

Retired Investor

Invest Wisely...Get an Impartial Second Opinion.

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This Month's Issue: Key Points

Our feature article this month takes a closer look at the debate over Social Security reform in the United States. This has important implications for all our readers. Failure to address the United States' mounting retiree pensions and healthcare liabilities could weaken foreign investors' confidence in the U.S. dollar and the U.S. economy, which in turn could trigger a significant, and perhaps prolonged downturn in the global economy. We note that the essential and too often overlooked cause of the current problem is the failure of the U.S. economy to attain the productivity growth assumptions that were made when its social insurance programs were established and later expanded. We explore whether increased labor force growth (e.g., by raising the retirement age or increasing immigration) and/or productivity growth might enable the United States to grow out of its current problem. We conclude that faster growth can reduce, but not eliminate the problem posed by the rising share of GDP that must be transferred to retirees under current programs.

We then review three proposed solutions to the problem: raising taxes, cutting benefits, or switching, at least partially, to a system of funded private accounts. We conclude

that from an economic point of view, there is no difference between a private account (involuntary savings) system and a PAYGO system. Both compel a current worker to forgo consumption -- either through forced savings, or the imposition of a social security tax. In fact, if 100% of the funds in the individual accounts were invested in government bonds, you would simply replicate the economics of the current Social Security System. However, from a political point of view (and, indeed, from an individual risk management perspective) there is a world of difference between a PAYGO and a private accounts system, due to (a) workers' greater confidence in their future benefit levels; and (b) their ability to earn higher returns (e.g., from a diversified mix of index funds) than those available on government bonds.

Among the various private account proposals that have been offered, we find particularly attractive one suggested by Ted Halstead and Philip Longman from the New America Foundation. They have proposed structuring private accounts as "early retirement accounts." In essence, this proposal would raise the retirement age at which current Social Security benefits become available, while also letting workers invest part of their Social Security taxes in private accounts. To the extent that these private accounts achieved positive investment returns, workers would be able to retire earlier. To us, this seems like the best of both worlds.

This month's product and strategy notes look at four subjects. Robert Shiller, a widely respected economist, has just published an interesting article that is critical of lifecycle funds. Morgan Stanley Capital International has just launched its Global Capital Markets Index, which incorporates all of the world's equity and bond markets (but not commodities, real estate, private equity, bank loans, and some other important asset classes). Our key criticism is its use of market capitalization weighting in its underlying bond market indices. As we noted in our December, 2004 article, "Investing in Debt Markets", we have concluded that market capitalization weighting does not provide a good picture of value creation in fixed income markets. We also review developments on the regulatory front, including potential new regulations on "soft commissions" and the conflict between stockbrokers and investment advisers. Finally, we review newly launched commercial property products, including new international funds from Cohen and Steers and a new ETF that tracks the EPRA Eurozone Index.

This Month's Letters to the Editor

How do foreign currency index certificates of deposit from Everbank compared to foreign currency bond funds?

The Everbank Prudent Central Bank Index CD has 25% of its exposure in each of Australian Dollars, New Zealand Dollars, Euro and UK Pounds. In contrast, while actively managed, RBPIBX generally tracks the JP Morgan Global Government Bond (non-dollar) Index. For example, over the 10 years ended 31 December 2004, RPIBX had a nominal compound annual rate of return of 7.15%, versus a CAGR of 7.76% on the index. Not bad, considering its expense charge (about 90 basis points now, but somewhat higher earlier in the ten year period). The JP Morgan index is market capitalization weighted. As we noted in our December, 2004 article on Investing in Debt Markets, this is a logical approach in equity markets, but a somewhat problematic one in debt markets, since it can give greater weight to lower quality borrowers who are simply issuing a lot of debt, rather than creating a lot of value for bondholders. The substantial weight of Yen issues in many international bond indexes (which is largely due to Japan's heavy debt issuance during its repeated attempts to pull its economy out of its prolonged deflationary recession) is a good example of this phenomenon. This is very relevant for RPIBX, which had the following currency exposures at the end of 2004: Euro, 48%, Yen, 33%, UK Pound, 6%, Swedish Kroner, 4%, Canadian Dollar, 2%, and all others, 7%. As you can see, the currency exposure of RPIBX and the Everbank Prudent Central Bank Index CD are quite different. Only time will tell which will turn out to be the superior allocation. However, as a general matter of principle, when it comes to bond market investing, we are moving more and more for towards a preference for equally weighted indices like the one employed by Everbank.

I am trying to build up a large direct holding of index linked bonds looking towards building a low return/low risk portfolio. As a GBP investor, domestic "linkers" lack deflation proofing and I need to cover this. I have a (bewilderingly long) list of alternatives from a broker but I can't find any information as to deflation protection other than US\$ TIPS which are perhaps not the wisest route for us at the moment. Any thoughts?

Currently, real return bonds issued by the United States, Australia, and France offer so-called "par-value" protection against deflation (i.e., at maturity, they promise to pay the greater of

inflation adjusted capital or original par value). Also, two of the Swedish Government real return bond issues (numbers 3104 and 3105) also have this feature. In addition, as we have noted in our writing, under a deflationary scenario, nominal return bonds issued by governments should also do well, at least as long as investors continue to have confidence in said government's future ability and willingness to repay and/or said government avoids the temptation to push up the rate of inflation, in the belief that, compared to deflation, it is politically the lesser of two evils.

Given low current real yields, and the tax disadvantages of holding U.S. TIPS [real return bonds] in a taxable account, can't an investor protect him or herself against future inflation just by holding short-term nominal return government bonds?

We agree with you that yields on real return bonds are currently low relative to their historical averages. An important exception to this is Australia, where real yields remain relatively high. We believe there are two reasons for the low yields elsewhere. The first is structural: many defined benefit pension plans with long-term liabilities have discovered that long-term real return bonds are the best way to match fund them. Hence, there is a source of demand in the market that is relatively insensitive to current yields. Given the current issuance levels by governments, this has a tendency to bid up the price of real return bonds and depress their yields. We believe the second cause of low real yields is the current state of the global economy. Theoretically, the real rate of interest should reflect the marginal productivity of capital – that is, the compensation to an investor for deferring consumption and instead making an investment that will increase output at a later date. As we noted in last month's economic update, we are now facing conditions in which domestic demand growth in the United States is slowing, which will probably cause a slowdown in China as well. In addition, domestic demand growth has been weak in other areas (e.g., the Eurozone and Asia) for some time. Given weak expected global demand, the marginal expected return on capital should also, logically, be low. However, the real rate of interest is also a price that reflects the balance of demand for investable funds, and their supply via savings. In this regard, while savings are low in the United States, this is not so elsewhere in the world, where they are quite high. Hence, the combination of a relatively low demand for investable funds (due to the low expected marginal productivity of capital) and a relatively high supply of them has also led to very low real interest rates around the world. Australia is an intriguing exception to

this general view. The continued existence of high real yields in Australia implies that the global market for real return bonds is not perfectly integrated. This raises the question of what could be keeping real yields high in Australia. On the one hand, as is true of other countries in the Anglosphere, domestic savings are relatively low. However, it strikes us that cannot be the full story. The expected marginal productivity of capital may also be higher in Australia. One of the key reasons for this may be that country's relative success in addressing issues related to social pensions and national healthcare that remain unresolved in most other countries. In other words, high real yields may reflect investors' belief that Australia is not just "the lucky country", but a smart one too. Elsewhere, however, if one wanted to lock in a long-term real rate of return via the purchase of long maturity real return bonds, this might not be the best time to do this. On the other hand, it is unclear, given our outlook for the world economy, how long it will take for real rates to return to, or exceed, their historic averages.

