



BERNSTEIN

2018

IT'S A WONDERFUL DEAL!

SELLING A BUSINESS TO ACHIEVE YOUR GOALS



IT'S A WONDERFUL DEAL—GETTING WHAT YOU WANT

In the 1946 movie *It's a Wonderful Life*, Jimmy Stewart's character famously asks his girlfriend, "What is it you want, Mary? Do you want the moon? Just say the word and I'll throw a lasso around it and pull it down." While we may not be able to lasso the moon, understanding precisely what a business owner hopes to achieve with a potential sale transaction can help lay the foundation for a successful deal.

Jimmy Stewart's character, George Bailey, runs a Savings and Loan, but is offered the opportunity to work for Mr. Potter, the local bank owner. The offer promises significant financial security and travel—but surprisingly, George turns it down. Why?

Accepting the offer would have helped George achieve some of his personal financial goals. However, Mr. Potter failed to appreciate George's ancillary goals and, importantly, how he prioritized them. Beyond his own interests, George valued protecting his community from Mr. Potter's purely profit-driven business decisions. In other words, a good deal depends on more than just the financial aspects... grasping the breadth of all concerns is essential.

Those concerns often include timing and valuation. Many entrepreneurs say they would sell if an offer met their expectations. But what happens if the market imposes a lower valuation than an owner expects? Other business owners would consider selling in challenging times, but are less inclined when sales are brisk. Countless entrepreneurs have flirted with a transaction, but ultimately walked away from the altar ... sometimes repeatedly. All these situations typically share a common denominator: the owner lacks confidence in the deal. But what does that mean?

Ultimately, it means that the owner does not truly believe she is getting what she wants. To complete these deals, the owner must be convinced that she is securing her needs. How? It starts with changing the discussion—away from price tags and company metrics such as revenue, operating margins, growth rates, and valuation multiples. Instead, the discussion revolves around a singular question: "What matters to you?"

THE HEART OF THE MATTER

Everyone can name multiple things they hold dear, but what matters most? The process of prioritizing what truly matters has been an eye-opening experience for numerous business owners and families with whom we've worked.

Articulating desires and goals—and ranking their relative importance—helps owners focus on the items at the top of the list. When forced to rank priorities, an owner may have to decide if spending more time with family outweighs maximizing profits in the business. Or perhaps it's deciding whether trying something new will be more personally satisfying than continuing to run an established business. Or weighing the feelings of control and recognition that come with business ownership against time—time to travel, volunteer, learn something new, or pursue other personal goals.

What does this prioritization process have to do with selling a business? Often, a well-structured sale can help an entrepreneur fulfill his top priorities. And, when the business owner recognizes how the deal will help her achieve what matters most, she is likelier to consummate the transaction with confidence.

To complete a deal, the owner must be convinced she is getting what matters.

PRIORITIES

Giving Your Time to Causes or Organizations (Volunteer Activities)

Working Together with Partners or Coworkers **Create or Innovate**

Continued Independence of Your Business **Travel Destinations on the Bucket List**

Power **Family Time with Spouse, Kids, and Grandkids** **Eliminate Debt/Liabilities**

Future Success
of Your Business

Reduce Stress

Funding Education for Kids/Grandkids

Recognition

Uniting the Family **Protect Your Wealth** **Spending Time with Friends** **New Beginnings**

Enjoy Relaxing Vacations

Control

Deepen Faith/Religion/Spirituality

Health/Longevity

Give Assets to Organizations
You Care About

Financial Security

Provide for Family Members

Create a Philanthropic Legacy

Maintain or Upgrade Spending/Lifestyle

Pursue Hobbies

Grow Your Wealth

Free Time

Provide Support and Loyalty to Employees

Create a Family Legacy

Make a Positive Impact in the Community, Nation, or World

Learn New Things

Major Purchases: Homes, Cars, Boats, Planes, Toys

Community Impact of Business—Jobs, Economy, Social

FULFILLING DREAMS

Once priorities are established, Bernstein can analyze potential deals to gauge the probability that a given transaction will help fulfill them and examine the economics of structures that will help owners direct wealth where they want it to go. In addition, we can work with the owner's CPA and attorney to evaluate a deal's initial tax implications. We can also model charitable planning strategies to potentially reduce the associated income tax, along with prospective wealth transfer strategies to move business assets out of an estate—a tactic that can save wealth while providing asset protection.

Pre-experiencing their financial future enables owners to visualize and quantify lifetime spending options, philanthropic capacity, potential income tax savings from charitable planning strategies, and potential estate tax savings from wealth transfer techniques. To illustrate, let's consider the following case study.

