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Fundamentals

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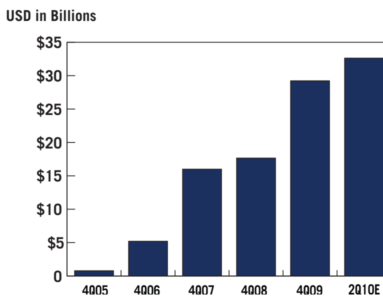
RAFI® Managed Assets*



*Includes RAFI assets managed or sub-advised by Research Affiliates® or RAFI licensees.

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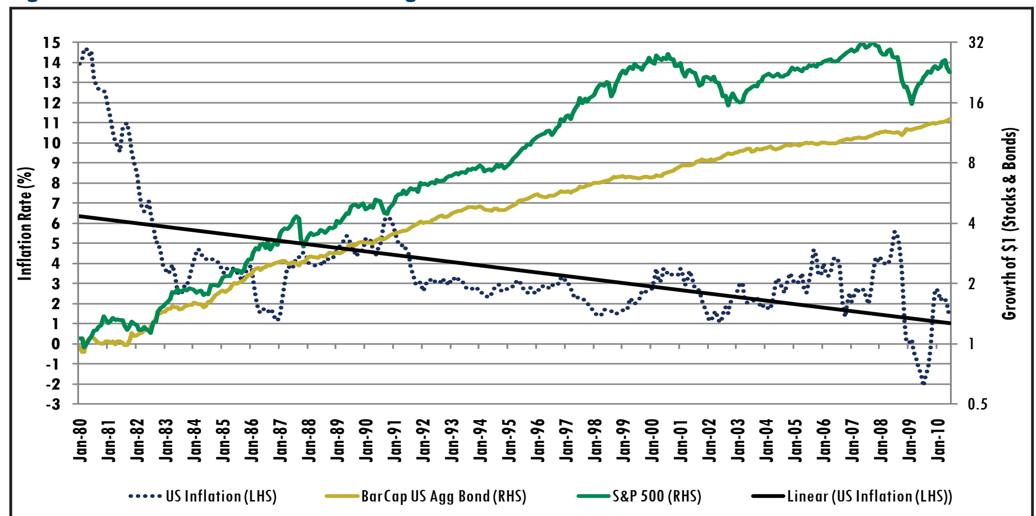
ARE 401(K) INVESTORS FIGHTING YESTERDAY'S WAR?

In 1981, the first 401(k) plan was created, a major step in the transition from a paternalistic defined benefit system to an era of personal responsibility in retirement savings. Fortunately for 401(k) participants, a 30-year disinflationary high economic growth cycle provided a tremendous tailwind for capital market returns. Even after the "Lost Decade,"[1] the 30-plus year period from 1980 through June 2010 witnessed U.S. stocks and bonds returning 10.8% and 8.8% respectively, delivering a 10.3% annualized return[2] for the prototypical 60/40 investor (see **Figure 1**). While this return was achieved by a scant few (a topic for another issue of *Fundamentals*!), this was an environment in which even bad decisions could lead to reasonably good outcomes.

Unfortunately for 401(k) investors, the future is likely to be less benign. Yields are down for stocks, bonds, and alternatives, setting the stage for lower returns. And the economic backdrop is likely to see reflation, not disinflation, compromising our ability to earn solid real returns and compromising the spending power of our eventual withdrawals. In this issue we show that defined contribution investors are ill-prepared for inflation. This will be a common and costly mistake.

Figure 1. Stock and Bond Performance During 30 Years of Disinflation



Source: Research Affiliates and Ibbotson Encorr.