We completely agree on the tax issue with respect to TIPS, and note it in our writing about real return bonds asset class. For the reason you mention, we believe that TIPS should only be held in tax-advantaged accounts. We also believe that Series I Savings Bonds are a more attractive way to hold real return bonds in the United States, since they increase in value every year, and also have the deflation protection that TIPS provide. Unfortunately, an individual can only purchase \$30,000 per year in I-Bonds. Unfortunately, using nominal return government bonds you cannot replicate, with the same degree of certainty, the inflation provided by TIPS or I-Bonds. Broadly speaking, while very short term U.S. Treasury securities have, in the past (which as we all know may not be a good indication of what lies ahead) done a good job of keeping pace with consumer price inflation (which is not always a good measure of the actual inflation experienced by investors), their real returns have been relatively low. Alternatively, intermediate term U.S. Treasuries have provided better real returns, but with more volatility. From our perspective, the best answer by far for individual investors would be to raise the ceiling on the amount of Series I bonds that can be purchased each year.

Why in your models is life expectancy a pre-specified variable, instead of an uncertain one, which would certainly reflect my personal experience in this area?

Your question hits on one of the biggest design issues we faced when developing Retired Investor. As you note, life expectancy is, in fact, uncertain (technically, it is "stochastic" with well-defined parameters for a large population); however, in our models we have made it deterministic, and imposed fixed time horizons on this variable. This is not an oversight on our part. First, in our initial test marketing, we found that people prefer to set life expectancy rather than let it be stochastic. We infer that this probably has something to do with people's aversion to fully acknowledging the role luck plays in life, particularly when it comes to an issue as important as mortality. Everybody has things they'd like to do in life, but haven't yet gotten around to -- perhaps a fixed life expectancy variable allows people to avoid confronting these issues. Second, there is some very interesting research that has found that people's estimates of their remaining life expectancy are more accurate than simple chance would predict. Hence, we concluded that we weren't sacrificing a great deal of accuracy in our model by using fixed expected lifetimes. Still, in our next version of our model, we will probably include the ability to make remaining life expectancy uncertain.

Global Asset Class Returns

YTD 29Apr05	In USD	In AUD	In CAD	In EURO	In JPY	In GBP
Asset Held						
US Bonds	0.90%	1.29%	5.43%	5.92%	3.23%	1.42%
US Prop.	-2.00%	-1.61%	2.53%	3.02%	0.33%	-1.48%
US Equity	-4.70%	-4.31%	-0.17%	0.32%	-2.37%	-4.18%
AUS Bonds	-0.58%	-0.19%	3.94%	4.44%	1.74%	-0.06%
AUS Prop.	-5.93%	-5.54%	-1.40%	-0.91%	-3.61%	-5.41%
AUS Equity	0.84%	1.23%	5.37%	5.86%	3.16%	1.36%
CAN Bonds	-2.12%	-1.73%	2.41%	2.90%	0.21%	-1.60%
CAN Prop.	-3.67%	-3.28%	0.85%	1.35%	-1.35%	-3.15%
CAN Equity	-3.07%	-2.67%	1.46%	1.96%	-0.74%	-2.54%
Euro Bonds	-2.36%	-1.97%	2.17%	2.66%	-0.03%	-1.84%
Euro Prop.	0.07%	0.46%	4.60%	5.10%	2.40%	0.59%
Euro Equity	-3.86%	-3.46%	0.67%	1.17%	-1.53%	-3.34%
Japan Bonds	-1.14%	-0.75%	3.39%	3.88%	1.19%	-0.62%
Japan Prop.	0.43%	0.83%	4.96%	5.46%	2.76%	0.95%
Japan Equity	-6.14%	-5.74%	-1.61%	-1.11%	-3.81%	-5.61%
UK Bonds	1.17%	1.56%	5.70%	6.19%	3.50%	1.69%
UK Prop.	-4.63%	-4.23%	-0.10%	0.40%	-2.30%	-4.10%
UK Equity	-1.00%	-0.60%	3.53%	4.03%	1.33%	-0.47%
World Bonds	-0.45%	-0.06%	4.08%	4.57%	1.88%	0.07%
World Prop.	-2.10%	-1.71%	2.43%	2.92%	0.23%	-1.58%
World Equity	-3.40%	-3.01%	1.13%	1.62%	-1.07%	-2.88%
Commodities	6.40%	6.79%	10.93%	11.42%	8.73%	6.92%
Hedge Funds	-1.09%	-0.70%	3.44%	3.93%	1.24%	-0.57%
A\$	-0.39%	0.00%	4.13%	4.63%	1.93%	0.13%
C\$	-4.53%	-4.13%	0.00%	0.50%	-2.20%	-4.01%
Euro	-5.02%	-4.63%	-0.50%	0.00%	-2.70%	-4.50%
Yen	-2.33%	-1.93%	2.20%	2.70%	0.00%	-1.80%
UK£	-0.52%	-0.13%	4.01%	4.50%	1.80%	0.00%
US\$	0.00%	0.39%	4.53%	5.02%	2.33%	0.52%

Equity and Bond Market Valuation Update

Our equity market valuation analysis rests on two fundamental assumptions. The first is that the long term real equity risk premium is 4.0% per year. The second is the average rate of productivity growth an economy will achieve in the future. Because future growth rates are uncertain, we use both high and a low productivity growth assumptions for each region. Given these assumptions, here is our updated market valuation analysis at the end of last month:

Country	Real Risk Free Rate Plus	Equity Risk Premium Equals	Required Real Return on Equities	Expected Real Growth Rate* plus	Dividend Yield Equals	Expected Real Equity Return**
Australia	2.71%	4.00%	6.71%	4.90%	3.89%	8.79%
Canada	1.88%	4.00%	5.88%	2.10%	1.84%	3.94%
Eurozone	1.44%	4.00%	5.44%	2.50%	2.96%	5.46%
Japan	0.27%	4.00%	4.27%	2.80%	1.04%	3.84%
U.K.	1.65%	4.00%	5.65%	2.50%	3.30%	5.80%
U.S.A.	1.60%	4.00%	5.60%	4.50%	1.79%	6.29%

*High Productivity Growth Scenario..

