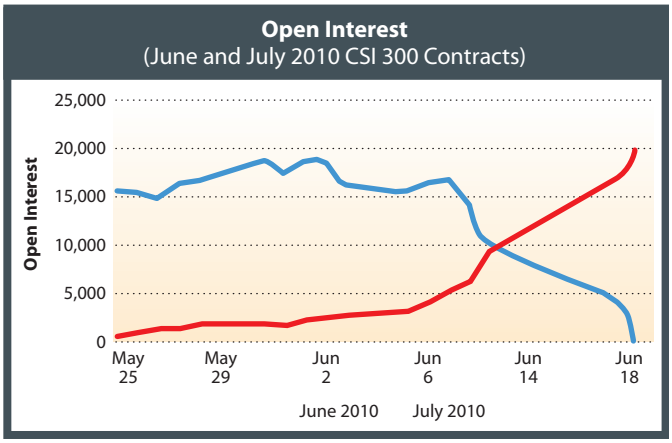
However, the observed gradual decline in the risk ratio from May to October suggests a lower margin requirement is likely to be appropriate. In the U.S. market, the initial margin for a calendar spread on the S&P 500 contract (0.67 percent) is about half this amount, while the initial margin for an outright contract is about 10 percent. The risk ratio for the period from April 2010 through October 2010 was calculated for CSI 300 calendar spreads and found to decline significantly over this period (Figure 4). The estimated margin for these calendar spreads declined accordingly and is potentially a sign of a maturing market. To set the calendar spread margin correctly will require far more accuracy in the collection of pricing data for the risk ratio. In particular, prices of futures and the level of the index must be captured at the same point in time if a SPAN calculation is to be accurate and reliable. Nevertheless, the estimated margins for the second half of 2010 appear to be converging to a level consistent with the more mature S&P 500 futures.

Calendar Transaction Frequency And Execution Costs

Because futures trading volume and its associated liquidity are typically largest in the contract nearest to expiration and decline steeply with successive contract maturities, calendar transactions normally involve only the nearest- and next-term contracts. In CSI 300 futures, this means calendar transactions will be typically between successive calendar months but not executed as single spread orders. As the expiration of the near-term contract approaches, the trading volume and open interest in the next-term contract rise dramatically to support rollover transactions (see Figure 5). In the final weeks preceding a futures expiration, calendar transactions dominate order flow in a dramatic fashion, making economical execution critical for the health of the market.

Execution costs in global stock index futures markets are normally well below the costs to buy and sell stocks, and China's markets provide no exception. CSI 300 futures execution costs are in the range of 1 basis point (0.01 per-

Figure 5



Source: CFFEX data

cent) to buy or sell, with half of this cost coming from broker commissions and the balance from a charge by CFFEX. As a result, for CSI 300 calendar transactions not executed as a spread, the execution costs will simply be double this amount, or 2 basis points (0.02 percent). In many mature futures markets, an additional advantage of executing calendar transactions as a single spread order is that commissions are even lower than for two such single orders.

For China *stocks*, on the other hand, there is a commission between 0.2 percent and 0.3 percent of stock price, a transfer fee of 1 RMB per thousand shares on the Shanghai exchange and a stamp duty of 0.1 percent for share sales. With these stock costs being so high relative to futures, institutional participants will find futures contracts provide an attractive way both to contain market risks and to create new investment strategies.

Futures also provide additional advantages when compared with stock purchases. Included among these advantages are the absence of custody charges for holding purchased stock, a smaller bid/ask spread and no stamp taxes or additional fees beyond that charged by the CFFEX. Such characteristics make it very attractive to acquire stock index exposure through long futures positions rather than through direct share purchases. Knowledge of this advantage has encouraged the development of synthetic index funds in other global futures markets. These synthetic funds consist only of cash holdings plus futures contracts.[1] Such funds are simple to administer, low in execution costs and offer the potential for superior investment returns. Establishing and maintaining such funds, however, depends on the ability of the institutional sponsor to execute economically attractive calendar transactions as spread orders.

Potential Usage By Market Participants

Hedgers as well as speculators would likely adopt calendar spread strategies should they be recognized by regulatory authorities. The difference between these two classes lies primarily in their capacity and willingness to own market risk. This risk capacity is reflected in the strategies preferred by participants in each of the two groups.

Bona Fide Hedging Strategies

Hedgers in the futures markets can be long- or short-hedgers. Short-hedgers typically own the asset underlying the futures contract in physical form and seek to offset price declines in their assets though short futures positions. Long-hedgers, on the other hand, seek to acquire the underlying asset in connection with their ongoing investment activity and so use the futures contracts as an anticipatory hedge in advance of acquiring an asset amount equal to the long futures purchased. Hedgers that either own the underlying asset or own its currency equivalent in cash are classified by regulators as so-called bona fide hedgers. Having such a designation entitles these hedgers to the benefit of lower initial margin requirements.

Each type of bona fide hedger has a periodic need to execute calendar spread orders. For long-hedgers, this need arises as a futures expiration date is approached, creating a need to replace an existing long position in the near-term contract with an equivalent size position in the next-term contract. For short-hedgers, a similar need exists only from an existing short futures position.

Long-Hedger Example: A CSI 300 index fund manager holds RMB 20 million in CSI 300 June 2010 futures together with RMB 20 million in cash. The combination is economically equivalent to owning RMB 20 million in a CSI 300 index fund of stocks. In the days just prior to the expiration of the June contract, the manager will need to close out the existing June contracts and re-establish a new position in the July 2010 contract on a one-for-one basis. To accomplish this, the manager should enter a calendar spread order for the closing sale of the June contracts and the opening purchase of July contracts at a specified price difference, or spread. The manager would seek to execute the spread at a level at or below the spread fair value.

Short-Hedger Example: A QFII manager has a RMB 50 million portfolio of stocks having a broad exposure

Figure 6

Calendar Spread Market Participants

Calendar Spread Participants	Motivation	Transaction Horizon	Typical User
Long-Hedgers	Acquire a price now as protection against a price rise	Longer term	Synthetic index fund managers, QFIIs, QDIIs
Short-Hedgers	Acquire a price now as protection against a price decline	Longer term	QFIIs, QDIIs, money managers
Speculators	Acquire a price spread in anticipation of a favorable change	Short term	Individuals, traders, hedge funds

to China A shares. In late July 2010, the manager fears a market decline in the next six months and sells RMB 50 million of CSI 300 August futures. As the expiration date of these contracts is approached, the manager must switch the hedge into September 2010 contracts. This would be done by entering orders to execute calendar spreads, buying to close the August 2010 futures and selling to open the September 2010 futures at a specified price difference. The manager would seek to execute the spread at a level at or above the spread fair value.

Whether a bona fide hedger is long or short futures, there is a need to execute spread orders at economical levels that do not degrade returns. As long as calendar spread orders remain unrecognized in CSI 300 futures, the substitution of a new contract for one expiring will remain inefficient and risky.

During trading days in an expiration month, large trading volumes and changes in open interest appear as investors establish positions in the contract for the next month (Figure 5). These significant changes often distort futures closing and settlement prices so that actual market-level executions for calendar spreads become difficult to discern. To avoid such data aberrations, futures prices used to compute realistic calendar spreads were typically limited in this research to dates prior to the first day of the expiration month. Such a caution is consistent with the approach to data analysis taken by other authors.[2]

Speculator Strategies

Speculators, the second class of participants in calendar spreads, are often defined by regulators as any party that is not a bona fide hedger. Such parties have no commercial reason for acquiring or disposing of the asset underlying the futures contract. Instead, this class of investors seeks to make a short-term profit by simultaneously taking a long and short position in the futures in anticipation of a movement in the pricing difference between the two contracts. In this case, the risk of price spread differences is assumed knowingly. Examples of speculators include individuals, professional traders and hedge funds, each taking futures positions that will profit directly from a rise or decline in the spread. It is typically the case that speculators and hedgers act on opposite sides of transactions as risk is assumed by one party and shed by the other. Successful futures markets depend on both types of market participants.

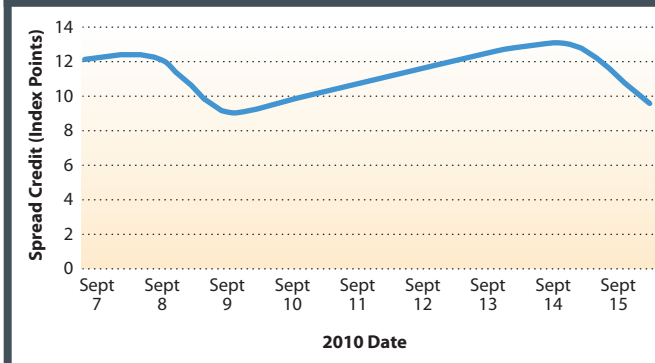
As an example of how speculators use calendar spreads, consider the following. A speculator observing a price difference between the near- and next-term contracts can profit by taking simultaneous long and short opening positions and waiting for a favorable change in the spread. To acquire the position, the speculator might instruct a futures broker to sell a near-term contract and buy a next-term contract at a specified spread. Such calendar spreads are not typically held by speculators for a long period of time. Assuming the spread is under its fair value and that the spread shortly widens, the speculator can then reverse out of the spread, closing both contracts and realizing a profit.

As a second example, consider the use of a reverse calendar spread (Figure 7). A trader sells a new September-October reverse calendar spread on Sept. 7, 2010 and unwinds it on Sept. 15, 2010, prior to the September expiration. The trader would first execute an opening purchase of the September contract and an opening sale of the October contract. Based upon closing prices for CSI 300 futures contracts, the net credit for this position based upon Sept. 7, 2010 closing prices would have been 12.20 index points. On Sept. 15, 2010, the calendar spread would be offset by executing a closing sale of the September contract and a closing purchase of the October contract. Using market data for this transaction on Sept. 15, 2010 (Figure 7), the spread would be unwound at a debit of 9.60 for a net profit of 2.60 index points (RMB 780), before commissions. The annualized return would have been 4.5 percent. Only the initial margin would have been posted with the exchange prior to placing the order.

As a third example, consider the calendar spread as a transaction on a forward interest rate. Because three-month calendar spreads contain an implied three-month forward interest rate, it is possible in some futures markets to trade calendar spreads against forward rate agreements or futures contracts containing forward rates. In the U.S. market, for example, the calendar-spread-implied forward rate can be calculated from a market-observed spread and compared with the three-month forward rate embedded in a euro-

Figure 7

Reverse Calendar Spread Credit
Oct-Sept 2010 Contracts



Sell a Reverse Calendar Spread on Sept. 7, 2010

Order	Contract	Closing Price
Sell to Open	Oct-10	3008.80
Buy to Open	Sept-10	-2996.60
Credit on	7-Sept-10	12.20

Unwind Reverse Calendar Spread on Sept. 15, 2010

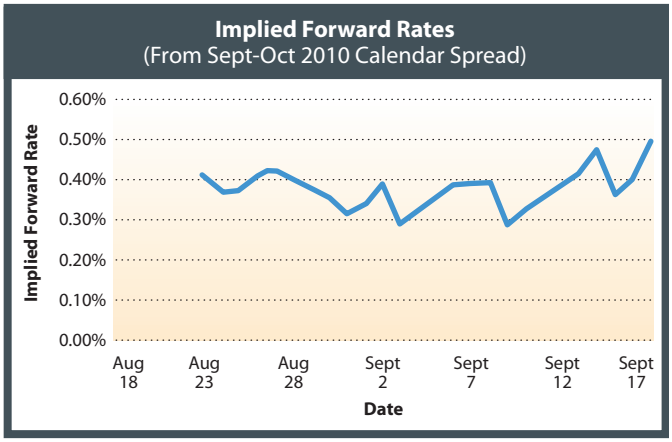
Order	Contract	Closing Price
Buy to Close	Oct-10	-2929.60
Sell to Close	Sept-10	2920.00
Debit on	15-Sept-10	-9.60

Net Results for Reverse Calendar Spread

Spread Profit (Index Points)	2.6
Spread Profit (RMB)	780
Annualized Return	4.5%

Source: Authors' calculations from CFFEX data

Figure 8



Source: Authors' calculations from CFFEX data

dollar contract. If the difference in these rates is high and thought to narrow, the calendar spread could be sold and eurodollar futures sold to hedge. A narrowing of the interest rate differential produces a profit when the hedge is offset.

The presence of a forward rate in a calendar spread can be seen as follows:

Fair Value Calendar Spread =

$$I_o [(d_1 \times t_1 - d_2 \times t_2) + (r_2 \times t_2 - r_1 \times t_1)] \quad (6)$$

which can be rewritten as:

FV Calendar Spread =

$$I_o [(d_1 \times t_1 - d_2 \times t_2) + r_f \times (1 + r_1 \times t_1)] \quad (7)$$

where r_f = forward rate for a period $(t_2 - t_1)$ in length

The implied forward rate for the September-October 2010 CSI 300 calendar spread is computed and displayed in Figure 8.

Final Comments

Calendar transactions in China's new CSI 300 futures are not presently executed as a single order based upon a pricing spread. This is not the case in most global futures markets where spread orders are officially recognized and essential to the economical implementation of retail as well as institutional investment strategies. Allowing spread transactions in futures markets has proved a critical practice by futures exchanges seeking to provide needed liquidity and price stability. Both to attract and retain professional global market participants and to facilitate retail investment strategies, history suggests China's regulators and the China Financial Futures Exchange will soon want to support the proper recognition of calendar spread orders together with their associated suitable margin requirements.

Endnotes

[1] Slivka, R. and X. Li. "Hedging And Synthetic Funds Creation In The China Market," *Journal of Indexes*, September/October 2010, pp. 50-55.
[2] Frino, A. and M.D. McKenzie, "The pricing of stock index futures spreads at contract expiration," *Journal of Futures Markets*, 2002, 22 (5), pp. 451-69.

