INCOMELAB

The Transformative Value of Retirement Planning as an Ongoing Service

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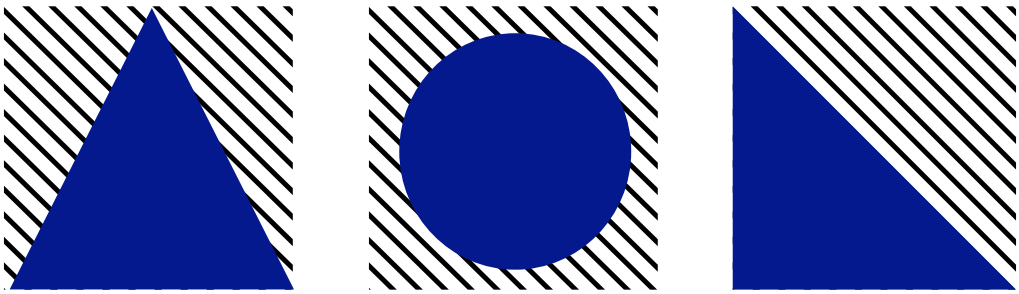

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THE TRANSFORMATIVE VALUE OF RETIREMENT PLANNING AS AN ONGOING SERVICE

"While crafting a 'financial plan' for clients has been a staple of financial planning for decades, virtually no financial plan today actually constitutes a real 'plan' for anything. After all, the whole point of planning is to formulate the strategy of how to handle a range of possible future scenarios. If A happens, then we'll do B. If C happens, we'll do D instead."

- Michael Kitces[1]

The analytics behind today's retirement plans focus on how things might work out if a given set of choices (investment allocations, income amounts, cash flows, etc.) are carried on into the future without change. But this static approach to planning has major flaws: (a) It does not correctly model how people actually behave, and (b) it robs retirees of the superior outcomes that would be achievable if they adopted dynamic plans and actively managed those plans over time.

In this eBook we report on research that establishes how much value is to be gained by abandoning static planning and adopting systems for both the development of dynamic plans and their implementation.

Static Plans Deliver Bad Results

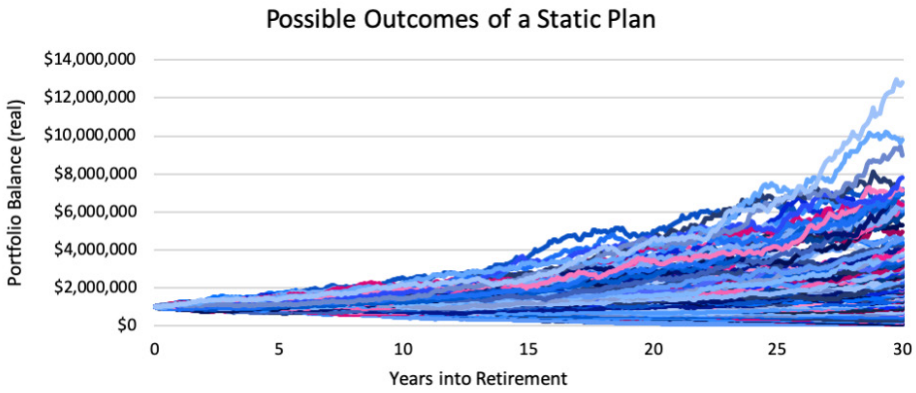
The typical Monte Carlo analysis at the heart of much of today's planning illustrates very clearly the problem with static planning. Figure 1 shows a graph that will be familiar to today's financial planners. This figure shows inflation-adjusted (real) portfolio balances for 1000 randomized simulations of a $43,000/year inflation-adjusted income taken from a $1 million 60/40 stock/bond portfolio. [2]

This picture is so familiar that it could seem unremarkable. But hiding in plain sight is evidence of why static planning is such a bad idea. This picture shows that the range of possible outcomes from a static plan is huge, ranging from the stratospheric (over 50% of scenarios ended with over $2 million, with a maximum of $12.8 million left over[3]) to the dismal (running out of money).

