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Investors worldwide continue to grapple with the lingering effects of the deepest economic downturn since the Great Depression. The U.S. unemployment rate remains stubbornly high, China is attempting to avoid a hard economic landing, and Europe is trying to manage its way through a sovereign debt crisis.

In an effort to stimulate growth and avoid a Japanese-style, decades-long economic malaise, the U.S. Federal Reserve has indicated a willingness to keep a highly accommodative monetary policy in place through at least 2014 by keeping short-term interest rates near zero.

Some are beginning to question the long-term effects of this approach, as inflation often follows loose monetary policies, and once the inflation genie is out of the bottle, it can be difficult to contain. In 2011, Kansas City Federal Reserve Bank President Thomas Hoening (since retired) warned that “extended periods of accommodative policies are almost always followed by some combination of ballooning asset prices and increasing inflation.” In early 2012, current St. Louis Federal Reserve President James Bullard was quoted in a speech as saying that “it may be especially difficult to remove policy accommodation at the appropriate pace and at the appropriate time.”

Inflation is not currently a front-burner issue for most investors. However, over the long term, inflation and taxes have been the investor’s two primary obstacles to building long-term wealth. Explicit tax rates are currently the subject of much debate; however, inflation is often referred to as a “silent” tax, as it has been used by governments for centuries to relieve themselves of high debt burdens by printing new dollars that are worth less than the dollars they borrowed.

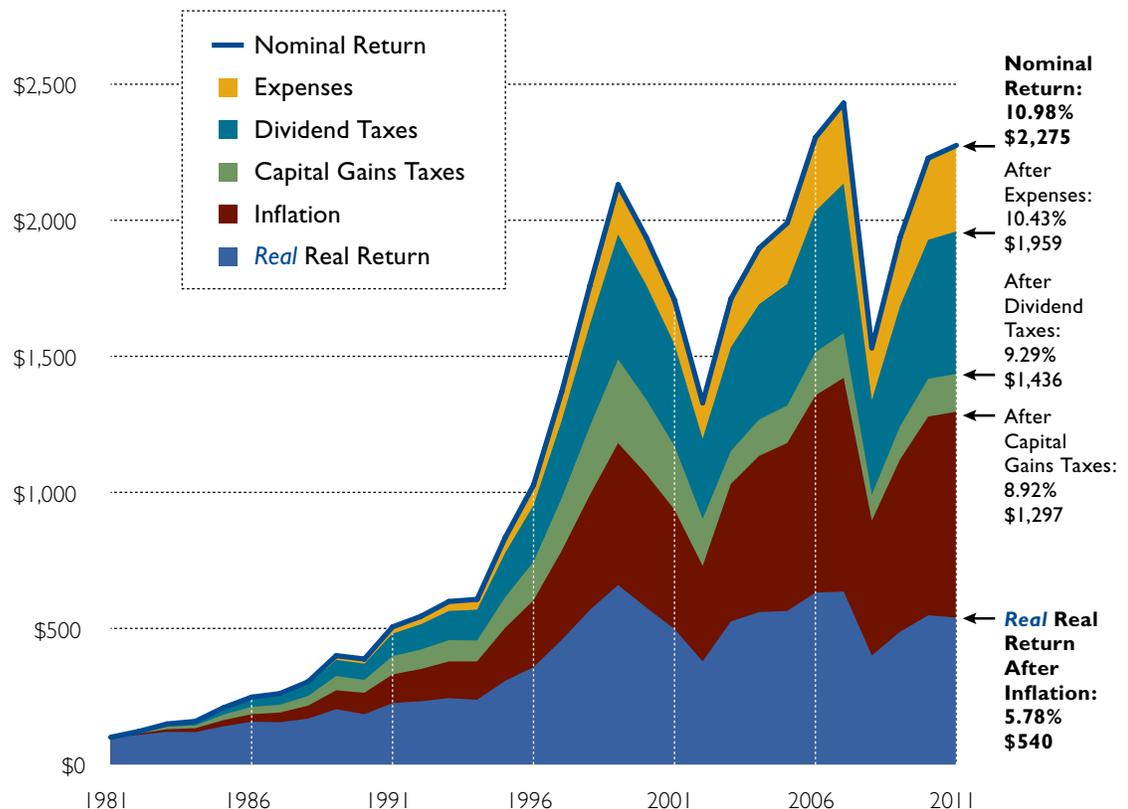
It’s important for investors to look beyond nominal returns to what an investment returns after inflation, taxes, and expenses — the *Real Real Return*.

