Bernstein does not provide tax, legal, or accounting advice. In considering this material, you should discuss your individual circumstances with professionals in those areas before making any decisions.
Traditionally, investors have viewed life insurance as having two primary uses: to protect against the untimely death of the family breadwinner or to pay estate tax that will be owed upon the death of the insured. In each case, however, insurance policies often do not properly take into account the changing needs of the person insured, or of his or her beneficiaries over time. You can size how much insurance you need today assuming that you were to pass away tomorrow. But that initial plan is unlikely to fit as changes occur over time in your income, in your spending, in your wealth, and in taxes. The most notable tax change, of course, has been the increase in the applicable exclusion, which now stands at $5.45 million per person, or $10.9 million for a married couple, and is scheduled to continue to increase with inflation. Some estimate that, currently, less than 0.2% of estates will pay federal estate taxes, and this percentage is not expected to increase.¹

At Bernstein, we’ve developed an analytical approach that can account for the changing nature of markets as well as an estate tax exclusion that, itself, has become a moving target. We assess the likely amount beneficiaries would inherit over time given a combination of investment returns, estate planning strategies, and insurance. By comparing alternatives to this “inheritance line” under various scenarios (Display 1), clients can see where insurance can help to nudge the line upward early on, providing time for savings to accumulate or an estate planning strategy to take effect. Without insurance, the amount of inheritance increases over time with growth in the portfolio (gray line). Estate planning creates a larger inheritance (blue line), but the strategies also take time, and thus carry mortality risk. The teal line shows how insurance hedges this mortality risk and can be sized to provide more inheritance to the beneficiaries today, when they need it, or to

---

simply flatten the inheritance line over time. To triangulate the optimal solution, we work with a client’s insurance professional and estate planner to develop an integrated insurance, estate, and investment plan.

**THE STARTING POINT: CORE CAPITAL**
First and foremost, a good plan should begin by making sure your own needs are taken care of before engaging in wealth transfer or charitable endeavors. This is why we advise all of our clients to set aside an amount of wealth that will support their lifetime spending needs, indexed for inflation, with a very high degree of confidence. We call this amount of wealth *core capital*. To calculate core capital, we start with your desired spending level in retirement and the amount of risk you are willing to take in your portfolio. Then, using our Wealth Forecasting System (see page 4), we solve for the amount of wealth that will sustain your spending with a high degree of confidence even if market returns are poor, inflation runs higher than expected, or you live a very long time. Your core capital will decline over time, because as you age, the pool of wealth has fewer years of additional spending to support (Display 2).

**DISPLAY 2: CORE CAPITAL—A DISCIPLINED, RESEARCH-BASED FRAMEWORK**

<table>
<thead>
<tr>
<th>Hierarchy of Objectives</th>
<th>The Critical Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lifestyle Spending</strong></td>
<td><strong>Your Wealth</strong> (after spending and taxes)</td>
</tr>
<tr>
<td>Core Capital*</td>
<td>Surplus Capital (growth-oriented management)</td>
</tr>
<tr>
<td>Assures long-term well-being</td>
<td>Core Capital (preservation-oriented management)</td>
</tr>
<tr>
<td><strong>Children/Grandchildren</strong></td>
<td><strong>Age</strong></td>
</tr>
<tr>
<td><strong>Discretionary Spending</strong></td>
<td></td>
</tr>
<tr>
<td><strong>New Ventures</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Charity</strong></td>
<td></td>
</tr>
</tbody>
</table>

*The amount needed to support your lifestyle as long as you live  
Source: AB
To measure core capital and answer a multitude of investor questions, we use a financial tool, Bernstein’s Wealth Forecasting System, driven by our proprietary Capital Markets Engine (Display 3). We start from today’s conditions and simulate 10,000 plausible paths for the economy, inflation, and a wide range of investments. From there we can determine the probability of various investment outcomes, from poor to stellar. We believe core capital should meet your needs even if markets are dismal. So when our Capital Markets Engine simulates 10,000 paths, we often focus on core capital providing adequate resources in at least 9,000 of them. We call this the 90% level of confidence.