Let's consider a couple entering retirement with two basic goals:
(a) Maximize standard of living in retirement
(b) Leave behind a legacy / maintain a safety buffer

FIGURE 1:

Inflation-Adjusted Portfolio Balances – Static Retirement Plan



[1] Is Financial Planning Software Incapable of Formulating an Actual Financial Plan?

[2] Assumptions based on the 30-year average gross monthly returns and standard deviations of S&P 500 Total Return index and SBBI Intermediate Term Government Bond Index through January 2020. Arithmetic average monthly returns: 0.66% (stock), 0.23% (bond). Standard deviations: 3.43% (stock), 1.23% (bond). Correlation: -0.28. Income taken monthly. See Endnotes for more information on sources.

[3] A known flaw with Monte Carlo analysis is its tendency to produce results far outside of the range of those seen in history. Historically, the highest real portfolio balance seen after 30 years of $43,000/year spending was $5.7 million.

Figure 1 shows that this static plan is a terrible way to meet these goals. In almost all cases, this Monte Carlo analysis suggests the plan will fail to deliver (a), (b), or both.

Monte Carlo analysis has known flaws that can produce misleading numbers and analyses, but the historical record shows similarly bad results for this static plan. Historically, if a couple had attempted this approach, they had a 34% chance of leaving over $2 million (in real, inflation-adjusted dollars) and a 10% chance of running out of money.[4] Both outcomes are a type of failure. In scenarios that produced an outsized legacy, the couple skipped income that could have improved their standard of living, thus failing to meet goal (a). When the couple ran out of money, they not only experienced an unacceptable drop in standard of living (failing to meet goal (a) again), but they also left no legacy (goal (b)).

The fact is, people don't behave this way. Retirees do not continue spending blindly as their portfolio runs out of money. They would reduce their income draw first. And those who pay attention to standard of living would not allow their portfolio to go from $1 million to almost $13 million without increasing their income.

Changes Over Time

Static planning assumes that nothing changes as time goes on. But this is plainly wrong. As time goes on, numerous factors change even if client goals stay the same: [5]

- *(a) Client ages and longevity expectations*
- *(b) Client financial situation (account balances, etc.)*
- *(c) Non-portfolio cash flows*
- *(d) Expected expenses*
- *(e) Economic and market conditions*
- *(f) Risk of current income level*

Changing Longevity

A dynamic approach to planning would pay constant attention to these changing factors. Let's start with the basics: as people age, their remaining longevity goes down and the amount that can be drawn from investment portfolios goes up. Figure 2 shows how, at exactly the same longevity risk level,[6] plan length goes down over time (see the red line and the righthand axis). As plan length goes down, the rate of available income rises (see the lefthand axis). Ignoring this fact leads to bad retirement outcomes.

Let's look at two examples from history that illustrate the absurdity of static planning.

Good Times vs Bad Times

Good Times (1986)
January of 1986 was a good time to retire. Inflation was on its way down and markets were on their way up. If a 65-year-old couple had retired at this point and followed the static plan in Figure 1, they would have spent 4.3% of their $1 million portfolio, or $43,000, in the first year. But as time went on, this $43,000 became a smaller and smaller percentage of their portfolio, as shown in Figure 3. The growing gap between the actual withdrawal rate and the available rate represents a huge amount of income that this couple is missing out on.

Bad Times (1966)
On the other hand, January of 1966 was not nearly as good a time to retire. Inflation would soon be soaring, and markets were in for a rough ride. That same $43,000/year income would have represented an ever-increasing percentage of a portfolio (Figure 4). The gap shown in this case represents risk rising over time, eventually leading to portfolio failure.

[4] Based on gross historical returns of a 60/40 stock/bond portfolio since 1874. See Endnotes for more information on sources.

[5] It is important to note that the changes in (a-f) happen whether or not clients' goals change. Other idiosyncratic changes could also accumulate over time as well. For example, death, divorce, or marriage could change a family's make-up and changes in life outlook and values could change legacy goals or risk tolerance. Clearly, these sorts of changes also support the need for an ongoing, dynamic approach to planning with ongoing client engagement.