** When required real equity return is greater than expected real equity return, theoretical index value will be less than actual index value – i.e., the market will appear to be overvalued.

Country	Implied Index Value ¹	Current Index Value	Current to Implied Value Under High Growth Scenario ²	Current to Implied Value Under Low Growth Scenario
Australia	215.04	100.00	47%	72%
Canada	48.70	100.00	205%	260%
Eurozone	100.65	100.00	99%	150%
Japan	70.60	100.00	142%	238%
U.K.	104.63	100.00	96%	141%
U.S.A.	162.14	100.00	62%	118%

¹High productivity growth scenario. ²Values below 100% indicate undervaluation; more than 100% indicates overvaluation

Our valuation estimate is based on the relationship between the returns an equity market is expected to supply, and those investors are likely to demand. The rate of return the equity market is expected to supply in the future equals current dividend yield plus the expected rate of real long-term economic growth. We use two different growth scenarios, based on relatively higher and lower rates of productivity growth in the future. Also, it should be noted that there is increasing evidence that dividend growth rates for public companies tend to be lower than overall economic growth, due to the fact that the fastest growing companies are often smaller and privately owned. Hence, our valuation estimates are rough ones at best. Changes in the market price/dividend (or price/earnings) ratio also affect the returns supplied. However, because this is driven by psychological factors which we have no basis for predicting, we do not include future price/dividend ratio changes in our analysis.

We define the future equity market return that investors demand to be equal to the current yield on long term real return bonds, plus a four percent long-term equity market risk premium. This risk premium is consistent with historical long-term global equity market returns data. The good news is that two of the factors in our model -- current dividend yields and the real bond return -- are easily obtained from the daily paper. The bad news is that the other two -- the expected rate of dividend growth and the "correct" equity market risk premium -- are two of the most contentious issues in finance. However, if you assume that an equity market is currently in equilibrium (that is, neither under or overvalued), by assuming a value for one of these variables, you can derive an estimate of the market's current expectation for the other. Specifically, the market's current implied rate of future dividend growth equals the current real bond yield plus the four percent equity market risk premium less the current dividend yield. Similarly, the market's current implied equity market risk premium equals the current dividend yield plus our estimated future growth rate less the current real bond yield.

While we do not believe that financial markets are always in equilibrium, we do believe that they are strongly attracted to it. Hence, these estimates provide a further perspective on the reasonableness of current equity market valuation levels. These estimates are shown in the following table:

	Current Dividend Yield	Current Real Bond Yield	Implied Future Real Growth Rate, Assuming 4% ERP	Implied ERP, Assuming Low Future Growth Scenario	Implied ERP, Assuming High Future Growth Scenario
Australia	3.89%	2.71%	2.82%	5.08%	6.08%
Canada	1.84%	1.88%	4.04%	1.06%	2.06%
Eurozone	2.96%	1.44%	2.48%	2.52%	4.02%
Japan	1.04%	0.27%	3.23%	2.57%	3.57%
United Kingdom	3.30%	1.65%	2.35%	2.65%	4.15%
United States	1.79%	1.60%	3.81%	3.69%	4.69%

Our government bond market valuation update is based on the same supply and demand methodology we use for our equity market valuation update. In this case, the supply of future fixed income returns is equal to the current nominal yield on ten-year government bonds. The demand for future returns is equal to the current real bond yield plus the historical average inflation premium (the difference between nominal and real bond yields) between 1989 and 2003. To estimate of the degree of over or undervaluation for a bond market, we use the rate of return supplied and the rate of return demanded to calculate the present values of a ten year zero coupon government bond, and then compare them. If the rate supplied is higher than the rate demanded, the market will appear to be undervalued. This information is contained in the following table:

	Current Real Rate	Average Inflation Premium (89-03)	Required Nominal Return	Nominal Return Supplied (10 year Govt)	Return Gap	Asset Class Over or (Under) Valuation, based on 10 year zero
Australia	2.71%	2.96%	5.67%	5.35%	-0.32%	3.07%
Canada	1.88%	2.40%	4.28%	4.14%	-0.14%	1.33%
Eurozone	1.44%	2.37%	3.81%	3.40%	-0.41%	4.05%
Japan	0.27%	0.77%	1.04%	1.25%	0.21%	-2.03%
UK	1.65%	3.17%	4.82%	4.53%	-0.29%	2.85%
USA	1.60%	2.93%	4.53%	4.19%	-0.34%	3.35%

It is important to note that this analysis looks only at ten-year government bonds. The relative valuation of non-government bond markets is also affected by the extent to which their respective credit spreads (that is, the difference in yield between an investment grade or high yield corporate bond and a government bond of comparable maturity) are above or below their historical averages (with below average credit spreads indicating potential overvaluation). Today, in many markets credit spreads are at the low end of their historical ranges.

Finally, for an investor contemplating the purchase of foreign bonds or equities, the expected future annual percentage change in the exchange rate is also important. Study after study has shown that there is no reliable way to forecast this. At best, you can make an estimate that is justified in theory, knowing that in practice it will not turn out to be accurate. That is what we have chosen to do here. Specifically, we have taken the difference between the yields on ten- year government bonds as our estimate of the likely future annual change in exchange rates between two regions. This information is summarized in the following table:

Annual Exchange Rate Changes Implied by Bond Market Yields

	To A\$	To C\$	To EU	To YEN	To GBP	To US\$
From						
A\$	0.00%	-1.21%	-1.95%	-4.10%	-0.82%	-1.16%
C\$	1.21%	0.00%	-0.74%	-2.89%	0.39%	0.05%
EU	1.95%	0.74%	0.00%	-2.15%	1.13%	0.79%
YEN	4.10%	2.89%	2.15%	0.00%	3.28%	2.94%
GBP	0.82%	-0.39%	-1.13%	-3.28%	0.00%	-0.34%
US\$	1.16%	-0.05%	-0.79%	-2.94%	0.34%	0.00%

Sector and Style Rotation Watch

The following table shows a number of classic style and sector rotation strategies that attempt to generate above index returns by correctly forecasting turning points in the economy. This table assumes that active investors are trying to earn high returns by investing today in the styles and sectors that will perform best in the next stage of the economic cycle. The logic behind this is as follows: Theoretically, the fair price of an asset (also known as its fundamental value) is equal to the present value of the future cash flows it is expected to produce, discounted at a rate that reflects their relative riskiness. Current economic conditions affect the current cash flow an asset produces. Future economic conditions affect future cash flows and discount rates. Because they are more numerous, expected future cash flows have a much bigger impact on the fundamental value of an asset than do current cash flows. Hence, if an investor is attempting to earn a positive return by purchasing today an asset whose value (and price) will increase in the future, he or she needs to accurately forecast the future value of that asset. To do this, he or she needs to forecast future economic conditions, and their impact on future cash flows and the future discount rate. Moreover, an investor also needs to do this before the majority of other investors reach the same conclusion about the asset's fair value, and through their buying and selling cause its price to adjust to that level (and eliminate the potential excess return).