CASE STUDY: MEET THE GARCIAS

John and Julie Garcia, a 60-year-old couple, owned a manufacturing company with \$5 million in annual EBITDA. Structured as an LLC, the company was taxed as a partnership. Because their children did not wish

to take over the business, the Garcias began to contemplate other options for succession planning, including a third-party sale. Their primary concern was understanding how potential proceeds from the sale would allow them to protect their wealth, maintain their spending of \$300,000 per year, and purchase a \$3.0 million vacation home in Vail, Colorado.

The Garcias also expressed a strong desire to protect their employees, support their community, and provide for their two children and four grandchildren. When it came to their heirs, the Garcias wanted to provide a financial head start towards personal fulfillment, without undermining their children's and grandchildren's drive to succeed.

At their advisor's suggestion, the Garcias initially hired a consultant to help prepare the business for sale. While the couple had effectively managed the business, the consultant identified several opportunities to prepare the company's books more professionally. Besides making them more presentable, the consultant recategorized some expenses as non-recurring and recommended a few other ways to improve the efficiency and bottom line. These suggestions enhanced the overall marketability of the business, positioning it to attract a potentially higher bid.

The work paid off; John and Julie received two offers:

- **Deal 1** was an all-cash offer for \$30 million pretax from a local competitor at a valuation in line with recent, similar-sized transactions in the industry.
- **Deal 2** was more complex. Offered by a private equity firm, this leveraged recap transaction was also for \$30 million; however, the structure provided the Garcias with an up-front cash payment of \$24 million and allowed them to roll 20% of their proceeds (valued at \$6 million) into a newly formed company. In addition, John would continue as CEO for the next five years, earning \$300,000 per year until a second possible sale down the road, for a potentially larger amount.

At first glance, both deals had advantages and disadvantages. On one hand, while the Garcias liked the certainty of the all-cash deal, they also liked the potential upside the private equity deal could offer. On the other hand, the cash deal coming from a local competitor increased the likelihood of consolidation and potential job loss for some employees. The private equity deal had its own risks. Namely, that retained interest could decline in value—perhaps significantly given the business’ increased leverage. Faced with these trade-offs, the Garcias wanted to see how each deal might impact their wealth and their ability to meet their goals.

WILL THEY HAVE ENOUGH? ALLOCATION MATTERS ...

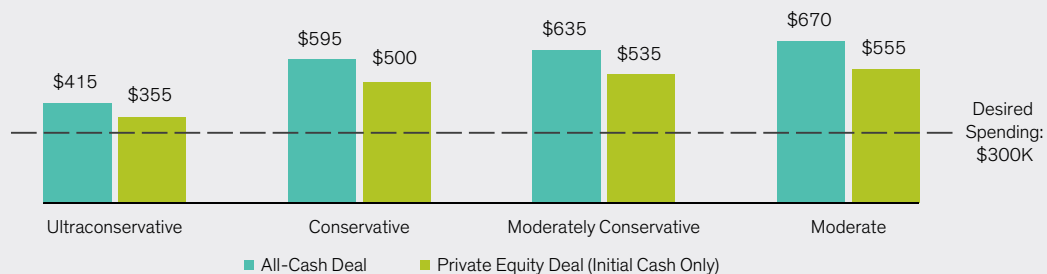
Having such a large sum to invest was new to the Garcias; historically, most of their wealth was tied up in their business. The couple understood the risks associated with running a business, but were unfamiliar with how to deploy the sale proceeds. Like many business owners, they felt more comfortable sitting in cash than investing for growth.

To help the Garcias think through their options, we quantified the amount they could conservatively spend from the initial proceeds based on four different asset allocations. We also dimensioned the risk of each allocation, which we defined as the probability of seeing their portfolio decline by 20% or more from peak to trough at least once over their time horizon. We then stress tested each of the results for potentially poor capital market returns, high inflation, and a long life.

As shown in *Display 1*, the couple was delighted to learn they could spend \$300,000 per year and purchase a \$3.0 million vacation home, regardless of the allocation chosen. However, they shied away from the 34% chance of seeing their wealth decline by 20% in the Moderate allocation. They also dismissed the Ultraconservative allocation (50% cash/50% bonds) because it did not give them a cushion to increase their expenses, as the other allocations did. Since protecting their wealth represented one of their main goals, they opted for the Moderately Conservative allocation.

DISPLAY 1: HOW MUCH ANNUAL SPENDING CAN A PORTFOLIO SUPPORT?

