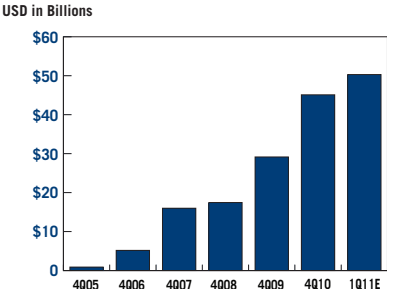
Fundamentals

Rob Arnott

RAFI® Managed Assets*



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DOES *UNREAL* GDP DRIVE OUR POLICY CHOICES?

Gross Domestic Product is used to measure a country's economic growth and standard of living. It measures neither. Unfortunately, the finance community and global centers of power are wedded to a measure that bears little relation to reality, because it confuses prosperity with debt-fueled spending.

Washington is paralyzed by fears that any withdrawal of stimulus, whether fiscal or monetary, whether by the Administration, the Fed, or the Congress, may clobber our GDP. And they're right. But, GDP is the wrong measure.

Without an alternative, we will continue to make bad policy choices based on bad data. Eventually, our current choices may wreak havoc with our future prosperity, the future purchasing power of the dollar, and the real value of U.S. stocks and bonds.

What is GDP?

GDP is consumer spending, plus government outlays, plus gross investments, plus exports minus imports. With the exception of exports, GDP measures *spending*. The problem is GDP makes no distinction between debt-financed spending and spending that we can cover out of current income.

Consumption is not prosperity. The credit-addicted family measures its success by how much it is able to spend, applauding any new source of credit, regardless of the family income or ability to repay. The credit-addicted family enjoys a rising "family GDP"—consumption—as long as they can find new lenders, and suffers a family "recession" when they prudently cut up their credit cards.

In much the same way, the current definition of GDP causes us to ignore the fact that we are mortgaging our future to feed current consumption. Worse, like the credit-addicted family, we can consciously game our GDP and GDP growth rates—our consumption and consumption growth—at any levels our creditors will permit!

Consider a simple thought experiment. Let's suppose the government wants to dazzle us with 5% growth next quarter (equivalent to 20% annualized growth!). If they borrow an additional 5% of GDP in new additional debt and spend it immediately, this magnificent GDP *growth* is achieved! We would all see it as phony growth, sabotaging our national balance sheet—right? Maybe not. We are *already* borrowing and spending 2% to 3% each quarter, equivalent to 10% to 12% of GDP, and yet few observers have decried

continued on page two

this as artificial GDP growth because we're not accustomed to looking at the underlying GDP before deficit spending!

From this perspective, real GDP seems *un*real, at best. GDP that stems from new debt—mainly deficit spending—is phony: it is debt-financed consumption, not prosperity. Isn't GDP, *after excluding net new debt obligations*, a more relevant measure? Deficit spending is supposed to trigger growth in the *remainder* of the economy, net of deficit-financed spending, which we can call our "Structural GDP." If Structural GDP fails to grow as a consequence of our deficits, then deficit spending has failed in its sole and singular purpose.[1]

Of course, even Structural GDP offers a misleading picture. Our Structural GDP has grown nearly 100-fold in the last 70 years. Most of that growth is due to inflation and population growth; a truer measure of the prosperity of the average citizen must adjust for these effects. Accordingly, let's compare *real per capita* GDP with *real per capita* Structural GDP.