We publish this table to make an important point: there is nothing unique about the various rotation strategies we describe, which are widely known by many investors. Rather, whatever active management returns (also known as "alpha") they are able to generate is directly related to how accurately (and consistently) one can forecast the turning points in the

economic cycle. Regularly getting this right is beyond the skills of most investors. In other words, most of us are better off just getting our asset allocations right, and implementing them via index funds rather than trying to earn extra returns by accurately forecasting the ups and downs of different sub-segments of the U.S. equity and debt markets. That being said, the highest year-to-date returns in the table give a rough indication of how investors employing different strategies expect the economy to perform in the near future. The highest returns in a given row indicate that most investors are anticipating the economic and interest rate conditions noted at the top of the next column. Similar returns in multiple columns (within the same strategy) indicate a relative lack of agreement between investors about the most likely future state of the economy.

Year-to-Date Returns on Classic Rotation Strategies in the U.S. Markets

<i>Economy</i>	Bottoming	Strengthening	Peaking	Weakening
<i>Interest Rates</i>	Falling	Bottom	Rising	Peak
<i>Style Rotation</i>	Growth (IWZ) -6.41%	Value (IWW) -2.62%	Value (IWW) -2.62%	Growth (IWZ) -6.41%
<i>Size Rotation</i>	Small (IWM) -10.59%	Small (IWM) -10.59%	Large (IWB) -3.35%	Large (IWB) -3.35%
<i>Style and Size Rotation</i>	Small Growth (DSG) -7.59%	Small Value (DSV) -10.37%	Large Value (ELV) -2.03%	Large Growth (ELG) -8.06%
<i>Sector Rotation</i>	Cyclicals (IYC) -8.81% Technology (IYW) -11.39%	Basic Materials (IYM) -6.35% Industrials (IYJ) -5.84%	Energy (IYE) 10.02% Staples (IYK) -3.31%	Utilities (IDU) 7.06% Financials (IYF) -7.04%
<i>Bond Market Rotation</i>	High Risk (VWEHX) -2.30%	Short Maturity (VBISX) 0.10%	Low Risk (VIPSX) 1.50%	Long Maturity (VBLTX) 3.00%

A Closer Look at Social Security Reform in the United States

Like most other developed countries, the United States currently faces a substantial, if largely unacknowledged, intergenerational conflict. It is only in this context that we can fully understand and appreciate the current debate over private Social Security accounts.

The essence of the problem is this: back in the 1960s, many countries, the United States included, substantially expanded their so-called "social insurance" programs for the elderly. Broadly, these expansions had two key elements: pension programs to provide retirees with income, and health care programs to cover their largest expense. In the United States, pensions can be broadly thought of as encompassing Social Security, company pension plans, and incentives for private individual savings. Health care for the elderly is broadly paid for via two public programs, Medicare and Medicaid, as well as by private insurance and by retirees directly (via out-of-pocket payments).

All of these changes were made on the basis of certain assumptions about the future growth of America's Gross Domestic Product -- GDP. If these projections had been realized, the transfer of funds from workers to retirees would not have become as big a burden as it is today (and the even bigger burden it will become in the future if nothing changes). So what happened to GDP growth? Let's take a closer look at its components.

GDP growth results from changes in the size of the labor force, multiplied times changes in annual output per worker (i.e., productivity growth). A number of different factors drive labor force growth, including the birth rate, the mortality rate, the average retirement age, the participation rate (i.e., the number of people of working age who are in the labor force), and the immigration rate. In general, for most of the last 40 or so years, all of these factors were moving in a direction supportive of strong GDP growth. The baby boom generation came into the workforce, more women than ever before worked, improvements in health reduced mortality rates, and immigration rates increased. In recent years, some of these have reversed -- e.g., increased global competition has led to more involuntary early retirements, and the number of new workers has fallen off, as boomers had fewer babies on average than their parents. But all in all, the fact that actual GDP turned out to be lower than projected wasn't due to demographics.

Rather, it was due to a sharp fall in productivity growth relative to the rates seen in the 1950's and early 1960's. Productivity growth is one of the great economic debates, which sometimes verges on the theological. Still, most analysts would agree that many factors were at work in the late 60s, 70s, and 80s. For example, these years saw the re-entry into the world economy of countries whose physical capital had been ravaged by World War II. In many cases, this capital was newer than that employed by American workers, and embodied more technical innovations. Second, the barriers to world trade were falling, which exposed more and more American companies to more vigorous competition. In many cases, American organizations found it very difficult to change in response to these new competitors, due, for example, to managers' mental blinders, or union intransigence. For too long, too many companies focused their efforts on lobbying Washington for help (e.g., via the imposition of trade-barriers, or a lowering of the dollar exchange rate), rather than getting their own competitive houses in order. Third, sharp rises in oil prices functioned as a tax on the American economy, which acted to reduce consumption and delay investments in promising new technologies. In an era of rapid technological progress in many areas, such delays quickly translated into lower productivity growth.

The long and the short of it is that only recently has the rate of productivity growth in most developed country economies begun to return to levels even close to those experienced in the post-World War Two period. Unfortunately, during this same period, the transfer payments to retirees were actually growing faster than expected, largely due to the rapidly rising cost of health care and gains in life expectancy.

Thus we arrive at our current situation, where we face the prospect of enormous increases in the taxes paid by workers in future years to support transfer payments to a growing number of retirees. Seen in this light, our current debate over Social Security is only one part of a much larger one that broadly involves two questions: what percentage of our GDP should we transfer to retirees, and what form should those transfer payments take?