A Study of *Real Real Returns*

Investors often focus on nominal return – or the return they see quoted in the paper or on a financial news site – on a given investment. Unfortunately, there are several factors that often stand between a nominal-return figure and the building of real wealth. Sophisticated investors frequently refer to the real return, which is a nominal return adjusted to take inflation into account. At Thornburg, we take that analysis a few steps further and adjust stated performance numbers for additional factors – taxes and investment expenses among them. We believe that investors should be attentive to *this* return figure, the number that’s left after accounting for inflation, taxes, and investment expenses.

Growth of a Hypothetical \$100

S&P 500 Index from December 31, 1981 to December 31, 2011



We call it *real real returns*.

An understanding of just how *real real returns* work can help us choose investments, allocate assets between different vehicles, and lay the foundation for building *real wealth*.

Results reflect past performance and do not guarantee future results. The performance of an index is not indicative of any particular investment. Investors may not make direct investments into any index. Sources are provided at the end of this study.

Obstacles to Investing Success Vary

Asset class returns can vary dramatically from year to year. Indeed, most investors have been subjected to a roller-coaster ride over the past decade, and most tend to see the negative and unpredictable effects of that variation as the primary threat to success. But the factors that detract from nominal investment returns – the returns we often see quoted – also fluctuate, though over longer time periods. These factors can pose an equally insidious threat to success. While investment expenses have trended downward recently, taxes and inflation remain primary obstacles to building real wealth.

Inflation, The Investor's Old Bugaboo

Inflation is the rate at which prices for goods and services rise. As it increases, the relative purchasing power of a dollar – and hence one's investment portfolio – falls. Reduced purchasing power can be particularly acute for retirees who strive to balance principal protection with the need to pay mortgages, utility bills, medical expenses, and more.

Inflation rates fluctuate dramatically over time. The rates reported by the government have been benign in recent years, but there have been periods – during the years 1974 and 1980, for example – when the annual rate exceeded 12%. Even without these extraordinary intervals, inflation has averaged almost 3% over the past 30 years. With a nominal investment return of 6%, that 3% reduces the real return to a mere 3%.

Monetary policy can affect inflation levels. The U.S. Federal Reserve (the Fed) operates under dual mandates to promote price stability and foster maximum employment. These objectives are often somewhat at odds with one another, and the Fed attempts to strike a reasonable balance. Since the most recent financial crisis took hold in 2008, the Federal Reserve has maintained an accommodative and expansive policy posture, keeping both short- and long-term interest rates low in an effort to promote growth. Prolonged periods of accommodative monetary policy have, in the past, been followed by periods of higher inflation. It remains to be seen whether *this* round of accommodative policy will result in greater inflation in the coming years. If it does, it will be a more significant factor in the computation of *real* real returns.

Taxes on Investments

Tax rates vary over time too, of course. This election year, ordinary income tax rates are the subject of acrimonious debate. However, investors are subject to a variety of taxes on investments, based on the type of returns received.

Ordinary Income Taxes

Some sources of investment income – primarily interest income from corporate and U.S. government bonds – are subject to taxation at ordinary income tax rates. Over the past 30 years, the highest marginal tax rates have ranged from 28% to 50%. In prior periods, the highest marginal rate reached as high as 70%. Clearly, higher marginal tax rates impact the amount of interest income one retains.

The interest income from municipal bonds is generally not subject to ordinary income taxes.

In calculating the *real* real returns you see portrayed in this study, we apply the highest ordinary income tax rate in place at the time the income was generated and we assume that taxes are paid from income received.

Dividend Income Taxes

For many years, interest income from taxable bonds and dividend income from equities were taxed at the same rate. Legislation signed in 2003 changed the rules so that the maximum rate on certain types of dividend income is now 15%.

This legislation could expire soon, and the tax rate on dividend income could increase in coming years. For purposes of this study, we apply the highest dividend tax rate in effect at the time of the investment.

Capital Gains Taxes

The third type of tax applies to capital gains – the difference between the price paid for an investment and the higher price at which it was sold. As with other tax types, these rates vary over time. Individuals pay capital gains taxes at ordinary income tax rates for gains on investments held less than 12 months. In 2003, the capital gains rate paid on securities held longer than 12 months was lowered from 20% to 15%. This

