Fundamentals

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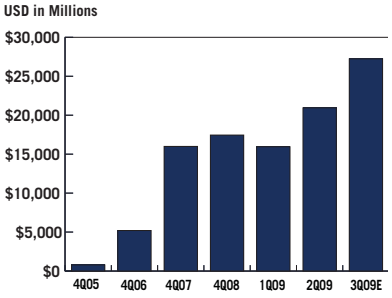
RAFI® Managed Assets*



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THE "3-D" HURRICANE FORCE HEADWIND

Too often in investing we concentrate on the little decisions—the "trees"—that may impact the portfolio for the next quarter, year, or even three years. The "trees" of security and manager selection receive the bulk of our investment management resources, while the "forests"—the big issues that will affect our portfolios for potentially decades—receive scant attention. Such long-term thinking is difficult amidst the barrage of daily economic news and the steady flow of quarterly peer group rankings. We are a short term lot, us homo sapiens, reacting on instinct while seeking comfort and safety. We didn't survive the lions of the African Veldt by planning ahead five or ten years!

But the forests will inevitably have the greatest impact on our future, on the returns we can expect from endowment and retirement assets, and ultimately on the way we should allocate assets. In this issue we examine three critical long-horizon issues—the deficit, the national debt, and demographics—and find a disturbing structural headwind that will impede the real returns we can expect from financial assets in the years ahead. The coming quarter century will be very, very different from the past quarter century; the lessons we've learned in the past generation may lead us astray in the coming generation.

The Deficit

It's common knowledge that the United States has been running a fairly consistent deficit for the past quarter century. **Figure 1** shows the rolling 12-month deficit or surplus, as a percentage of GDP (blue line), going back to the early 1980s. The annual average deficit for the past 25 years is about 2.4% of GDP—not a big deal when real GDP growth hovered around 3%. The latest year shows a deficit of 10% of GDP, but even this isn't a problem as long as it's a one-off deficit incurred to help avert a major financial and economic crisis. Right? Right… if the past average really was 2.4% and the current deficit really is temporary.

The gold line shows the 12-month change in the national debt. Hmmm… isn't the deficit supposed to match the change in our national debt? The big difference between the two lines is the off-balance-sheet spending, of which the largest component is the prefunding of entitlements such as Medicare and Social Security, which bumps the 25-year average deficit up to 4.5%. On this metric, the much-vaunted budget surpluses of the late 1990s disappear.

The green line adds in the incremental net indebtedness of government-sponsored enterprises (GSEs), which are now officially backed by the full faith and credit