A New Measure of Prosperity

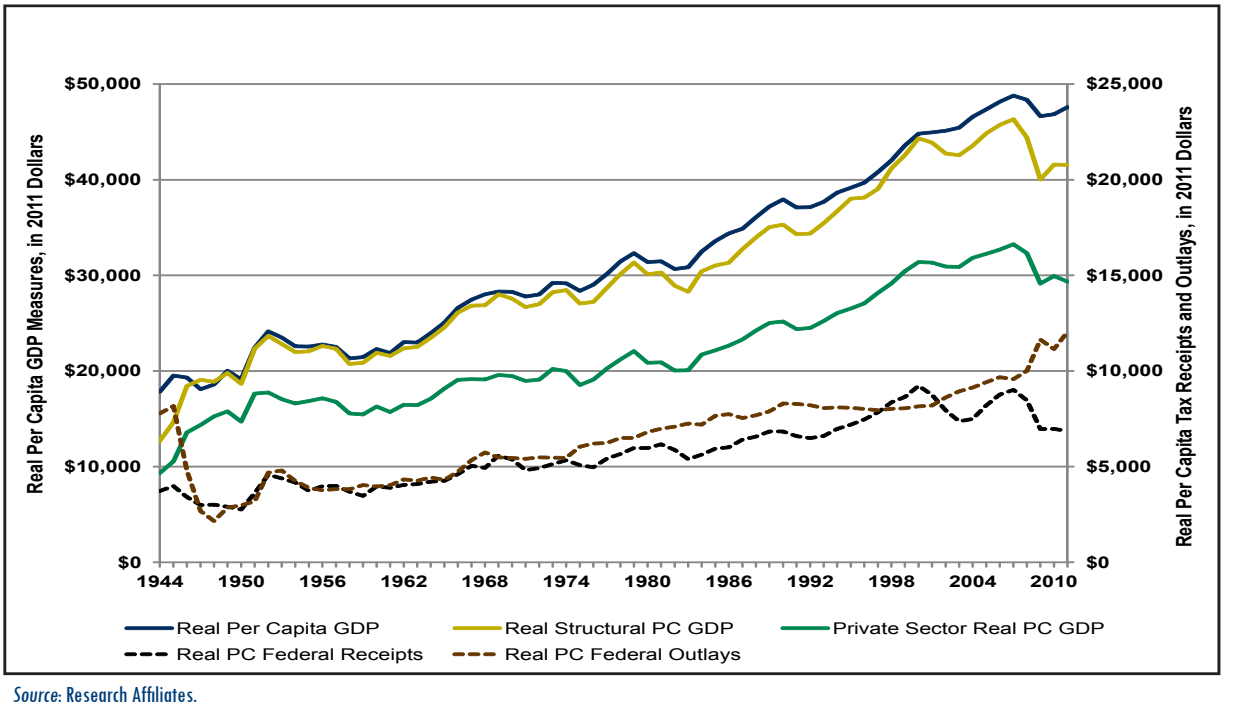
Real per capita GDP has recovered to within 2.5% of the 2007 peak of $48,000 (in 2010 dollars). So, why do we feel so bad? For one thing, after two recessions, we're up barely 6% in a decade. Furthermore, this scant growth is *entirely debt-financed consumption*. The real per capita Structural GDP, after subtracting the growth in public debt, remains 10% below the 2007 peak, and is *down* 5% in the past decade. Net of deficit spending, our prosperity is nearly unchanged from 1998, 13 years ago.

As a diagnostic for why this has happened, let's go one step further. Few would argue that a healthy economy can grow without the private sector leading the way. The real per capita "Private Sector GDP" is another powerful measure that is easy to calculate. It nets out government spending—federal, state, and local. Very like our Structural GDP, Private Sector GDP is bottom-bouncing, 11% below the 2007 peak, 6% below the 2000–2003 plateau, and has reverted to roughly match 1998 levels.

Figure 1 illustrates the situation. Absent debt-financed consumption, we have gone nowhere since the late 1990s.

As the private sector has crumbled, and Structural GDP has lost 13 years of growth, tax receipts have collapsed. Real per capita federal tax receipts have tumbled to levels first achieved in 1994, and are fully 25% below the peak levels of 2000.[2] The 2000 peak in tax receipts was, of course, bolstered by unprecedented capital gains tax receipts following the wonder years of the 1990s. But this surge in tax receipts fueled a perception—even in a Republican-dominated government!—that there was money to burn, as if the capital gains from the biggest bull market in U.S. stock market history would continue indefinitely!

Figure 1. Real GDP, Structural GDP, and Private Sector GDP, Per Capita, 1944-2011



Source: Research Affiliates.

What does this mean for the citizens and investors in the world's largest economy? If we continue to focus on GDP, while ignoring (and even facilitating) the decay of our Structural GDP and our Private Sector GDP, we'll continue to borrow and spend, mortgaging our nation's future. The worst case result could include the collapse of the purchasing power of the dollar, the demise of the dollar as the world's reserve currency, the dismantling of the middle class, and a flight of global capital away from dollar-based stocks and bonds.

None of these consequences is likely imminent. But, few would claim today that they are impossible. Most or all of these consequences can likely still be avoided. But, not if we hew to the current path, dominated by sheer terror at the thought of a drop in top-line GDP.