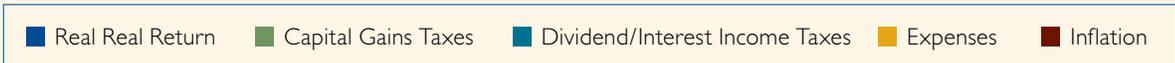
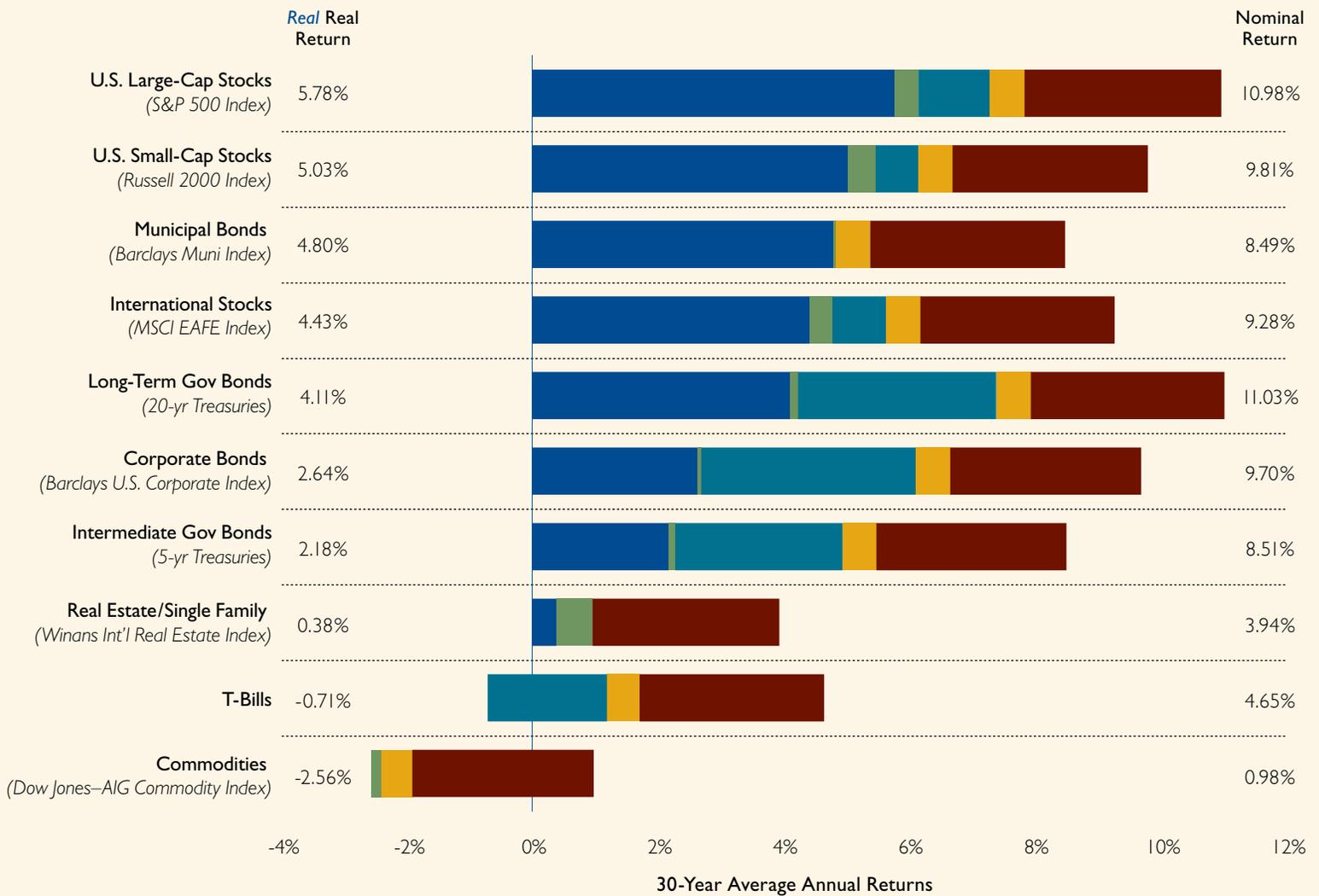
legislation could expire soon as well. For the purposes of calculating the *real* real returns portrayed here, we assume investments are held for more than one year, and apply the 15% rate at the time of sale.

Investment Expenses

Investors pay fees and expenses, which also diminish nominal return. Expenses have, broadly speaking, come down over time. But the rate of decline may slow in coming years. For the purposes of this study, we apply a rate of 0.50%, with the exception of the real estate investments. As homeowners know, though, home maintenance can exceed many thousands of dollars per year. In practice, these costs reduce returns on real estate. For such investments held for more than a year, we apply a typical 6% commission to proceeds received.

Investors often focus on nominal returns, or the return they see quoted on an investment. Unfortunately, there are often factors that diminish nominal returns and affect the building of real wealth. Only when investors take those factors into account do they arrive at the *real* real return.