**Display 3: Our Forecasting Model Quantifies the Probability of Expected Outcomes Under Various Scenarios**

- **Personalized Investor Profile**
  - Financial Goals
  - Liquid Assets
  - Illiquid Assets
  - Income Requirements
  - Risk Tolerance
  - Tax Rates
  - Time Horizon

- **Scenarios**
  - Retirement Date
  - Spending Rate
  - Asset Allocation

- **Bernstein Wealth Forecasting System**
  - 10,000 Simulated Observations Based on Bernstein’s Proprietary Capital Markets Engine

- **Hypothetical Range of Future Wealth**
  - Great Market Pattern
    - (10% of probable outcomes are above this result)
  - Typical Market Pattern
    - (50% of probable outcomes are above this result)
  - Hostile Market Pattern
    - (90% of probable outcomes are above this result)

The Bernstein Wealth Forecasting System

The Bernstein Wealth Forecasting System is based upon our proprietary analysis of historical capital-market data over many decades. We look at variables such as past returns, volatility, valuations, and correlations to forecast a vast range of possible outcomes relating to market asset classes, not Bernstein portfolios. While there is no assurance that any specific outcome suggested by the model will actually come to pass, by quantifying the possibilities of achieving financial goals under changing, and sometimes extreme, capital-market conditions, the tool should help our clients make better choices. See Notes on Wealth Forecasting System at the end of this paper for further details.

**Mind the Gap: Life Insurance to Fund Core Capital**

While working to build the core capital needed to fund retirement, investors may face unforeseen challenges. Many of these risks can’t be managed, but one that can is the risk of untimely death of the primary wage earner: Life insurance is a great tool to help make up for the lost income of the primary earner. But how much insurance should you actually purchase?

We can use our Wealth Forecasting System to define the amount of death benefit you need at any point in time to fully fund your family’s core capital. Our framework is illustrated in Display 4. We start by identifying the amount of core capital you need at retirement based on your age, risk tolerance, and desired spending. We then project the expected value of your portfolio over time assuming hostile market environments. If you are on track for retirement, the expected value of your portfolio should intersect with your required core capital sometime before you retire. At any point before this intersection occurs, the difference between the amount your family needs and what they might have in their portfolio over time if markets are hostile is the “insurance gap.” You will notice that in this particular case, the lines converge—that’s a graphic illustration as to why this family is on a trajectory of success.

When we know how much insurance you need, we turn to your insurance advisor to create a customized insurance plan to fill this gap. Using the proposal, we can go back to our model to assess the impact of the premiums on the investment
portfolio. For a working investor, these costs are relatively modest and often have very little impact on your portfolio. This is the exact role insurance is intended to play: protect an investor from risk (mortality risk in this case) at a minimal cost. And by integrating our core capital framework, we’ve found an insurance solution that is highly customized to the individual by taking into account your projected income streams, spending patterns, and risk tolerance.

**Checkups on Existing Policies: Is My Policy “Sick” or “Healthy”?** While we aren’t in the life insurance business, we can use our Wealth Forecasting System to evaluate how the policy is likely to perform relative to investing those premium dollars in a capital-market portfolio. Typically, investors purchase insurance with the expectation that it is performing the way the illustration provided by the insurance agent projected. But illustrations are made based on current assumptions, and the actual performance can differ. Just as you have performance reviews with your financial advisor, you should have periodic reviews with your insurance agent as well.

When it comes to evaluating a policy as an investment, there is one fact that cannot be disputed: Your insurance policy is going to provide far superior investment results relative to any other asset class if you die in the near term. On the other hand, if you live a very long time, perhaps another 50 or 60 years, then from an investment perspective there may not be a worse possible choice. But, somewhere between tomorrow and 50 years from now, there is a crossover point. Our analysis identifies where the crossover point occurs relative to your life expectancy and the expected policy lapse date; with this analysis, we can help determine if a particular policy is well suited to meet your needs.