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Real Return Strategies: The Glaring DC Plan Hole

For most of us, our own investment experience—and the opportunity set that is presented to us—will dictate our 401(k) allocations. We tend to believe that whatever worked well for the past 30 years should work well going forward. And, when presented with a wide array of stock market strategies and a smattering of bond, money market, and balanced strategies, we'll wind up with a 401(k) portfolio dominated by stocks and bonds. The evidence supports this: investors hold between 55–75% in stocks and 25–45% in short-term fixed-income and bonds.[3,4,5] Most 401(k) plans have a money market or stable value option, and one or two bond funds providing fixed-income exposure. But, on average, only 5 of the typical 18 investment choices are non-stock funds! With stock funds comprising 70% of our available choices, it's no coincidence that the average 401(k) investor has roughly 70% of their 401(k) in stocks.

We're building our retirement homes on two pillars: stocks provide participation in the growth of the macro economy, and bonds provide steady income while tamping down the volatility of our stock holdings. In a reflationary world, characterized by inflationary jolts that deplete the purchasing power of our portfolio and of our retirement income, neither will serve us well. Inflation triggers higher interest rates, which hurts our bonds, and creates economic crosscurrents and uncertainty, which drives down the valuation levels for stocks.

We need a third pillar that can help us during inflationary shocks and can afford us an opportunity to diversify away from stocks and bonds. *The vast majority of 401(k) programs offer nothing of the sort, apart from a brokerage option that requires employees to do their own homework and make their own choices*. Inflation hedging and real return asset classes such as TIPS (Treasury Inflation-Protected Securities), commodities, or REITs (Real Estate Investment Trusts) are rarely offered. Nor are allocations away from the dollar (what is inflation, if it's not dollar debasement?), such as emerging markets stocks and bonds. Even fast growing, target-date funds—which make asset allocation decisions for participants—rarely include inflation hedges.

In a high inflation environment, stocks and bonds will likely underperform other asset classes such as TIPS, commodities, and non-dollar assets. **Table 1** shows the four major economic regimes and the asset class that performs best in each of them.

Table 1. Best Asset Classes by Economic Regime

	Low Economic Growth	High Economic Growth
Low Inflation	Long-Term Treasury Bonds	Stocks
High Inflation	TIPS	Commodities

Source: Research Affiliates.

401(k) investors have not yet truly experienced an inflationary regime. The 80s, 90s, and naughts were generally low interest rate and low inflation environments, aiding stocks and bonds. Muted inflationary periods are wonderful for stocks and bonds. Stocks do well during disinflationary growth as low inflation reduces the discount rate that the markets will apply to future cash flows in determining the fair value of stocks. Low inflation also tends to be conducive to stable growth and is good for corporate profitability. Bonds are brilliant in disinflationary economic contractions as fears of the corrosive impact of inflation on bond prices wane.

So which asset classes perform best in high inflationary periods? Commodities when the economy is growing and TIPS when the economy is faltering. Commodity prices are pushed up by strong global demand; continued growth in emerging markets will likely fuel shortages of commodities. Like nominal bonds, TIPS prefer slower economic environments because they benefit from falling interest rates and lose value when rates increase.

We advocate the use of three pillars for our retirement portfolios: stocks, bonds, and inflation hedges. For investors who are confident that inflation will not be a serious issue in the coming 20 or 30 years, this can be a small pillar serving as an insurance policy in case they're wrong. For investors who fear that our soaring debts will trigger inflationary shocks in the years ahead, this can be a large pillar serving to protect their purchasing power as inflation crushes the purchasing power of their mainstream holdings.

As we have expressed in past issues of *Fundamentals*, we believe that the long-term challenges from the "3-D Hurricane"— deficit, debt, and demographics—will lead to serious bouts of inflation in the years ahead.[6] Investors should be positioning for a different economic regime now.

Inflation Hedging: Stand-Alone Fund Options

One way for 401(k) investors to hedge inflation risks is to invest in real return assets, such as TIPS, REITs, emerging markets stocks or bonds, and/or commodity funds. Despite the attractive inflation hedge characteristics of these alternatives, all are suboptimal *stand-alone* fund options. Why?