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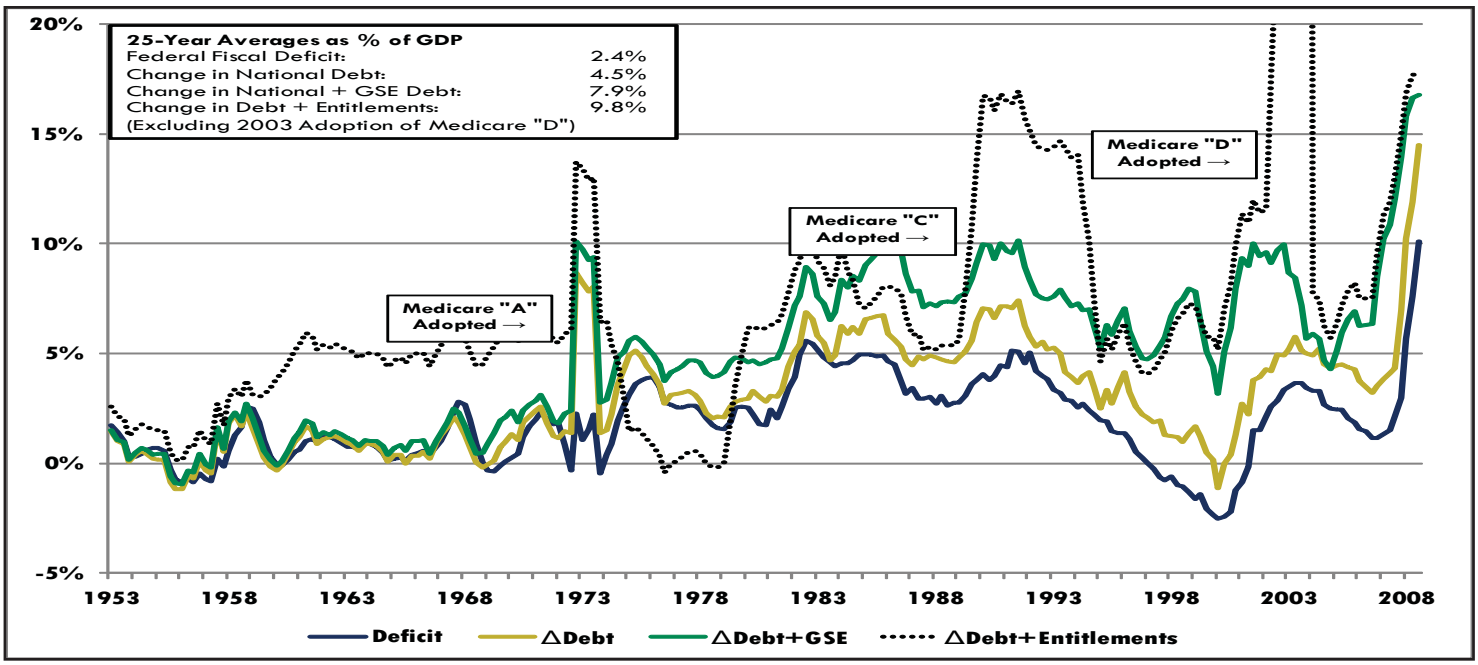
Figure 1. The Fiscal Budget Deficit—Official and Unofficial—1953–2008



Source: Research Affiliates.

of the federal government. If we add the incremental net debt of the GSEs, year by year our average annual deficit spikes to 7.9% of GDP. And, the dotted line shows the impact of adding the unfunded portion of Social Security and Medicare. The average increase in our national debt, including unfunded obligations and GSEs, soars to 9.8% of GDP for the past 25 years. The latest 12 months saw our public debt and unfunded obligations grow by 18% of GDP! No wonder the debt seems to have grown crushingly large.

It's noteworthy that, if a company computes its debt by ignoring off-balance-sheet and unfunded obligations, the management team wins an all-expense-paid extended holiday at Club Fed. Enron, anyone? But, if you write the laws, you can allow yourself these games. In emerging markets debt investments, managers are wary of sovereign credits when their deficits approach 5% of GDP. Yet here we are, after measuring on a more economically accurate level, running at twice this worrisome warning level… for over 25 years.