Erosion of Total Returns Over 30 Years (In a Taxable Account, as of 12/31/2011)



Real Real Returns

	U.S. Large Cap Stocks	U.S. Small Cap Stocks	Municipal Bonds	Int'l Stocks	Long-Term Gov Bonds	Corporate Bonds	Int. Gov Bonds	Real Estate*	T-Bills	Commodities	Inflation
30 Years	5.78%	5.03%	4.80%	4.43%	4.11%	2.64%	2.18%	0.38%	-0.71%	-2.56%	2.96%
20 Years	3.64%	4.38%	2.89%	1.03%	3.28%	1.29%	1.33%	-0.11%	-1.03%	-1.01%	2.49%
15 Years	1.74%	2.44%	2.60%	0.18%	3.53%	1.20%	1.66%	-0.28%	-1.12%	-2.04%	2.38%
10 Years	-0.50%	1.86%	2.30%	1.34%	3.80%	1.09%	1.44%	-1.57%	-1.78%	0.97%	2.48%
5 Years	-3.26%	-2.76%	2.38%	-7.30%	5.74%	1.78%	3.20%	-5.83%	-1.89%	-5.92%	2.26%
1 Years	-1.63%	-7.57%	6.15%	-15.09%	18.55%	2.19%	4.03%	-10.57%	-3.33%	-16.28%	2.96%

Methodology: The chart at the top of the page shows how fees, taxes on dividends and capital gains, and inflation erode real wealth. The amount at the far right shows the nominal return of an investment, while the area in gold reflects the amount eaten away by fees (in our example, fees of 50 basis points (0.50%) were applied to the investment, with the exception of real estate, which includes a one-time 6% commission). The impact of taxes on income from the investment (either dividend or interest income) are represented by the area in teal. Taxes on capital gains provide a further drag on performance and are represented by the area in green, while the silent tax of inflation, in burgundy, can often turn a positive nominal return into a negative real real return. Sources and descriptions of each index and asset class are provided at the end of this study.

* For the one-year real real return, the 6% real estate commission was not deducted.

A Recap of 2011

2011 was characterized by a continuation of the heightened volatility that investors have endured in recent years. Equity investors experienced the effects of the sovereign debt crisis in Europe, the fears over a hard landing in China, the effects of the Japanese earthquake, tsunami, and nuclear disaster, and Standard & Poor's downgrade of the United States' sovereign credit rating. Investments with perceived risk struggled. In spite of the downgrade, U.S. Treasuries rallied strongly and yields plummeted.

What Are The Results of our *Real* Real Returns Calculations?

Despite a range of investment outcomes in 2011, the long-term results of our study remain relatively unchanged. Over the past 30 years, common stocks and municipal bonds posted the strongest results (when held in taxable accounts) after we adjust for inflation, taxes, and expenses as described on page two. Taxable bonds have delivered positive results in shorter periods and strong returns in tax-advantaged accounts over longer time frames.

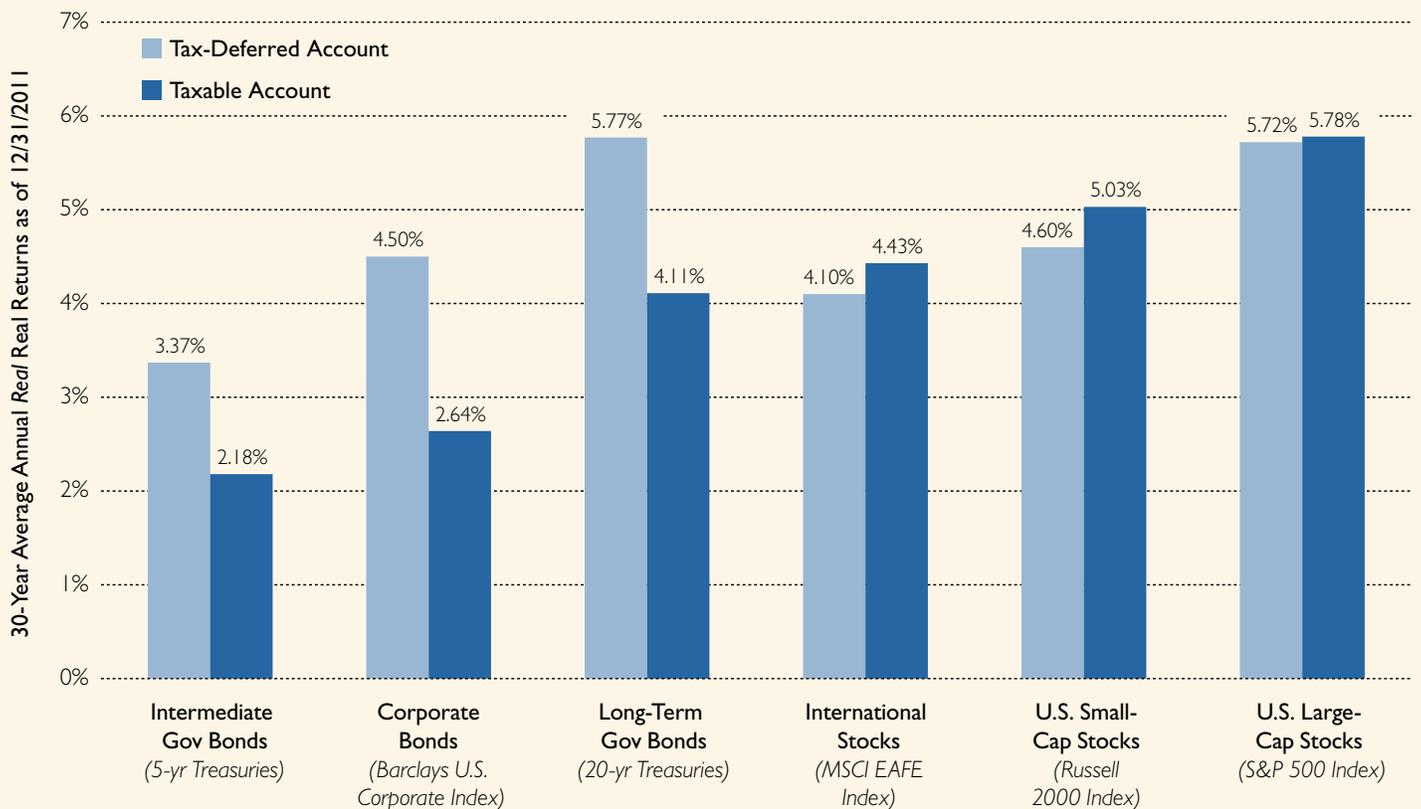
Why have equities provided the highest *real* real returns over the past 30 years? Their relatively strong nominal returns have

