Edited transcript

Frank Fabozzi: Welcome to Conversations with Frank Fabozzi. I’m Frank Fabozzi. My guest today is Larry Siegel. He is the Gary P. Brinson director of research at the CFA Institute Research Foundation.

This is Larry’s 15th year with that organization. He’s also an independent consultant, writer, and speaker specializing in investment management. He has a BA in urban geography and an MBA in finance from the University of Chicago. He was director of research in the investment division of the Ford Foundation for 15 years, from 1994 to 2009. (He held the Ford and CFA posts concurrently for a while.) Before that, he was a managing director at Ibbotson Associates.

Larry Siegel: Thank you. Nice to be here.

Itsy-bitsy, teeny-weeny interest rates: What do they mean for investors?

Frank: Nice to have you. Thank you for taking the time for the interview. The biggest riddle facing investors is not high stock prices, politics or COVID, but really low interest rates. Nominal interest rates are negative in some countries, defying a long-held belief that this was impossible, and real interest rates are negative almost everywhere. What are the consequences for investors?

Larry: The most severe consequence is that you can’t make any money in riskless assets. If nominal interest rates are negative, that’s literally unprecedented in human history. Sidney Homer and his colleague Richard Sylla have produced a chart of interest rates going back 5000 years (see Figure 1). At no time in history were nominal interest rates negative or even all that close to zero. They may have gotten down to 1% at one point but the idea that you have to pay somebody to lend them money simply turns the universe on its head. Nothing makes any sense. Gravity works backwards. Apples fall upward. I don’t claim to understand it.

Figure 1
The really, really long-term history of nominal interest rates
(best credits or lowest rates, 3000 BCE–2019 CE)

If you lend money (by buying bonds) in many countries – not the United States, at this point – you will not get any interest and then, when the principal comes due, you will get back less than you invested.
This has sometimes been called financial repression. That term arose in the 1970s when nominal interest rates didn’t go negative but real interest rates were sharply negative. In other words, if the nominal interest rate was, say, 7% and inflation was 10% then you lost 3% per year in real (inflation-adjusted) terms. This was called financial repression because it punishes savers for saving and discourages capital accumulation. It also motivates all kinds of strange behavior, like borrowing to buy inflating assets.

Frank: It’s also creating havoc for defined benefit pension plans because their liabilities have mushroomed, given that they have much longer durations than the assets. Why do people invest in these assets?

Larry: One reason they invest in them is to defease (prepay) a long-term liability. Interest rates could go even more negative; the liability could become even larger and the long-dated asset would then pay a capital gain to that investor which would offset the capital gain in the liability. But defined benefit plans are a small class of investors, having more or less disappeared except in the public sector.

Other people invest in long-term bonds at very low interest rates for risk control. At least you get most of your money back. With equities the expected return is higher but the realized one-year return, just going back to 2008, could be –37%. The bear market of 2007-2009 was more than a year long, and the peak-to-trough decline in the S&P 500 was much larger, −57%.

If you go back even longer to the Great Depression in the United States, the S&P 500 went returned −85% between 1929 and 1932. In both episodes, bonds, which also paid fairly low interest rates in those periods, did very well because interest rates declined further so the prices went up. People who had a large bond allocation during the Great Depression survived it fairly nicely. So there are reasons to buy those assets.

The New Monetarism

Frank: Why has monetary expansion not caused inflation rates and interest rates to rise?

Larry: That is a real riddle and I am writing a substantial paper, sort of a short book, on that topic with a University of Chicago professor, Tom Coleman, who’s a long-time great friend, and Bryan Oliver, one of Tom’s students. It will be published as a CFA Research Foundation brief in 2021.

We argue that monetary theory as expounded by Milton Friedman and Anna Schwartz doesn’t quite capture the situation we’re in. Their principles are correct but require an extension and modification of the theory, which we call “New Monetarism.” This wording contrasts it both with Friedman’s classic monetarism and with this mystifying assertion called Modern Monetary Theory (MMT), which (channeling Voltaire, who
said the Holy Roman Empire wasn’t holy, or Roman, or an empire) isn’t modern, is not monetary, and isn’t a theory.

New Monetarism, called the Fiscal Theory of the Price Level by its developers Eric Leeper and John Cochrane, says that the fiscal status of the government will determine the price level. It does so by affecting the supply of a very broad definition of money, consisting of all government liabilities (traditional money plus bonds). While our work really just sets forth the Fiscal Theory of the Price Level and expands on it a bit, we’re trying to brand it with a phrase catchier than FTPL. So it’s New Monetarism. It’s new and it most definitely is monetarism, building on Friedman’s work rather than overturning it.