Fleites continued from page 16

mixes evaluated earlier? Would they have improved on the real returns generated? Would they have improved on the experience of the last 10 years?

Introduction of the more diverse equity approaches had a material positive impact on the balanced portfolios studied earlier. Figure 13 illustrates the 10-year improvements in real returns ranged from 0.5 percent per annum for the 20/80 balanced fund to 2.0 percent for the 80/20 portfolio. For a 100 percent equity portfolio, the improvement was 2.5 percent per annum. Again, while balanced returns still lagged long-term averages (it is impossible to fully mitigate the dramatic declines for the decade), annualized real returns of 2.1 percent to 3.5 percent over 10 years for the above balanced allocations compound over time to generate real wealth to help defray projected liabilities.

Conclusions

The fundamentals of core investing were severely tested over the last decade. Investors lost sight of the linkage between growth in assets and projected liabilities in developing return objectives; they were lured by the promise of unsustainable equity returns to increase risk exposures in their portfolios; and in many cases, were misled to believe that traditional indexes and active funds provided prudent levels of diversification. While the dramatic declines adversely impacted most investors, this paper illustrates how a core investment approach could have mitigated much of the pain inflicted. Disciplined adherence to the key tenets of a core investment approach—setting realistic expectations, establishing sustainable asset allocations, and prudent diversification—will continue to provide investors a tried and true approach to achieve their long-term objectives.

Endnotes

[1] Brinson, Hood, and Beebower, "Determinants of Portfolio Performance," *Financial Analysts Journal*, July/August 1986, pp 39-44
[2] Ibbotson and Kaplan, "Does Asset Allocation Policy Explain 40, 90, or 100 Percent of Performance?" *Financial Analysts Journal*, January/February 2000, pp 26-33
[3] Investment Company Institute
[4] Ibid.

We might *look* the same as the others, but...

Our customers know that we stand above the crowd.

WallachBeth. The Gold Standard for ETF Best Execution.

WallachBeth
Capital LLC

Sourcing Liquidity...At The *Right* Price™

www.WallachBeth.com

Members FINRA • SIPC • CBSX • ISE • ARCA

Roundtable continued from page 40

sentative passive exposure is hedge funds. And even when an asset class does provide a way to get passive exposure, there are likely times when an active approach may still be more appropriate. For example, an investor who's interested in being more selective within a particular market segment may be better off using an active approach to get the desired exposure. In an ideal world, an investor with a very-long-term time horizon that can tolerate the market fluctuations would likely be better off with a passive approach. Unfortunately, most investors don't live in the ideal world, so a blended approach may be better to keep investors on track with their long-term objectives.

Ian Ayres, William K. Townsend Professor of Law, Yale Law School

JOI: Is buy-and-hold dead?

Ayres: No, not for the many retail investors. Buy-and-hold strategies that don't try to time the market still have great power, but it's not an equilibrium strategy for all investments. There have to be—and the market will naturally supply—informed traders who investigate and make a more nuanced trade. But to say that you're not timing the market doesn't mean that you shouldn't time yourself and pay attention to where you are in your own life's arc.

JOI: Are investors allocating too much to alternatives?

Ayres: No, as a general matter. Theory suggests that to diversify risks across assets requires people to hold a variety of different kinds of risk. It's especially true that you should hold some real estate, and you should hold some foreign equity risk. Those are the two things that probably people are light on.

JOI: Are commodities part of a core investment philosophy? What about international fixed-income and hedge funds? Are these the types of things that should be in every portfolio?

Ayres: International fixed income probably should be in your portfolio. It helps you diversify into a different kind of risk that you might not be exposed to otherwise. But I'm more agnostic as to whether commodities are a diversifying asset. Do they play a nonspeculative role? I think the jury is still out. As for hedge funds, I'm even more skeptical or agnostic. Hedge funds mean so many different things; many of them are actively managed in ways that are not respectable from a diversification standpoint. There may be some hedge funds that have a particular approach that gives you access to a positive outcome or a different way to diversify risk, but I think the world is coming to be more and more skeptical of the need to hold hedge funds in your portfolio.

JOI: How long is long term?

Ayres: Long term is as long as you are going to live and/or as long as people you care about are going to live. If you are in a position where you're likely to just use your own assets for your own retirement, then the long term is concerned with when you are going to use those assets. But if you are in a position where you're likely to leave a bequest to your children, the long-term concerns when they are likely to start consuming those assets.

[My "Lifecycle Investing" co-author] Barry Nalebuff and I have argued that in addition to diversifying the risk across assets, it's very powerful to diversify risk across time. For people who are making the bequests, they should consider giving the gift of diversification by exposing some of that bequest to stock market risk to help the next generation.

JOI: Should investors ever allow short-term performance to affect their investment decisions?

Ayres: Yes. If they need to consume their portfolio in the short term, they should be thinking about the short-term risk of that portfolio in order to match the portfolio to their consumption profile.

Another possible meaning of the question is, are there credible ways to change your portfolio based on performance? I think that the answer there is probably yes, but what I would favor doing first and foremost is looking at the VIX, the volatility index. When that measure of performance [indicates we are going] into scarier times, it is reasonable to not dump all your stock, but to reduce your exposure to the stock market.

JOI: Is active investing using passive products any better than stock picking?

Ayres: Yes, because it's probably going to give you more asset diversification. If you're choosing bundles of stocks where you're actively choosing to shift the proportion of your portfolio that's in an emerging markets passive index versus the Russell 2000 passive index, that's almost certainly going to be doing better than stock picking. Those passive indexes are going to have so many stocks in them individually, that you're going to do a better job on the diversification front.

JOI: Is passive investing appropriate with every asset class?

Ayres: There certainly is a place for passive investing for many retail investors. I am largely a passive investor. I come in once or twice a year, and I rebalance my portfolio, paying attention more to where I am in my life and how I'm doing financially than to my beliefs about the market.

I do think that there is a role for some active investing based on the VIX and PE ratios, but I'm fairly skeptical about doing it on an individual stock basis.

Global Fixed Income continued from page 25

portfolio, respectively; $\theta^2_{d,f,c}$ represents their respective variances; and $cov_{df,dc,fc}$ represents the respective covariances among the returns on the domestic bonds, international bonds and the currency basket.

[6] For the purposes of this and other analyses in this paper, we define the returns of each asset class as follows: U.S. stocks are represented by the Dow Jones Wilshire 5000 Index through 2005 and the MSCI US Broad Market Index thereafter. U.S. bonds are represented by the Barclays Capital U.S. Aggregate Bond Index. International stocks are represented by the MSCI World ex USA Index through 1987 and the MSCI All-Country World Index ex USA thereafter. International bonds are represented by the Citigroup World Government Bond Ex-US Index through 1989 and the Barclays Capital Global Aggregate ex-USD Bond Index thereafter.

[7] Actively managed global bond portfolios may partially hedge their exchange-rate exposure as part of a currency overlay strategy. This paper considers only passively managed international bond portfolios.

[8] Because investing in unhedged international bonds has a direct impact on the allocation to international equities, investors choosing to invest in international bonds should carefully consider the consequences to their entire portfolio. For more on the decision to invest in international equities, see Vanguard's research paper "Considerations for International Equity" (Philips, 2009).

[9] The return volatility of a global bond portfolio is a function of the volatility of the U.S. portion of the portfolio, the volatility of the local-currency international bond returns, the volatility of the international bonds' currency basket, and the covariances among those components. See endnote 5 for the equation outlining the relationship.

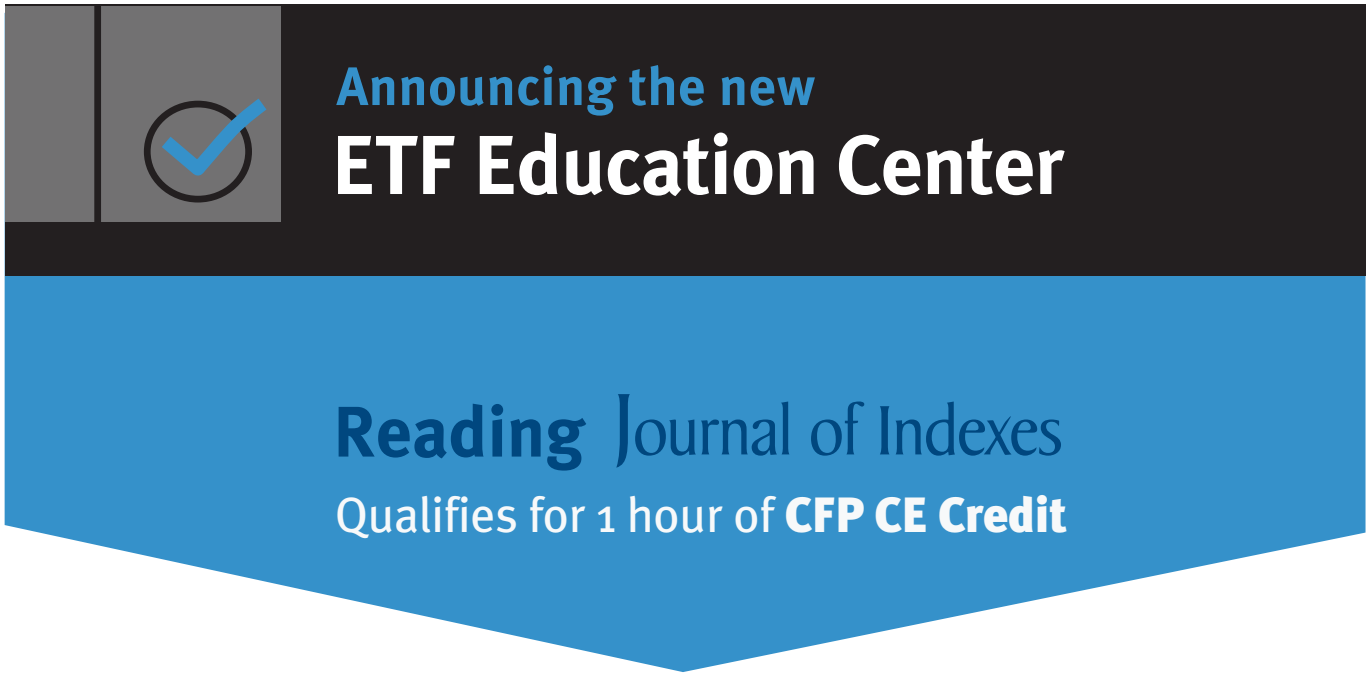
[10] Generally speaking, a U.S. pension following a liability-driven investment strategy would use long-duration U.S. bonds to minimize tracking error relative to its pension liability. International bonds are inappropriate for this investment objective unless the pension liability is computed using an international reference rate or contains a foreign currency component (or both). For additional discussion on investing using a liability-driven strategy, see Vanguard's research paper "Liability-Driven Investing: A Tool for Managing Pension Plan Funding Volatility" (Stockton, Donaldson, and Shtekhman, 2008).

[11] For more on Vanguard's outlook for the U.S. fixed-income market, see Vanguard's "Economic and Capital Markets Outlook" (Davis, Wallick, and Aliaga-Díaz, 2010).

[12] For more on the decision of whether to hedge currency in an international stock portfolio, see Vanguard's research paper "Currency Management: Considerations for the Equity Hedging Decision" (LaBarge, 2010).

[13] The international fixed-income market, and thus any index that tracks it, consists mainly of government-issued securities. The Barclays Capital Global Aggregate ex-USD Bond Index, for example, is about 20 percent corporate securities; by contrast, corporates make up more than half of the Barclays Capital U.S. Aggregate Bond Index. Many foreign corporations use other means (e.g., bank loans) for their financing needs.

[14] Since 1985, dollar returns have explained less than 6 percent of the variance in U.S. stocks and bonds (measured as the R-squared between security returns and those of the Federal Reserve's trade-weighted dollar index), while the movement of the dollar explained 80 percent of unhedged international bonds' returns, making them a much better hedge against adverse dollar scenarios. Over the same period, U.S. stocks and bonds returned 1.4 percent and 0.9 percent, respectively, on average, during months in which the dollar declined by more than 1 percent. Unhedged international bonds returned 3.5 percent during those same months. Note: R-squared refers to a measure of how much of a security's past returns can be explained by the returns from a given index.



News

Indexes Indicate US Housing Slump

U.S. home values slid about 4 percent in the last quarter of 2010 compared with the previous year, the worst performance since mid-2009, according to the December S&P/Case-Shiller Home Price Index.

The Case-Shiller report, released in late February, showed that home prices are hovering around their 2009 trough in most regions. In 11 of the 20 cities surveyed, prices have even forged new lows; a trend that has many analysts suggesting more downside is still to come.

The U.S. housing market was at the center of the credit crisis that triggered the worst economic downturn the U.S. has seen since the 1930s. The latest Case-Shiller data adds fodder to concerns that U.S. economic growth is still wavering and that the global economic recovery remains on shaky ground amid persistent unemployment and, more recently, rising oil prices.

Both the 10- and 20-City monthly composite indexes showed that home values dropped last year compared with 2009. What's more, the number of cities forging new lows since their 2006-2007 peaks has increased in each of the past three months. Year-over-year, only San Diego and Washington, D.C. saw any improvement, with 12-month gains of 1.7 and 4.1 percent, respectively; for the month of December, only Washington had a positive return, at 0.3 percent.

For both monthly composite indexes, December marked the seventh straight month that values moderated from their previous year's levels. They are now more than 30 percent below their mid-2006 highs, with average home prices across the country back to levels not seen since the beginning of 2003.

All in all, the 10- and 20-City composites are just 3.9 and 2.3 percent above their 2009 trough levels, compared with much higher readings last July of 7.9 percent and 6.9 percent, respectively.