been a factor – but not the only one. Interestingly, long-term government bonds have provided the highest nominal returns of all the asset classes examined in our study. Why? As U.S. Treasuries continued their decades-long rally and yields fell to historic lows, Treasury prices climbed appreciably, adding to their total return. But with rates now near zero and with little rally room left, this performance is extremely unlikely to be repeated in the near future.

The source and taxation of income also play a significant role in stocks' first-place finish. Remember that the majority of the return from most equities comes in the form of capital gains and that capital gains taxes are deferred until sale. Over long time periods, the deferment of taxes on investments is a powerful tool. And remember that once gains are realized under the current tax code, they are taxed at a relatively low 15% rate. Another contributor: equity dividend income also receives favorable tax treatment.

Bonds, on the other hand, receive the majority of returns from coupon payments, which, in the case of corporate and government bonds, are taxed at higher ordinary income rates. This is why long-term government bonds placed highest in nominal-return terms, but fell well behind equities after taxes were taken into account.

Tax-Deferred Account vs. Taxable Account: *Real* Real Returns



Methodology: The chart above shows how the real real return of investments can shift when held in a tax-deferred account. In the tax-deferred account, taxes are deferred until the end of the 30-year period. Sources and descriptions of each index and asset class are provided at the end of this study.

The Importance of Planning

It's clear that an examination of *real* real returns reveals a complex picture and emphasizes the need to focus on taxes, investment vehicles, and taking a holistic approach to planning instead of making asset class decisions in isolation. Decisions made in isolation, in "silo" form, can result in lower *real* real returns.

Taxable and municipal bonds illustrate the need for a more careful planning approach. Despite having the *strongest* nominal returns over the past 30 years (again, unlikely to be repeated), long-term government bonds actually *trailed* municipal bonds on a *real* real returns basis. Municipal bonds generally offer lower nominal coupon levels than bonds issued by either the federal government or by corporations, but the interest on municipals is generally exempt from most taxes. For investors in higher tax brackets, this most often results in significantly higher after-tax yields for municipal bonds. (Again, in this study we assume taxes were paid in the year income was received, and apply the highest rate at the time). Clearly, losing a small amount to taxes every year can have an appreciable impact on long-term returns.

Taxable-Equivalent Yield

When deciding between taxable and municipal bonds, investors should understand the concept of *taxable-equivalent yield*. This highlights what a taxable bond would have to yield to equal the tax-free yield of an equivalent municipal bond. The formula for calculating taxable-equivalent yield is $[\text{Tax-free yield}/(1 \text{ minus your federal tax bracket})]$. For purposes of this study, we calculated *real* real returns based on the highest income tax rate at the time. Of course, this is not the rate paid by all investors. Taxable corporate or government bonds may make more sense for those in lower tax brackets. So, simply taking a quick moment to calculate taxable-equivalent yield is an important first step in selecting an appropriate asset allocation.

Account Type is Important

Another useful exercise is examining the merits of the different savings vehicles available to maximize tax efficiency. Many investors have access to multiple ways to save, including traditional investment vehicles and tax-advantaged retirement accounts – including IRAs and 401(k)s. Unfortunately, investors often develop a single asset allocation strategy and apply it across all investment vehicles, where a more tailored approach may help maximize tax efficiency.