[6] The term Longevity Risk Level refers to the percentile of people of the same age who will be alive at the end of the plan. For example, at a 30% longevity risk, 30% of 65-year-old couples will have passed away after 32.7 years. Source: Society of Actuaries RP-2014 mortality tables with MP-2017 improvements. Note that these actuarial data reflect higher life expectancies than Social Security mortality rates. There are large longevity differences in the US population based on economic status. The more well-off tend to have much higher longevity. See The Growing Gap in Life Expectancy by Income, National Academies of Sciences, Engineering and Medicine, 2015.

FIGURE 2: WITHDRAWAL RATES CHANGE AS PLAN LENGTH CHANGES

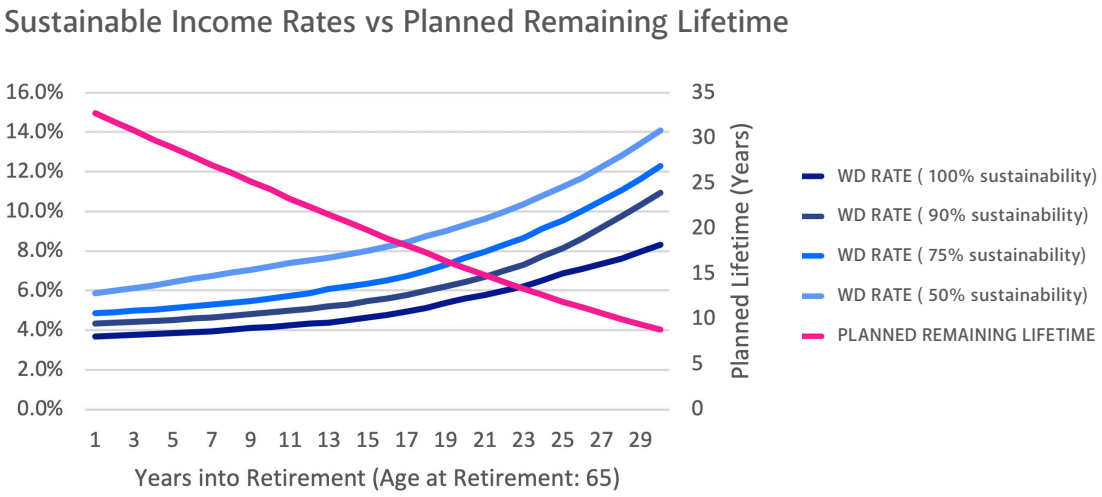


FIGURE 3: A GOOD TIME TO RETIRE (1986)

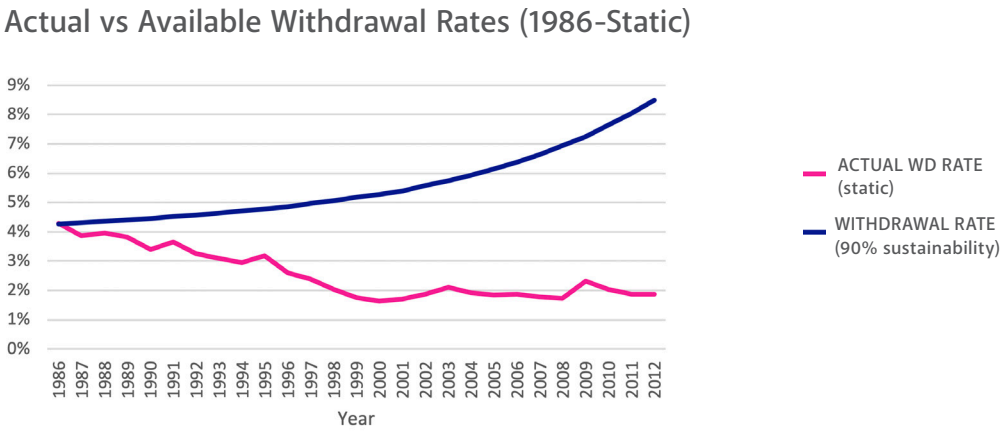
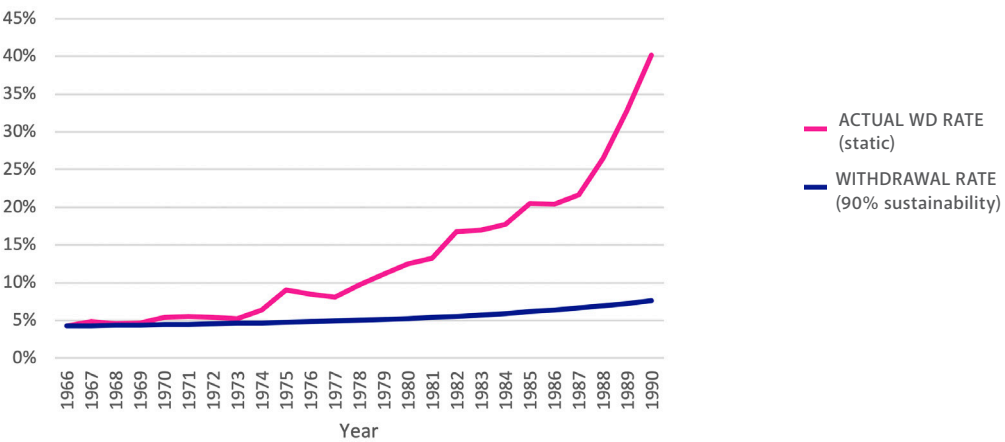