RAFI, Russell Partner On Indexes

In late February, Research Affiliates and Russell Investments launched a series of 24 "alternative beta" fundamental indexes that use measures of company size, rather than market capitalization, to weight their components.

The new lineup of indexes marks Russell Investment's latest foray into alternative indexing; the firm has partnered with Indxis and Axioma to create other nontraditional index families.

Research Affiliates and Russell Indexes inked a deal last June to develop the new Russell Fundamental Index Series. It's the second major partnership for Research Affiliates, which created a pioneering alternatively weighted line of indexes with the London-based financial data and analytics firm, FTSE, in 2005.

The new Russell products use three weighting criteria: adjusted sales; retained operating cash flow; and dividend payouts plus share buybacks. By contrast, the FTSE RAFI family, which forms the basis for ETFs from Invesco PowerShares, uses four criteria: book value; cash flow; sales; and dividends.

Despite its growing lineup of alternative indexes, Russell still believes that traditional market-cap-weighted products should play a central role in ETF investing, stating in a press release that cap-weighted indexes are the "best-suited" for benchmarking and are suitable as the underlying indexes for investable products.

Alternative indexing is a small but growing corner of the ETF world. Since the first FTSE RAFI products began trading in 2005, the assets in nonmarket-cap-weighted funds have grown to $60 billion.

Stoxx Debuts Global Index Family

Stoxx announced in February that it was launching a new family of more than 1,200 indexes covering the global equity markets. The index provider has undertaken a significant expansion of its international business since ties with former part-owner, Dow Jones, were severed in late 2009.

The new Stoxx global index family covers global markets; the broad regions of the Americas, Europe, Asia and the Pacific; as well as the subregions of Latin America and BRIC (Brazil, Russia, India and China).

All Stoxx's broad regional indexes are broken down into a comprehensive set of supersector indexes that follow the industry classification benchmark. Blue chip indexes are also available for individual countries.

To complement the new global index family, Stoxx has launched several new strategy indexes. These cover regions as well as countries, and include risk-based indexes and several short and leveraged indexes.

The universe for the whole family of indexes is called the Stoxx global TMI and covers more than 95 percent of the world's free-float market capitalization. All indexes are float-adjusted and available in price, net and gross return versions in both euro and U.S. dollars.

The component weightings of all blue chip indexes are capped at 10 percent of each index's total free-float market capitalization.

PowerShares, SPDRs Declare Détente

In mid-February, Invesco PowerShares and Select Sector SPDRs settled their lawsuit involving ticker symbols on nine small-cap sector ETFs that bore resemblance to the tickers of the popular family of large-cap sector ETFs

marketed by State Street Global Advisors. Financial terms of the settlement, if any, weren't disclosed.

The Select Sector SPDRs track nine sector subindexes of the S&P 500. The PowerShares offering, launched in April 2010, divides the S&P 600 small-cap index into the same nine sectors. The tickers on the two sets of ETFs are identical, save for an "S" PowerShares added to the end of each of its funds' tickers. SPDR, the trademark holder of the SSgA tickers, sued PowerShares in July 2010, characterizing the similarity as a "deliberate and unconscionable act on the part of PowerShares to confuse both institutional and retail investors." SSgA, the sponsor of the SPDR funds, wasn't involved in the dispute.

PowerShares stated in a press release that its intention was merely to make it easier for investors to identify the small-cap tickers.

The suit was filed in the U.S. District Court in Houston against PowerShares Exchange-Traded Fund Trust II; Invesco PowerShares Capital Management, LLC; and Invesco Distributors, Inc., according to a press release last summer from Select Sector SPDRs. It invoked Section 43 of the Federal Trademark Act as well as the common law of the state of Texas.

The PowerShares SmallCap Sector ETFs began trading under the new tickers in March; all other attributes of the products remain unchanged. The sectors, their old tickers and their new tickers are as follows:

- Consumer Discretionary (Nasdaq GM: XLYS; PSCD)
- Consumer Staples (Nasdaq GM: XLPS; PSCC)
- Energy (Nasdaq GM: XLES; PSCE)
- Financials (Nasdaq GM: XLFS; PSCF)
- Health Care (Nasdaq GM: XLVS; PSCH)
- Industrials (Nasdaq GM: XLIS; PSCI)
- Information Technology (Nasdaq GM: XLKS; PSCT)
- Materials (Nasdaq GM: XLBS; PSCM)
- Utilities & Telecom Services (Nasdaq GM: XLUS; PSCU)

ETF Assets May Hit $2 Trillion By 2013

Assets in exchange-traded products are on track to increase 20 to 30 percent a year around the world over the next three years, and could hit $2 trillion in the U.S. by late 2013, according to BlackRock.

Globally, ETP assets could reach $2 trillion by early 2012, the New York-based money management firm said in a report released in early February. It said 3,503 products from 168 providers were trading on 50 exchanges around the world at the end of 2010. Assets totaled $1.482 trillion compared with $1.156 trillion in 2009.

Factors driving the expansion include the growing number and types of indexes covered; more active marketing of ETFs by online brokers; greater involvement by fee-based advisors; and the growing number of exchanges planning to launch new ETF trading segments, Deborah Fuhr, BlackRock's global head of research and implementation strategy, noted in the report. The report also cited regulatory changes in the U.S., Europe and emerging markets that allow funds to make larger allocations to ETFs.

Last year, total assets in U.S. ETPs topped the $1 trillion mark for the first time. While most of those assets are in ETFs, the total ETP tally includes other structures, such as trusts, partnerships, commodity pools and notes.

INDEXING DEVELOPMENTS

Russell Launches Stability Indexes

Russell Investments in early February rolled out a series of indexes that zooms in on "stability," which it characterizes as a third dimension of investment style that blends various fundamental factors with market volatility.

The methodology takes into account

variables such as leverage, return on assets and earnings at a company level, as well as short- and long-term stock market volatility, the Seattle-based company said in a press release. The cap-weighted benchmarks are created by splitting existing Russell indexes in half based on quality and volatility characteristics. What the company deems as the more "stable" half becomes the Defensive Index, with the less stable half called the Dynamic Index.

The securities in the dynamic mix not only tend to be more exposed to risk, they also tend to outperform their "defensive" counterparts in times of fast upward market action. Those in the defensive portfolio perform better in weak market environments, the company said.

At launch, the new lineup included the U.S. Large-Cap Russell 1000 Defensive and Russell 1000 Dynamic, the U.S. Small-Cap Russell 2000 Defensive and Russell 2000 Dynamic, and the U.S. Broad Market Russell 3000 Defensive and Russell 3000 Dynamic indexes.

HKSE Debuts Volatility Index

Hang Seng Indexes Co. Ltd. debuted the HSI Volatility Index, or VHSI, in February. The new index is actually based on the same methodology as the well-known CBOE Volatility Index, or VIX; HSI licensed the methodology from the U.S. options exchange and S&P, according to a press release.

Like the VIX, the VHSI seeks to measure the volatility of the underlying stock market based on the bid/ask quotes of the benchmark index's options; however, instead of using S&P 500 options as the VIX does, the VHSI uses options tied to the Hang Seng Index. The options trade on Hong Kong Exchanges and Clearing Ltd.

According to the press release, CBOE and S&P have partnered to license the VIX methodology and calculation to exchanges around the world, such as the NYSE Euronext and exchanges in Taiwan, India, Australia and Canada.

Rogers Brands New Resources Index

An announcement in February highlighted the recent collaboration among CITIC Carbon Assets Management, Banco Bilbao Vizcaya Argentaria and famed commodities investor James Rogers.

Rogers and CITIC worked together to create the Rogers Global Resources Equity Index family, which targets global natural resources companies. BBVA, meanwhile, has licensed the index for use underlying investable products.

The index series, according to the press release, covers traditional as well as "alternative" natural resources. Reuters reports that the main index has 200 components that fall into five main buckets: agriculture; forestry; energy; metals & mining; and alternative energy. The original press release notes that the family also includes an equal-weighted investable "core" subindex.

Components are chosen using quantitative and qualitative factors, with liquidity, business activities, business stability and consumption patterns all playing a role, the press release said.

MSCI, S&P Leave GICS Unchanged

The annual 2010 review of the Global Industry Classification Standard (GICS) developed and used by Standard & Poor's and MSCI did not result in any changes to the structure for 2011, according to an announcement issued in March.

The purpose of the annual review is to allow the classification structure to continue to evolve along with the global stock market in the interests of accurate representation. Each year, MSCI and S&P review the standard and then solicit comments from market participants. However, this year's process did not identify any necessary adjustments, the press release indicated.

Launched in 1999, GICS' four-tiered structure covers 10 sectors, 24 industry groups, 68 industries and 154 subindustries.

FTSE Teams Up For China A-Shares Index

FTSE and Value Partners Index Services Ltd. rolled out the FTSE Value-Stocks China A-Share Index in February.

The index targets value stocks from the China A-Shares stock market, selecting them based on P/E ratio, dividend yield, return on equity, operating profit margin, leverage and what the firms term "a unique contrarian factor." The final criterion is included in order to steer the index away from stocks given consensus "buy" ratings by analysts, which tend to underperform the market, according to FTSE's website.

The FTSE-Value Partners collaboration—which combines Value Partners' value investing methodology with FTSE's index methodology framework—had already produced three indexes covering China, Korea and Taiwan; the China A-Shares market is unique because it is closed to foreign investors unless they possess a qualified foreign institutional investor designation.

Citigroup Bond Index Targets MENA Region

The Citigroup Middle East and North Africa Broad Bond Index launched in early February, according to an index guide from Citigroup.

The new benchmark covers Algeria, Bahrain, Djibouti, Egypt, Ethiopia, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestinian Territory, Qatar, Saudi Arabia, Tunisia, United Arab Emirates and Yemen. At launch, the largest country weightings were in Qatar, at 31.09 percent; the UAE, at 30.93 percent; and Lebanon, at 16.23 percent.

The index's components include investment-grade and high-yield bonds that are denominated in U.S. dollars and issued by corporations or governments. Components must have a minimum outstanding value of $250 million and be rated at least a C by S&P or Moody's.

The index covered 107 individual issues at launch.

S&P Debuts 'Dynamic Roll' Sector Indexes

In mid-February, S&P debuted the S&P GSCI Dynamic Roll Sector indexes. The new subindexes include the energy, agriculture, industrial metals, precious metals and livestock sectors.

S&P's Dynamic Roll methodology allows the indexes to roll into the optimal futures contract rather than just rolling into the front-month contract, as is the case with traditional commodities futures indexes, including the S&P GSCI. In times of backwardation, the indexes will roll into the front-month contracts, but roll into later-dated contracts when their respective sectors are in contango.

Contango is a regularly occurring phenomenon in the commodities market, but it's becoming more common to see indexes that are designed to combat its effects via rules-based methodologies.

New DJ Index Targets EM Infrastructure

Dow Jones and Brookfield Asset Management kicked off March with the rollout of the Dow Jones Brookfield Emerging Markets Infrastructure Index. Component companies are domiciled in emerging markets and own infrastructure assets, a press release said.

The two firms have collaborated to create a full lineup of global infrastructure indexes. The press release describes "infrastructure assets" as those connected with "airports, toll roads and rail; ports; communications; electricity transmission and distribution; oil and gas storage; transportation; and water." Component companies in the emerging markets index must generate at least 50 percent of their estimated cash flows from those assets in order to be eligible for inclusion, in addition to meeting size and liquidity requirements.

The index has a modified float-adjusted market-capitalization weighting scheme that resets the weights of any outsized components back to 10 percent quarterly, the press release said. At launch, it had 71 components.

S&P Launches Multi-Asset Risk-Reward Indexes

February saw the launch of the S&P Balanced Equity and Bond indexes, which track both equity and fixed income, with those two asset classes weighted to reflect certain risk-reward targets.

The index family currently includes three benchmarks—designated conservative, moderate and growth—that allocate different weights to the S&P 500 Index and the S&P/BGCantor 7-10 Year U.S. Treasury Bond Index. The conservative index targets a 25 percent equities/75 percent Treasurys mix, while the moderate index allocates evenly between the two asset classes and the growth index targets a 75 percent equities/25 percent Treasurys allocation.

The indexes are rebalanced every quarter, with the weightings reset to their original positions at that time.

BarCap Debuts EM Currency Indexes

In late February, Barclays Capital trotted out two brand-new currency indexes targeted at the institutional investor market.

The Barclays Capital Dynamic Long/Neutral Global Emerging Markets Index and the Barclays Capital Dynamic Long/Short Global Emerging Markets Index (Dynamic GEMS) are designed to address the tendency of emerging markets currencies to experience sharp declines during high-risk market events, according to a press release.

Depending on the levels of risk exhibited by emerging market currencies as measured by the Barclays Capital EM FX Risk Index, the two indexes will adjust their positions in one-month cash-settled FX forward contracts. The long/short index takes all long or all short positions in the currencies with respect to the U.S. dollar, while the long/neutral index takes all long or all neutral positions, the company's website said.

The indexes cover the currencies of Argentina, Brazil, Chile, Colombia, Hungary, India, Indonesia, Mexico, the Philippines, Poland, Russia, South Africa, South Korea, Thailand and Turkey.

Structured Solutions Unveils More Indexes

February saw the launch of a bevy of new indexes from European index provider Structured Solutions AG.

The most interesting is perhaps the Solactive E7 Index, which covers the largest stocks in what some have termed the "Emerging 7"—a twist on the G7 concept, the press release noted. The countries included in this list are the four BRIC countries and Indonesia, Turkey and Mexico, and

the index includes 28 stocks, comprising the four largest companies from each country. The new benchmark underlies an index certificate issued by Deutsche Bank.