Sustainable Annual Inflation-Adjusted Spending*
90% Confidence Level (\$Thousands)



*90% confidence level. Sale assumes zero basis with capital gains tax of 20%. Model includes combined Social Security benefits of \$42,000 per year in today's dollars beginning at age 67 and the purchase of a \$3.0 million vacation home. Allocations modeled as 50% cash and 50% intermediate-term bonds (ultraconservative); 19% global stocks, 5% alternatives, and 76% intermediate-term bonds (conservative); 35% global stocks, 1% real assets, 9% alternatives, and 55% intermediate-term bonds (moderately conservative); 50% global stocks, 3% real assets, 12% alternatives, and 35% intermediate-term bonds (moderate). Results based on Bernstein's estimates of the range of returns for the applicable capital markets over the couple's mortality-adjusted joint lifetime. **Data do not represent past performance and are not a promise of actual future results or a range of future results.** Variations in actual income, spending, applicable tax rates, lifespan, and market returns may substantially impact the likelihood that a core capital estimate will be sufficient to provide for future expenses. See Notes on Bernstein Wealth Forecasting System for further details.

The Garcias felt reassured that their primary goals would be met by the cash from either transaction. They decided to move forward with the private equity deal because it provided potentially more upside, greater security for their employees, and allowed them to continue working for a few years while setting their transition in motion. They assumed that they would wait to address their secondary goals of providing for their community and family until after the deal closed, but we introduced some potential benefits of being proactive.

PRE-TRANSACTION PLANNING

In getting to know the Garcias, we learned that they both felt passionate about serving their community and nurtured a deep connection to several nonprofits where they volunteered a few hours each month and made annual contributions, both personally and from the business. The upcoming transition would enable the couple to give more than just time to these cherished local organizations; soon they would have the wherewithal to provide greater financial support from their personal assets.

The Garcias initially planned to fund a Donor Advised Fund (DAF) with cash after the sale which they would use to support their giving over time. A DAF allows donors to contribute assets to a tax-free investment account, from which they can direct gifts to the charities of their choice. The contribution to the fund provides the donor with a charitable tax deduction in the year that it's made.¹

The Garcias figured this strategy would help them reduce their tax liability from the sale, while allowing their investments to grow tax-free and providing flexibility to meet their philanthropic goals over time. We agreed, but offered a twist: instead of giving cash to the DAF after the sale, fund the DAF with ownership interests in the company before the sale. By giving units of the company to the DAF, the couple would receive an up-front tax deduction based on the fair value of the units at the time of the gift. And, because the DAF is a tax-exempt charitable organization, those units would avoid taxation upon sale. This dual benefit of receiving a deduction and avoiding taxes would provide a potential tax savings of \$800,000 on a \$2 million gift, versus tax savings of only \$400,000 if a gift of cash is made post-sale (*Display 2*).

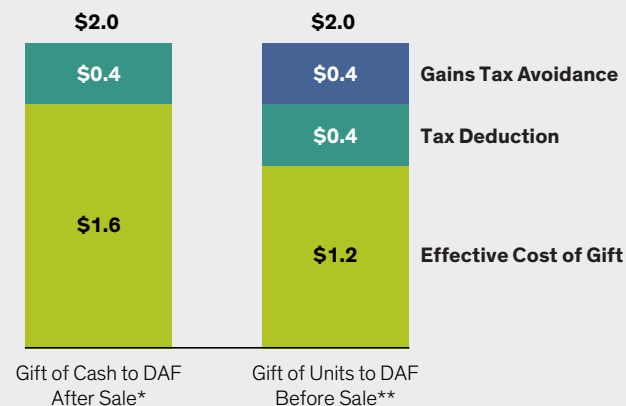
While the idea appealed to them, the Garcia's were concerned about having the capacity to make this gift and still retain enough for themselves and family. To help quantify their philanthropic

capacity, we calculated their core capital and surplus capital. Think of the core capital as the amount of money the Garcias would need today to support their lifetime spending with a very high degree of confidence. Having a high degree of confidence entails accounting for uncontrollable variables such as poor market returns, high inflationary environments, and the possibility that the portfolio would need to last for a longer-than-average life expectancy.

If the Garcias end up with assets exceeding their core capital requirement, then they have what we call surplus capital, which can fund gifts to charity and family. Giving to charity and family is important to the Garcias; however, we must ensure that those gifts do not jeopardize their own financial security.