New Monetarism predicts that the kind of money printing the Fed has been doing since 2008 will not lead to inflation. The reason is that this particular monetary expansion has consisted of exchanging one type of government liability for another – exchanging cash, one liability, for another type, long-term debt. The backing – the assets of the government – does not change. The inside-baseball term for this bit of sleight-of-hand is maturity transformation, which has long been understood to have no effect on the market value of the liability side of the government’s overall balance sheet. If the price level is set by the market value of all government liabilities combined, this activity of the Fed’s will have no effect on inflation.

New Monetarism says something else that is even more important. An increase in the overall liabilities of the government does impact the price level (causing inflation), but only if there is no corresponding increase in the assets of the government. The fact that bonds have not fallen in price indicates that the public believes the debt will be paid back whole in real terms. For that to happen, the government has to run a primary surplus (revenues minus expenditures other than interest on the national debt) in the future. Market prices are, thus, telling us that – contrary to intuition – future surpluses are, rightly or wrongly, what the people who buy the bonds are expecting.

Now, do I believe this? I guess I am supposed to believe the market, but I have a hard time with it. I’ve been positioned personally for a lot of inflation in my portfolio since about 2008, so I’ve been wrong over and over for about 12 years. Please don’t take my investment advice! I would have had you in TIPS and cash, while the S&P doubled and then doubled again.¹

**International investing in the age of big tech**

**Frank:** U.S. equities have beaten non-U.S. equities, both developed and emerging, by large margins over a long period – since about 1990 for U.S. versus developed and since

¹ And then some. The S&P 500 rose from 677 at the 2009 low to 3756 as of year-end 2020. This is a 5.5:1 increase, to which dividends need to be added to calculate the total return.
about 2007 for U.S. versus emerging. Why do you think this has happened? And do you think it will continue?

**Larry:** I don’t think that there can ever be a long-term, preferred return on one asset class over another, except as a compensation for risk. So, if one country beats every other country by a large margin for a very long time, it can’t go on forever so it won’t, as Herbert Stein liked to say. We saw Japan beating the rest of the world between 1970 and 1990 and now the Japanese stock market is selling at something like two-thirds the all-time high it reached in 1990: a 30-year bear market. I’m not forecasting that for the United States – not at all. I think we will do fairly well in the future. But I think that other countries will catch up and that the growth rate of the U.S. stock market will slow down.

Why has the U.S. done so well? Our culture and higher educational system just happen to have produced the companies that thrive in the new information and advertising economy. China, Taiwan, and Israel have also done well. Europe and Japan, not so much. So I think we’ve beaten the rest of the world for fundamental reasons and that won’t go on forever – we’ll have competition. U.S. stocks are selling for 33 times trailing 12-month earnings, versus 10 times in some emerging markets. So, I would buy the emerging markets. But, again, I did that a long time ago. They didn’t turn out to have the growth companies that returned 50 or 100 to 1. They haven’t gone up very much so please don’t take my investment advice.

**Frank:** Larry, since you told us now twice you bet the wrong way, maybe you’re a good contrarian. Maybe you should give advice, sell the advice, and we’ll all do the opposite. But I’m sure you’re being very modest in how well you’ve performed over time...

**Larry:** No, that strategy, like most data-mining strategies, only works in the past. If you do the opposite of what I’m doing, that approach will stop working today.

**Value versus growth: Do we have to wait forever for the cycle to turn?**

**Frank:** Okay, but here’s a question I ask almost all the guests, because everyone has an interest in it: is value investing over? How about small cap?

**Larry:** Value investing has been over so many times I can barely count them. I tried to make a list starting in 1928, all the way through to the present, of all the “it’s different this time” growth markets, with the most dramatic event being in 1999. Three of the most respected value managers – Grantham Mayo Van Otterloo, Gary Brinson’s firm (Gary endowed the position I now hold), and Cliff Asness and David Kabiller’s AQR – almost went under at about the same time. But they recovered and moved to new highs. I believe this will happen again, but it could be a long wait.
We keep waiting for a day like March 11, 2000 when value investing took off like a rocket and the NASDAQ crashed. I don’t really see that happening in the same way this time because the NASDAQ or growth benchmarks, whatever you want to call the opposite of value investing, isn’t dominated by companies with no earnings and sometimes no sales. It’s dominated by FANMAG – Facebook, Apple, Netflix, Microsoft, Amazon, and Google – plus Tesla. These are great companies with great products. I wouldn’t bet against them, except by underweighting them. When you underweight a company, you still own it.

A change in the economic environment that favors very large growth firms has happened before, in the 1920s and then in the 1960s. The peak of big-firm dominance was in 1964, when the top 5 companies in the S&P 500 made up 27.8% of the benchmark. (See Figure 2.) That record has never been breached. The share of the top 5 fell dramatically to 10% of the benchmark in 1993, the lowest it’s ever been, and it was just about that low at the beginning of this decade – about 11% of the benchmark in 2013-2014. Since that time, the share of the top 5 has gone back up to 23.4%, one of the highest readings in history.