In assessing an insurance policy, it’s important to compare the illustrated death benefit to a portfolio invested in the capital markets on a tax-equivalent basis. For new illustrations, we

---

**DISPLAY 4: HOW MUCH INSURANCE DO YOU NEED?**

**Insurance Gap over Time**

*Required Core Capital is the amount of wealth required to support the surviving spouse’s lifetime spending at a 90% level of confidence. The fact that the line declines over time in this illustration is not to suggest that individuals spend less as they get older; rather, their remaining life expectancy decreases, so less wealth is needed to sustain inflation-adjusted spending for life.

†Insurance Gap is the amount of death benefit needed in order for the portfolio value to equal the required core capital amount.

Source: AB
simply compare the death benefit to the investment of the premium dollars in a taxable portfolio. For existing policies, we assume that the investor surrenders the policy and pays any associated taxes and surrender charges. We then invest the net proceeds along with any illustrated ongoing premium dollars into a taxable portfolio, and then compare the after-tax value of that portfolio over time to the death benefit.

As you might imagine, how the proceeds are invested is a very important component of the analysis. Determining the proper allocation means asking ourselves how this client would invest these funds if they weren’t in the insurance policy. For an older investor, we might assume a portfolio that is more conservative, and for a younger investor, a more growth-oriented allocation. Yet, specific client circumstance is often relevant to our comparison. For example, if a policy is held in a trust earmarked for a client’s descendants, it should be compared to a stock-tilted portfolio, even if the client is elderly, because a stock-heavy portfolio would be appropriate for the longer time horizon of the ultimate beneficiaries.

Let’s take a look at a sample case. Patrick and Megan are in their late 60s and have two children and two grandchildren. Many years ago they worked with their insurance advisor to fund a series of life insurance policies to be held within an irrevocable life insurance trust (ILIT). The couple has been making annual exclusion gifts to the trust to pay the premiums on two policies: one that has a fixed death benefit of $3.0 million and requires ongoing yearly premiums of $30,000, and a second that has a death benefit of $2.0 million with no ongoing premiums. The policies have been in place for a very long time, so Patrick and Megan just want to make sure these policies still make sense for them. The first step was to determine if the policies were in good shape; the second would be to help them evaluate how the policies fit into their overall estate plan.

To test the health of the policies, we obtained an in-force illustration and conducted a “crossover analysis” for each. You can see the results of our analysis in Display 5. The teal line represents the fixed death benefit offered by the first policy. The blue line represents the net surrender proceeds—the after-tax amount Patrick and Megan would receive if they surrendered the policy—plus the ongoing premium payments invested in a 70% stock/30% bond portfolio. (We chose a growth-oriented allocation knowing that the funds were earmarked for their children and grandchildren, who have much longer time horizons.) The crossover point—the point at which a portfolio would “outperform” the death benefit—occurs more than 30 years out. But the crossover point alone doesn’t tell us everything we need to know about the health of the policy. We need to factor in two additional data points: the joint life expectancy of Patrick and Megan, and the expected lapse date of the policy. First, it’s important to note that the policy is not expected to lapse within their life expectancy—this is a good indication of a “healthy” policy. But more importantly, the point at which the capital-market portfolio begins to result in a better wealth outcome—the crossover point—is also well beyond Patrick and Megan’s life expectancy. This is exactly what we are looking for in a healthy insurance policy: one that is expected to provide our clients with a greater amount of wealth throughout their life expectancy relative to an investment portfolio.

Now what about the other policy? We conducted a similar analysis on the second policy and, unfortunately, the results weren’t quite as rosy. Again, the teal line in Display 6 represents the death benefit, while the blue line represents the value of the reinvested net proceeds assuming a 70% stock/30% bond portfolio. This policy matures in year 30, but now the crossover point actually occurs before Patrick and Megan’s life expectancy, indicating that this particular policy is “sick.”