DISPLAY 2: PRE-TRANSACTION PLANNING RESULTED IN A MEANINGFUL BENEFIT

\$2.0 million gift to DAF with cash after the sale or with units before the sale



*\$2.0 million gift to donor advised fund (DAF) is assumed to be made with cash after the sale. The tax deduction assumes the donor is able to fully utilize the deduction in the year the gift is made which will be used to offset capital gain income. The effective cost of the gift is after accounting for the tax savings from the deduction.

**\$2.0 million gift is assumed to be made with units before the sale is completed. When the gift is made, the results assume the donor will receive a tax deduction which would offset capital gain income. The units owned by the DAF are not subject to capital gains taxation at the sale. The pre-transaction charitable deduction is based on the fair market value of the units on the contribution date, as determined by a qualified independent appraisal. (§170(e)(1) and Treas. Reg. §1.170A-1(c)(1)). The appraisal value may be subject to valuation discounts, reducing the value of the deduction. Additionally, the DAF may earn income that is taxable to the charity as unrelated business taxable income. Furthermore, the IRS may deem the capital gains tax unavoidable to the donor depending upon the timing of the pre-transaction contribution. A post-transaction contribution of cash or appreciated marketable securities avoids these potential issues.

Bernstein does not provide tax advice; investors should seek advice from their accountant before making any tax-related decisions.

¹The deduction is limited to 30% of adjusted gross income (AGI) for a gift of stock and 60% of AGI for a gift of cash.

As *Display 3* illustrates, the couple requires \$11.8 million in core capital to support \$300,000 of annual spending for the rest of their lives and the purchase of a \$3.0 million vacation home. With \$19.2 million from the initial sale (after taxes) along with their current \$1.0 million portfolio, the Garcias will enjoy \$8.4 million in surplus capital. This amount—and potentially more if the remainder interest is subsequently sold—can fund their charitable gifts. Secure in this knowledge, the couple felt comfortable making a \$2.0 million gift to the DAF. Even if the gift is made with units to the DAF prior to the sale, there is still enough funds to make additional gifts to charity or family.

POSITIONING FOR THE NEXT GENERATION

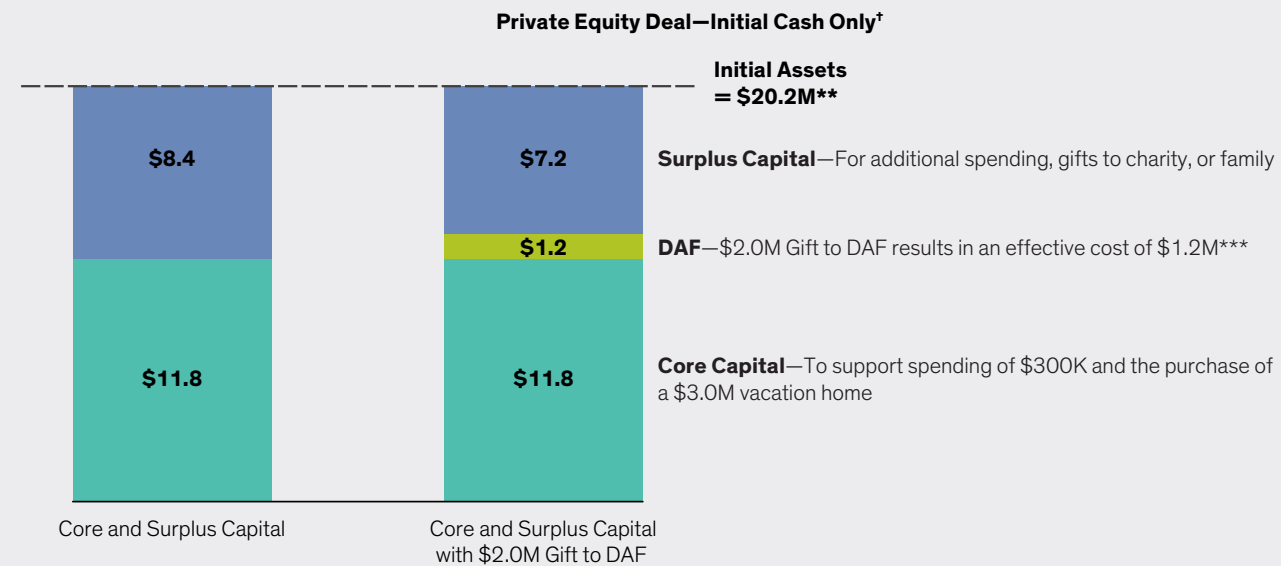
Having addressed their philanthropic goals, the Garcias turned their attention to supporting their children and grandchildren. They wanted both children to receive a one-time gift of \$1.5 million. In addition,

every year they wished to gift the annual exclusion of \$30,000 to their two children and four grandchildren (\$180,000 total). Our analysis indicated that making gifts totaling \$180,000 each year would consume most of their remaining surplus capital, limiting their ability to fund the one-time gifts in the absence of a substantial second sale. The question became, “What is the most efficient strategy to transfer this wealth to their children?”