After World War II, the U.S. Government "downsized" from 43.6% of GDP to 11.6% in 1948 (under a Democrat!). Did this trigger a recession? Measured by GDP, you bet! From 1945 to 1950, the nation convulsed in two short sharp recessions as the private sector figured out what to do with all the talent released from government employment, and real per capita GDP flat-lined. But, underneath the pain of two recessions, a spectacular energizing of the private sector was underway. From the peak of government expenditure in 1944 until 1952, the *per capita real* Structural GDP, the GDP that was not merely debt-financed consumption, soared by 87%; the Private Sector GDP, in per capita real terms, jumped by more than 90%.

Was the recent 0.5% drop in GDP in the United Kingdom a sign of weakness, or was this drop merely the elimination of 0.5% of debt-financed GDP that never truly existed? *Spending dropped by over 1% of GDP; Structural GDP was finally improving!*

We must pay attention to the health—or lack of same—for our Structural GDP and our Private Sector GDP before they lose further ground.

Conclusion

Government outlays were not reined in by either political party for most of the past decade. Real *per capita* government outlays now stand some 50% above the levels of just 10 years ago, even with Structural GDP and Private Sector GDP down over the same span. Federal spending is more than 40% of the Private Sector GDP for the first time since World War II.

Even our calculation of the national debt burden (debt/GDP) needs rethinking. Is the family that overextends correct in measuring their debt burden relative to their income *plus any new debt that they have accumulated in the past year*? Isn't it more meaningful to compute debt relative to Structural GDP, net of new borrowing?! Our National Debt, poised to cross 100% of GDP this fall, is set to reach 112% of Structural GDP at that same time, even without considering off-balance-sheet debt.[3] Will Rogers put it best: "When you find yourself in a hole, stop digging."

While many cite John Maynard Keynes as favoring government spending during a recession, he never intended to create structural deficits. He recommended that government should serve as a shock absorber for economic ups and downs. He prescribed surpluses in the best of times, with the proceeds serving to fund deficits in the bad times, supplemented by *temporary* borrowings if necessary. And he *loathed* inflation and currency debasement, which he correctly viewed as the scourge of the middle class.

GDP provides a misleading picture and a false sense of security. Instead of revealing an economy that we all viscerally know is weaker than a decade ago, it suggests an economy that is within hailing distance of a new peak in prosperity for the average American. Top-line GDP has recovered handily from its lows, on the back of record debt-financed consumption. But, our Structural GDP and Private Sector GDP are both floundering. Focusing on top-line GDP tempts us all to rely on ever more debt-financed consumption, until our lenders say "no más."

The cardiac patient on the gurney has had his shot of adrenaline and is feeling better, but he is still gravely ill—more so than before his latest heart attack—as these two simple GDP measures amply demonstrate.

Endnotes

1. A "correct" measure would subtract all new debt that is backed only by future income, lacking collateral. Very little private debt lacks collateral, and very little public debt is backed by anything other than future income. So, for simplicity's sake in this article, we subtract only net new government debt.
2. Despite no change in tax rates since 2003, this situation is often blamed on the perfidy of the affluent, not the evaporation of capital gains, hence capital gains taxes. We should recognize that the enemy is not success, it is poverty. But, when we rue the latter, we too often blame the former.
3. See the November 2009 issue of *Fundamentals*, entitled "The '3-D' Hurricane Force Headwind," for more details on the daunting levels of off-balance-sheet debt. Our debt/GDP ratio may be poised to cross 100% of GDP this fall, but our GAAP accounting debt burden is already well past 400% of GDP and well past 500% of Structural GDP.