Let's look at taxable bonds vs. domestic large-cap equities. In a traditional taxable bond account, interest income is taxed at ordinary income tax rates in the year it is received. In our study, we assume that the taxes came out of the account each year, reducing the amount available for reinvestment. In an IRA or employer-sponsored retirement account, though,

these taxes are deferred until the individual receives distributions from the account, at which point they are taxed as ordinary income. Paying taxes at the time the income is received versus deferring taxes over 30 years can have a significant impact on compounding results. To wit: over the past 30 years, long-term government bonds generated a *real* real return of 4.11% in a taxable account vs. a *real* real return of 5.77% in a tax-deferred account. The effect of an additional 1.66% annually over a 30-year period can be critical to investment success or failure. Clearly, it's not just the asset class that matters; where it's housed is also important.

Over the long term, common stocks have consistently generated the highest *real* real returns. While bonds have recently outperformed stocks by a wide margin, this is unlikely to be repeated in the future.

Most equities receive the majority of their returns from capital gains, but the effect the account type has on *real* real returns is similar. If gains are deferred until sale, they are taxed at the relatively favorable 15% rate for a taxable account. If held in an employer-sponsored plan, withdrawals are taxed as retirement plan distributions at ordinary income rates. The *real* real return over the past 30 years for large-cap equities (as represented by the S&P 500 Index) is 5.78% in a fully taxable account versus 5.72% in a tax-advantaged account. Again, account type matters and planning is key.

What Investors Can Do

- 1. Determine how individual circumstances can impact your *real* real return**

Tax rates vary across the income scale. While municipal bonds may make more sense for someone in a higher tax bracket, taxable bonds, with their higher coupons, may make more sense for someone in a lower tax bracket. Investors should review their circumstances and attempt to make the most informed choices about which asset classes make the most sense.
- 2. Take a holistic approach to asset allocation**

Real real returns may not be maximized by applying a single asset allocation across every investment vehicle. A growing body of evidence shows that a holistic approach – dividing assets among vehicles to maximize tax efficiency – can have a material impact on financial well-being.

3. Build a diversified portfolio of common-sense investments with a history of generating positive *real* real returns

The past 10, 20, and 30 years highlight the need for well-diversified portfolios. Over the past 30 years, common stocks, as represented by the S&P 500 Index, delivered the highest *real* real returns in our study. However, that same asset class delivered *negative real* real returns over the past 10 years.

As discussed, U.S. Treasuries outperformed stocks over the past 30 years on a nominal basis, and their recent performance has been very strong. But yields are now so low that it is likely not possible for this performance to be repeated in the near future. What was a flight to safety on the part of many institutional investors may also have been a flight to greater risk, and investors should plan and work carefully to develop an asset allocation that takes this into account.

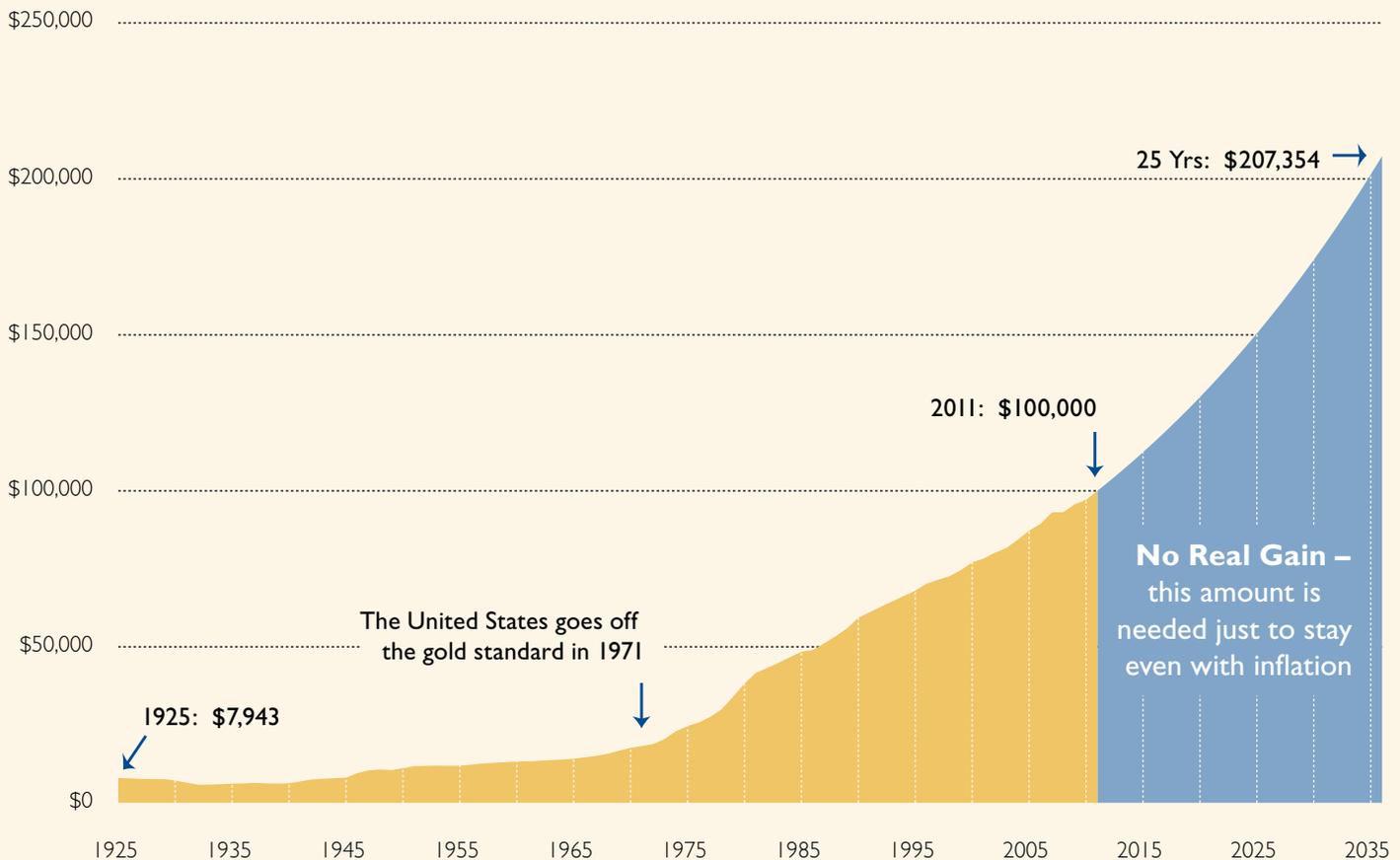
4. Monitor the explicit and implicit effects of government policy and its impact on investors' *real* real returns