TIPS pay puny yields. As of late September 2010, the 30-year and 10-year TIPS "real" yields are floating around 1.5% and 1%, respectively, with some of the shorter maturity TIPS offering a negative yield![7] This would seem too low given that the average real yield on 10-year TIPS since 1997 has been 2.7%. But the average real yield on 10-year Treasury bonds since 1926 has been only 1.9% net of inflation. Shouldn't we expect to earn less in an aging, mature economy with slower growth than we've seen in the past (what PIMCO calls the "New Normal")? TIPS are better viewed as insurance against reflation, not as a source of lofty real yields. REITs and commodity funds tend to be volatile and, therefore, the likelihood of 401(k) participants chasing performance by investing in these funds after a short period of strong returns is high. Investors consistently pick the top performing funds expecting past performance to continue.[8] As an example, Morningstar found the biggest S&P 500 Index mutual fund turned in an official 10.2% return over a recent 10-year period through 2005, while the average investor in the fund returned just 6.5%, losing almost 4% by chasing returns—*in an index fund!*

If individual investors chase returns in an index fund, imagine the temptation in narrowly focused asset classes like REITs and commodities! These have wide swings in returns, encouraging investors to pile into these assets after impressive runs and to then throw in the towel at the bottom. During the past decade, poor timing by fund investors led to an average 2.7% shortfall in TIPS, high-yield bonds, emerging market bonds, REITs, commodities, and sector fund categories compared to official fund returns. The average shortfall of more broadly diversified funds? Just 0.5%![9]

Inflation Hedging: Integrated Fund Options

We believe plan sponsors *should offer integrated* real return fund alternatives in their 401(k) plan roster, avoiding the pitfalls of investing in individual asset classes and performance-chasing tendencies. Ideally, these integrated real return solution funds would be able to perform well in a variety of economic and inflationary regimes.

Target-date funds are a step in the right direction *if they are constructed properly*. However, most target-date funds on the market today are equity-centric with very light exposure to real return assets. These funds should protect us from the vagaries of markets, but they will not provide much protection in a reflationary regime. Case in point: one industry leading target retirement fund dated 2015, *built for investors retiring in just five years*, is nearly 60% invested in stocks!! The fund has very little in real return assets: 2% in foreign bonds and 0.5% in TIPS. This example is not an outlier, it is the norm. We believe investors in many target-date funds get a false sense of security. They think they are truly diversified, but they are not.

An effective real return strategy should have four key components:

1. Inflation-fighting assets such as TIPS, REITs, and commodities should be blended into the portfolio in a meaningful way.
2. Non-dollar assets should be used on a scale large enough to protect against any government choices that may debase the dollar. Of course, Japan and Europe face the same "3-D Hurricane" that we face here, only more so. So, these non-dollar investments should be in the emerging markets, in the local currencies. It bears mention that the emerging markets largely shrugged off the "global financial crisis" and the "great recession." Why? Most did not have massive debt. Most did not respond to the crisis with massive deficit spending and new debt. And most chose to let failing enterprises fail instead of propping them up.
3. There should be investments in inflation "stealth fighters" such as high-yield bonds, bank loans, convertibles, and local currency emerging markets debt.[10] Inflation stealth fighters work in a subtle way. Inflation reduces the real value of the debts, improving debt coverage ratios. As the coverage ratios improve, the credit spread can narrow creating capital gains on top of the original rich yields. This leads to startlingly high correlations between their returns and the rate of inflation.

4. Tactical allocations among the asset class choices. Higher inflation breeds volatility which, in turn, breeds opportunities to be tactical in response to price dislocations. This includes the ability to invest in absolute return, low beta, alpha-oriented strategies for times when both traditional and real return funds offer meager risk-adjusted returns.

Conclusion

The French built the Maginot Line after the First World War to prepare for another potential trench warfare conflict with Germany. They erected no defenses along the Benelux borders on the incorrect assumption that Germany would only invade along the shared German–French border. Like today's 401(k) asset allocation, this flawed strategy was backward-looking. We assert that defined contribution investors are bunkered with stocks and bonds preparing for a battle of disinflation, fighting a forgotten war—just as a reflation is about to blitzkrieg their unprepared portfolios. It is time for investors and their advisors to look forward, not backward, in their 401(k) investment planning.