The Debt

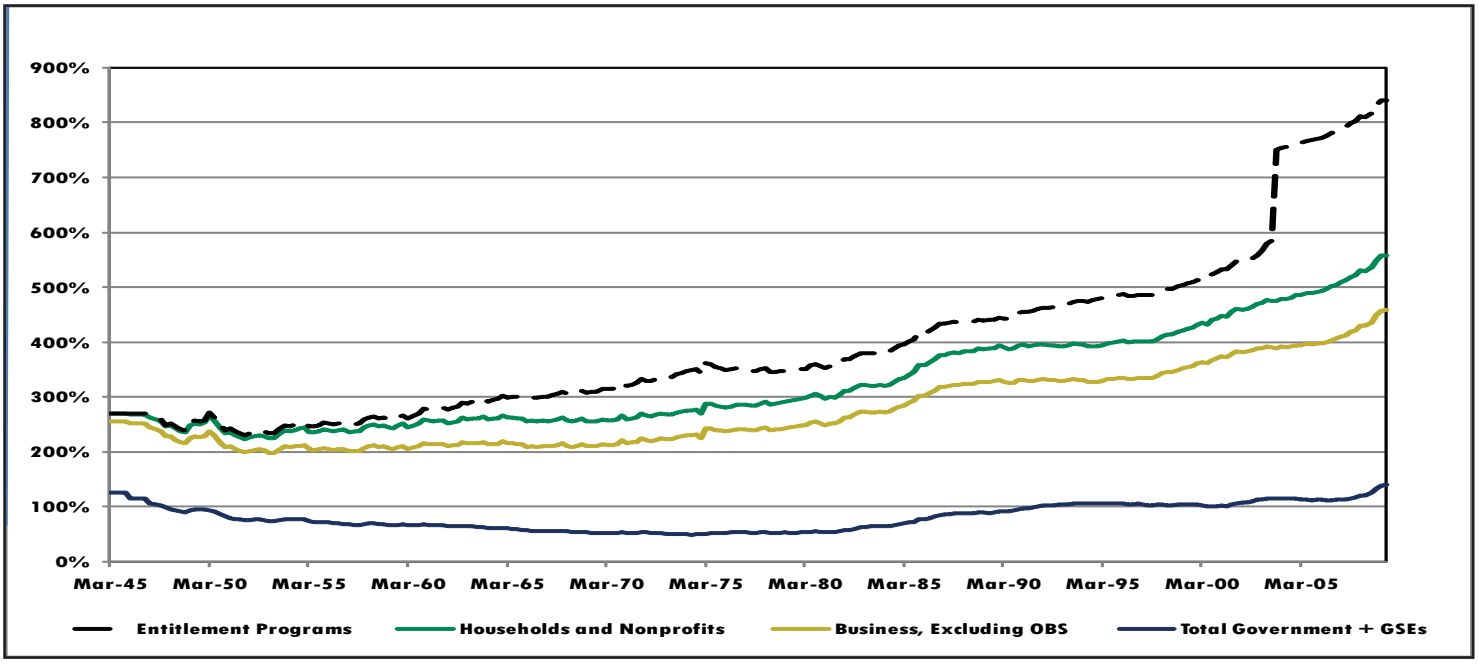
If we borrow more than we earn for such an extended period of time, the debt picture won't be pretty. It's not. At 60% of GDP, the United States ranks about 25th in the world for indebtedness.[1] But that's not the whole story. To get the complete picture, we need to factor in state and local debt and GSEs. Note that most other (particularly developing) countries don't have layers of autonomous public entities of this sort. Adding federal, state, local, and GSEs, the total public debt is now at 141% of GDP. That puts the United States in some elite company—only Japan, Lebanon, and Zimbabwe are higher. Add in household debt (highest in the world at 99% of GDP) and corporate debt (highest in the world at 317% of GDP, not even counting off-balance-sheet swaps and derivatives), and our total debt is 557% of GDP. Less than three years ago, our total indebtedness crossed 500% of GDP for the first time.

As **Figure 2** shows, apart from the shadow banking system we are most assuredly not deleveraging. Direct debt is rising, not falling. Add in the unfunded portion of entitlement programs and we're at 840% of GDP. Yikes. No wonder the debt burden feels so crushing.

What can't happen, won't happen. If we can't afford our direct debt, we surely can't afford our unfunded obligations. The stroke of a pen can take these programs to "means testing." If retirees cannot enjoy Social Security or Medicare reimbursal until their savings are drained, the unfunded obligations disappear. This still leaving us true, direct debt of 5½ times our income. It is a daunting figure. How many people do you know that have owed five times their annual income and suffered no adverse consequences?

So what are our choices? Repayment, reflation, or abrogation. To pay it off—or to pay it down to less

Figure 2. U.S. Aggregate Debt, Public, Corporate, Household, and Entitlements, 1945–2009



Source: Research Affiliates.

threatening levels—requires the political will to make sacrifices today and will take decades; this path is a most assured way to not get elected. Alternatively, reflation is the debtor's friend because it reduces the burden of our fixed-rate liabilities. Said another way, a 6% annual debt service and an eventual payment of principal are much more manageable when inflation runs at 5% rather than 2% (our real interest payments are only 1%, not 4%). The last alternative is to take the route of Russia in 1998 or Argentina in 2001—abrogate the debt. In our private debt—households and corporate debt—every default, foreclosure, and bankruptcy is a form of abrogation. However, for our public debt we would prefer not to explore the consequences of abrogation in the United States Treasury market, when our external debt is largely held by Russia, China, and the Middle East.