Performance Update

FTSE RAFI® Equity Index Series*

TOTAL RETURN AS OF 3/31/11	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	ANNUALIZED 10 YEAR VOLATILITY
FTSE RAFI® All World 3000[1]	TFRAW3	5.22%	14.76%	3.55%	6.36%	10.24%	18.75%
MSCI All Country World[2]	GDUEACWF	4.53%	14.63%	0.86%	3.48%	5.55%	17.22%
FTSE RAFI® Developed ex US 1000[3]	FRX1XTR	5.21%	12.19%	0.12%	4.25%	8.67%	19.99%
MSCI World ex US Large Cap[4]	MLCUWXUG	3.83%	10.83%	-2.07%	2.37%	5.67%	18.29%
FTSE RAFI® Developed ex US Mid Small[5]	TFRDXUSU	3.60%	18.92%	7.11%	6.66%	14.92%	18.69%
MSCI World ex US Small Cap[6]	GCUDWXUS	3.35%	22.39%	2.91%	2.72%	11.58%	20.37%
FTSE RAFI® Emerging Markets[7]	TFREMU	3.15%	18.66%	7.87%	15.12%	24.44%	24.50%
MSCI Emerging Markets[8]	GDUEEGF	2.10%	18.78%	4.62%	11.01%	17.12%	24.10%
FTSE RAFI® 1000[9]	FR10XTR	6.18%	16.95%	6.37%	4.92%	6.43%	18.14%
Russell 1000[10]	RU10INTR	6.24%	16.69%	2.98%	2.93%	3.83%	16.17%
S&P 500[11]	SPTR	5.92%	15.65%	2.35%	2.62%	3.29%	15.98%
FTSE RAFI® US 1500[12]	FR15USTR	7.55%	25.47%	13.58%	6.91%	13.06%	22.63%
Russell 2000[13]	RU20INTR	7.94%	25.79%	8.57%	3.35%	7.87%	20.95%
FTSE RAFI® Europe[14]	TFREUE	1.73%	6.98%	1.19%	0.59%	3.85%	19.18%
MSCI Europe[15]	GDDLE15	2.23%	6.04%	0.29%	0.35%	2.27%	17.03%
FTSE RAFI® Australia[16]	FRAUSTR	3.49%	1.91%	2.48%	4.25%	9.71%	13.04%
S&P/ASX 200[17]	ASA51	3.23%	3.44%	1.09%	3.18%	8.85%	13.42%
FTSE RAFI® Canada[18]	FRCANTR	5.45%	14.29%	8.54%	7.53%	10.21%	14.21%
S&P/TSX 60[19]	TX60AR	5.83%	17.47%	3.93%	6.06%	8.58%	14.70%
FTSE RAFI® Japan[20]	FRJPNTR	-3.15%	-9.71%	-7.05%	-8.86%	0.38%	18.86%
MSCI Japan[21]	GDDLJN	-2.77%	-9.88%	-9.20%	-11.08%	-2.59%	18.49%
FTSE RAFI® UK[22]	FRGBRTR	0.59%	5.98%	4.22%	2.95%	5.01%	17.18%
MSCI UK[23]	GDDLUK	1.37%	7.50%	5.05%	3.44%	4.00%	15.12%

*To see the complete series, please go to: http://www.ftse.com/Indices/FTSE_RAFI_Index_Series/index.jsp.

Russell Fundamental Index® Series*

TOTAL RETURN AS OF 3/31/11	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	ANNUALIZED 10 YEAR VOLATILITY
Russell Fundamental Global Index Large Company[24]	RUFGLTU	6.12%	16.90%	4.45%	6.35%	10.20%	17.47%
MSCI All Country World Large Cap[25]	MLCUAWOG	4.41%	13.37%	0.40%	3.39%	4.84%	16.93%
Russell Fundamental Developed ex US Index Large Company[26]	RUFDXLTU	5.08%	13.19%	4.22%	2.51%	10.40%	18.41%
MSCI World ex US Large Cap[27]	MLCUWXUG	3.83%	10.83%	-2.07%	2.37%	5.67%	18.29%
Russell Fundamental Developed ex US Index Small Company[28]	RUFDXSTU	2.27%	15.85%	4.97%	4.79%	13.46%	18.59%
MSCI World ex US Small Cap[6]	GCUDWXUS	3.35%	22.39%	2.91%	2.72%	11.58%	20.37%
Russell Fundamental Emerging Markets[29]	RUFGETRU	2.39%	22.43%	9.49%	15.68%	23.34%	24.39%
MSCI Emerging Markets[8]	GDUEEGF	2.10%	18.78%	4.62%	11.01%	17.12%	24.10%
Russell Fundamental US Index Large Company[30]	RUFUSLTU	7.53%	17.98%	6.35%	5.20%	7.23%	16.57%
Russell 1000[10]	RU10INTR	6.24%	16.69%	2.98%	2.93%	3.83%	16.17%
S&P 500[11]	SPTR	5.92%	15.65%	2.35%	2.62%	3.29%	15.98%
Russell Fundamental US Index Small Company[31]	RUFUSSTU	8.47%	26.64%	14.67%	8.18%	13.87%	20.99%
Russell 2000[13]	RU20INTR	7.94%	25.79%	8.57%	3.35%	7.87%	20.95%
Russell Fundamental Europe[32]	RUFEUTE	3.15%	12.07%	4.23%	2.70%	6.75%	18.13%
MSCI Europe[15]	GDDLE15	2.23%	6.04%	0.29%	0.35%	2.27%	17.03%

*To see the complete series, please go to: http://www.russell.com/indexes/data/Fundamental/About_Russell_Fundamental_indexes.asp.