One compelling strategy entailed selling some or all of the couple’s retained equity interest in the new company to an intentionally defective grantor trust (IDGT) in exchange for a note. The trust would be established for the benefit of their children and grandchildren. Upon the second sale, this strategy could enable the couple to fund the entire \$3.0 million gift to their children and reduce their estate (and potential estate tax liability).

DISPLAY 3: HOW MUCH CAN THEY GIVE AWAY TO FAMILY AND CHARITY?

Core Capital and Surplus Capital*
\$300,000 Spending and \$3.0 Million Vacation Home Purchase



*Core capital and surplus capital were solved at a 90% confidence level assuming \$300,000 of inflation-adjusted spending and the purchase of a \$3.0 million vacation home with a moderately conservative allocation of 35% global stocks, 1% real assets, 9% alternatives, and 55% intermediate-term bonds.

**Initial Assets of \$20.2 million represent the current assets of \$1.0 million plus after-tax proceeds from the initial sale of \$19.2 million. This was calculated using a federal capital gain tax rate of 20% assuming the 3.8% Medicare Surtax does not apply because they were active owners of the business.

***The \$2.0 million gift to DAF is assumed to be made with units before the sale is completed. When the gift is made, the results assume the donor will receive a tax deduction based on the gift’s then current value of \$2.0 million. This deduction would offset capital gain income. Because the units owned by the DAF are not subject to taxation, the donor avoids paying taxes on the full amount of the units within the DAF which would have been subject to capital gains tax. This results in an effective cost of \$1.2 million.

†Private equity deal assumes \$24 million initial cash, pretax, with \$300,000 per year consulting income for five years and combined Social Security benefits of \$42,000 per year in today’s dollars, beginning at age 67.

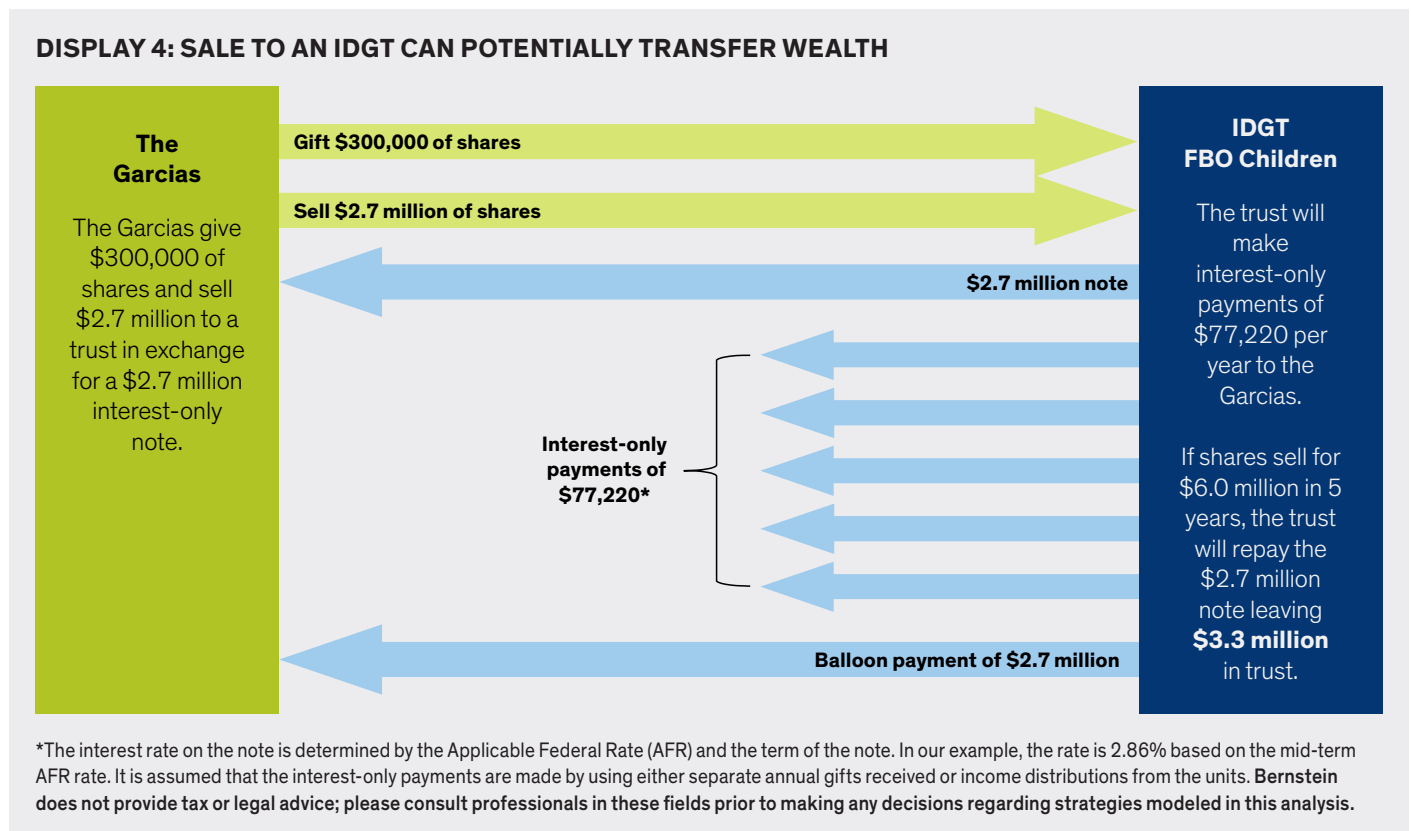
Based on Bernstein’s estimates of the range of returns for the applicable capital markets over a joint life expectancy. **Data do not represent past performance and are not a promise of actual future results or a range of future results.** See Notes on Bernstein Wealth Forecasting System for further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