Our debt level will have to be brought down to a more reasonable level, through some combination of domestic abrogation, paydown, and reflation. Tax hikes are a near inevitability. Taxes are never a good thing for economic growth—the GDP multiplier for tax rates is approximately –3.0; that is, if tax rates rise by 1% of GDP, GDP can be expected to fall by 3%. Indeed, there's look-ahead in this relationship. If tax rates are expected to rise by 1% of GDP, people change their behavior in anticipation of the higher tax rates. Has this been an important contributor to the current situation? Probably, but it would be difficult to prove.

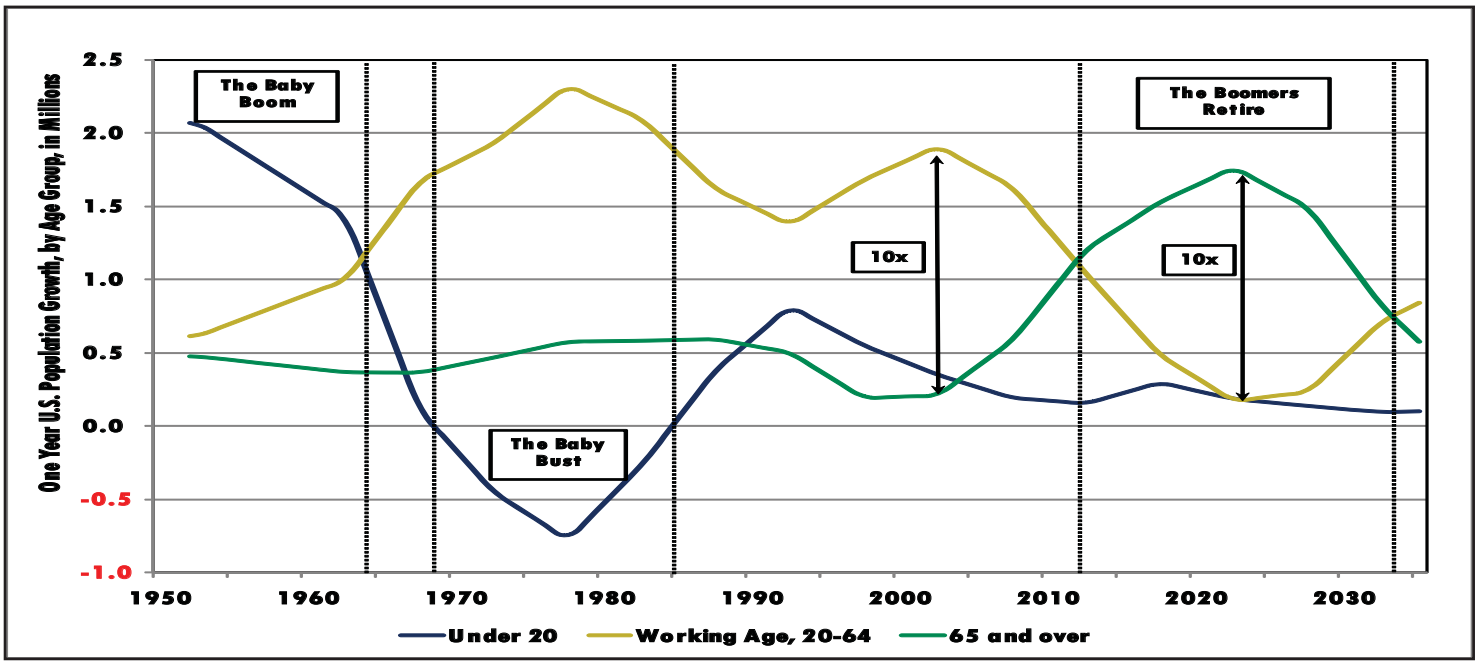
The lion's share of the debt reduction may well be accomplished through reflation. We can eliminate half of our debt in 15 years if our inflation runs 5% higher than our trading partners, and if our real GDP growth keeps pace despite the inflation. Thus, if our partners are running at 3%, then an 8% annual inflation rate would do the trick. To keep debt service costs, we need to persuade our creditors that we're serious about a strong dollar, even as we work to weaken the dollar. For those of us who were unlucky enough to begin our careers in the 1960s and 1970s, we know this kind of inflation is not the foundation for solid real returns. This is not a smooth and comfortable road, but it is the only politically expedient path.