FIGURE 4: A BAD TIME TO RETIRE (1966)



The Value of Adjustment

Evidence and common sense show that retirees continue to behave in retirement just as most people do in their working lives: they adjust to changes in their financial circumstances.[7] When times are good, they spend more. When times are bad, they tighten their belts. Dynamic plans would guide these adjustments, ensuring that changes make sense and are based on solid analysis.

Static planning assumes that nothing changes as time goes on. But this is plainly wrong. In order to study the value of such course corrections, we simulated the retirement experiences of 65-year-old retiree couples who began their retirement at every monthly point in time since 1889. These couples reevaluated their entire situation every month as they moved forward in time. This included looking at their changing longevity expectations, portfolio balances, purchasing power, and the risk of their income level. Income levels began at a fairly conservative level, but each couple got a raise if risk went down significantly and a pay cut if risk went up significantly. Other than these risk-based changes and adjustments for inflation, they kept income steady.

Specifically, each couple began retirement with income that had a 90% chance of being sustainable through their plan (a 10% risk level). Couples increased real income if the risk of their income reached 0% and decreased real income if the chances of maintaining their income level reached 25%. Risk was measured as the chances that a given income amount would survive the full remaining plan length, adjusted for then-current longevity. Couples adjusted their income only when nominal income changes were 5% or more. In order to avoid foresight bias, each scenario evaluated risk based only on the data available at each point in history.

The results of this study show there is immense value to be found in a shift from static planning to ongoing, dynamic management. If retirees make intelligent, systematic course adjustments along the way they can not only manage their downside risk but they can capture much more of their possible retirement income, and in many cases enjoy an increasing standard of living.

Capturing a Higher Standard of Living - 1986

Figure 5 shows how nominal and real monthly income developed for our 1986 retirees as they followed this dynamic approach. Along with receiving adjustments for inflation, this couple would have received six sizable increases in their purchasing power, resulting in about $111,000 in annual real income by year 14 of retirement. That's more than two-and-a-half times as much income as they had expected at the onset of retirement. Annual nominal income eventually reached more than $229,000.

By staying in line with the income actually available to this couple as they age and their portfolio balance changes, these income adjustments keep withdrawals much more in line with risk than did the crude static approach shown in Figure 3.

A Stitch in Time Saves Nine - 1966

Dynamic planning also transforms the dismal experience of 1966 retirees into a much more reasonable one. By decreasing real income twice in mid-retirement (see Figure 6), these retirees were able to avoid financial ruin even though history dealt them a bad hand.

Their purchasing power was reduced twice, once in year nine and again in year sixteen.[8] Because of these course corrections, withdrawal rates never got out of control, as they did in Figure 4. It's worth noting that, because of historically high inflation rates, nominal income still rose meaningfully over time, eventually exceeding $200,000/year. These retirees even saw two increases in real income late in retirement to a level slightly above their original plan.