For example, the Garcias could sell 50% of their retained shares to the IDGT, valued at \$3.0 million today. This sale could be structured with a gift of 10%, or \$300,000, and an interest-only note valued at \$2.7 million. If the retained interest is sold in five years after doubling in value to \$6.0 million, the trust could use the proceeds to repay the \$2.7 million note, leaving \$3.3 million for the benefit of their heirs (*Display 4*).

Utilizing the strategy can efficiently transfer wealth out of the Garcias' estate, preserve most of their applicable exclusion, and allow them (and their children) to benefit from the business' future growth. This strategy also lends flexibility to the estate plan: depending on changes to estate and gift tax laws—and their own needs—the Garcias could

opt to forgive the note at any point, effectively completing a \$2.7 million gift. And, if the Garcias receive a discount on the sale due to lack of liquidity, the amount transferred to their children would be further enhanced.

There's another advantage. Since the IDGT is a grantor trust, the Garcias would pay the trust's taxes: capital gains tax if the retained stock is sold, and taxes on future investment returns. This feature would eliminate the tax drag on assets transferred to the trust, helping to maximize the growth of those assets for the Garcias' children. With these assets growing outside of their estate, we project that the trust could grow to \$15.0 million in the median case over the next 30 years and could ultimately save the Garcias \$6.0 million of federal estate tax.