Let's start with the first question, the percentage of GDP we should transfer to retirees. If GDP grows more slowly than the number of seniors, and we transfer a constant percentage of GDP to retirees, their standard of living will decline. But if we transfer a rising share of GDP to maintain the real value of our seniors' benefits, the real standard of living of those people still working will decline. Ah, you say, the secret is to raise GDP growth to keep pace

with our growing number of seniors. As previously noted, we can try to do this either by increasing the size of the labor force, or by increasing its productivity. When it comes to increasing its size, in the short term, we have two options, both of which we are currently using: raise the retirement age, and increase immigration rates (we have already pushed the third option – increased labor force participation rates by women – about as high as it can probably go). However, neither delayed retirement nor increased immigration is a solution to our problem. Older workers may lack the technical or organizational skills needed to make the most of the latest technology. Hence, adding more of them to the workforce may reduce productivity growth, and therefore overall GDP growth. With respect to immigrants, our culture's ability to absorb them without serious social disruptions is not unlimited, and we may already be near it. Moreover, due to current immigration laws, many of the people coming here illegally and under legal family reunification preferences are not highly skilled, educated, and productive. Once again, adding more of them to the workforce may lower productivity, and therefore the potential increase in GDP growth. On the other hand, raising the retirement age also reduces the amount of GDP we need to transfer to retirees. So while not a complete solution, this, along with immigration, gets us closer to our goal of reaching a fair compromise between the needs of three generations: retirees, workers, and children.

As previously noted, we can also increase GDP growth by increasing productivity, our output per hour worked. There are two ways to accomplish this: give each worker more capital (e.g., a computer with a high speed internet connection), and/or improve their individual and collective quality through better training, performance measures, and organization. In many areas of the private sector (and especially in manufacturing), both of these approaches have been applied with great success. However, we face serious obstacles to extending them to other sectors of the economy. For example, consider healthcare, on which the United States spends close to 15% of its GDP, and which is widely believed to have great potential for productivity improvement. Improving productivity in the healthcare sector would not only boost GDP growth, but would also reduce the amount of resources we have to spend on retirees. Unfortunately, in our fragmented U.S. healthcare system, most organizations face a lack of funds to pay for capital investment in information technology, as well as legal obstacles (i.e., liability laws) that inhibit the organizational changes needed to achieve its potential benefits.

Alternatively, consider public education, which also absorbs substantial amounts of U.S. GDP. In a world of increasingly intense global competition, it seems obvious that improving the quality of America's future workers is critical to future GDP growth. Yet across the country, teachers unions aggressively resist innovations that might accomplish this (e.g., tougher standards and testing for students and teachers, merit pay, and more competition between schools).

All in all, while there is undoubtedly potential for further raising U.S. productivity and GDP growth rates, it is basically impossible for these to fully match the growth rate of retirees. That leaves us with the question of how we will transfer a growing share of GDP to retirees to avoid a fall in their living standards in the years ahead. This transfer can come from only two sources: we can take more away from current workers, or we can take more away from other groups, for example, by cutting government spending on the poor or on children.

Unfortunately, rather than discussing this fundamental economic and philosophical question, we typically split it into separate political crises over Medicare, Medicaid (which spends a lot on retirees' long term care), and Social Security. But let us move on to the latter, which is the more visible part of the problem at the moment.

The current Social Security system in the United States is called, by the people who study these issues, a "Pay As You Go" (or PAYGO) system. From the day it was started, the U.S. Social Security System has paid out in benefits most of the money it took in over a given period of time. In other words, it was never a so-called "funded" system, in the sense that the full amount of the money taken out of a worker's paycheck was invested in financial or real assets in an account for that worker, which grew in value until retirement, and thereafter was drawn down to provide retirement income (as would have been the case if the worker had purchased an annuity from a private insurance company).

An example will help make clear the economic consequences of the PAYGO system. Assume, that current workers pay in \$100 to Social Security, which immediately pays out \$70 in benefits to current retirees. The obvious question is what Social Security should do with the extra, unspent \$30? One alternative would be to not collect it at all, and instead match the Social Security tax to current benefit costs, so that the inflows and outflows match. However, from a political view, this might not be preferable, as it would make it very clear that Social Security is a transfer payment program just like welfare for the poor. Politically, it might

make more sense to set up a "Trust Fund" to hold the unspent funds. Of course, this raises the question of how to invest these funds. One approach would be to invest them in a diversified portfolio of claims on productive private sector assets (e.g., bonds, real estate, and equity). Another alternative would be to invest them in claims on the government's own future ability to tax these productive assets (e.g., government bonds). For whatever reason, the decision was made to have the Social Security Trust Fund invest them in U.S. government bonds, rather than claims on the private sector. At the root of this decision is probably the difference between private sector and public sector accounting. On the one hand, the government's Social Security System has been running a "surplus" and investing the difference in government bonds. Meanwhile, the government's "Operating Budget" runs a deficit, financed by the issuance of government bonds -- some of which are purchased by the Social Security "Trust Fund." And, just to further cloud the true picture of how many resources are being transferred to our retirees, the cost of Medicare (which is large and growing quickly) is included in the Operating, rather than the Social Security budget, while the cost of Medicaid is split between the federal budget and 50 state budgets.

But back to Social Security. The consequence of the decision to invest the Trust Fund's assets in government bonds instead of a portfolio of index funds containing claims on private sector assets (which, in an interesting irony, is what the Thrift Savings Program -- the 401K for federal employees -- does) has been lower investment returns for the Trust Fund. Some will argue that this made sense because government bonds are somehow less risky than claims on private sector assets. Unfortunately, while correct at the level of an individual security (e.g., a U.S. government bond versus a share of Enron), it is far less accurate at the portfolio level, particularly over the long investment horizon of the Social Security Trust Fund (this is because of the benefits of diversification across securities, asset classes, and time). As a result of the Trust Fund's lower investment returns on government bonds, it is now running out of money sooner than it would have had its assets been invested differently.

The United States' PAYGO system therefore raises two questions. First, if the current Social Security tax (currently shared between employers and employees) is held fixed, in a few years the growing number of retirees relative to current workers (the dependency ratio) will lead to the cash outflows from Social Security being larger than its cash inflows. However, because the "Trust Fund" can be drawn down, in the short term, social security

taxes won't have to be raised. Of course, there is a second order effect here: assuming no change in the government's operating budget deficit, if the Social Security Trust Fund is selling government bonds rather than buying them, who will replace them as purchasers of the government's debt? And will these new buyers demand higher yields? (and, if so, will those higher yields act to hold down investment, productivity, and economic growth?) All good questions, and all uncertainties.

The second question, of course, is whether current workers will, after the Trust Fund is exhausted (that is, after all its bonds have been sold to help pay current benefits), consent to the very large increase in their social security taxes that will be needed to maintain retiree benefits at their current levels. Those of us who will be alive at this point are, implicitly, making a very, very big bet either on future workers' altruism or retirees' political power to successfully impose taxes on them. Of course, the alternative is that those workers won't consent to a tax increase, and will demand either (a) cuts in other government spending, or (b) cuts in Social Security (and healthcare) transfer payments to retirees. Or perhaps many of them will move, to countries with more attractive tax systems (e.g., Australia).