The Solactive Copper Mining Index is a 10-component, equal-weighted global index targeting leading copper mining companies; it underlies a certificate issued by Bank Vontobel. Meanwhile, the Solactive Gold and Silver Developer Index has 15 components and focuses on junior miners; Société Générale has issued a certificate tracking the index.

Two other narrow-based indexes cover Internet-based social networking companies and the German automobile sector; they underlie certificates issued by SocGen and Deutsche Bank, respectively.

AROUND THE WORLD OF ETFs

Vanguard Cuts Fees On 6 ETFs

Vanguard Group announced in late February that it had cut the price of the Vanguard MSCI Emerging Markets ETF (NYSE Arca: VWO) by 18 percent. It also slashed expense ratios on five other ETFs, saying the cuts reflect greater efficiencies in the way it runs the funds.

VWO now costs 0.22 percent—compared with 0.27 percent previously—making it the cheapest broad-market emerging markets ETF.

The other Vanguard ETFs that saw their expense ratios lowered include:

- Vanguard MSCI Pacific ETF (NYSE Arca: VPL) to 0.14 percent from 0.16 percent
- Vanguard MSCI European ETF (NYSE Arca: VGK) to 0.14 percent from 0.16 percent
- Vanguard Total World Stock ETF (NYSE Arca: VT) to 0.25 percent from 0.30 percent
- Vanguard FTSE All-World ex-U.S. ETF (NYSE Arca: VEU) to 0.22 percent from 0.25 percent
- Vanguard FTSE All-World ex-U.S. Small Cap ETF (NYSE Arca: VSS) to 0.33 percent from 0.40 percent

First Trust Debuts Smart Phone ETF

First Trust rolled out in mid-February its so-called smart phone ETF that's focused on technology companies specializing in devices like iPhones or BlackBerrys.

The First Trust Nasdaq CEA Smartphone Index Fund (Nasdaq GM: FONE) tracks the Nasdaq OMX CEA Smartphone Index, a benchmark focused on information technology and telecommunications. FONE comes with a 0.70 percent annual expense ratio.

The benchmark includes companies involved in everything from hardware manufacturing to operating systems, to software and service names associated with the development, sales and use of smart phones. The index is a modified equal-dollar-weighted index comprising some 80 securities, according to its recent filing with the Securities and Exchange Commission. About 45 percent of the portfolio is allocated to "handset" companies that manufacture the equipment; 45 percent to "software applications/hardware components" and the final 10 percent to wireless network "providers," the filing said.

ProShares Launches 'UltraShort' TIPS ETF

ProShares recently rolled out the ProShares UltraShort TIPS ETF (NYSE Arca: TPS), describing it as the first geared ETF focused on the Treasury inflation-protected securities market. The new product provides investors double the inverse of the daily returns on an index of TIPs.

The launch comes at a time when investors are again worried that the U.S. Treasurys market will move downward amid renewed signs of U.S. economic recovery. The aftermath of the market crash of 2008-2009 has been characterized by fits and starts of recovery, and many investors generally consider TIPs to be better tools ahead of, instead of during, a spike in inflationary pressures.

The new short TIPs fund has an expense ratio of 0.95 percent, according to information on the company's website. The ETF is tied to the Barclays Capital U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L).

DB Suspends DAG Creations

As of Feb. 15, Deutsche Bank suspended "further issuance" of the PowerShares DB Agriculture Double Long Exchange Traded Note (NYSE Arca: DAG), but noted that redemptions of the notes won't be affected by its decision.

Deutsche Bank didn't provide a reason for its decision in a press release, and an official at the bank in New York declined to comment beyond that statement. However, industry sources believe exposure the ETN held to corn, wheat, soybeans and sugar futures approached limits that might attract the attention of regulators at the Commodity Futures Trading Commission. Halting creations was a way for Deutsche Bank to avoid any regulatory problems.

The move may cause the leveraged ETN and its $148.8 million in assets as of Feb. 14 to trade like a closed-end fund, as it will now have a finite number of outstanding shares.

Global X Unveils ASEAN ETF

In mid-February, Global X launched the first-ever U.S.-listed ASEAN ETF, which provides exposure to the rapidly growing economies of Southeast Asia.

In 1967, Indonesia, Malaysia, the Philippines, Singapore and Thailand formed the Association of Southeast Asian Nations, or ASEAN, to foster economic and cultural cooperation among Southeast Asian countries. Today the organization also includes Brunei, Cambodia, Laos, Myanmar and Vietnam.

Just prior to launch, the Global X FTSE ASEAN 40 ETF (NYSE Arca: ASEA) was most heavily weighted toward Singapore (41.19 percent), followed by Malaysia (32.82 percent), Indonesia (14.77 percent), Thailand (10.58 percent) and the Philippines (0.61 percent).

Financials is ASEA's largest sector, with 43.55 percent of assets under management; followed by telecommunications, with 15.62 percent; and industrials, at 14.97 percent.

High-Yield BulletShares Debut

In late January, Guggenheim Funds rolled out four target-maturity fixed-income ETFs focused on the high-yield corporate bond markets, adding to its preexisting lineup of investment-grade corporate bond target-date bond ETFs.

The new funds have maturity dates ranging from the end of 2012 and extending through to the end of 2016. Each will close upon maturity at the end of each respective year, with investors receiving the net asset value of all the bonds in the portfolio. That effectively offers investors something similar, though not identical, to holding an individual bond to maturity. The four ETFs have annual expense ratios of 0.42 percent and include:

- The Guggenheim BulletShares 2012 High Yield Corporate Bond ETF (NYSE Arca: BSJC)
- The Guggenheim BulletShares 2013 High Yield Corporate Bond ETF (NYSE Arca: BSJD)
- The Guggenheim BulletShares 2014 High Yield Corporate Bond ETF (NYSE Arca: BSJE)
- The Guggenheim BulletShares 2015 High Yield Corporate Bond ETF (NYSE Arca: BSJF)

Van Eck Suspends EGPT Creations Temporarily

Van Eck Global, the exchange-traded fund sponsor behind the Market Vectors Egypt Index ETF (NYSE Arca: EGPT), halted creations in the fund as of Jan. 31 due to the political upheaval in Egypt that shut down Egypt's stock exchange a few days before. The fund had lost more than 18 percent of its value during the month, but bounced almost 9 percent higher the day the creations were suspended.

Van Eck said in a press release that it is the firm's policy to halt creations when a fund's underlying market is closed for an unusually long time; it added that the suspension will continue for an "undetermined" period.

The firm resumed creations of EGPT on March 23, with the reopening of the Egyptian stock exchange.

New PowerShares ETF Tracks Senior Loans

Invesco PowerShares kicked off March with the launch of the market's first senior loan ETF to hold below-investment-grade, floating-rate loans.

The PowerShares Senior Loan Portfolio (NYSE Arca: BKLN), which comes with a price tag of 0.83 percent that includes acquired fund fees, is a floating-rate income portfolio that invests primarily in senior loans, defined for the purposes of the fund as leveraged, bank or floating-rate loans.

BKLN tracks through representative sampling the S&P/LSTA U.S. Leveraged Loan 100 Index. The benchmark measures the market-weighted performance of the largest institutional leveraged loans based on market weightings, spreads and interest payments. The rules-based index, which has 100 loans, is a subset of a larger benchmark, the S&P/LSTA Leveraged Loan Index.

BKLN may also allocate part of the portfolio to closed-end funds that invest in senior loans and in junk bonds. While the portfolio is global in scope, all loans must be dollar-denominated.

Vanguard Rolls Out Lowest-Cost Int'l ETF

In late January, Vanguard launched the market's least expensive international, non-U.S. equity ETF. The fund is almost identical to another ETF the firm already offers.

The launch of the Vanguard Total International Stock ETF (NYSE Arca: VXUS) also brings Vanguard into direct competition with iShares, which offers an identical product to VXUS that uses

Van Eck Global halted creations in the Market Vectors Egypt Index due to political upheaval.

the same index, the MSCI All Country World Index ex USA.

Vanguard's VXUS has an annual expense ratio of 0.20 percent, less than both the 0.35 percent BlackRock charges on its iShares MSCI ACWI ex US Index Fund (Nasdaq GM: ACWX) and the 0.25 percent cost of the Vanguard FTSE All World ex-U.S. ETF (NYSE Arca: VEU).

The new ETF is designed to be a separate share class of Vanguard's Total International Stock Index Fund, the company's second-largest international index fund, with $51.4 billion in net assets.

KNOW YOUR OPTIONS

CBOE To Launch SPX Options On C2

The CBOE has announced its intention to list S&P 500 Index options on C2, its alternative exchange. The listing of the options contract, SPXpm, requires SEC approval before it can go forward, a CBOE press release said.

The contracts will be traded electronically with "p.m." settlement, according to the release, meaning that unlike the standard SPX options, the settlement value of the contract will be determined by the closing prices of the underlying index's components. The original SPX options are "a.m." settlement, which is based on the opening values of the index components. Otherwise, the proposed options are exactly the same as the existing SPX contract, the CBOE statement said.

The CBOE's C2 exchange opened for business in October of last year; although a wholly owned subsidiary, it has its own exchange license.

CBOE Sees Volumes Rise

CBOE Holdings reported a total of 95.1 million contracts traded on its options exchanges—the CBOE and C2 exchanges—in February, averaging 5 million contracts on a daily basis. That's a 14 percent increase from February 2010's volume.

Equity options saw the biggest increase, at 25 percent year-over-year; they represent well over half of the exchange's total volume. However, ETF options also saw sizable volume growth, up 11 percent. Only index options saw a decline in volume, falling 1 percent.

Among the ETF and index options listed on the exchange, the most actively traded contracts during February were those on the S&P 500 Index, SPDR S&P 500 ETF (NYSE Arca: SPY); the VIX, the iShares Trust Russell 2000 Index Fund (NYSE Arca: IWM); and PowerShares QQQ Trust (Nasdaq GM: QQQ).

BACK TO THE FUTURES

ICE Expands Licensing Deal With Russell

In mid-March, Intercontinental Exchange (ICE) said it had lengthened its exclusive licensing of Russell's suite of U.S. indexes by a period of three years, until June 2017. At the same time, the exchange widened the scope of the contract—which gives it the right to launch futures and options based on the indexes—to include Russell's global indexes as well, according to a press release.

Currently, the exchange lists a variety of futures and options on futures contracts tied to the Russell 1000 and Russell 2000 indexes and their growth and value subindexes.

The press release noted that Russell and ICE signed the original licensing agreement in July 2007, although the exclusivity clause did not become effective until September 2008.

CME Sees February Volumes Rise

CME Group saw its average daily volume rise month-over-month and year-over-year in February 2011, by 17 and 19 percent, respectively. The group's average daily volume for the month was 14.7 million.

Perhaps most interesting is the fact that equity indexes were the worst-performing area. While every other product group was flat year-over-year or saw volumes increase, the equity index products trading on CME Group exchanges saw their average daily volume fall 14 percent.

FROM THE EXCHANGES

BATS, Chi-X Europe Talk Merger

BATS Global Markets, a Kansas City, Mo.-based global financial markets technology company, is in talks with Chi-X Europe to acquire the European exchange in an exclusive negotiation that was first announced in December.

BATS operates two U.S. stock exchanges—the BZX Exchange and the BYX Exchange—as well as equity options market BATS Options and Europe-based BATS Europe. In January, the BZX and BYX traded a combined $534 billion, representing more than 10 percent of the total U.S. equities market, according to company data.

Chi-X Europe is Europe's second-largest equities exchange by value traded, with more than 1,300 securities across 15 European markets. It is also a trading platform for ETFs, exchange-traded commodities and international depositary receipts. In 2010, more than 1.58 trillion euros' worth of securities were traded there, according to data on the company's website. The exchange, launched in 2007, was designed to allow investors to trade equities across most European markets at much lower costs than many of the markets of listing, the company said.

ON THE MOVE

Winkelmann Joins MSCI

MSCI announced in early March that it had named Kurt Winkelmann managing director and head of risk and analytical research.

Previously, he served as a managing director in Goldman Sachs' asset management group and the head of its global investment strategies team.

At MSCI, Winkelmann is in charge of formulating the company's research agenda and directing the operations of its research team, in addition to maintaining relationships with clients in order to better gauge their needs, a press release said.

Winkelmann earned a Ph.D. and an M.A. in economics from the University of Minnesota.