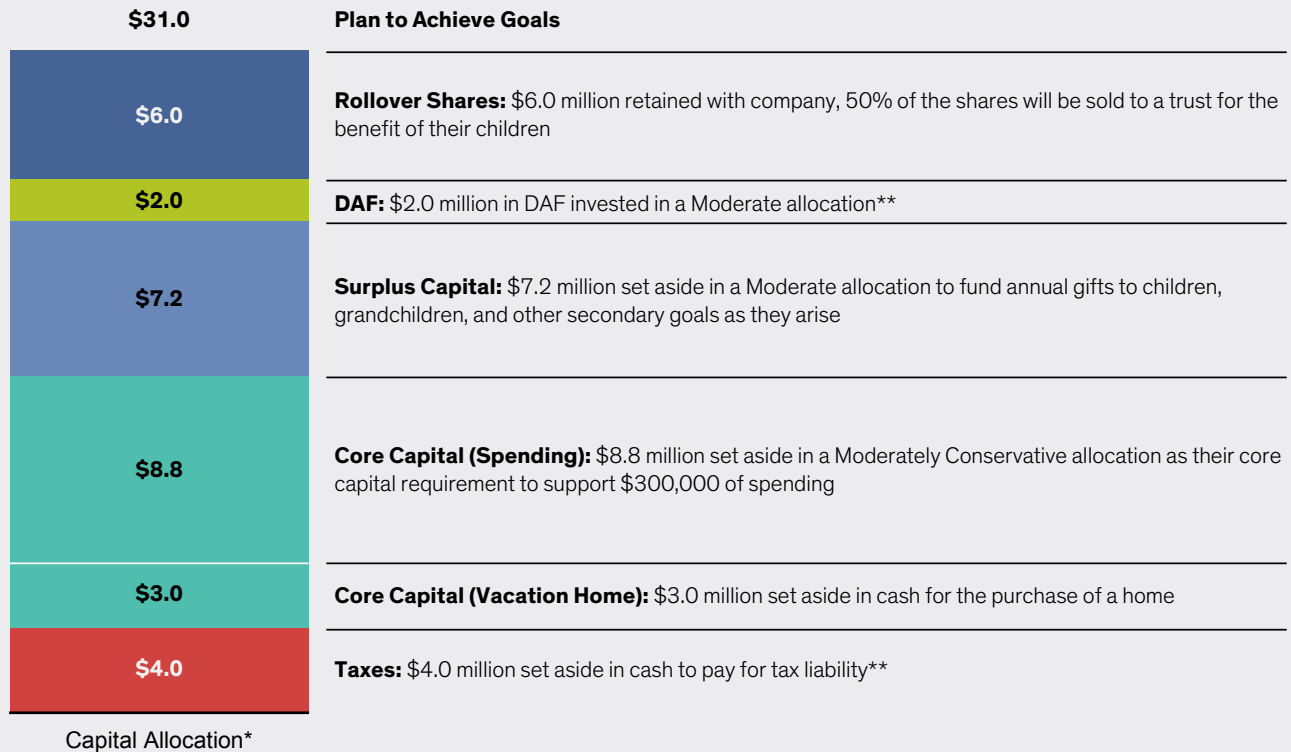
PUTTING IT ALL TOGETHER

Clearly, the Garcias' financial situation is complex. Yet, by planning early, they felt prepared knowing the amount they needed to set aside to support their lifestyle along with their children and charities. What's more, they were delighted to take advantage of the pre-transaction charitable gifts and save \$800,000 on income taxes in the

near term—and potentially \$7.5 million of federal estate taxes—with well-structured gifts to their children's trusts. What comforted them most was having a roadmap that outlined where the sales proceeds would be going and how they would be allocated to achieve each goal (*Display 5, next page*).

DISPLAY 5: THE GARCIAS' ROADMAP

\$ Millions



*Capital allocation illustrates where all proceeds will be held at the time of the sale. The \$31.0 million includes the sales proceeds of \$30.0 million as well as the current assets of \$1.0 million.

**The \$2.0 million in the DAF assumed that the Garcias gave \$2.0 million worth of units to a DAF before the sale which results in a tax benefit of \$800,000. As a result, their overall tax liability is reduced by \$800,000. See Display 2 for illustration.

Based on Bernstein's estimates of the range of returns for the applicable capital markets. **Data do not represent past performance and are not a promise of actual future results or a range of future results.** See Notes on Bernstein Wealth Forecasting System for further details.

THE RIPPLE EFFECT

In the movie *It's a Wonderful Life*, Clarence remarks, "One man's life touches so many others." The same could be said for the life of a business owner. This transaction impacts not only the entrepreneurs, but many of the cherished relationships that made their list of priorities.

Any transaction must be viewed through the lens of such priorities, and the deal's potential impact on them. Done well, transaction planning not only answers entrepreneurs' perennial question, "What do I want?"—it also helps them achieve it.

We conduct analyses such as these virtually every business day, using our proprietary, research-based Wealth Forecasting SystemSM. When a potential deal is under consideration, the insights we provide can enable the seller to reach a timely—and informed—decision, based on a well-designed plan of action. Our Wealth Forecasting System is designed to quantify the probability of achieving long-term financial goals, given any deal structure and desired risk tolerance for the reinvestment of the sale proceeds, while appropriately modeling income taxation on various investment vehicles and assets. Our proprietary model uses our forward-looking research from today's initial market conditions, along with historical data, to create a vast range of future market returns (not Bernstein returns). These projected returns take into account the linkages within and among the global capital market asset classes, as well as their unpredictability. Conservatively, we often aim for at least a 90% level of confidence, which means that the goals are highly likely to be achieved even if the market experiences poor investment results, inflation runs higher than expected (driving up spending requirements), and if the seller lives longer than anticipated.