It's important for investors to monitor both the explicit and implicit policy choices of the federal and state governments.

Much attention, for example, is being paid to the debate in Washington over how to balance the national budget. If marginal tax rates were to rise, that could impact the attractiveness of one investment vehicle over another. Likewise, changes to either dividend and capital gains rates could significantly affect the difference between nominal and *real* real returns. And *any* changes made could impact the relative attractiveness of taxable versus tax-deferred savings vehicles.

Aside from the public debates about taxes, certain agencies and departments of the federal government make implicit decisions that could impact your ability to generate real wealth. The Federal Reserve, charged with balancing strong employment with low rates of inflation, has attempted to stimulate growth. Will higher inflation be a long-term effect of these efforts? The national debt has risen dramatically over past decades. The so-called silent tax of inflation may be levied when we pay our bills with newly printed dollars that are worth less than those the government borrowed. Fiscal and monetary authorities can both have a significant impact on an investors' ability to build a portfolio that focuses on *real* real returns and outpaces inflation, taxes, and expenses.

A Picture of Inflation



The gold area in the graph shows the equivalent of \$100,000 in 2011 dollars, based on CPI for each year. So, \$7,943 in 1925 had the same purchasing power as \$100,000 in 2011. The blue area shows nominal amounts representing no real gain on \$100,000 starting in 2012 with inflation averaging 2.96%, which is its 30-yr average rate.

Source: Calculated by Thornburg Investment Management using data presented in the Ibbotson SBBI® 2011 Yearbook, ©2012. All rights reserved. Used with permission.

Important Information

This information should not be considered tax advice. Any tax statements contained herein are not intended to be used, and cannot be used, for the purpose of avoiding tax penalties. Please consult your independent tax advisor as to any tax, accounting, or legal statements made herein.

Statements contained herein are based upon information furnished to us from independent sources. While we do not guarantee their correctness, we believe them to be reliable and have ourselves relied upon them.

The Consumer Price Index (CPI) measures prices of a fixed basket of goods bought by a typical consumer, including food, transportation, shelter, utilities, clothing, medical care, entertainment, and other items. The CPI, published by the Bureau of Labor Statistics in the Department of Labor, is based at 100 in 1982 and is released monthly. It is widely used as a cost-of-living benchmark to adjust Social Security payments and other payment schedules, union contracts, and tax brackets. CPI is also known as the cost-of-living index.

Sources

Real real returns were calculated by Thornburg Investment Management using data obtained from the following sources:

Inflation/Consumer Price Index—Urban (CPI-U) and Treasuries data were obtained from the [Ibbotson S&P Classic Yearbook](#), © 2012. All rights reserved. Used with permission.

Commodity and real estate data were obtained from Global Financial Data.

Corporate and municipal bond data were obtained from Barclays.

Index data for the S&P 500, MSCI EAFE, and Russell 2000 were obtained from FactSet.