Closer to Goals

In both cases we assume these couples wanted the best possible standard of living while still seeking to leave something as a legacy or at least maintain portfolio balances as a safety buffer. A look at the balances of these two examples shows us that this second goal was achieved. Both the 1986 and 1966 retirees maintained reasonable real portfolio balances throughout retirement, ending with over $1.5 million in both cases in nominal terms after 30 years.[9]

[7] Retirees have the lowest level of bankruptcy of any age group. For discussion, see Derek Tharp, Does Failed Retirement Income Planning Really Result in Bankrupt Financial Ruin?.

[8] A full dynamic retirement plan would include ongoing attention to non-portfolio cash flows, such as Social Security, pensions, and annuities, as well as other factors that would have improved this outcome even further. The results reported here reflect income from investment accounts only.

[9] Because of the different inflation experiences of these retirees, real (inflation-adjusted) balances differed more: approximately $790k for the 1986 retiree by 2016 and $451k for the 1966 retiree by 1996.

FIGURE 5:

DYNAMIC INCOME MANAGEMENT (1986) – INCOME AMOUNTS

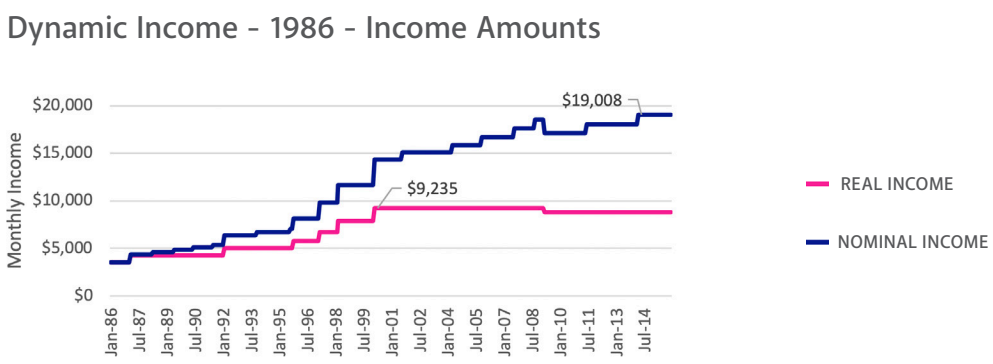
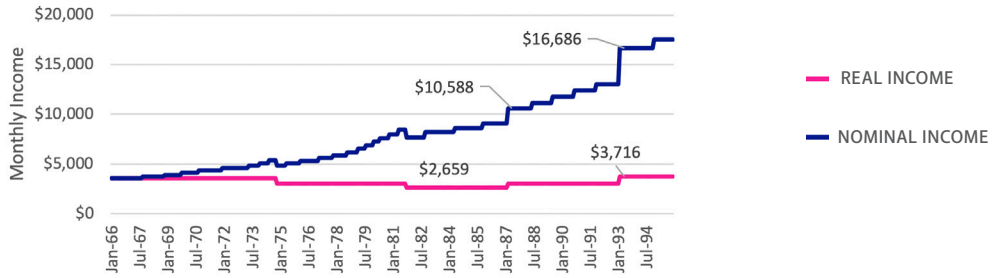


FIGURE 6:

DYNAMIC INCOME MANAGEMENT (1966) – INCOME AMOUNTS



Better Retirement Outcomes

We've just seen two examples of real historical retirement scenarios where ongoing, dynamic management of retirement income had a transformational impact on how retirees would have experienced retirement. In one case, adjustments over time resulted in a standard of living that far exceeded what the retirees originally planned for. In the other, failure was averted with course corrections once it became clear that risk was too high. Both examples show how ongoing management adds meaningful value. In our study overall, the first scenario was far more common than the second. By following the dynamic plan outlined in Section 3.0, 91% of retirees experienced more income, over 30 years, than they had originally planned for.[10] On average, these retirees received 166% of their originally expected lifetime income. At the high end, the retirees from July of 1982 ended up with 294% of what they had planned for.

But not all scenarios were positive over 30 years; 9% of scenarios received less total income than originally planned. On average though this shortfall was just 5.4% (94.6% of expected income). On the low end, the November 1965 retirees received 11.5% less (88.5% for their originally expected income).