Notes on Bernstein Wealth Forecasting System

1. Purpose and Description of Wealth Forecasting System

Bernstein's Wealth Forecasting Analysis 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. 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 IRA/401(k) 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 allocation will be maintained reasonably close to its target. 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 be pulled away 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:

Asset Class	Modeled As	% Annual Turnover
Cash Equivalents	3-month Treasury bills	100
Intermediate-Term Diversified Municipals	AA-rated diversified municipal bonds of 7-year maturity	30
Intermediate-Term Taxables	Taxable bonds with maturity of 7 years	30
Int.-Term Inflation Muni	Long Int.-Term Diversified Muni, Long Int.-Term TIPS and Short Int.-Term Treasury Adjusted for Cost	30
Inflation Protected Bonds	7-Year Treasury Inflation Protected Security	30
US Diversified	S&P 500 Index	15
US Value	S&P/Barra Value Index	15
US Growth	S&P/Barra Growth Index	15
US Low Vol Equity	MSCI US Minimum Volatility Index	15
Developed International	MSCI EAFE Unhedged	15
Emerging Markets	MSCI Emerging Markets Index	20
US SMID	Russell 2500	15
High-Risk Int'l	Country Fund	15
Real Assets	1/3 NAREIT, 1/3 MSCI ACWI Commodity Producer Index, 1/3 DJ-UBS Commodity Futures Index	30
Diversified Hedge Fund Portfolio	Diversified Hedge Fund Asset Class	33
Global Intermediate Taxable Bonds Hedged	7-year 50% Sovereign and 50% Investment-Grade Corporate Debt of Developed Countries	30

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 on the Capital-Market Projections page 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 December 31, 2017. 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 Analysis has used the following tax rates for this analysis:

Taxpayer	Start Year	End Year	Federal Income Tax Rate	Federal Capital Gains Tax Rate	State Income Tax Rate	State Capital Gains Tax Rate	Tax Method Type
John and Julie Garcia	2018	2018	See below	See below	See below	See below	Top Marginal Rates
John and Julie Garcia	2019	2052	See below	See below	See below	See below	Automatic-Joint Filer

The federal income tax rate represents Bernstein's estimate of either the top marginal tax bracket or an "average" rate calculated based upon the marginal rate schedule. The federal capital gains tax rate is represented by the lesser of the top marginal income tax bracket or the current cap on capital gains for an individual or corporation, as applicable. In our case study, the Garcias are residents of a state without state income taxes.

10. Core Capital Analysis

The term "Core Capital" means the amount of money necessary to cover anticipated lifetime net spending. All non-Core Capital assets are termed "Excess Capital." Bernstein estimates Core Capital by inputting information supplied by the client, including expected future income and spending, into our Wealth Forecasting System which simulates a vast range of potential market returns over the client's anticipated lifespan. From these simulations we develop an estimate of the Core Capital the client will require to maintain their spending level over time. Variations in actual income, spending, applicable tax rates, lifespan, and market returns may substantially impact the likelihood that a Core Capital estimate will be sufficient to provide for future expenses. Accordingly, the estimate should not be construed as a promise of actual future results, the actual range of results, or the actual probability that the results will be realized.

	Median 35-Year Growth Rate	Mean Annual Return	Mean Annual Income	One-Year Volatility	35-Year Annual Equivalent Volatility
Cash Equivalents	3.7%	4.1%	4.1%	0.4%	12.2%
Int.-Term Diversified Municipals	3.7%	4.0%	3.9%	4.1%	9.3%
Int.-Term Taxables	4.9%	5.3%	6.4%	5.2%	10.3%
Int.-Term Inflation Muni	3.3%	4.0%	4.2%	3.6%	16.8%
Inflation-Linked Bonds	4.3%	5.0%	5.3%	3.5%	19.3%
Global Int. Taxable Bonds Hedged	4.2%	4.5%	5.5%	4.3%	10.9%
Real Assets	6.9%	8.2%	4.3%	13.1%	19.0%
Diversified Hedge Fund Portfolio	6.4%	7.0%	3.8%	10.9%	17.2%
US Diversified	7.4%	9.2%	3.1%	16.4%	22.2%
US Value	7.7%	9.4%	3.6%	16.0%	21.7%
US Growth	7.1%	9.2%	2.5%	18.2%	23.7%
US SMID	7.6%	9.7%	2.7%	18.7%	24.5%
US Low Vol Equity	7.5%	8.7%	4.3%	14.2%	18.5%
Developed International	8.2%	10.4%	3.5%	18.2%	23.1%
Emerging Markets	6.5%	10.5%	4.3%	26.1%	30.1%
High-Risk Int'l	8.3%	11.5%	2.3%	22.1%	27.0%
Inflation	3.3%	3.8%	n/a	1.2%	13.0%

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