Selected Major Indexes *Sorted By YTD Returns*

May/June 2011

	Total Return %								Annualized Return %					
Index Name	**YTD**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**3-Yr**	**5-Yr**	**10-Yr**	**15-Yr**	**Sharpe**	**Std Dev**
Oil Price Brent Crude*	**18.51**	20.86	79.30	-53.86	58.26	3.78	42.37	34.89	3.78	12.82	16.15	12.65	0.29	39.31
MSCI Greece	**16.23**	-44.87	25.05	-66.01	32.91	35.05	16.10	46.06	-30.78	-16.00	-2.05	-	-0.50	49.23
MSCI Italy	**14.24**	-15.01	26.57	-49.98	6.06	32.49	1.90	32.49	-11.96	-4.04	1.79	6.06	-0.20	35.23
MSCI EAFE Value	**8.06**	3.25	34.23	-44.09	5.96	30.38	13.80	24.33	-2.68	1.60	5.53	6.35	0.03	28.09
S&P 500/Citi Pure Value	**7.69**	23.06	55.21	-47.87	-3.69	20.04	13.43	26.13	5.43	3.66	8.38	10.25	0.31	37.88
STOXX Europe 600	**7.22**	4.36	36.65	-46.54	13.49	35.04	9.93	20.95	-3.52	3.19	5.22	7.83	0.00	28.62
S&P GSCI	**6.91**	9.03	13.48	-46.49	32.67	-15.09	25.55	17.28	-13.98	-3.19	3.16	4.42	-0.33	31.30
S&P MidCap 400	**6.75**	26.64	37.38	-36.23	7.98	10.32	12.56	16.48	8.74	6.08	8.26	11.54	0.44	25.91
Alerian MLP	**6.64**	35.85	76.41	-36.91	12.72	26.07	6.32	16.67	17.70	16.97	17.63	16.92	0.79	23.67
S&P 500 Equal Weighted	**6.40**	21.91	46.31	-39.72	1.53	15.80	8.06	16.95	7.39	5.21	6.96	9.62	0.38	26.87
S&P MidCap 400/Citi Pure Value	**6.24**	23.19	59.18	-42.58	-3.20	19.31	9.37	20.85	8.20	5.48	10.66	11.29	0.38	38.34
S&P MidCap 400/Citi Pure Growth	**6.20**	35.16	60.34	-35.17	10.30	4.98	12.06	21.44	17.43	10.55	9.94	14.08	0.70	27.60
NASDAQ 100	**6.13**	20.14	54.61	-41.57	19.24	-	-	-	11.19	-	-	-	0.53	24.98
DJ Industrial Average	**6.11**	14.06	22.68	-31.93	8.88	19.05	1.72	5.31	2.85	4.93	4.02	7.81	0.22	20.00
Russell 1000 Value	**6.03**	15.51	19.69	-36.85	-0.17	22.25	7.05	16.49	0.22	1.57	4.12	7.77	0.11	23.39
Russell Mid Cap	**6.01**	25.48	40.48	-41.46	5.60	15.26	12.65	20.22	6.19	4.86	7.67	9.92	0.34	26.54
Russell 1000	**5.97**	16.10	28.43	-37.60	5.77	15.46	6.27	11.40	2.66	3.17	3.09	7.10	0.21	22.35
Russell 3000 Value	**5.96**	16.23	19.76	-36.25	-1.01	22.34	6.85	16.94	0.73	1.67	4.45	7.90	0.13	23.70
Russell 3000	**5.90**	16.93	28.34	-37.31	5.14	15.72	6.12	11.95	3.06	3.21	3.39	7.10	0.23	22.67
S&P 1500	**5.90**	16.38	27.25	-36.72	5.47	15.34	5.66	11.78	2.90	3.17	3.25	7.26	0.22	22.29
Russell 1000 Growth	**5.90**	16.71	37.21	-38.44	11.81	9.07	5.26	6.30	4.93	4.62	1.80	5.77	0.31	21.96
S&P 500/Citi Pure Growth	**5.88**	27.65	50.85	-38.99	6.64	7.43	7.31	16.26	10.55	6.96	4.35	10.14	0.50	25.32
S&P 500	**5.88**	15.06	26.46	-37.00	5.49	15.79	4.91	10.88	2.19	2.87	2.62	6.87	0.19	21.89
Russell 3000 Growth	**5.85**	17.64	37.01	-38.44	11.40	9.46	5.17	6.93	5.22	4.60	2.05	5.66	0.32	22.29
S&P Global 1200	**5.79**	11.95	31.69	-40.11	10.23	21.46	10.17	14.90	0.46	3.65	4.40	7.29	0.12	24.16
Wilshire 4500 Completion	**5.77**	28.43	36.99	-39.03	5.39	15.28	10.03	18.10	7.31	5.49	7.56	8.42	0.38	26.10
MSCI EAFE	**5.73**	7.75	31.78	-43.38	11.17	26.34	13.54	20.25	-2.62	2.43	4.90	5.04	0.01	26.17
S&P 100	**5.72**	12.51	22.29	-35.31	6.12	18.47	1.17	6.43	1.53	2.95	1.38	6.48	0.15	20.81
Russell 2000 Growth	**5.29**	29.09	34.47	-38.54	7.05	13.35	4.15	14.31	8.61	4.56	5.04	5.00	0.42	27.54
Russell 2000	**5.21**	26.85	27.17	-33.79	-1.57	18.37	4.55	18.33	7.79	3.80	7.06	7.80	0.39	27.76
Russell 2000 Value	**5.13**	24.50	20.58	-28.92	-9.78	23.48	4.71	22.25	6.80	2.91	8.68	10.00	0.36	28.62
S&P SmallCap 600/Citi Pure Growth	**4.88**	28.74	37.70	-33.10	1.49	9.79	7.10	28.72	11.14	5.69	10.71	10.40	0.49	29.73
S&P SmallCap 600	**4.57**	26.31	25.57	-31.07	-0.30	15.12	7.68	22.65	7.44	4.05	8.37	9.67	0.38	27.50
MSCI AC World	**4.53**	12.67	34.63	-42.20	11.66	20.95	10.84	15.23	-0.15	3.39	4.31	-	0.10	24.44
S&P SmallCap 600/Citi Value	**4.17**	24.72	22.85	-29.51	-5.54	19.57	8.33	21.06	6.72	3.11	8.31	10.24	0.36	28.55
MSCI AC World Ex USA	**3.64**	11.15	41.45	-45.53	16.65	26.65	16.62	20.91	-1.50	4.23	6.64	-	0.06	27.08
Barclays US Corporate High Yield	**3.55**	15.12	58.21	-26.16	1.87	11.85	2.74	11.13	12.69	9.18	8.33	7.44	0.76	17.17
MSCI EAFE Growth	**3.50**	12.25	29.36	-42.70	16.45	22.33	13.28	16.12	-2.62	3.17	4.18	3.58	0.00	24.83
Dow Jones Utilities Average	**3.27**	6.46	12.47	-27.84	20.11	16.63	25.14	30.24	-0.37	4.05	4.69	8.57	0.03	16.52
MSCI EAFE Small Cap	**3.08**	22.04	46.78	-47.01	1.45	19.31	26.19	30.78	1.32	2.33	9.68	-	0.18	28.60
S&P SmallCap 600/Citi Pure Value	**2.53**	29.18	63.58	-41.73	-18.61	21.44	11.58	22.72	9.91	2.77	11.06	11.29	0.41	48.84
DJ UBS Commodity	**2.33**	16.83	18.91	-35.65	16.23	2.07	21.36	9.15	-7.88	2.60	6.38	6.30	-0.25	23.61
Barclays US Treasury US TIPS	**1.05**	6.31	11.41	-2.35	11.64	0.41	2.84	8.46	3.56	5.56	6.74	-	0.39	8.60
Barclays Municipal	**0.84**	2.38	12.91	-2.47	3.36	4.84	3.51	4.48	5.57	4.07	4.79	5.22	0.90	5.70
Barclays Global Aggregate	**0.77**	5.54	6.93	4.79	9.48	6.64	-4.49	9.27	4.48	6.64	6.75	5.93	0.53	7.92
Barclays US Aggregate Bond	**0.37**	6.54	5.93	5.24	6.97	4.33	2.43	4.34	5.40	5.80	5.61	6.15	1.16	4.17
Barclays EM	**0.20**	12.84	34.23	-14.75	5.15	9.96	12.27	11.89	8.81	7.65	10.15	10.91	0.60	15.25
Barclays US Government	**-0.05**	5.52	-2.20	12.39	8.66	3.48	2.65	3.48	3.90	5.45	5.19	5.88	0.70	4.96
Dow Jones Transportation Average	**-0.08**	26.74	18.58	-21.41	1.43	9.81	11.65	27.73	5.75	4.42	7.15	7.67	0.32	28.05
Barclays Treasury	**-0.10**	5.87	-3.57	13.74	9.01	3.08	2.79	3.54	3.81	5.48	5.19	5.87	0.61	5.58
JP Morgan EMBI	**-0.42**	11.83	25.95	-9.70	6.45	10.49	11.86	11.77	8.05	7.49	10.15	11.70	0.65	12.47
Barclays Long Term US Treasury	**-1.02**	9.38	-12.92	24.02	9.81	1.85	6.50	7.71	4.29	5.56	6.27	7.09	0.33	14.05
MSCI BRIC*	**-2.40**	7.25	88.79	-60.27	56.12	52.87	39.81	13.63	-4.92	9.15	14.12	10.08	0.02	34.66
AMEX Gold Miners*	**-2.63**	33.94	37.30	-26.79	16.86	21.86	29.08	-9.56	4.27	11.44	-	-	0.32	48.27
MSCI EM	**-3.62**	18.88	78.51	-53.33	39.39	32.17	34.00	25.55	0.52	9.63	14.92	-	0.16	31.96
Citigroup STRIPS 25+ Year	**-4.51**	10.18	-42.88	77.10	12.71	4.09	17.82	16.33	2.71	4.53	7.37	8.89	0.22	32.84
MSCI AC Asia Ex Japan	**-4.82**	19.62	72.07	-52.38	40.13	33.32	22.69	17.35	0.78	10.20	11.63	-	0.16	30.74
MSCI EM Small	**-7.00**	27.17	113.79	-58.23	42.26	32.35	29.17	24.74	4.77	12.74	16.90	5.96	0.30	36.27
MSCI India	**-14.59**	20.95	102.81	-64.63	73.11	51.00	37.57	19.11	-3.95	11.93	16.67	-	0.10	42.24
MSCI Egypt*	**-21.49**	9.47	32.77	-53.92	54.85	14.84	154.49	118.78	-21.05	-3.91	18.49	13.12	-0.40	39.30

*Source: Morningstar. Data as of February 28, 2011. All returns are in US dollars, unless noted. YTD is year-to-date. 3-, 5-, 10- and 15-year returns are annualized. Sharpe is 12-month Sharpe ratio. Std Dev is 3-year standard deviation. *Indicates price returns. All other indexes are total return.*