However, it doesn’t necessarily follow that our recommendation would be to surrender the policy immediately. In this case, the insurance does do a very nice job protecting our clients from an early death between now and year 16. And although the capital-market portfolio does outperform the insurance beyond year 16, it’s doing so at a relatively small margin, small enough that it probably doesn’t outweigh protection benefits in the prior years.
**DISPLAY 5: THE FIRST POLICY APPEARS LIKELY TO OUTPERFORM A SIMILARLY FUNDED CAPITAL-MARKET PORTFOLIO**
Median Nominal Wealth*
Stock/Bond Allocation

- **Death Benefit:** $3.0 Million
- **Joint Life Expectancy:** 26 Years
- **Stock/Bond Allocation:** 70/30

*A crossover point that is well to the right of actuarial life expectancy is an indicator of a “healthy” policy

*In this analysis, we compare the policy death benefit to an investment in a taxable capital-market portfolio consisting of 70% globally diversified stocks and 30% intermediate-term municipal bonds. Amounts invested in this portfolio consist of (i) policy cash surrender value of $100,000 plus (ii) $30,000 per year through 2061 that otherwise would be paid to the insurance company as policy premiums. Portfolio is taxed at the top marginal federal income tax rate and a 6.5% state tax rate. Policy cash surrender values and premiums are based on an in-force illustration provided by the client.

†High-net-worth couple, late 60s, nonsmokers: 26 years (estimated)

Based on Bernstein’s estimates of the range of returns for the applicable capital markets over the applicable period. Data do not represent past performance and are not a promise of actual future results or a range of future results. See Notes on Wealth Forecasting System at the end of this paper for further details.

Source: AB

**DISPLAY 6: THE SECOND POLICY APPEARS TO LAG A COMPARABLY FUNDED CAPITAL-MARKET PORTFOLIO**
Median Nominal Wealth*
Stock/Bond Allocation

- **Death Benefit:** $2.0 Million
- **Maturity Proceeds:** $1,450,000
- **Joint Life Expectancy:** 26 Years
- **Stock/Bond Allocation:** 70/30

*A crossover point that is well to the left of actuarial life expectancy is an indicator of an “unhealthy” policy

*In this analysis, we compare the policy death benefit to an investment in a taxable capital-market portfolio consisting of 70% globally diversified stocks and 30% intermediate-term municipal bonds. Amount invested in this portfolio is the estimated after-tax policy cash surrender value of $900,000. Upon maturity of the policy in 2045, the policyholder surrenders for cash value; estimated after-tax proceeds of $1,450,000 are invested in a similar taxable capital-market portfolio. Portfolios are taxed at the top marginal federal income tax rate and a 6.5% state tax rate.

†High-net-worth couple, late 60s, nonsmokers: 26 years (estimated)

Based on Bernstein’s estimates of the range of returns for the applicable capital markets over the applicable period. Data do not represent past performance and are not a promise of actual future results or a range of future results. See Notes on Wealth Forecasting System at the end of this paper for further details.

Source: AB
And more importantly, as we will see shortly, we found that this additional coverage was meaningful to the family when incorporated into Patrick and Megan’s overall estate plan.

**PUTTING IT ALL TOGETHER: COMBINING AN INSURANCE, ESTATE, AND INVESTMENT PLAN**

The second part of Patrick and Megan’s question was, “Do the insurance policies we have still meet our needs?” When they originally purchased these policies several years ago, their estate tax exposure was significantly higher. The $5.0 million coverage was originally designed to match their estimated estate tax liability. But through a combination of spending throughout the years and a much higher federal exclusion amount, their pending tax bill has been slashed. Now their estate stands at about $15.0 million, and they have a combined remaining exclusion of nearly $11.0 million, making their tax liability today just over $1.6 million. So are Patrick and Megan overinsured? To answer this question, we must view their insurance policies, not just in isolation, but as part of their integrated investment and estate plan.