Inflation is the biggest single enemy to long-term investors. A portfolio of real return assets balanced with a stock- and bond-heavy 401(k) fund menu is the better way to build a portfolio for an uncertain future. To do this, one needs to include inflation hedges *before* inflation strikes and when they are least costly.

Don't plan for the future by fighting the battle of the past 30 years.

Endnotes

1. See "Was it Really a Lost Decade," January 2010, *Fundamentals*, which showed that the "lost decade" was only lost to those who pursued an equity-centric approach to investing, and then anchored their stock holdings to a cap-weighted index. Unfortunately, most investors made both mistakes. http://researchaffiliates.com/ideas/pdf/Fundamentals_201001.pdf
2. The BarCap Aggregate Bond Index is used as a proxy for bond returns and the S&P 500 Index as a proxy for stocks. This 60/40 portfolio was rebalanced monthly.
3. See "401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2008," October 2009, *Issue Brief*, Employee Benefit Research Institute, no. 335. EBRI data show the average stock allocation over the past decade has been 67% stocks and 33% bonds. http://www.ebri.org/pdf/briefspdf/EBRI_IB_10-2009_No335_K-Update.pdf
4. See "The US Retirement Market, First Quarter 2010," August 2010, *Research Fundamentals*, Investment Company Institute. Asset allocation calculated based on the assets invested in mutual funds in 401(k) plans. As of Q12010, 70% are stock funds, 24% are bond funds, and 6% are money market funds. Prior to the market crash in Q42007, the allocation was 79% stock funds, 17% bond funds, and 4% money market funds. http://www.ici.org/pdf/fm-v19n3-q1.pdf
5. See "Fidelity Reports 2Q 2009 401(k) Trends," August 12, 2009, Fidelity Investments. About 68 percent of 401(k) contribution dollars in the first half of the year went to equities. That number has hovered around 75% for the past few years and topped out at over 80% in 2000.
6. See "The 3-D Hurricane Force Headwind" and "Debt be not Proud," November 2009 and August 2010, respectively, *Fundamentals*. http://researchaffiliates.com/ideas/pdf/Fundamentals_200911.pdf and http://researchaffiliates.com/ideas/pdf/Fundamentals_201008.pdf
7. It bears mentioning that in a 2003 *Financial Analysts Journal* Editor's Corner ("The Mystery of TIPS"), I suggested that the natural yield for long-term TIPS was about 1.4%, far below any yield that had ever been on offer until recently. http://researchaffiliates.com/ideas/pdf/tips1095916135.pdf
8. Two quintessential studies confirm returns chasing by investors meaningfully reduces ending wealth. Dalbar ("Quantitative Analysis of Investor Behavior," 2004) found that over the 20-year period ended December 2003, the S&P 500 Index returned 13% per annum and the average stock fund investor earned just 3.5%! A year later, Russel Kinnel ("Mind the Gap," *Morningstar Advisor*, July 26, 2005 found the average investor lagged the return of their chosen funds by 2–3% per year by timing their entry and exit points badly, chasing the hottest funds. http://advisor.morningstar.com/articles/article.asp?docId=4142
9. See Russel Kinnel's "Bad Timing Eats Away at Investor Returns," February 15, 2010, Morningstar. This shortfall is defined as the difference between reported fund returns and dollar-weighted returns that investors achieved in the same fund over the same time span. If dollars pile in at the top and out at the bottom, of course the dollar-weighted return will be lower, which is exactly what history suggests. The broader asset classes showed lower investor shortfall returns: U.S. Large Caps,–0.32%; U.S. Small Caps, –0.79%; International Equities, –0.51%. http://news.morningstar.com/articlenet/article.aspx?id=325664
10. See "A Complete Toolkit for Fighting Inflation," June 2009, *Fundamentals*. We found many of these stealth inflation fighters have a stronger relationship to inflation than traditional inflation hedging assets. Indeed, some of the traditional "hedges" don't hedge at all; some drop when inflation rises! http://researchaffiliates.com/ideas/pdf/Fundamentals_200906.pdf