Largest U.S. Index Mutual Funds *Sorted By Total Net Assets In $US Millions*

May/June 2011

				Total Return %				Annualized Return %						
Fund Name	**Ticker**	**Assets**	**Exp Ratio**	**3-Mo**	**YTD**	**2010**	**2009**	**3-Yr**	**5-Yr**	**10-Yr**	**15-Yr**	**P/E**	**Std Dev**	**Yield**
Vanguard Total Stock Mkt, Inv	VTSMX	**59,764.5**	0.18	13.07	5.86	17.09	28.70	3.33	3.41	3.67	7.10	14.7	22.61	1.59
Vanguard Institutional, Inst	VINIX	**58,180.5**	0.05	12.95	5.87	15.05	26.63	2.26	2.90	2.63	6.92	15.5	21.88	1.74
Vanguard 500, Adm	VFIAX	**54,664.4**	0.07	12.95	5.87	15.05	26.62	2.25	2.89	2.60	6.85	15.5	21.89	1.70
Vanguard Total Stock Mkt, Adm	VTSAX	**50,992.5**	0.07	13.13	5.89	17.26	28.83	3.44	3.51	3.76	7.16	14.7	22.64	1.68
Vanguard Total Intl Stock, Inv	VGTSX	**39,597.6**	0.26	12.05	3.43	11.12	36.73	-1.44	3.91	6.22	-	14.4	28.08	1.53
Vanguard Institutional, Inst+	VIIIX	**37,376.6**	0.02	12.96	5.88	15.07	26.66	2.28	2.93	2.66	6.94	15.5	21.89	1.76
Vanguard 500, Inv	VFINX	**33,274.5**	0.18	12.92	5.85	14.91	26.49	2.14	2.79	2.51	6.79	15.5	21.89	1.60
Vanguard Total Bond Mkt II, Inv	VTBIX	**29,621.2**	0.11	-0.78	0.29	6.41	-	-	-	-	-	-	-	3.18
Fidelity Spartan 500, Inv	FUSEX	**27,926.5**	0.10	12.92	5.87	14.98	26.51	2.16	2.82	2.53	6.74	15.5	21.90	1.68
Vanguard Total Bond Mkt, Adm	VBTLX	**27,164.9**	0.12	-0.88	0.26	6.54	6.04	5.34	5.81	5.40	5.99	-	4.20	3.46
Vanguard Total Stock Mkt, Inst	VITSX	**25,705.6**	0.06	13.14	5.89	17.23	28.83	3.45	3.53	3.80	7.21	14.7	22.61	1.69
Vanguard 500, Sig	VIFSX	**20,810.6**	0.07	12.94	5.86	15.05	26.61	2.25	2.87	2.56	6.82	15.5	21.89	1.70
Vanguard Total Bond Mkt, Inst	VBTIX	**20,579.6**	0.07	-0.87	0.27	6.58	6.09	5.38	5.85	5.46	6.06	-	4.21	3.49
Fidelity Spartan 500, Adv	FUSVX	**15,596.7**	0.07	12.95	5.89	15.01	26.55	2.20	2.86	2.54	6.75	15.5	21.89	1.70
Vanguard Total Bond Mkt, Inv	VBMFX	**13,562.8**	0.22	-0.90	0.25	6.42	5.93	5.23	5.71	5.32	5.93	-	4.20	3.34
T. Rowe Price Equity 500	PREIX	**13,503.0**	0.30	12.89	5.85	14.71	26.33	2.02	2.64	2.36	6.59	15.4	21.86	1.51
Vanguard Total Stock Mkt, Inst+	VITPX	**13,437.5**	0.02	13.13	5.89	17.25	28.92	3.51	3.59	-	-	14.7	22.65	1.66
Schwab S&P 500	SWPPX	**11,357.4**	0.09	12.88	5.83	14.97	26.25	2.25	2.87	2.55	-	15.0	21.81	1.73
Vanguard Total Bond Mkt II, Inst	VTBNX	**11,263.8**	0.07	-0.77	0.30	6.47	-	-	-	-	-	-	-	3.23
Fidelity U.S. Bond	FBIDX	**10,450.9**	0.22	-0.69	0.40	6.29	6.45	5.01	5.23	5.38	5.95	-	3.89	2.96
Vanguard Total Intl Stock, Adm	VTIAX	**9,373.8**	0.20	12.00	3.45	11.04	36.73	-1.46	3.90	6.21	-	14.4	28.08	-
Vanguard Total Bond Mkt, Sig	VBTSX	**9,065.5**	0.12	-0.88	0.26	6.54	6.04	5.34	5.80	5.36	5.96	-	4.20	3.45
Vanguard Mid-Cap, Inst	VMCIX	**7,516.3**	0.08	13.64	6.39	25.67	40.51	6.20	4.81	8.00	-	16.6	26.22	1.15
Vanguard Emerging Mkts, Adm	VEMAX	**7,460.9**	0.22	3.45	-3.56	18.99	76.18	0.87	9.38	14.81	8.62	14.8	32.78	1.70
Vanguard Short-Term Bond, Sig	VBSSX	**7,178.4**	0.12	-0.42	0.24	4.03	4.38	3.70	5.07	4.42	5.09	-	2.39	2.21
Vanguard Total Bond Mkt, Inst+	VBMPX	**7,142.9**	0.05	-0.86	0.27	6.57	5.93	5.29	5.75	5.34	5.94	-	4.20	3.51
Fidelity Spartan International, Inv	FSIIX	**6,935.9**	0.20	14.61	6.03	7.70	28.48	-2.04	2.66	4.83	-	13.6	27.35	2.17
Vanguard Mid Cap, Adm	VIMAX	**6,581.4**	0.14	13.67	6.40	25.59	40.48	6.15	4.78	7.94	-	16.6	26.23	1.08
Fidelity Series 100	FOHIX	**6,495.0**	0.20	12.99	5.61	12.39	22.14	1.39	-	-	-	15.0	20.82	1.84
Fidelity Spartan Total Mkt, Inv	FSTMX	**6,310.7**	0.10	13.09	5.85	17.41	28.39	3.24	3.41	3.69	-	14.6	22.55	1.56
Vanguard Small-Cap, Adm	VSMAX	**6,038.8**	0.14	14.48	6.27	27.89	36.33	9.10	5.24	8.18	8.87	17.8	28.59	1.06
Vanguard Total Stock Mkt, Sig	VTSSX	**6,010.9**	0.07	13.13	5.87	17.23	28.85	3.43	3.50	3.72	7.13	14.7	22.61	1.68
Vanguard Extended Mkt, Inst	VIEIX	**5,928.5**	0.08	14.01	6.23	27.59	37.69	7.80	5.32	7.61	8.60	18.3	27.06	0.97
Vanguard Small-Cap, Inst	VSCIX	**5,831.4**	0.08	14.50	6.30	27.95	36.40	9.16	5.28	8.24	8.95	17.8	28.60	1.13
Vanguard Mid Cap, Inv	VIMSX	**5,802.4**	0.27	13.62	6.35	25.46	40.22	6.01	4.65	7.83	-	16.6	26.22	1.00
Vanguard Extended Mkt, Adm	VEXAX	**5,560.3**	0.13	13.99	6.20	27.57	37.65	7.75	5.27	7.53	8.52	18.3	27.04	0.90
Vanguard Small Cap, Inv	NAESX	**5,526.1**	0.28	14.45	6.24	27.72	36.12	8.96	5.11	8.07	8.79	17.8	28.59	0.98
Fidelity Spartan Total Mkt, Adv	FSTVX	**5,080.3**	0.07	13.08	5.85	17.44	28.43	3.27	3.44	3.70	-	14.6	22.54	1.58
Vanguard Developed Mkts, Inst	VIDMX	**5,040.0**	0.07	14.67	5.81	8.73	28.17	-1.99	2.69	4.94	-	13.8	27.30	2.76
Schwab 1000	SNXFX	**5,008.6**	0.29	12.80	5.89	15.96	27.68	2.56	3.09	2.94	6.89	15.2	22.04	1.44
Vanguard REIT, Adm	VGSLX	**5,007.2**	0.13	13.09	8.08	28.49	29.76	5.77	3.23	11.67	-	41.8	39.94	3.15
Vanguard Growth, Adm	VIGAX	**4,957.9**	0.14	10.51	4.68	17.12	36.42	4.42	4.53	2.86	7.01	18.5	22.03	1.09
Vanguard Total Intl Stock, Inst	VTSNX	**4,888.5**	0.15	12.05	3.45	11.09	36.73	-1.44	3.91	6.22	-	14.4	28.08	-
Vanguard Small Cap Growth, Inv	VISGX	**4,826.9**	0.28	15.60	7.16	30.69	41.85	10.08	6.23	9.20	-	20.6	28.65	0.32
Vanguard Small Cap Value, Inv	VISVX	**4,595.2**	0.28	13.26	5.31	24.82	30.34	7.63	3.77	8.13	-	15.7	29.27	1.73
Fidelity Series Infl-Protected Bond	FSIPX	**4,532.1**	0.20	0.78	1.47	5.06	-	-	-	-	-	-	-	0.35
Vanguard Intermediate Bond, Adm	VBILX	**4,510.7**	0.12	-2.01	0.37	9.49	6.89	6.13	6.72	6.29	6.59	-	7.07	4.06
Fidelity Spartan Extended Mkt, Inv	FSEMX	**4,442.2**	0.10	13.52	5.71	28.58	36.65	7.62	5.67	7.58	-	11.8	26.17	0.88
Vanguard FTSE All-World ex-US, Inst	VFWSX	**4,245.4**	0.15	12.08	3.57	11.93	39.01	-0.69	-	-	-	14.3	28.44	2.13
Vanguard Growth, Inst	VIGIX	**4,193.0**	0.08	10.53	4.68	17.17	36.50	4.46	4.57	2.91	7.05	18.5	22.02	1.12
Vanguard Balanced, Adm	VBIAX	**4,087.3**	0.14	7.47	3.65	13.29	20.11	4.84	4.87	4.86	7.11	14.7	13.98	2.29
Vanguard Short-Term Bond, Inv	VBISX	**4,083.6**	0.22	-0.45	0.23	3.92	4.28	3.60	5.00	4.38	5.07	-	2.39	2.10
Vanguard Growth, Inv	VIGRX	**3,949.6**	0.28	10.48	4.65	16.96	36.29	4.27	4.40	2.75	6.93	18.5	22.01	0.96
ING US Stock, Class I	INGIX	**3,926.6**	0.26	12.87	5.77	14.74	26.22	1.96	2.63	-	-	15.5	21.95	1.40
Vanguard Short-Term Bond, Adm	VBIRX	**3,808.9**	0.12	-0.42	0.24	4.03	4.38	3.70	5.09	4.45	5.12	-	2.39	2.22
Vanguard Value, Inst	VIVIX	**3,694.6**	0.08	15.41	6.97	14.49	19.79	0.98	2.10	3.10	7.00	11.8	22.78	2.24
Vanguard Balanced, Inst	VBAIX	**3,684.1**	0.08	7.54	3.70	13.34	20.18	4.90	4.91	4.90	7.14	14.7	13.99	2.33
ING U.S. Bond, Class I	ILBAX	**3,653.1**	0.46	-0.83	0.19	6.14	5.88	-	-	-	-	-	-	2.65
Vanguard Extended Mkt, Inv	VEXMX	**3,617.5**	0.30	13.93	6.18	27.37	37.43	7.58	5.12	7.41	8.43	18.3	27.04	0.80
VALIC Company I Stock	VSTIX	**3,551.7**	0.38	12.89	5.85	14.69	26.16	1.90	2.55	2.27	6.54	15.5	22.02	1.46

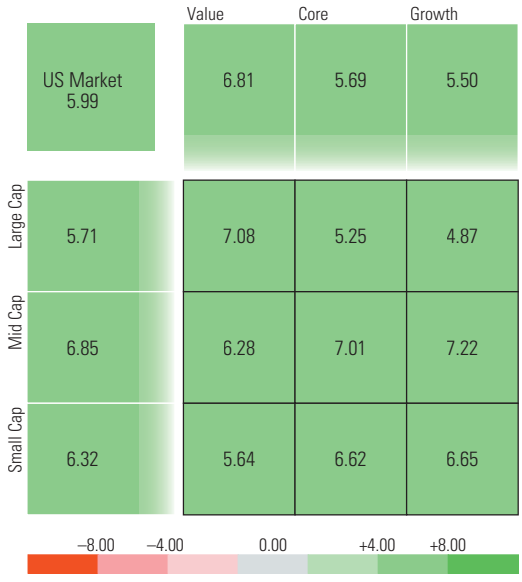
Source: Morningstar. Data as of February 28, 2011. Exp Ratio is expense ratio. 3-Mo is 3-month. YTD is year-to-date.
3-, 5-, 10- and 15-yr returns are annualized. P/E is price-to-earnings ratio.

Morningstar U.S. Style Overview Jan. 1 - Feb. 28, 2011

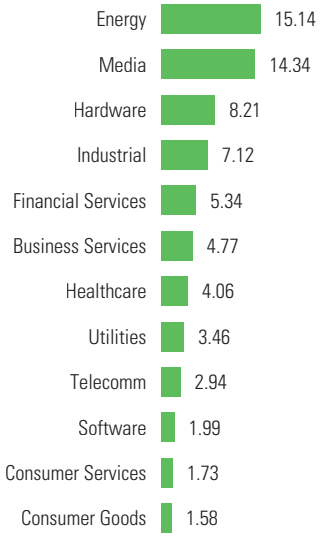
Trailing Returns %

Morningstar Indexes	3-Month	YTD	1-Yr	3-Yr	5-Yr	10-Yr
US Market	12.27	5.99	24.08	2.29	3.47	3.45
Large Cap	11.92	5.71	21.04	0.75	2.85	1.91
Mid Cap	13.07	6.85	31.44	5.34	4.81	7.24
Small Cap	13.46	6.32	34.18	8.84	5.28	8.26
US Value	14.41	6.81	23.90	–0.16	1.86	4.93
US Core	11.81	5.69	22.81	3.15	4.46	4.30
US Growth	10.66	5.50	25.87	3.64	3.76	0.36
Large Value	14.85	7.08	22.90	–2.54	0.89	3.43
Large Core	11.05	5.25	18.80	1.58	4.03	2.63
Large Growth	9.98	4.87	21.90	2.99	3.20	–1.22
Mid Value	13.37	6.28	25.62	5.26	3.76	8.32
Mid Core	13.82	7.01	33.40	6.32	5.14	8.71
Mid Growth	11.96	7.22	35.31	4.27	5.26	4.16
Small Value	12.91	5.64	29.18	9.78	5.68	11.00
Small Core	13.96	6.62	34.01	8.50	5.13	9.59
Small Growth	13.36	6.65	39.41	8.07	4.65	4.04

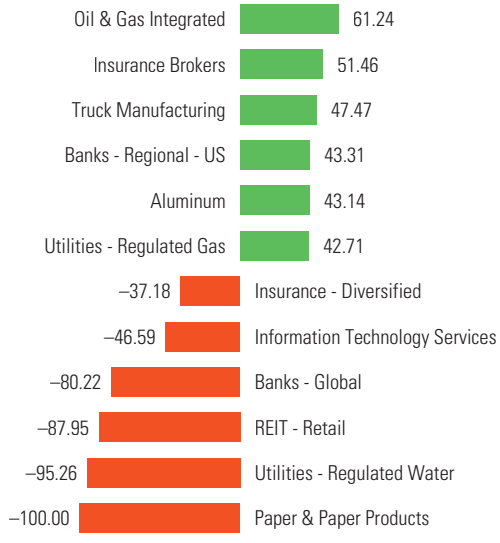
Morningstar Market Barometer YTD Return %



Sector Index YTD Return %



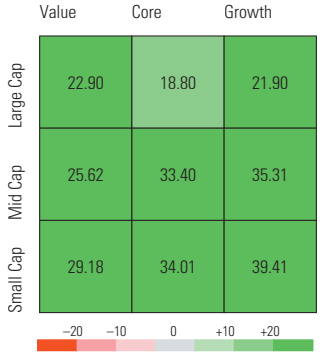
Industry Leaders & Laggards YTD Return %



Biggest Influence on Style Index Performance

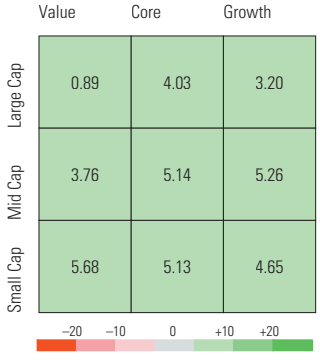
	YTD Return %	Constituent Weight %
Best Performing Index		
Mid Growth	7.22	
EQT Corp.	62.59	0.75
NVIDIA Corp.	47.14	0.98
Ametek Inc.	48.66	0.70
Rockwell Automation Corp.	25.02	1.13
C.R. Bard Inc.	26.48	0.96
Worst Performing Index		
Large Growth	4.87	
Apple Inc.	17.29	9.97
Schlumberger Ltd.	42.37	3.84
Halliburton Co.	54.74	1.25
Emerson Electric Co.	45.26	1.45
Johnson Controls Inc.	67.92	0.86

1-Year



3-Year

5-Year



Source: Morningstar. Data as of February 28, 2011

Notes and Disclaimer: ©2011 Morningstar, Inc. All Rights Reserved. Unless otherwise noted, all data is as of most recent month end. Multi-year returns are annualized. NA: Not Available. Biggest Influence on Index Performance lists are calculated by multiplying stock returns for the period by their respective weights in the index as of the start of the period. Sector and Industry Indexes are based on Morningstar's proprietary sector classifications. The information contained herein is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information.