Megan and Patrick are both retired. They expect to receive a small amount of income through a deferred compensation plan that will trickle in over the next few years, but other than that, their portfolio will be their only source of income. They spend approximately $300,000 per year, adjusted for inflation. They have a moderate allocation with approximately 50% stocks and 50% bonds. They also have the ILIT holding their insurance policies, which is earmarked for their two children. Ultimately they would like to ensure they have taken the proper steps to reduce their estate tax as much as possible and that they are leaving a meaningful legacy to their children to help them on the path to a secure retirement of their own. For their children to fund a similar lifestyle as Megan and Patrick have today, they will each need about $10 million, in today’s dollars, by the time they retire. While both children are working and saving, they are currently unlikely to reach that goal on their own. Megan and Patrick would like to ensure they can leave a legacy to boost their children’s savings.

To begin our analysis, we wanted to demonstrate the after-estate-tax legacy they would be leaving to their children at any point in time between now and 25 years from now (Display 7). The gray line is representative of how much the beneficiaries would receive net of estate tax and assuming they surrender all of their existing policies within the ILIT (all adjusted for inflation). To be consistent, we assume that Patrick and Megan continue making the gifts to the ILIT just as they would if they were using those gifts to fund the ongoing premiums. The gray line slopes upward, so the longer the senior generation lives, the more the children can expect to inherit.

What if Patrick and Megan decided to increase the amount they gifted to the grantor trust in an effort to further reduce any estate tax liability they might face? And what if the trustee, instead of investing exclusively in life insurance, decided to invest some or all of the gifts in a capital-market portfolio? The grantor trust allows Patrick and Megan to continue to pay the income tax on the invested gifts, which will help further reduce any residual estate tax exposure they might have. The blue line represents how much their beneficiaries will receive if Patrick and Megan pursue a strategy of more gifting to a grantor trust.

The added estate planning strategies certainly add value, but they take time to materialize. This is the problem with an investment and estate plan that does not include a mortality hedge: It provides the most amount of wealth when the children need it the least, and the least amount of wealth when the children need it the most.

Now, look what happens when we factor in their current insurance policies, as represented by the teal line. By incorporating their current insurance plan into the analysis, we are able to nudge up the left side of the curve to create a flatter, slightly downward sloping inheritance line. This inheritance profile provides slightly more wealth when the beneficiaries have more years ahead of them, and less wealth when they have fewer years ahead of them. With the help of their insurance professional and their Bernstein Advisor, Patrick and Megan have designed an integrated plan that will partially, if not fully, fund their children’s core capital needs, no matter when they inherit the money. Using this framework, we’ve been able to assure Patrick and Megan that their current plan is well suited to meet their objective of providing a meaningful legacy for their children—a legacy that is tied to the needs of their beneficiaries—rather than providing an arbitrary nominal death benefit or paying for an estate tax that may or may not be there 25 years down the road.
### CONCLUSION

We believe insurance planning can be incorporated into an investment and estate plan in a holistic manner, providing results that are customized to both the needs of the insured and the needs of the beneficiaries. Sound investment and estate planning advice can produce powerful financial outcomes for our clients, but those benefits can take time to materialize. The role of life insurance is to cover the risk that the senior generation passes too soon for those benefits to be realized. By working together, an integrated team—attorney, CPA, investment manager, insurance advisor, and others—is able to produce far superior results than can be accomplished by any one team member alone. ■
NOTES ON WEALTH FORECASTING SYSTEM

1. Purpose and Description of Wealth Forecasting System

Bernstein’s Wealth Forecasting System is designed to assist investors in making their long-term investment decisions as to their allocation of investments among categories of financial assets. Our planning tool consists of a four-step process: (1) Client-Profile Input: the client's asset allocation, income, expenses, cash withdrawals, tax rate, risk-tolerance level, goals, and other factors; (2) Client Scenarios: in effect, questions the client would like our guidance on, which may touch on issues such as when to retire, what his/her cash-flow stream is likely to be, whether his/her portfolio can beat inflation long-term, and how different asset allocations might impact his/her long-term security; (3) The Capital Markets Engine: our proprietary model that uses our research and historical data to create a vast range of hypothetical market returns, which takes into account the linkages within and among the capital markets, as well as their unpredictability; and finally (4) A Probability Distribution of Outcomes: Based on the assets invested pursuant to the stated asset allocation, 90% of the estimated ranges of probable returns and asset values the client could experience are represented within the range established by the 5th and 95th percentiles on "box-and-whiskers" graphs. However, outcomes outside this range are expected to occur 10% of the time; thus, the range does not guarantee results or establish the boundaries for all outcomes. Estimated market returns on bonds are derived taking into account yield and other criteria. An important assumption is that stocks will, over time, outperform long bonds by a reasonable amount, although this is in no way a certainty. Moreover, actual future results may not meet Bernstein’s estimates of the range of market returns, as these results are subject to a variety of economic, market, and other variables. Accordingly, the analysis should not be construed as a promise of actual future results, the actual range of future results, or the actual probability that these results will be realized. The information provided here is not intended for public use or distribution beyond our private meeting. Of course, no investment strategy or allocation can eliminate risk or guarantee returns.