People uncomfortable about taking this bet on the level of future Social Security taxes are naturally drawn to other alternatives. Broadly speaking, three of these have gotten a lot of publicity. The first would eliminate the cap on the earnings to which Social Security taxes apply. This would raise more money for the Trust Fund, and therefore delay its exhaustion, assuming no change in current benefit levels. Politically, however, this might cause problems, as eliminating the earnings cap would make the Social Security tax virtually indistinguishable from a flat tax on income, which might open a Pandora's box many politicians might like to keep closed.

The second alternative would be to cut the growth in Social Security benefits by switching their indexation system from wages to prices, since the former have historically grown about 1% faster each year than the latter. However, this raises an important philosophical issue. Switching to a price (inflation) index would keep the current Social Security benefit constant in real terms in the future. However, assuming wages continue to grow faster than inflation, in comparative terms (e.g., the size of the Social Security benefit as a percentage of the average worker's wages), its relative value would decline. In this manner, it would seem to alter Social Security from a pension program to more of a guaranteed

minimum income designed to keep retirees out of poverty -- but not necessarily to ensure that they maintain a constant relative standard of living. And let us not kid ourselves: up to now, wage indexation has resulted in very attractive economic returns for current retirees. Had the Social Security taxes they paid during their working years been invested in a private variable annuity, their investment returns would have had to be quite high in order to produce the benefit payment stream they have been enjoying in their retirement. In this manner, Social Security has in fact functioned as something of a covert redistribution program that has considerably benefited many retirees.

However, this game is already coming to an end. The rising costs imposed on retirees under Medicare Part B (and soon under the new prescription drug benefit), is already reducing retirees' relative standard of living (although for obvious reasons, nobody seems to want to talk about this too openly). In sum, while a change in indexation would greatly reduce the economic pressure on our current PAYGO system, few seem willing to take on the associated political costs.

And so we come to the third solution, private accounts. Conceptually, private accounts are attractive for three reasons. Because the funds in those accounts theoretically belong to the individual taxpayer, the future benefits they will finance can't be cut without enormous political costs. Second, because the funds in private account theoretically would be invested in indexed claims on private sector assets, they would earn a higher rate of return than an investment in U.S. government bonds. This means that fewer savings would be necessary to produce the same level of post-retirement annuity income. Third, to the extent that the existence of private accounts raised overall U.S. savings levels, they would help cut our current account deficit, hold down interest rates, and fund higher levels of investment that would raise productivity and economic growth.

Of course, private accounts also have certain risks. Some have noted that political pressures might result in their being spent for non-retirement purposes (witness the number of reasons Americans are now allowed to tap their tax advantaged IRA and 401(k) accounts). Others have raised the specter of poor investments made by uninformed investors (a spurious argument, if the proposed private accounts are limited to investing in index funds covering different asset classes, as is now done in the government employees' TSP program). Finally,

some have questioned whether private accounts would really raise overall savings, on the assumption that their existence would cause individuals to reduce savings elsewhere.

To be sure, there are many different ways to structure these individual account programs that could address some of the criticisms that have been raised. For example, in Australia a minimum percent of one's earnings must be saved, and, upon retirement, they must be converted into an annuity, to hedge the risk of the retiree outliving his or her savings (However, we also note there is pressure in Australia to relax this rule). If you want to leave a bequest, it must be funded from additional voluntary savings (e.g., in either financial assets or housing equity). Moreover, Australia still offers a means-tested program to "top-up" a retiree's income to a guaranteed minimum should income from the annuity and other private savings fall short.

Alternatively, Ted Halstead and Philip Longman from the New America Foundation have proposed structuring private accounts as "early retirement accounts." In essence, this proposal would raise the retirement age at which current Social Security benefits become available, while also letting workers invest part of their Social Security taxes in private accounts. To the extent that these private accounts achieved positive investment returns, workers would be able to retire earlier. In some ways, this seems like the best of both worlds.

So let us summarize. From an economic point of view, there is no difference between a private account (involuntary savings) system and a PAYGO system. Both compel a current worker to forgo consumption -- either through forced savings, or the imposition of a social security tax. In fact, if 100% of the funds in the individual accounts were invested in government bonds, you would simply replicate the economics of the current Social Security System. However, from a political point of view (and, indeed, from an individual risk management perspective) there is a world of difference between a PAYGO and a private accounts system, due to (a) workers' greater confidence in their future benefit levels; and (b) their ability to earn higher returns (e.g., from a diversified mix of index funds) than those available on government bonds.

A properly designed private accounts-based retirement savings system therefore has some very strong arguments in its favor. The real obstacle is how to finance the transition from the United States' current PAYGO system to a private account system. To go back to our original example, Social Security still has to pay out \$70 in benefits to current retirees.

But, after the start of private accounts, it will have less money coming in -- perhaps even less than \$70. Some have suggested a large bond issue to fund this gap. Others suggest a national consumption tax. Still others suggest raising the cap on earnings subject to the Social Security tax, or further raising the retirement age. This is not an issue with an easy solution, and will require sacrifice. But then again, many may think it is a more attractive choice than doing nothing and betting that future workers -- whose potential productivity we are already reducing, via our refusal to reform our educational system -- will pay higher taxes to fund our future PAYGO benefits. In this regard, President Bush is correct when he basically says that American workers face a choice: they can take their medicine now, or they can take it later. But they are kidding themselves if they believe that they will never have to take it.

Product and Strategy Notes

Another Criticism of Lifecycle Funds

Professor Robert Shiller of Yale has just published a very interesting paper on lifecycle funds ("The Life-Cycle Personal Accounts Proposal for Social Security: An Evaluation"). These funds adjust their asset allocation away from domestic stocks and toward domestic bonds as an investor nears retirement. For future asset class returns, he uses long-term real return estimates produced by Professor Elroy Dimson of London Business School. Assuming future returns mimic history (always a questionable assumption), the returns on the lifecycle accounts are not impressive. On the other hand, with better asset allocation (basically, a higher allocation to stocks) the long term results improve. The analysis we have done in connection with the construction of our model portfolios suggests that by including more asset classes, further substantial improvements are possible. Once again, the we reach the same conclusion as we have in the past. Because they use relatively few asset classes, and do not adequately take investors' post-retirement income and bequest goals and life expectancy into account, lifecycle funds should be avoided.

MSCI Launches New Global Capital Markets Index

Last month, Morgan Stanley Capital International launched a new index that combines the world's equity and bond markets into a single market capitalization weighted index. About 52% of the Global Capital Markets Index is currently allocated to equities, and 48% to bonds.