Demographics

The final structural headwind to meaningful net-of-inflation returns is demographics. As the debt comes due, the people who accumulated and spent the debt will want to retire and let the next generation pay it down. Dependency ratios—the ratio of retirees to workers—are accelerating in the United States and are already very scary in Eastern Europe. The problem eventually becomes serious in China, as a delayed consequence of their one-child policy.

The game-changer that seems to have gone unnoticed is the first derivative, the relative change of the generational constituencies as evidenced in **Figure 3**. In 2002, the population was adding

Figure 3. Inflection Points, Demographic Seismic Shifts



Source: Research Affiliates.

10 new working age people—those age 20–64—for every single new potential retiree—those age 65 and up. By 2023, that literally flips to 10 new retiree wanna-bes for each new working age person. There's essentially no wiggle-room in these figures: the people are already alive and can be counted.

This demographic change has inflation implications at a basic supply and demand level. Retirees consume goods and services that they no longer produce, and workers supply them. Retirees sell assets in order to pay for these goods and services, and workers must buy them. An increase in the retiree population and a decrease in the relative size of the workforce means the supply of labor to produce goods and services will shrink, leading to higher wages and prices. Meanwhile, the supply of assets from those who wish to retire grows as the demand for those assets, from the shrinking roster of new workers, shrinks. This inflation may be particularly acute in particularly prized products for retirees like health care (currently contributing most of core CPI inflation).

Investment Implications

The three "D"s point to an extended reflationary environment mixed with potentially higher taxes and sluggish economic growth.[2] This is not exactly the backdrop that is promising for sizeable real returns from conventional portfolios. As asset allocators, the investment implications of this sobering assessment must be factored into our portfolio design if we are to meet 10– to 20–year (or longer) liabilities.

- **Inflation Protection Will Be Priced at a Premium**. Assets with a more direct relationship with inflation, like inflation-linked bonds and commodities, will begin to receive more than token allocations.[3] Long TIPS today yield about 2%, in line with the real yield experienced by nominal Treasuries over the past 100 years. There's no incremental value currently assigned to the inflation protection component of TIPS. Can real yields go well below 2%? Of course! All one has to do is look "across the pond" to the United Kingdom where long linker yields are priced to yield well under 1%. Likewise, commodity futures offer a more direct relationship to inflation than stocks. Given the near identical long-term historical returns of commodities and stocks (as measured by the Goldman Sachs Commodity Index and S&P 500 Index since 1970), there appears evidence that commodities can offer an ample risk premium but with higher correlation to inflation.
- **Equities Under Pressure**. Equities tend to keep pace with inflation over very long periods, but their intermediate 5–10 year inflation hedging capability is overstated. The reason is that high inflation causes equity valuations to tumble over the uncertainty of how quickly

and efficiently companies can pass along price increases. Plus, the response of nominal bond rates upward in response to inflation provides a higher rate upon which to attach the equity risk premium. Accordingly, the average P/E ratio when trailing three-year inflation is running higher than 5% per annum is only 10.2 as compared to an 18.4 P/E ratio as of September 30.[4] It can take an awfully long time to recoup a 45% decline in equity valuations! Further, economic growth will likely be slow as high taxes and a shrinking workforce detracts from productivity and innovation.

- **Retirees Will Be Selling Assets to a Smaller Pool of Buyers**. Basic supply and demand dictates that retirees will be facing downward price pressure on the assets they are selling. Thus, all financial assets will be under price pressure but it will be uneven. Inevitably, the combination of two nasty bear markets in one decade and today's skinny dividend yields will translate to stocks being at the top of the sell list. Retirees with fixed assets will seek reliable real income, likely shifting money as well from nominal-coupon-paying bonds to asset like TIPS.
- **Go the Other Way**. Led by the United States, the developed world has huge debt and demographic problems. But many emerging markets are the opposite with younger populations and foreign reserves instead of debt. A case can be made to invest significantly more assets in the emerging markets as their comparative advantage becomes increasingly self evident. A declining dollar would only add to their relative attractiveness. After an immense rally in emerging markets stocks and bonds in 2009, this is not a "buy now" recommendation. But these asset classes inherent volatility will provide tactical opportunities to slowly shift from a developed markets portfolio to one more representative of the size and growth of emerging market economies today and tomorrow.