2. Retirement Vehicles

Each retirement plan is modeled as one of the following vehicles: traditional IRA, 401(k), 403(b), Keogh, or Roth IRA/401(k). One of the significant differences among these vehicle types is the date at which mandatory distributions commence. For traditional IRA vehicles, mandatory distributions are assumed to commence during the year in which the investor reaches the age of 70.5. For 401(k), 403(b), and Keogh vehicles, mandatory distributions are assumed to commence at the later of (i) the year in which the investor reaches the age of 70.5 or (ii) the year in which the investor retires. In the case of a married couple, these dates are based on the date of birth of the older spouse. The minimum mandatory withdrawal is estimated using the Minimum Distribution Incidental Benefit tables as published on www.irs.gov. For Roth IRA/401(k) vehicles, there are no mandatory distributions. Distributions from Roth IRAs/401(k)s that exceed principal will be taxed and/or penalized if the distributed assets are less than five years old and the contributor is less than 59.5 years old. All Roth 401(k) plans will be rolled into a Roth IRA plan when the investor turns 59.5 years old to avoid minimum distribution requirements.

3. Rebalancing

Another important planning assumption is how the asset allocation varies over time. We attempt to model how the portfolio would actually be managed. Cash flows and cash generated from portfolio turnover are used to maintain the selected asset allocation between cash, bonds, stocks, REITs, and hedge funds over the period of the analysis. Where this is not sufficient, an optimization program is run to trade off the mismatch between the actual allocation and targets against the cost of trading to rebalance. In general, the portfolio is expected to be maintained reasonably close to the target allocation. In addition, in later years, there may be contention between the total relationship's allocation and those of the separate portfolios. For example, suppose an investor (in the top marginal federal tax bracket) begins with an asset mix consisting entirely of municipal bonds in his/her personal portfolio and entirely of stocks in his/her retirement portfolio. If personal assets are spent, the mix between stocks and bonds will diverge from targets. We put primary weight on maintaining the overall allocation near target, which may result in an allocation to taxable bonds in the retirement portfolio as the personal assets decrease in value relative to the retirement portfolio’s value.

4. Expenses and Spending Plans (Withdrawals)

All results are generally shown after applicable taxes and after anticipated withdrawals and/or additions, unless otherwise noted. Liquidations may result in realized gains or losses, which will have capital gains tax implications.
5. **Modeled Asset Classes** The following assets or indexes were used in this analysis to represent the various model classes:

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Modeled as:</th>
<th>Annual Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int.-Term Diversified Municipals</td>
<td>AA-rated diversified municipal bonds of 7-year maturity</td>
<td>30%</td>
</tr>
<tr>
<td>Int.-Term Taxables</td>
<td>Taxable bonds of 7-year maturity</td>
<td>30%</td>
</tr>
<tr>
<td>US Diversified</td>
<td>S&amp;P 500 Index</td>
<td>15%</td>
</tr>
<tr>
<td>US Value</td>
<td>S&amp;P/Barra Value Index</td>
<td>15%</td>
</tr>
<tr>
<td>US Growth</td>
<td>S&amp;P/Barra Growth Index</td>
<td>15%</td>
</tr>
<tr>
<td>US Small-/Mid-Cap</td>
<td>Russell 2500 Index</td>
<td>15%</td>
</tr>
<tr>
<td>Developed International</td>
<td>MSCI EAFE Index (Unhedged)</td>
<td>15%</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>MSCI Emerging Markets Index</td>
<td>20%</td>
</tr>
</tbody>
</table>