Performance Update

TOTAL RETURN AS OF 8/31/10	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	ANNUALIZED 10 YEAR VOLATILITY
FTSE RAFI® 1000 Index[A]	FR10XTR	-1.53%	3.83%	-6.11%	1.16%	3.95%	17.98%
S&P 500[B]	SPTR	-4.62%	4.91%	-8.66%	-0.91%	-1.81%	16.25%
Russell 1000[C]	RU10INTR	-4.37%	5.55%	-8.34%	-0.71%	-1.55%	16.51%
FTSE RAFI® US 1500 Index[D]	FR15USTR	-1.64%	8.99%	-3.08%	2.80%	9.17%	22.97%
Russell 2000[E]	RU20INTR	-2.97%	6.60%	-7.44%	-0.69%	2.48%	21.14%
FTSE RAFI® Developed ex US 1000 Index[F]	FRX1XTR	-8.55%	-5.86%	-8.30%	3.42%	5.20%	19.67%
MSCI EAFE[G]	GDDUEAFE	-7.61%	-1.93%	-10.30%	1.43%	1.53%	18.31%
FTSE All World Series Developed ex US[H]	FTS5DXUS	-6.79%	-0.43%	-9.22%	2.36%	2.26%	18.53%
FTSE RAFI® Developed ex US Mid Small[I]	FRSDXUS	-3.88%	1.19%	-6.13%	3.09%	8.48%	18.33%
MSCI EAFE Small[J]	MCUDEAFE	-3.50%	-0.26%	-11.94%	-1.39%	3.57%	19.97%
FTSE RAFI® Emerging Markets[K]	TFREMU	-0.57%	16.71%	2.25%	17.50%	19.82%	25.43%
MSCI Emerging Markets[L]	GDUEEGF	-0.09%	18.34%	-1.22%	12.71%	11.55%	25.03%
FTSE RAFI® Canada[M]	FRCANTR	2.52%	10.29%	0.33%	6.31%	8.61%	14.32%
S&P/TSX 60[N]	TX60AR	1.82%	9.19%	-1.71%	5.45%	2.27%	16.33%
FTSE RAFI® Australia[O]	FRAUSTR	-8.96%	0.74%	-5.32%	4.94%	8.78%	13.05%
S&P/ASX 200 Index[P]	ASA51	-6.99%	2.17%	-6.95%	4.24%	7.32%	13.51%
FTSE RAFI® Japan[Q]	FRJPNTR	-9.78%	-14.50%	-17.10%	-4.97%	-0.87%	18.43%
MSCI Japan[R]	GDDLJN	-11.14%	-14.73%	-19.72%	-6.71%	-4.88%	18.25%
FTSE RAFI® UK[S]	FRGBRTR	-1.63%	0.67%	-3.93%	3.04%	3.38%	17.02%
MSCI UK[T]	GDDUUK	-1.08%	9.78%	-2.53%	3.34%	1.28%	15.09%
RAFI Investment Grade[U]		10.46%	13.55%	9.57%	6.82%	7.40%	6.06%
Merrill Lynch US Corporate Master[V]	C0A0	10.64%	14.23%	8.16%	5.93%	7.15%	6.23%
RAFI High Yield[W]	RAFIHY	9.14%	21.25%	11.66%	9.28%	10.17%	11.25%
Merrill Lynch US High Yield BB-B Rated[X]	H0A4	8.75%	19.14%	7.23%	6.61%	6.68%	10.23%