Conclusion

The heroic rally of the past eight months has many thinking the good ole days are back and that mainstream 60/40 investing is alive and well. But flourishing pines at the mountain's base do not constitute a thriving and shelter-providing forest in the heights above. A longer term perspective reveals that some powerful gales of inflation may surprise us on the trail to real returns over the coming decades. Most investors have very little invested in assets that are likely to serve them well in that brave new world. None of these observations is likely to help us in the weeks and months ahead. But, the long term does matter; institutional investors ought to be prepared for the shocks that, to us, seem almost inevitable in the years ahead.

Endnotes

1 https://www.cia.gov/library/publications/the-world-factbook/rankorder/2186rank.html

2 For a host of reasons, we would note parenthetically that the next 12–18 months are likely to be deflationary, lulling investors into thinking that a real return orientation is unnecessary. As tactical asset allocation contrarians, we will relish this opportunity to pick up inflation protection "on the cheap."

3 See the June 2009 issue of *Fundamentals* for a more detailed discussion of the inflation toolkit. It's broader than most people think!

4 We use the so called Shiller P/E ratio, which compares current prices with 10 years of smoothed real earnings.

Performance Update

TOTAL RETURN AS OF 10/31/09	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	ANNUALIZED 10 YEAR VOLATILITY
FTSE RAFI® 1000 Index[A]	FR10XTR	31.44%	22.28%	-5.55%	2.38%	4.27%	17.79%
S&P 500[B]	SPTR	17.05%	9.80%	-7.02%	0.33%	-0.95%	16.13%
Russell 1000[C]	RU10INTR	18.41%	11.20%	-6.84%	0.71%	-0.46%	16.37%
FTSE RAFI® US 1500 Index[D]	FR15USTR	39.67%	28.33%	-3.85%	4.27%	10.64%	22.28%
Russell 2000[E]	RU20INTR	14.12%	6.46%	-8.51%	0.59%	4.11%	21.74%
FTSE RAFI® Developed ex US 1000 Index[F]	FRX1XTR	40.68%	40.09%	-1.26%	8.52%	6.44%	19.18%
MSCI EAFE[G]	GDDUEAFE	27.97%	28.41%	-4.74%	5.59%	2.44%	18.08%
FTSE All World Series Developed ex US[H]	FTS5DXUS	29.74%	29.70%	-3.89%	6.35%	3.23%	18.29%
FTSE RAFI® Developed ex US Mid Small[I]	FRSDXUS	50.23%	56.90%	-1.31%	7.79%	NA	NA
MSCI EAFE Small[J]	MCUDEAFE	42.42%	44.97%	-7.62%	3.79%	NA	NA
FTSE RAFI® Emerging Markets[K]	TFREMU	67.86%	68.74%	12.55%	22.81%	NA	NA
MSCI Emerging Markets[L]	GDUEEGF	65.10%	64.63%	6.66%	17.16%	NA	NA
FTSE RAFI® Canada[M]	FRCANTR	33.78%	20.96%	1.81%	8.65%	NA	NA
S&P/TSX 60[N]	TX60AR	22.66%	13.12%	-0.17%	7.90%	NA	NA
FTSE RAFI® Australia Index[O]	FRAUSTR	32.24%	21.10%	1.49%	9.23%	10.59%	12.65%
S&P/ASX 200 Index[P]	ASA51	29.77%	21.39%	-0.55%	8.85%	9.46%	13.24%
FTSE RAFI® Japan[Q]	FRJPNTR	9.27%	7.98%	-14.25%	-0.06%	NA	NA
MSCI Japan[R]	GDDLJN	6.51%	4.84%	-16.70%	-1.88%	NA	NA
FTSE RAFI® UK Index[S]	FRGBRTR	24.53%	27.34%	-2.57%	5.73%	NA	NA
MSCI UK[T]	GDDUUK	18.41%	20.93%	-2.60%	5.45%	NA	NA

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

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.