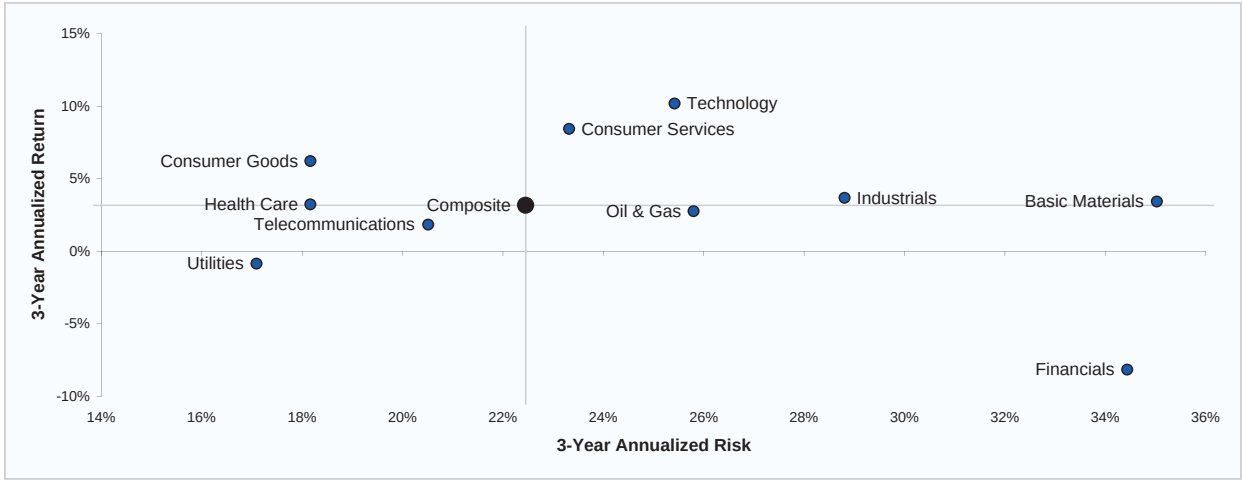
MORNINGSTAR

Dow Jones U.S. Industry Review

Performance

Index Name	Weight	1-Month	3-Month	YTD	1-Year	3-Year	5-Year	10-Year
Dow Jones U.S. Index	**100.00%**	**3.51%**	**13.08%**	**5.93%**	**24.03%**	**3.16%**	**3.47%**	**3.40%**
Dow Jones U.S. Basic Materials Index	3.75%	2.83%	13.19%	2.62%	36.87%	3.43%	10.65%	10.18%
Dow Jones U.S. Consumer Goods Index	9.82%	3.39%	6.96%	1.69%	19.17%	6.20%	6.84%	6.72%
Dow Jones U.S. Consumer Services Index	11.75%	4.74%	8.53%	4.80%	26.65%	8.43%	4.45%	2.98%
Dow Jones U.S. Financials Index	16.52%	2.90%	15.91%	5.46%	16.84%	-8.15%	-8.08%	-0.52%
Dow Jones U.S. Health Care Index	10.30%	3.42%	8.97%	4.04%	7.64%	3.23%	2.91%	1.99%
Dow Jones U.S. Industrials Index	13.09%	2.67%	15.79%	7.07%	32.54%	3.68%	4.98%	4.32%
Dow Jones U.S. Oil & Gas Index	12.16%	7.39%	25.57%	15.46%	41.61%	2.76%	10.56%	11.83%
Dow Jones U.S. Technology Index	16.40%	2.01%	12.27%	6.13%	24.63%	10.18%	6.83%	1.84%
Dow Jones U.S. Telecommunications Index	2.78%	2.45%	7.61%	-0.16%	29.43%	1.84%	3.28%	-1.33%
Dow Jones U.S. Utilities Index	3.43%	1.71%	6.57%	3.27%	17.29%	-0.85%	3.80%	3.44%

Risk-Return



Industry Weights Relative to Global ex-U.S.

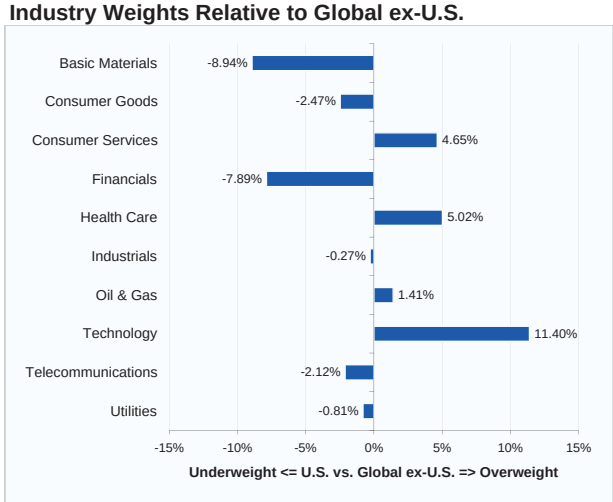
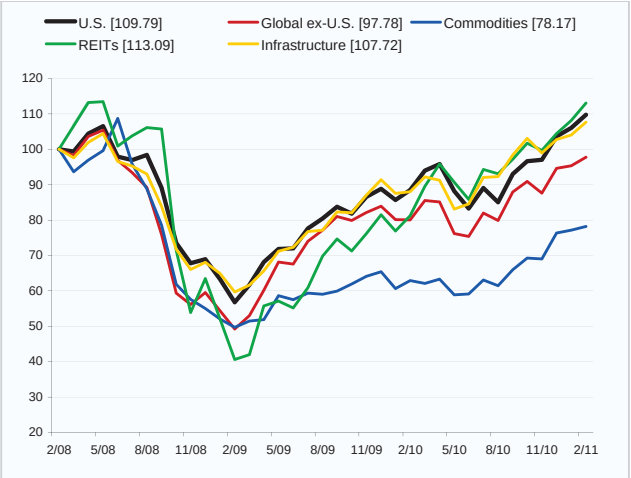


Chart compares industry weights within the Dow Jones U.S. Index to industry weights within the Dow Jones Global ex-U.S. Index

Asset Class Performance



U.S. = Dow Jones U.S. Index | Global ex-U.S. = Dow Jones Global ex-U.S. Index
Commodities = Dow Jones-UBS Commodity Index | REITs = Dow Jones U.S. Select REIT Index
Infrastructure = Dow Jones Brookfield Global Infrastructure Index

© CME Group Index Services LLC 2011. All rights reserved. The "Dow Jones U.S. Index" and "Dow Jones U.S. Industry Indexes" referenced in this piece are products of Dow Jones Indexes, the marketing name and a licensed trademark of CME Group Index Services LLC ("CME Indexes"). "Dow Jones®", "Dow Jones Indexes" and the names identifying the Dow Jones Indexes referenced herein are service marks of Dow Jones Trademark Holdings, LLC ("Dow Jones"), and have been licensed for use by CME Indexes. "CME" is a trademark of Chicago Mercantile Exchange Inc.

The Dow Jones U.S. Index and the Dow Jones U.S. Industry Indexes were first published in February 2000. To the extent this document includes information for the index for the period prior to its initial publication date, such information is back-tested (i.e., calculations of how the index might have performed during that time period if the index had existed). Any comparisons, assertions and conclusions regarding the performance of the Index during the time period prior to launch will be based on back-testing. Back-tested information is purely hypothetical and is provided solely for informational purposes. Back-tested performance does not represent actual performance and should not be interpreted as an indication of actual performance. Past performance is also not indicative of future results.

All information in these materials is provided "as is". CME Indexes and its affiliates do not make any representation regarding the accuracy or completeness of these materials, the content of which may change without notice, and each of CME Indexes and its affiliates disclaim liability related to these materials. All information provided by CME Indexes is impersonal and not tailored to the needs of any person, entity or group of persons. Dow Jones, its affiliates and CME Indexes do not sponsor, endorse, sell, promote or manage any investment fund or other vehicle that is offered by third parties and that seeks to provide an investment return based on the returns of any index. CME Indexes is not an investment advisor, and CME Indexes makes no representation regarding the advisability of investing in any investment fund or other vehicle. Inclusion of a security or instrument in an index is not a recommendation by Dow Jones, CME Indexes or their affiliates to buy, sell, or hold such security or instrument, nor is it considered to be investment advice. Exposure to an asset class is available through investable instruments based on an index. It is not possible to invest directly in an index. There is no assurance that investment products based on the index will accurately track index performance or provide positive investment returns.

Data as of February 28, 2011
Source: Dow Jones Indexes Analytics & Research

For more information, please visit the Dow Jones Indexes Web site at www.djindexes.com.

Dow Jones Indexes
A CME Group Company

Exchange-Traded Funds Corner

Largest New ETFs *Sorted By Total Net Assets In $US Millions*

Covers ETFs and ETNs launched during the 12-month period ended February 28, 2011.

Fund Name	Ticker	ER	1-Mo	3-Mo	YTD	Inception	Assets
Vanguard S&P 500	VOO	0.06	3.47	13.09	5.77	9/7/2010	**914.8**
Alerian MLP	AMLP	0.85	2.92	5.81	4.40	8/25/2010	**799.1**
WisdomTree Emrg Mkts Local Debt	ELD	0.55	1.31	1.05	-1.32	8/9/2010	**620.2**
Global X Silver Miners	SIL	0.65	20.79	12.53	-0.96	4/20/2010	**483.3**
Market Vectors Rare Earth/Strat Metals	REMX	0.57	5.86	24.02	3.04	10/27/2010	**429.0**
United States Commodity	USCI	0.95	5.54	22.16	9.89	8/10/2010	**324.2**
Market Vectors EM Lcl Currency Bond	EMLC	0.49	1.14	2.02	-0.67	7/22/2010	**256.7**
iShares MSCI Indonesia	EIDO	0.61	5.94	-1.18	-5.60	5/5/2010	**218.0**
Vanguard Russell 1000 Growth	VONG	0.15	3.38	11.52	5.95	9/20/2010	**217.3**
Global X Uranium	URA	0.69	0.10	10.40	2.05	11/4/2010	**217.3**
ETFS Physical Precious Metals	GLTR	0.60	10.58	9.81	3.46	10/22/2010	**200.0**
UBS E-TRACS Alerian MLP Infrastr ETN	MLPI	0.85	4.54	9.32	6.96	4/1/2010	**199.0**
First Trust BICK	BICK	0.64	-2.61	-2.06	-6.16	4/12/2010	**196.3**
Global X Lithium	LIT	0.75	3.39	12.60	-0.81	7/23/2010	**189.7**
EGS DJ Emrg Mkts Consumer Titans	ECON	0.85	2.26	-0.77	-6.65	9/14/2010	**173.7**
SPDR S&P Russia	RBL	0.59	5.92	20.69	6.48	3/10/2010	**146.5**
Credit Suisse Cushing 30 MLP ETN	MLPN	0.85	3.99	9.42	5.68	4/13/2010	**135.3**
Schwab U.S. TIPS	SCHP	0.14	0.78	-0.76	0.78	8/5/2010	**132.3**
First Trust ISE Global Copper	CU	0.70	2.05	17.97	-0.75	3/11/2010	**128.1**
IQ Canada Small Cap	CNDA	0.69	7.07	16.04	4.59	3/23/2010	**127.2**

Source: Morningstar. Data as of February 28, 2011. ER is expense ratio. 1-Mo is 1-month. 3-Mo is 3-month. YTD is year-to-date.

Selected ETFs In Registration

DBX MSCI Canada Currency-Hdgd Equity
Direxion NASDAQ Volatility
EG Shares India Utilities
ETFS Physical Tin
First Trust Mid Cap Value AlphaDex
Focus Mstar Consumer Defensive
Global X Super Dividend
Guggenheim Small-Mid Cap BRIC
IQ Asian Tigers Consumer
iShares MSCI EAFE Minimum Volatility
Market Vectors Germany Mid-Cap
PowerShares S&P 500 Low Volatility
ProShares Hedge Replication
Russell Inflation
Rydex Russell 3000 Value Eq Weight
SPDR BarCap Issuer-Scored Corp Bond
Teucrium Sugar
TrimTabs Float Shrink
United States Agriculture
WisdomTree Brazil Bond