[10] These statistics report on total income over 30 years. We also tracked an income experience score, Adjusted Total Income (ATI), that incorporates mortality expectations (which leads to a time value of money-type discounting) and risk aversion. Using this methodology, 86% of retirees received more than they had planned for and received an average of 30% more ATI than planned.

STUDY RESULTS

- 91% received more income than originally planned
- 9% received less than originally planned
- Average lifetime surplus, for those who received more than planned: 66%
- Average lifetime shortfall, for those who received less than planned: -5.4%
- Maximum lifetime surplus: 194%
- Maximum lifetime shortfall: -11.5%

To summarize, retirees who adjusted over time were far more likely to have a positive than a negative overall retirement income experience. And those who had positive experiences gained far more than was lost by those who had negative experiences, both on average and in the best/worst cases.

We would of course see different values for different investment mixes, different longevity risk tolerances, and different income risk parameters. To explore some of the range of outcomes when using different plan parameters, we reran the above study with a range of initial income risk levels. As expected, beginning retirement with an income that is lower relative to other options reduces risk of a pay cut, though it also reduces average income received. Raising the initial income level results in higher average income but also higher incidence of income reductions at some point in retirement.

Whatever the plan parameters, however, the overall patterns are clear: dynamic plans, with ongoing management, improve retirement outcomes.

Transforming the Practice of Income Planning

Static plan analytics don't just produce subpar plans – they can lead to unrealistic views on risk and what retirement could feel like. Unlike what analyses like Figure 1 suggest, retirees who have financial assets and a quality plan and advisor should not be focused on financial ruin. Discussions that focus on the chances that a plan could lead to a household running out of money are not only unrealistic but can lead to unnecessary client worry and stress. Instead, the conversation between advisor and client around retirement income planning should be about adjustment. Questions might include:

- How will we adjust if things turn out to be better or worse than originally planned?
- How and when will we make these adjustments?
- Should we start retirement with lower income in order to increase the chances of a pay raise and decrease the chances of a pay cut?
- Or would we prefer higher income now (and not wait for a raise) and deal with downward adjustments if they ever come?

In order to have these conversations, advisors need two things:

1. An analytical platform that can evaluate client situations and produce plans that are themselves dynamic, including contingency plans for future changes and examples of what a retirement experience could realistically be like.

2. A way to implement such a dynamic plan. This includes a system for ongoing oversight of the plan, with real-time updates and a system for alerting advisors when a plan calls for a change.

With these in hand, advisors and clients can experience true retirement success.

Notes

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Income Lab makes use of a wide range of data sources in the analyses reported on in media content or accessed via Income Lab software. These include:

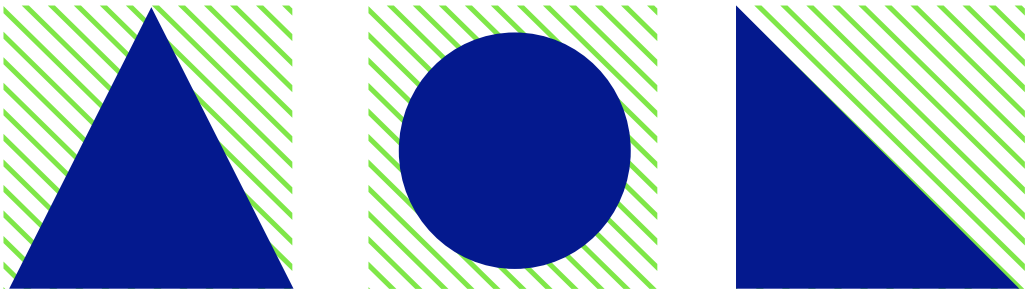
Dimson-Marsh-Staunton (DMS)