Definition of Indices: (A) The FTSE RAFI® 1000 comprises the 1000 largest companies selected and weighted using our Fundamental Index methodology; (B) The S&P 500 Index is an unmanaged market index that focuses on the large-cap segment of the U.S. equities market; (C) The Russell 1000 Index is a market-capitalization-weighted benchmark index made up of the 1,000 highest-ranking U.S. stocks in the Russell 3000; (D) The FTSE RAFI® 1500 comprises the 1001st to 1500th largest companies selected and weighted using our Fundamental Index methodology; (E) The Russell 2000 is a market-capitalization weighted benchmark index made up of the 2,000 smallest U.S. companies in the Russell 3000; (F) The FTSE RAFI® Developed ex US 1000 Index comprises the largest 1000 non US-listed companies by fundamental value, selected from the constituents of the FTSE Developed ex US Index; (G) MSCI EAFE (Morgan Stanley Capital International Europe, Australasia, Far East) is an unmanaged index of issuers in countries of Europe, Australia, and the Far East represented in U.S. dollars; and (H) The FTSE All World ex-US Index comprises Large and Mid-Cap stocks providing coverage of Developed and Emerging Markets excluding the United States. It is not possible to invest directly in any of the indexes above; (I) The FTSE RAFI® Developed ex US Mid Small Index tracks the performance of small- and mid-cap equities of companies domiciled in developed international markets (excluding the United States), selected based on the following four fundamental measures of firm size: book value, cash flow, sales, and dividends. The equities with the highest fundamental strength are weighted according to their fundamental scores. The Fundamentals Weighted® portfolio is rebalanced and reconstituted annually. Performance represents price return only; (J) The MSCI EAFE Small Cap Index targets 40% of the eligible small-cap universe (companies with market capitalization ranging from US$200 to US$1,500 million) in each industry group of each country in the MSCI EAFI Index; (K) The FTSE RAFI® Emerging Markets Index comprises the largest 350 companies selected and weighted using the Fundamental Index® methodology; (L) The MSCI Emerging Markets Index is an unmanaged, free-float-adjusted cap-weighted index designed to measure equity market performance of emerging markets; (M) The FTSE RAFI® Canada Index comprises the Canadian stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (N) The S&P/Toronto Stock Exchange (TSX) 60 is a cap-weighted index consisting of 60 of the largest and most liquid (heavily traded) stocks listed on the TSX, usually domestic or multinational industry leaders; (O) The FTSE RAFI® Australia Index comprises the Australian stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (P) The S&P/ASX 200 Index, representing approximately 78% of the Australian equity market, is a free-float-adjusted, cap-weighted index; (Q) The FTSE RAFI® Japan Index comprises the Japanese stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (R) The MSCI Japan Index is an unmanaged, free-float-adjusted cap-weighted index that aims to capture 85% of the publicly available total market capitalization of the Japanese equity market; (S) The FTSE RAFI® UK Index comprises the U.K. stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (T) The MSCI UK Index is an unmanaged, free-float-adjusted cap-weighted index that aims to capture 85% of the publicly available total market capitalization of the British equity market; (U) The RAFI® Investment Grade Master Index is a U.S. investment-grade corporate bond index comprised of non-zero fixed coupon debt with maturities ranging from 1 to 30 years issued by publicly traded companies. The issuers held in the index are weighted by a combination of four measures of their fundamental size—sales, cash flow, dividends, and book value of assets; (V) The Merrill Lynch U.S. Corporate Master Index is representative of the entire U.S. corporate bond market. The index includes dollar-denominated investment-grade corporate public debt issued in the U.S. bond market; (W) The RAFI®High Yield Master is a U.S. high-yield corporate bond index comprised of non-zero fixed coupon debt with maturities ranging from 1 to 30 years issued by publicly traded companies. The issuers held in the index are weighted by a combination of four measures of their fundamental size—sales, cash flow, dividends, and book value of assets; (X) The Merrill Lynch U.S. High Yield Master II Index is representative of the U.S. high yield bond market. The index includes domestic high-yield bonds, including deferred interest bonds and payment-in-kind securities. Issues included in the index have maturities of one year or more and have a credit rating lower than BBB-/Baa3, but are not in default.

Source: All index returns are calculated using Total Return data from Bloomberg except for the FTSE RAFI Developed ex US Mid Small (FRSDXUS) and the MSCI EAFE Small (MCUDEAFE) which uses price return data.

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