Source: IndexUniverse.com's ETF Watch

Largest U.S.-listed ETFs *Sorted By Total Net Assets In $US Millions*

				Total Return %				*Annualized Return %*					
Fund Name	Ticker	Assets	Exp Ratio	3-Mo	YTD	2010	2009	3-Yr	5-Yr	Mkt Cap	P/E	Std Dev	Yield
SPDR S&P 500	SPY	**95,302.5**	0.09	12.94	5.87	15.02	26.31	2.07	2.85	50,690	16.1	21.79	1.70
SPDR Gold	GLD	**51,894.4**	0.40	1.65	-0.76	29.27	24.03	12.70	19.68	-	-	21.14	-
Vanguard Emerging Markets	VWO	**43,018.6**	0.22	3.66	-3.61	19.45	76.26	0.96	9.38	20,255	14.8	32.38	1.76
iShares MSCI EAFE	EFA	**39,367.2**	0.35	14.49	5.72	8.25	26.88	-2.09	2.44	31,607	13.6	27.65	2.28
iShares MSCI Emerging Markets	EEM	**36,646.2**	0.69	3.09	-3.89	16.54	68.82	1.33	9.02	19,225	14.4	32.70	1.41
iShares S&P 500	IVV	**28,414.3**	0.09	13.01	5.84	15.11	26.61	2.15	2.86	50,690	16.1	21.82	1.67
PowerShares QQQ	QQQQ	**25,481.5**	0.20	11.13	6.08	19.89	54.67	10.98	7.53	49,821	19.3	25.07	0.62
iShares Barclays TIPS Bond	TIP	**19,447.9**	0.20	-0.65	0.74	6.13	8.95	3.32	5.39	-	-	8.74	2.45
Vanguard Total Stock Market	VTI	**19,158.7**	0.07	13.18	5.82	17.42	28.89	3.34	3.54	26,218	14.7	22.60	1.67
iShares Russell 2000	IWM	**16,803.8**	0.28	13.60	5.15	26.90	28.53	7.58	3.82	1,080	17.9	27.32	1.09
iShares Russell 1000 Growth	IWF	**13,729.5**	0.20	11.70	5.94	16.48	36.73	4.80	4.50	40,920	18.3	21.99	1.20
iShares iBoxx $ Inv Gr Corp Bond	LQD	**12,940.7**	0.15	0.36	1.12	9.33	8.58	6.48	5.90	-	-	12.27	4.83
iShares MSCI Brazil	EWZ	**12,687.3**	0.61	2.56	-4.04	7.69	121.50	0.28	16.19	29,095	12.3	40.49	3.80
SPDR S&P MidCap 400	MDY	**11,845.9**	0.25	13.53	6.55	26.26	37.52	8.15	5.72	3,371	19.6	25.60	0.86
iShares Russell 1000 Value	IWD	**11,762.1**	0.20	14.44	6.04	15.44	19.23	0.18	1.48	35,014	14.5	23.28	1.87
iShares Silver	SLV	**11,481.0**	0.50	20.66	9.71	82.48	47.67	18.96	-	-	-	37.36	-
iShares Barclays Aggregate Bond	AGG	**11,041.1**	0.24	-0.46	0.21	6.37	3.01	5.06	5.64	-	-	5.42	3.47
Energy Select SPDR	XLE	**10,932.8**	0.20	25.78	15.08	21.81	21.81	2.83	10.10	62,125	16.8	27.36	1.27
iShares S&P 400 MidCap	IJH	**10,679.5**	0.22	13.54	6.45	26.73	37.81	8.62	5.91	3,514	19.8	25.55	0.99
SPDR DJ Industrial Average	DIA	**9,918.5**	0.18	11.48	5.76	13.97	22.72	2.56	4.74	109,371	14.6	19.84	2.41
Vanguard Total Bond Market	BND	**9,098.1**	0.12	-0.64	0.38	6.20	3.67	5.24	-	-	-	4.96	3.44
Vanguard REIT	VNQ	**8,682.6**	0.13	13.01	8.11	28.43	30.07	5.77	2.99	5,584	41.8	39.74	3.16
iShares iBoxx $ HiYld Corp Bond	HYG	**8,230.4**	0.50	5.98	3.11	11.96	28.86	8.44	-	-	-	19.30	8.04
Financial Select SPDR	XLF	**7,962.8**	0.20	16.94	5.64	11.91	17.50	-11.15	-10.20	48,646	15.0	37.35	0.93
iShares Barclays 1-3 Yr Treasury	SHY	**7,956.5**	0.15	-0.15	0.01	2.28	0.36	2.14	4.10	-	-	1.53	1.01

Source: Morningstar. Data as of February 28, 2011. Exp Ratio is expense ratio. 3-Mo is 3-month. YTD is year-to-date. 3-Yr and 5-Yr are 3-year and 5-year annualized returns, respectively. Mkt Cap is geometric average market capitalization. P/E is price-to-earnings ratio. Std Dev is 3-year standard deviation. Yield is 12-month.

HUMOR

Respect Your Elders

By Heather Bell

A little maternal advice

"Just talk to someone about investing basics," Jim sighs, muting his phone mid-conference call to speak with me via Skype. He's got important people on the line, and doesn't have time for paltry assignment questions. "You've got this in the bag. I trust you." A flash of a smile and a quick tap on the keyboard and he's lost to me.

With a vague feeling of despair, I turn back to my other screen—the one with no typed words on it.

Three hours later, I'm still not sure who to talk to. Our issue on core investing is pretty comprehensive, but we're missing that key interview—the one voice required to put everything into crystal clarity.

And suddenly it hits me. I remember what month it is.

A quick phone call later, and I'm speeding through the Pine Barrens to the Jersey Shore. My source meets me in a dimly lit room, clutching a glass of merlot and clad in a spangled beach coverup and tasteful flip-flops, accented by some polished silver toe rings and a French pedicure.

"We only have a few minutes, Pumpkin. Happy hour at Oasis ends early so everyone can make it to bingo on time."

I assure my mother that soon she can go back to enjoying the activities offered by her "active seniors" community.

I'm actually shocked I didn't think of this before. Of *course* I should interview my mother. Who better to illustrate the lessons of stock market security than a woman who considers responsible financial planning to be waiting for the half-off sales at Macy's?

Here are the key takeaways from our encounter:

Diversify your precious metals holdings. "You know how much I loved my gold jewelry, Angel, but *everyone* was buying it! Plus, now that my hair's gone white and I'm a silver fox, it was clashing with my coloring. I've only bought white metals for the past year or so," she notes, patting her snowy pixie cut before her gaze honed in on my face.

"You might try adding some sparkle yourself, darling. You look so pallid. Mrs. DiAngelo's grandson over there is going to think you're *ill*."

Rebalance regularly. "Of course I went shopping last week! I needed a new summer wardrobe. I weeded out my winter clothes to make room, and I had to replenish my closet with seasonally appropriate items. Sweetie, I found the most *adorable* ruched silk tank tops edged with sequins, and bought them in every color they had! My closet," she adds triumphantly, "is back to what it should be!"

She pauses, surveying my T-shirt and cargo shorts. "Honey, we could go out shopping for *your* summer wardrobe, you know. Perhaps something a bit less … *slovenly*?"

Consider your heirs. "Well, of course I've done some estate planning. You and Princess Sasha will split everything evenly, of course—it's only fair."

Hearing her name, Princess Sasha sticks her nose out of my mother's shoulder bag and emits a sharp yap.

"Hush, Snoogums! You *know* Mr. Finster thought you were an apricot-colored rat the last time he went off his dementia meds." Mother turns back to me with a bright smile.

"Of course, if I knew you had *children* to provide for, I would be sure to adjust those percentages. College is expensive, you know. Nothing is more important than my future grandchildren's futures." Her face abruptly turns to a pout. "If you ever saw fit to give me any."

I rise to leave, and Mother gathers me into a maternal embrace. "Are you sure you don't want to stay? Mrs. DiAngelo is heading over with her grandson."

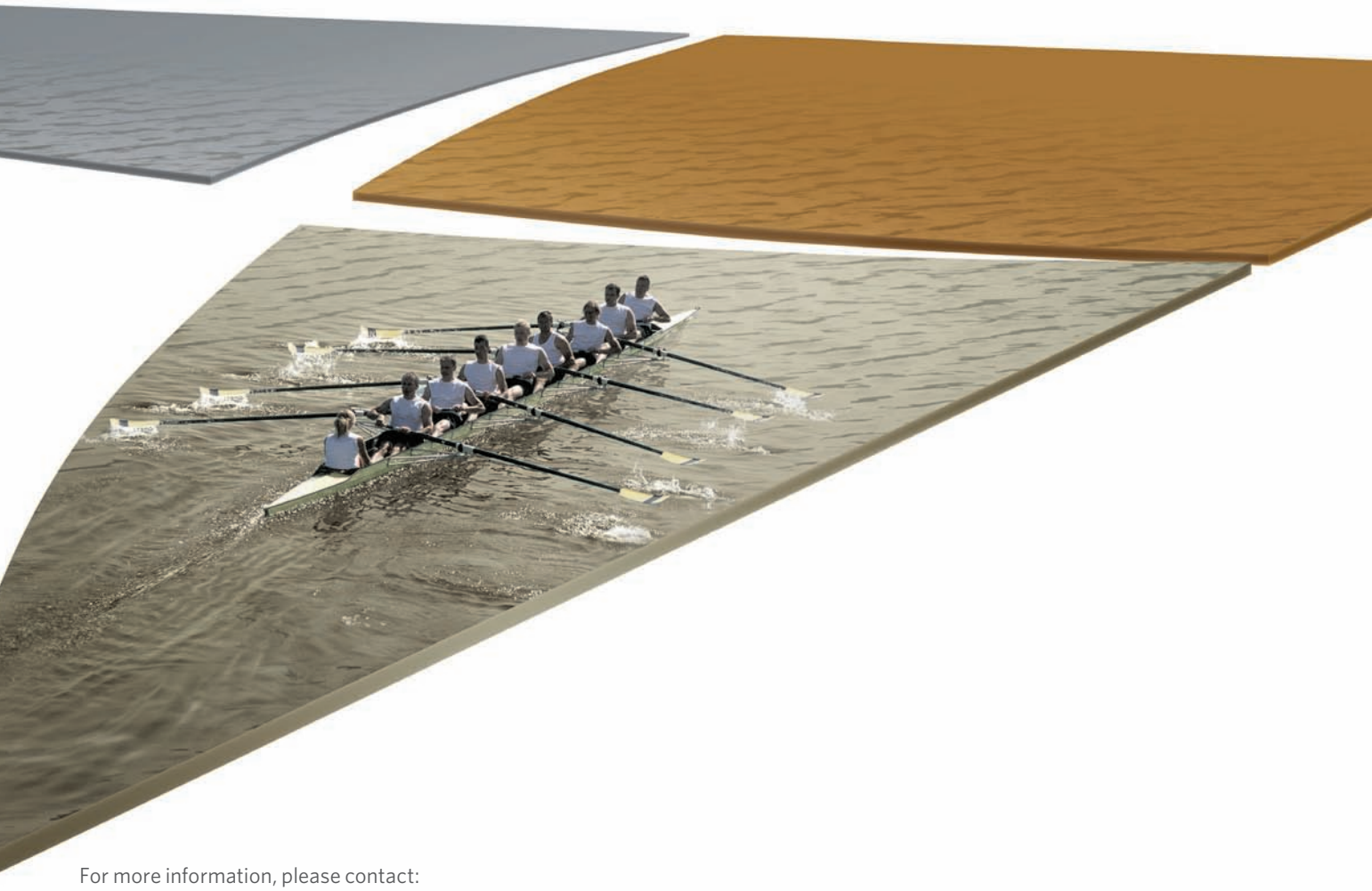
"He's a *doctor*," she says in a loud stage whisper.

Happy Mother's Day, Mom.

Team with the experts who make your business needs their own.

Who's helping you?

Risk mitigation, operational efficiency, new assets and new regulations. Meet the challenges of today's markets head on with your team at BNY Mellon. We offer an unmatched range of global product solutions backed by experts to help you along every step of the investment continuum. Our strength and scope keep us at the forefront of the changing marketplace. But we remain dedicated to putting your objectives at the core of everything we do.



For more information, please contact:

UK: Dean Handley +44 20 7163 5458
Continental Europe: Sid Newby +44 20 7163 3429
Asia-Pacific: Michael Chan +65 6372 6931
US: Bill Salus +1 302 791 2000
Canada: Barbara Barrow +1 416 643 6361

bnymellon.com/assetservicing

BNY MELLON
ASSET SERVICING

Products and services are provided in various countries by subsidiaries, affiliates, and joint ventures of The Bank of New York Mellon Corporation, including The Bank of New York Mellon, and in some instances by third party providers. Each is authorized and regulated as required within each jurisdiction. Products and services may be provided under various brand names, including BNY Mellon. This document and information contained herein is for general information and reference purposes only and does not constitute legal, tax, accounting or other professional advice nor is it an offer or solicitation of securities or services or an endorsement thereof in any jurisdiction or in any circumstance that is otherwise unlawful or not authorized.
©2011 The Bank of New York Mellon Corporation. All rights reserved.

VXUS

Vanguard Total International Stock ETF

Covers 98% of the international markets for the broadest coverage in the industry.*

It's the newest way to Vanguard.

Our new Total International Stock ETF contains large-, mid-, and small-capitalization securities in developed and emerging international markets. And with a lower expense ratio than the industry average,** it can have a real impact on your clients' portfolios. Take a closer look at the Vanguard Total International Stock ETF.

Vanguard your clients' portfolios at advisors.vanguard.com/VXUS

Vanguard®

All investments are subject to risk. Vanguard funds are not insured or guaranteed.

To buy or sell Vanguard ETF Shares, contact your financial advisor. Usual commissions apply. Not redeemable. Market price may be more or less than NAV.

For more information about Vanguard ETF Shares, visit advisors.vanguard.com/VXUS, call 800-523-0944, or contact your broker to obtain a prospectus. Investment objectives, risks, charges, expenses, and other important information are contained in the prospectus; read and consider it carefully before investing.

Prices of mid- and small-cap stocks often fluctuate more than those of large-company stocks. Foreign investing involves additional risks including currency fluctuations and political uncertainty. Stocks of companies in emerging markets are generally more risky than stocks of companies in developed countries.

*Sources: Morningstar and MSCI based on holdings as of 11/30/2010. The index tracked by Vanguard Total International Stock ETF covers 98% of the investable international stock market (by market capitalization) and the ETF tracking an index with the next highest international stock market exposure covers 90% of the investable international market.

**Source: Morningstar as of 9/22/2010. Based on 2010 industry average expense ratio of 0.56% for Total International Stock ETF and expected estimated expense ratio of 0.20% for Vanguard Total International Stock ETF.

© 2011 The Vanguard Group, Inc. All rights reserved. U.S. Pat. No. 6,879,964 B2; 7,337,138. Vanguard Marketing Corporation, Distributor.


You need more
than a service provider
In today's complex, dynamic marketplace, you need a strategic collaborator. As a leading financial services provider serving some of the world's most sophisticated investors, State Street offers a full range of comprehensive solutions and a customized approach to meet your investment servicing needs. As an example, our industry-leading ETF servicing capabilities includes pre-launch support and end-to-end servicing, allowing you to focus on growing your business — while we take care of the rest.
For more information, please visit www.statestreetglobalservices.com.
STATE STREET
GLOBAL SERVICES®
State Street Global Services is the investment servicing business of
State Street Corporation (NYSE: STT), one of the world's leading providers
of financial services to institutional investors.
©2010 STATE STREET CORPORATION 10-INS08611110