On the equity side, North America accounts for about 28% of the GCMI, Europe 15%, Asia and Pacific 6%, and emerging markets 3%. High yield and emerging markets bonds account for about 2% of the GCMI's total capitalization. Government debt accounts for 25%, of which Japan accounts for 7%. Investment grade debt accounts for the remaining 21%, of which U.S. mortgages alone account for 6.5%.

While no investment products currently track the GCMI, we wouldn't be surprised to see them introduced in the future. Unfortunately, we won't be rushing out to buy them when they are. Our reluctance is based on the problems we have with using market capitalization weighing to construct bond indexes. As described in our article last December on Investing in Debt Markets, the more we have examined this issue, the more we have concluded that Goldman Sachs has taken the right approach in the construction of its InvesTop Index, which tracks the corporate bond market (the LQD exchange traded fund tracks this index). Rather than using market capitalization weighting, which we believe produces a distorted view of value creation in the bond market, Goldman uses equal weighting, while ensuring the use of a sufficient number of issues to ensure coverage of different durations and credit ratings.

Regulatory Action is Heating Up

Many long simmering regulatory issues seem to be heating up in the United States. First, the Securities and Exchange Commission is expected to rule sometime between now and June on the use of "soft dollars." This term refers to the practice of fund managers paying trading commissions that are higher than the lowest available price, and receiving various information and research services in exchange from brokerage houses. The fundamental problem is that because these higher fees are largely hidden from fund investors (you have to ask for a separate report, and even then it is not easy to estimate them), there is an obvious temptation for a fund manager to over-trade.

This excessive trading, while bringing more information and other goodies to the fund manager, only drives up the expenses born by the fund investor, and lowers his or her return. Broadly speaking, there are two routes the SEC could take. On the one hand, it could follow the lead of the UK Financial Services Authority, and more clearly limit the range of goods and services that can be purchased with soft dollars, and require more disclosure of these payments to fund investors. On the other hand, it could require that the sell side of the business – brokerages and investment banks – unbundle their pricing, and separately charge for execution services, research and information services, and the provision of capital (e.g., when a brokerage puts its own capital at risk by directly buying a large block of shares from a fund). The latter would be a much more radical step, and could well lead to a sharp reduction in the amount of sell-side research produced. Time will tell which course of action the SEC will choose.

On another front, there is no shortage these days of the number of investigations being conducted into the use – or possibly misuse – of fee-based accounts at brokerage firms. As we have noted before, there is a world of legal difference between a financial adviser and a stockbroker. While the former has a fiduciary duty to look out for the best interests of the client, a stockbroker's primary duty is to the firm that employs him or her. His or her duty to clients is a much weaker requirement that they be sold only "suitable" investments. In recent years, as brokerage firms found their traditional business under attack from low cost discount brokers like Ameritrade and Schwab, they repackaged their stockbrokers as "financial consultants" and began to offer "fee based" accounts. Basically, investors in these products pay an annual fee, usually based on the value of the account's assets, in exchange for which they are entitled to a certain number of "free" trades and some ancillary services (e.g., a computer generated financial plan). Unsurprisingly, a lot of investors appear to have been confused by this, and some of them apparently concluded they were taken. Now, in the finest American tradition, they are complaining to the government and suing in court, or, if that route is foreclosed, taking their stockbrokers to arbitration hearings. Not only have the Securities and Exchange Commission and various prosecuting authorities taken an interest in discovering if any systematic abuses occurred, but now the National Association of Securities Dealers and New York Stock Exchange have both launched separate investigations. This

brings to mind two old sayings. The first is “where there’s smoke...”, and the second is “caveat emptor.”

Meanwhile, On The Commercial Property Front...

In the past, we have noted the potential advantages of globally diversifying one’s allocation to commercial property. While in other markets products that enable investors to do this have been available for years, until recently none were available in the United States. We have previously noted a recent launch of the Fidelity International Real Estate Fund (FIREX) that filled this gap. Now Cohen and Steers have launched two similar new products. Their International Real Estate Securities Fund (IRFAX) is a mutual fund that will invest in real estate securities outside the United States. The Cohen and Steers Worldwide Realty Income Fund (CEF) is a closed end fund that will invest in real estate securities from around the globe. It will also use leverage to further increase its returns. Its expected portfolio mix will be 25% United States securities, and 75% from other countries.

Elsewhere on the real estate front, there is now an exchange traded fund available to Eurozone investors that tracks the Eurozone EPRA index of real estate securities returns. Its ticker is EEE.pa.

In the United States, despite the best efforts of the National Association of Real Estate Investment Trusts, the Federal Thrift Savings Plan (the defined contribution pension plan for federal government employees) looks like it is going to reject a recommendation that it add REITs to the line up of asset class index fund it offers to investors. Apparently, the TSP board was put off by the somewhat higher expenses associated with a REIT index fund. We think they are making a big mistake, as the potential diversification benefits would most likely exceed the increased expenses by a substantial amount. As they say, “penny wise and pound foolish...”

Last but not least, if you’re like us, you may have always suspected that, under a regulatory regime that treated estate agents much differently than people who sold securities and investment funds, the former might be engaging in practices that would land the latter in jail. Moreover, considering that for most people, a house is by far the biggest investment they will ever make in life, you probably thought there was something very wrong with this system. Well, now you breath easier – not because your fears are unfounded, but because there is

some evidence that your suspicions have been on target. In a recent paper (“Market Distortions When Agents Are Better Informed” by Levitt and Syverson) the authors note that “because real estate agents receive only a small share of the incremental profit when a house sells for a higher value, there is an incentive for them to convince their clients to sell their houses too cheaply and too quickly. We test this prediction by comparing home sales in which real estate agents are hired by others to sell a home to instances in which a real estate agent sells his or her own home. Consistent with theory [the authors] find homes owned by real estate agents sell for about 3.7% more than other houses, and stay on the market longer, even after controlling for a wide range of housing characteristics. Situations in which the agent’s informational advantage is larger lead to even greater distortions.” Just as we’ve always suspected...

Model Portfolios Year-to-Date Nominal Returns

We offer over 2,000 model portfolio solutions for subscribers whose functional currencies (that is, the currency in which their target income and bequest/savings are denominated) include Australian, Canadian, and U.S. Dollars, Euro, Yen, and Pounds-Sterling. In addition to currency, each solution is based on input values for three other variables:

1. The target annual income an investor wants her or his portfolio to produce, expressed as a percentage of the starting capital. There are eight options for this input, ranging from 3 to 10 percent.
2. The investor's desired savings and/or bequest goal. This is defined as the multiple of starting capital that one wants to end up with at the end of the chosen expected life. There are five options for this input, ranging from zero (effectively equivalent to converting one's starting capital into a self-managed annuity) to two.
3. The investor's expected remaining years of life. There are nine possible values for this input, ranging from 10 to 50 years.