Tax rates were obtained from the Internal Revenue Service. The taxable account scenario applied the highest marginal tax rate in each calendar year allowable per the IRS to compute hypothetical dividend and interest taxes. The study assumes all equity dividends are qualified for the periods covered under The Jobs and Growth Tax Relief Reconciliation Act of 2003. The tax deferred account scenario applied the highest marginal tax rate at the end of the 30-year period.

Index & Asset Class Descriptions

Bonds are debt investments in which an investor loans money to an entity (corporate or governmental) which borrows the funds for a defined period of time at a fixed interest rate. Bonds are subject to certain risks including loss of principal, interest rate risk, credit risk, and inflation risk. The value of a bond will fluctuate relative to changes in interest rates; as interest rates rise, the overall price of a bond falls.

Government bonds, or Treasuries, are negotiable debt obligations of the U.S. government, secured by its full faith and credit and issued at various schedules and maturities. Income from Treasury securities is exempt from state and local, but not federal, taxes. Treasury bill data is based on a one-bill portfolio containing, at the beginning of each month, the bill having the shortest maturity not less than one month. Intermediate government bond data is based on a one-bond portfolio with a maturity near five years. Long-term government bond data is based on a one-bond portfolio with a maturity near twenty years.

Municipal bonds are debt obligations issued by states, cities, counties, and other governmental entities. Municipal bonds offer a predictable stream of income which is free from federal and, in some cases, state and local taxes, but may be subject to the alternative minimum tax. Because of these tax savings, the yield on a muni is usually lower than that of a taxable bond. Higher grade munis have higher degrees of safety with regard to payment of interest and repayment of principal and marketability in the event you must sell before maturity. This study uses Barclays Municipal Bond Index as a general representation of the municipal bond market.

A corporate bond is a debt security issued by a corporation. Corporate bonds are taxable and have more credit risk compared to Treasuries. This study uses Barclays U.S. Corporate Investment Grade Index, which is a general representation of the investment-grade corporate bond market.

A stock is a share in the ownership of a company. As an owner, investors have a claim on the assets and earnings of a company as well as voting rights with the shares. Compared to bonds, stock investors are subject to a greater risk of loss of principal. Stock prices will fluctuate, and there is no guarantee against losses. Stock investors may or may not receive dividends. Dividends and gains on an investment may be subject to federal, state or local income taxes.

Standard & Poor's 500 Stock Index is an index consisting of 500 stocks chosen for market size, liquidity and industry grouping, among other factors. The S&P 500 is designed to be a leading

indicator of U.S. equities and is meant to reflect the risk/return characteristics of the large-cap universe.

The Russell 2000 Index measures the performance of the small-cap segment of the U.S. equity universe. The unmanaged index is a subset of the Russell 3000[®] Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership. Small-cap stocks are subject to greater volatility than large-cap stocks.

The MSCI EAFE (Europe, Australasia, Far East) Index is an unmanaged index. It is a generally accepted benchmark for major overseas markets. Index weightings represent the relative capitalizations of the major overseas developed markets on a U.S. dollar adjusted basis. The index is calculated with net dividends reinvested in U.S. dollars. There are special risks associated with international investing, including currency fluctuations, government regulation, political developments, and differences in liquidity.

Compared to the other investments in this study, single-family homes are relatively illiquid. Property values can fluctuate and there are no guarantees. Gains on the sale of a property may be taxable at the federal, state, or local level. Real estate data in this study uses the Winans International Real Estate Index,TM which tracks the prices of new home prices in the United States with Census Bureau data.

A commodity is a physical good — such as food, grain, oil, natural gas, and metals — which is interchangeable with another product of the same type, and which investors buy or sell in an active market, usually through futures contracts. If you buy a futures contract, you are basically agreeing to buy something that a seller has not yet produced for a set price on a specific future date. The futures market is extremely liquid, risky, and complex. Commodity prices can be affected by uncertainties such as weather and war and there are no guarantees against losses. In this study, commodities are represented by the Dow Jones-AIG Commodity Index (DJ-AIGCI),[®] from 1990 to present. Prior to that, returns are represented by the Dow Jones Futures Price Index. The DJ-AIGCI is designed to be a highly liquid and diversified benchmark for commodities traded on U.S. exchanges. For purposes of this study, it is assumed that commodity exposure is obtained through a vehicle tracking the index and not by purchasing the underlying futures contracts.

The performance of an index is not indicative of the performance of any particular investment. Unless otherwise noted, index returns reflect the reinvestment of income dividends and capital gains, if any, but do not reflect fees, brokerage commissions or other expenses of investing. Investors may not make direct investments into any index.

* For the one-year real real return, the real estate commission was not deducted. For longer periods, a 6% commission was applied to approximate the economic reality of a typical real estate investment transaction.



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