Fixed Income/Alternatives

TOTAL RETURN AS OF 3/31/11	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	ANNUALIZED 10 YEAR VOLATILITY
RAFI® Bonds Investment Grade Master[33]		0.69%	7.23%	7.87%	7.13%	6.44%	6.03%
ML Corporate Master[34]	C0A0	0.97%	7.63%	7.30%	6.38%	6.25%	6.21%
RAFI® Bonds High Yield Master[35]		3.82%	13.48%	13.68%	10.97%	10.11%	11.04%
ML Corporate Master II High Yield BB-B[36]	H0A4	3.64%	13.71%	10.63%	7.95%	7.54%	9.92%
RAFI US Equity Long/Short[37]		1.43%	4.45%	10.46%	5.56%	7.01%	11.81%
1-Month T-Bill[38]	GB1M	0.03%	0.14%	0.34%	1.95%	2.00%	0.48%
FTSE RAFI® Global ex US Real Estate[39]	FRXR	2.72%	14.91%	-3.17%	-0.19%	10.43%	22.36%
FTSE EPRA/NAREIT Global ex US[40]	EGXU	0.08%	11.98%	-7.68%	-2.97%	7.22%	20.26%
FTSE RAFI® US 100 Real Estate[41]	FRUR	6.82%	21.68%	2.37%	-3.41%	6.91%	27.13%
FTSE EPRA/NAREIT United States[42]	UNUS	5.38%	19.62%	-3.24%	-3.32%	5.56%	25.50%

Definition of Indices:

(1) The FTSE RAFI® All World 3000 Index is a measure of the largest 3,000 companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value), across both developed and emerging markets.
(2) The MSCI All Country World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.
(3) The FTSE RAFI® Developed ex US 1000 Index is a measure of the largest 1000 non U.S. listed, developed market companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(4) The MSCI World ex US Large Cap Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets, excluding the United States.
(5) The FTSE RAFI® Developed ex US Mid Small Index tracks the performance of small and mid-cap companies domiciled in developed international markets (excluding the United States), selected and weighted based on the following four fundamental measures of firm size: sales, cash flow, dividends and book value.
(6) The MSCI World ex US Small Cap Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of small cap developed markets, excluding the United States.
(7) The FTSE RAFI® Emerging Markets Index comprises the largest 350 Emerging Market companies selected and weighted using fundamental factors (sales, cash flow, dividends, book value).
(8) The MSCI Emerging Markets Index is an unmanaged, free-float-adjusted cap-weighted index designed to measure equity market performance of emerging markets.
(9) The FTSE RAFI® 1000 Index is a measure of the largest 1,000 U.S. listed companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(10) 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.
(11) The S&P 500 Index is an unmanaged market index that focuses on the large-cap segment of the U.S. equities market.
(12) The FTSE RAFI® US 1500 Index is a measure of the 1,001st to 2,500th largest U.S. listed companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(13) The Russell 2000 is a market-capitalization weighted benchmark index made up of the 2,000 smallest U.S. companies in the Russell 3000.
(14) The FTSE RAFI® Europe Index is comprised of all European companies listed in the FTSE RAFI® Developed ex U.S. 1000 Index, which in turn is comprised of the largest 1,000 non U.S. listed developed market companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(15) The MSCI Europe Index is a free-float adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in Europe.
(16) The FTSE RAFI® Australia Index is comprised of all Australian companies listed in the FTSE RAFI® Developed ex U.S. 1000 Index, which in turn is comprised of the largest 1,000 non U.S. listed developed market companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(17) The S&P/ASX 200 Index, representing approximately 78% of the Australian equity market, is a free-float-adjusted, cap-weighted index.
(18) The FTSE RAFI® Canada Index is comprised of all Canadian companies listed in the FTSE RAFI® Developed ex U.S. 1000 Index, which in turn is comprised of the largest 1,000 non U.S. listed developed market companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(19) 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.
(20) The FTSE RAFI® Japan Index is comprised of all Japanese companies listed in the FTSE RAFI® Developed ex U.S. 1000 Index, which in turn is comprised of the largest 1,000 non U.S. listed developed market companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(21) 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.
(22) The FTSE RAFI® UK Index is comprised of all UK companies listed in the FTSE RAFI® Developed ex U.S. 1000 Index, which in turn is comprised of the largest 1,000 non U.S. listed developed market companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(23) 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.
(24) The Russell Fundamental Global Index Large Company is a measure of the largest companies, selected and weighted using fundamental factors; (adjusted sales, retained cash flow, dividends + buybacks), across both developed and emerging markets.
(25) The MSCI All Country World Large Cap Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.
(26) The Russell Fundamental Developed ex US Large Company is a subset of the Russell Fundamental Developed ex US Index, and is a measure of the largest non-U.S. listed developed country companies, selected and weighted using fundamental factors; (adjusted sales, retained cash flow, dividends + buybacks).
(27) The MSCI World ex US Large Cap Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of large cap-developed markets, excluding the United States.
(28) The Russell Fundamental Developed ex US Index Small Company is a subset of the Russell Fundamental Developed ex US Index, and is a measure of small non-U.S. listed developed country companies, selected and weighted using fundamental factors; (adjusted sales, retained cash flow, dividends + buybacks).
(29) The Russell Fundamental Emerging Markets Index is a measure of Emerging Market companies, selected and weighted using fundamental factors; (adjusted sales, retained cash flow, dividends + buybacks).
(30) The Russell Fundamental U.S. Index Large Company is a subset of the Russell Fundamental US Index, and is a measure of the largest U.S. listed companies, selected and weighted using fundamental measures; (adjusted sales, retained cash flow, dividends + buybacks).
(31) The Russell Fundamental US Index Small Company is a subset of the Russell Fundamental US Index, and is a measure of U.S. listed small companies, selected and weighted using fundamental measures; (adjusted sales, retained cash flow, dividends + buybacks).
(32) The Russell Fundamental Europe Index is a measure of European companies, selected and weighted using fundamental factors; (adjusted sales, retained cash flow, dividends + buybacks).
(33) The RAFI® Bonds 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.
(34) 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.
(35) The RAFI® Bonds 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.
(36) The Merrill Lynch Corporate Master II High Yield BB-B 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.
(37) The RAFI® US Equity Long/Short Index utilizes the Research Affiliates Fundamental Index® (RAFI®) methodology to identify opportunities that are implemented through long and short securities positions for a selection of U.S. domiciled publicly traded companies listed on major exchanges. Returns for the index are collateralized and represent the return of the strategy plus the return of a cash collateral yield.
(38) The 1-Month T-bill return is calculated using the Bloomberg Generic 1-month T-bill. The index is interpolated based off of the currently active U.S. 1 Month T-bill and the cash management bill closest to maturing 30 days from today.
(39) The FTSE RAFI® Global ex US Real Estate Index comprises 150 companies with the largest RAFI fundamental values selected from the constituents of the FTSE Global All Cap ex U.S. Index that are classified by the Industry Classification Benchmark (ICB) as Real Estate.
(40) The FTSE EPRA/NAREIT Global ex US Index is a free float-adjusted index, and is designed to represent general trends in eligible listed real estate stocks worldwide, excluding the United State. Relevant real estate activities are defined as the ownership, trading and development of income-producing real estate.
(41) The FTSE RAFI® US 100 Real Estate Index comprises of the 100 U.S. companies with the largest RAFI fundamental values selected from the constituents of the FTSE USA All Cap Index that are classified by the Industry Classification Benchmark (ICB) as Real Estate.
(42) The FTSE EPRA/NAREIT United States Index is a free float-adjusted index, is a subset of the EPRA/NARIET Global Index and the EPRA/NAREIT North America Index and contains publicly quoted real estate companies that meet the EPRA Ground Rules. EPRA/NARIET Index series is seen as the representative benchmark for the real estate sector.

Source: All index returns are calculated using total return data from Bloomberg, except for the real estate indices and benchmarks, which use price return data. Returns for all single country strategies and Europe regional strategies are in local currency. All other returns are in USD.

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