6. **Volatility** Volatility is a measure of dispersion of expected returns around the average. The greater the volatility, the more likely it is that returns in any one period will be substantially above or below the expected result. The volatility for each asset class used in this analysis is listed in the Capital-Market Projections section at the end of these Notes. In general, two-thirds of the returns will be within one standard deviation. For example, assuming that stocks are expected to return 8.0% on a compounded basis and the volatility of returns on stocks is 17.0%, in any one year it is likely that two-thirds of the projected returns will be between (8.9)% and 28.8%. With intermediate government bonds, if the expected compound return is assumed to be 5.0% and the volatility is assumed to be 6.0%, two-thirds of the outcomes will typically be between (1.1)% and 11.5%. Bernstein's forecast of volatility is based on historical data and incorporates Bernstein's judgment that the volatility of fixed income assets is different for different time periods.

7. **Technical Assumptions** Bernstein's Wealth Forecasting System is based on a number of technical assumptions regarding the future behavior of financial markets. Bernstein's Capital Markets Engine is the module responsible for creating simulations of returns in the capital markets. These simulations are based on inputs that summarize the current condition of the capital markets as of September 30, 2015. Therefore, the first 12-month period of simulated returns represents the period from September 30, 2015, through December 30, 2016, and not necessarily the calendar year of 2015. A description of these technical assumptions is available on request.

8. **Tax Implications** Before making any asset allocation decisions, an investor should review with his/her tax advisor the tax liabilities incurred by the different investment alternatives presented herein, including any capital gains that would be incurred as a result of liquidating all or part of his/her portfolio, retirement-plan distributions, investments in municipal or taxable bonds, etc. Bernstein does not provide tax, legal, or accounting advice. In considering this material, you should discuss your individual circumstances with professionals in those areas before making any decisions.

9. **Tax Rates** Bernstein’s Wealth Forecasting System has used various assumptions for the income tax rates of investors in the case study. See the assumptions in the case study (including footnotes) for details. The federal income tax rate is Bernstein's estimate of either the top marginal tax bracket or an "average" rate calculated based upon the marginal rate schedule. For 2014 and beyond, the maximum federal tax rate on investment income is 43.4% and the maximum federal long-term capital-gains tax rate is 23.8%. Federal tax rates are blended with applicable state tax rates by including, among other things, federal deductions for state income and capital-gains taxes. The state tax rate generally represents Bernstein’s estimate of the top marginal rate, if applicable.
### 10. Capital-Market Projections