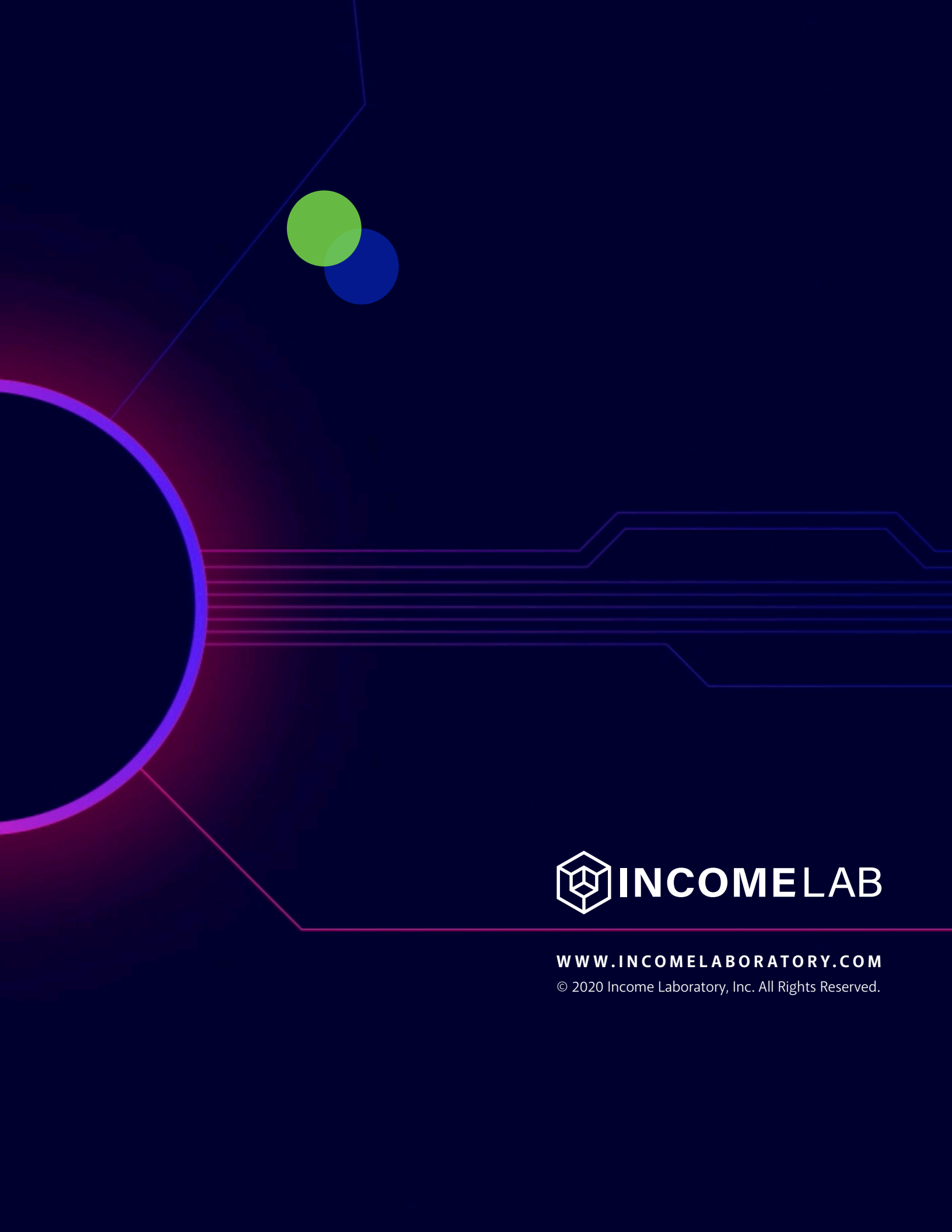
Elroy Dimson, Paul Marsh, and Mike Staunton, Triumph of the Optimists: 101 Years of Global Investment Returns, Princeton University Press, 2002.

Elroy Dimson, Paul Marsh, and Mike Staunton, Credit Suisse Global Returns Yearbook and Sourcebook, 2018, Zurich: Credit Suisse Research Institute, 2018.

Ibbotson® SBBI®

In this report, US Large Cap Stock is represented by S&P 500 Total Return Index (11/1989 to present), SBBI US Large Cap (1/1926 to 10/1989), and Shiller S&P Composite Index (1/1871 to 12/1925). US Government Intermediate Bonds are represented by SBBI US Govt Int Term index (1/1926 to present), DMS US Bonds (1/1900 to 12/1925), and US Treasuries (1/1874 to 12/1899).





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