We use a simulation optimization process to produce our model portfolio solutions. A detailed explanation of this methodology can be found on our website. To briefly summarize its key points, in order to limit the impact of estimation error, our assumptions about future asset class rates of return, risk, and correlation are based on a combination of historical data (from 1971 to 2002) and the outputs of a forward looking asset pricing model. For the same reason, we also constrain the maximum weight that can be given to certain asset classes in a portfolio. These maximums include 20% for foreign bonds and foreign equities, and 10% each for commercial property, commodities, and emerging markets equities. There are no limits on the weight that can be given to real return and domestic bonds, and to domestic equities.

Each model portfolio solution includes the following information: (a) The minimum real (after inflation) compound annual rate of return the portfolio must earn in order to achieve the specified income and savings/bequest objectives over the specified expected lifetime. (b) The long-term asset allocation strategy that will maximize the probability of achieving this return,

given our assumptions and constraints. (c) The recommended rebalancing strategy for the portfolio. And (d) the probability that the solution will achieve the specified income and savings/bequest goals over the specified time frame.

The following tables show how asset allocations with different target compound annual rate of return objectives have performed year-to-date:

	YTD 29Apr05	Weight	Weighted Return
	In US\$		In US\$
7% Target Real Return	<i>YTD Returns are Nominal</i>		
<u>Asset Classes</u>			
Real Return Bonds	1.5%	0%	0.0%
U.S. Bonds	0.9%	0%	0.0%
Non-U.S. Bonds	-1.8%	20%	-0.4%
Commercial Property	-2.0%	10%	-0.2%
Commodities	6.4%	10%	0.6%
U.S. Equity	-4.7%	50%	-2.4%
Foreign Equity (EAFE)	-2.2%	0%	0.0%
Emerging Mkt. Equity	-1.5%	10%	-0.2%
		<i>100%</i>	-2.4%

±

	YTD 29Apr05	Weight	Weighted Return
	In US\$		In US\$
6% Target Real Return	<i>YTD Returns are Nominal</i>		
<u>Asset Classes</u>			
Real Return Bonds	1.5%	0%	0.0%
U.S. Bonds	0.9%	0%	0.0%
Non-U.S. Bonds	-1.8%	20%	-0.4%
Commercial Property	-2.0%	10%	-0.2%
Commodities	6.4%	10%	0.6%
U.S. Equity	-4.7%	45%	-2.1%
Foreign Equity (EAFE)	-2.2%	5%	-0.1%
Emerging Mkt. Equity	-1.5%	10%	-0.2%
		<i>100%</i>	-2.3%

±

	YTD 29Apr05	Weight	Weighted Return
	In US\$		In US\$
5% Target Real Return	<i>YTD Returns are Nominal</i>		
<u>Asset Classes</u>			
Real Return Bonds	1.5%	0%	0.0%
U.S. Bonds	0.9%	0%	0.0%
Non-U.S. Bonds	-1.8%	20%	-0.4%
Commercial Property	-2.0%	10%	-0.2%
Commodities	6.4%	10%	0.6%
U.S. Equity	-4.7%	30%	-1.4%
Foreign Equity (EAFE)	-2.2%	20%	-0.4%
Emerging Mkt. Equity	-1.5%	10%	-0.2%
		100%	-1.9%

±

	YTD 29Apr05	Weight	Weighted Return
	In US\$		In US\$
4% Target Real Return	<i>YTD Returns are Nominal</i>		
<u>Asset Classes</u>			
Real Return Bonds	1.5%	5%	0.1%
U.S. Bonds	0.9%	35%	0.3%
Non-U.S. Bonds	-1.8%	20%	-0.4%
Commercial Property	-2.0%	10%	-0.2%
Commodities	6.4%	10%	0.6%
U.S. Equity	-4.7%	5%	-0.2%
Foreign Equity (EAFE)	-2.2%	10%	-0.2%
Emerging Mkt. Equity	-1.5%	5%	-0.1%
		100%	-0.1%

±

	YTD 29Apr05	Weight	Weighted Return
	In US\$		In US\$
3% Target Real Return	<i>YTD Returns are Nominal</i>		
<u>Asset Classes</u>			
Real Return Bonds	1.5%	75%	1.1%
U.S. Bonds	0.9%	0%	0.0%
Non-U.S. Bonds	-1.8%	10%	-0.2%
Commercial Property	-2.0%	10%	-0.2%
Commodities	6.4%	5%	0.3%
U.S. Equity	-4.7%	0%	0.0%
Foreign Equity (EAFE)	-2.2%	0%	0.0%
Emerging Mkt. Equity	-1.5%	0%	0.0%
		100%	1.1%

±

	YTD 29Apr05	Weight	Weighted Return
	In US\$		In US\$
2% Target Real Return	<i>YTD Returns are Nominal</i>		
<u>Asset Classes</u>			
Real Return Bonds	1.5%	85%	1.3%
U.S. Bonds	0.9%	0%	0.0%
Non-U.S. Bonds	-1.8%	10%	-0.2%
Commercial Property	-2.0%	5%	-0.1%
Commodities	6.4%	0%	0.0%
U.S. Equity	-4.7%	0%	0.0%
Foreign Equity (EAFE)	-2.2%	0%	0.0%
Emerging Mkt. Equity	-1.5%	0%	0.0%
		100%	1.0%

This year, we are also introducing two new benchmarks that can be used to evaluate the returns on our model portfolios. The first is the return on holding all of one's assets in cash. We define this return as the yield to maturity on a one-year government security purchased at the end of the previous year. For 2005, the U.S. cash benchmark return is 2.75% (nominal).

The second benchmark is a portfolio that is equally allocated to all of the asset classes we use in our other model portfolios. This benchmark portfolio implicitly assumes that it is impossible to accurately forecast future asset class risk and return. Consequently, the best approach is to equally divide one's exposure to different sources of return (and risk). While we disagree with this assumption, intellectual honesty compels us to include this "couch potato" portfolio as one of our benchmarks.

	YTD 29Apr05	Weight	Weighted Return
	In US\$		In US\$
Equally Weighted	<i>YTD Returns are Nominal</i>		
<i>Asset Classes</i>			
Real Return Bonds	1.5%	12.5%	0.2%
U.S. Bonds	0.9%	12.5%	0.1%
Non-U.S. Bonds	-1.8%	12.5%	-0.2%
Commercial Property	-2.0%	12.5%	-0.3%
Commodities	6.4%	12.5%	0.8%
U.S. Equity	-4.7%	12.5%	-0.6%
Foreign Equity (EAFE)	-2.2%	12.5%	-0.3%
Emerging Mkt. Equity	-1.5%	12.5%	-0.2%
		100%	-0.4%