<table>
<thead>
<tr>
<th></th>
<th>Median 40-Year Growth Rate</th>
<th>Mean Annual Return</th>
<th>Mean Annual Income</th>
<th>One-Year Volatility</th>
<th>40-Year Annual Equivalent Volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int.-Term Diversified Municipals</td>
<td>3.7%</td>
<td>4.0%</td>
<td>3.8%</td>
<td>4.2%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Int.-Term Taxables</td>
<td>4.9%</td>
<td>5.3%</td>
<td>6.4%</td>
<td>5.1%</td>
<td>11.4%</td>
</tr>
<tr>
<td>US Diversified</td>
<td>7.7%</td>
<td>9.5%</td>
<td>3.3%</td>
<td>20.5%</td>
<td>24.1%</td>
</tr>
<tr>
<td>US Value</td>
<td>8.0%</td>
<td>9.7%</td>
<td>3.9%</td>
<td>20.0%</td>
<td>23.5%</td>
</tr>
<tr>
<td>US Growth</td>
<td>7.4%</td>
<td>9.6%</td>
<td>2.7%</td>
<td>22.8%</td>
<td>25.6%</td>
</tr>
<tr>
<td>US Small-/Mid-Cap</td>
<td>7.8%</td>
<td>10.1%</td>
<td>2.9%</td>
<td>23.4%</td>
<td>26.1%</td>
</tr>
<tr>
<td>Developed International</td>
<td>8.4%</td>
<td>10.7%</td>
<td>3.6%</td>
<td>22.7%</td>
<td>24.8%</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>6.6%</td>
<td>10.8%</td>
<td>4.6%</td>
<td>32.8%</td>
<td>31.6%</td>
</tr>
<tr>
<td>Inflation</td>
<td>3.1%</td>
<td>3.5%</td>
<td>n/a</td>
<td>1.3%</td>
<td>13.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Median 25-Year Growth Rate</th>
<th>Mean Annual Return</th>
<th>Mean Annual Income</th>
<th>One-Year Volatility</th>
<th>25-Year Annual Equivalent Volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int.-Term Diversified Municipals</td>
<td>3.1%</td>
<td>3.3%</td>
<td>3.3%</td>
<td>4.2%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Int.-Term Taxables</td>
<td>3.9%</td>
<td>4.2%</td>
<td>5.5%</td>
<td>5.1%</td>
<td>7.1%</td>
</tr>
<tr>
<td>US Diversified</td>
<td>7.0%</td>
<td>8.7%</td>
<td>2.8%</td>
<td>20.5%</td>
<td>18.3%</td>
</tr>
<tr>
<td>US Value</td>
<td>7.3%</td>
<td>8.9%</td>
<td>3.4%</td>
<td>20.0%</td>
<td>18.0%</td>
</tr>
<tr>
<td>US Growth</td>
<td>6.7%</td>
<td>8.7%</td>
<td>2.3%</td>
<td>22.8%</td>
<td>19.8%</td>
</tr>
<tr>
<td>US Small-/Mid-Cap</td>
<td>7.2%</td>
<td>9.3%</td>
<td>2.4%</td>
<td>23.4%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Developed International</td>
<td>7.9%</td>
<td>10.1%</td>
<td>3.4%</td>
<td>22.7%</td>
<td>19.6%</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>6.0%</td>
<td>10.0%</td>
<td>3.8%</td>
<td>32.8%</td>
<td>27.9%</td>
</tr>
<tr>
<td>Inflation</td>
<td>2.7%</td>
<td>3.1%</td>
<td>n/a</td>
<td>1.3%</td>
<td>10.5%</td>
</tr>
</tbody>
</table>

Based on 10,000 simulated trials each consisting of 25-year and 40-year periods. Reflects Bernstein's estimates and the capital-market conditions of September 30, 2015.

Data do not represent past performance and are not a promise of actual future results or a range of future results.

**INFORMATION ABOUT MORGAN STANLEY CAPITAL INTERNATIONAL (MSCI)**

MSCI makes no express or implied warranties or representations and shall have no liability whatsoever with respect to any MSCI data contained herein. The MSCI data may not be further redistributed or used as a basis for other indexes or any securities or financial products. This paper has not been approved, reviewed, or produced by MSCI.

**NOTE TO ALL READERS**

The information contained herein reflects the views of AllianceBernstein L.P. or its affiliates and sources it believes are reliable as of the date of this publication. AllianceBernstein L.P. makes no representations or warranties concerning the accuracy of any data. There is no guarantee that any projection, forecast, or opinion in this material will be realized. Past performance does not guarantee future results. The views expressed herein may change at any time after the date of this publication. This document is for informational purposes only and does not constitute investment advice. AllianceBernstein L.P. does not provide tax, legal, or accounting advice. It does not take an investor’s personal investment objectives or financial situation into account; investors should discuss their individual circumstances with appropriate professionals before making any decisions. This information should not be construed as sales or marketing material or an offer or solicitation for the purchase or sale of any financial instrument, product, or service sponsored by AllianceBernstein or its affiliates.

The [A/B] logo is a registered service mark of AllianceBernstein, and AllianceBernstein® is a registered service mark, used by permission of the owner, AllianceBernstein L.P.

© 2015 AllianceBernstein L.P.