Figure 2
Market Capitalization of Five Largest Stocks in the S&P 500 as Percent of the Total, 1964-2020

So, what happened? What happened is that a few companies, by dint of their effort, superior products, and most importantly luck, won the lottery. There have rarely been times when one company could win a whole market, and become a natural or earned
monopoly of sorts. Google essentially is the search engine for the universe. Investors didn’t know that would happen – we thought it would be AltaVista. Remember them? Apple is the dominant supplier of upscale smartphones and computers; they had a perfectly awful period a generation ago. You don’t know what’s going to happen in the future. So, buying these dominant companies now means you think they’re going to win the next lottery. I’m not convinced that’s a good strategy at all.

The reason is that market dominance is self-limiting. Competition is a very powerful force. As we saw in 1964, that number, 27.8% of the benchmark, went down so fast you couldn’t keep ahead of it. You couldn’t sell the companies fast enough to save your portfolio. Many of those Nifty 50, Smokestack America companies weren’t long for this world and some of the names sound quaint. American Telephone and Telegraph, U.S. Steel, IBM. These companies still exist but are a shadow of their former selves. And General Motors and General Electric, the latter being a fairly recent big winner.

Among the top 5, 6, or 7 companies of today, I’m pretty sure one or two will be the “General Motors” and “General Electric” of the future. They will survive but not thrive, while competitors we can’t yet imagine – people who want to earn their 100 billion dollars – will eat their lunch. Does that mean value will beat growth? I don’t know. I think that value will probably start to beat growth when the share of the top few firms in the S&P starts to decline – maybe that’s a circular definition. Obviously, if I knew when value would start to beat growth, I would (1) be richer and (2) tell you.

Small cap tends to be procyclical with value. Some academics say that the small cap effect is really just a value effect, that the small stocks that do well have fallen, not risen, into the small-cap category so they are value by definition.

**Frank:** Well, Larry, I do remember, in the 1960s, the projections for how large IBM would be. They’d be a large percentage of GDP if the then-current trends continued indefinitely, but people failed to recognize that there are the people you identified, the innovators who want to earn the next 100 billion dollars, who were competing with IBM. The search now is for who the next major innovator will be.

**Active management versus the indexers**

**Frank:** I’m sure you receive a lot of proposals as research director for the CFA Research Foundation on the issue of active versus passive strategies. It’s a long-term debate in the industry. It’s not ever going to be resolved. You’ve written several articles on this, with Barton Waring, Ron Kahn who’s now at BlackRock, Matt Scanlan, and others. All of them came out of Barclays Global Investors, which managed both active and indexed portfolios. What’s your position on this?

**Larry:** Active and passive are both going to continue to survive and thrive. Active can’t beat passive on average, because of the simple arithmetic that Bill Sharpe described in his
famous Arithmetic of Active Management article.  They are the market, and they can’t beat themselves. But some of the managers are going to beat other managers and the trick is in figuring out which ones those are.

Barton Waring wrote an article with me called, “The Dimensions of Active Management,” in which we address this issue directly.  Barton came up with the idea that there are two conditions that you need to meet in order to correctly make the decision to hire an active manager if you’re an investor or plan sponsor:

- The first condition is you have to believe that skillful active managers exist. That is, you have to believe that the superior track records of some managers are achieved other than by luck or by taking more risk, and that they will continue to outperform in the future. It is, of course, conceivable that skill doesn’t exist and this is all random number generation, but I cannot get behind the idea that Warren Buffett, Jim Simons, and all the other truly great managers are just monkeys pulling slot machines and coming up with three cherries in a row. If you talk to them, they know a lot, and they generally know how they beat the market.
- The second condition is you have to believe that you or your team has the ability to figure out which of the many active managers, whose performance will be distributed around the benchmark, are the real skillful ones. That is the hardest job the plan sponsor or endowed institution or individual investor faces, if they want to use active managers.

What do I really believe about the active/index debate? Without active management, passive management would be worthless, or worse than worthless. You’d be paying random, uninformed prices for every security and the whole system would fall apart. But that could never happen because active managers would come in and make a whole lot of money very fast if all security prices are produced by a random number generator. So, each depends on the other, but passive management depends on active a lot more than active depends on passive.

There was a time before Jack Bogle’s Vanguard and before Barclays Global Investors (BGI), the two firms that co-invented indexing. Jack was for retail, individual investors; he deserved to be the first trillionaire because he saved investors several trillion dollars in fees over his lifetime. (He was modest and didn’t even keep $100 million for himself.)

On the institutional side, BGI is the name that the original group at Wells Fargo Investment Advisors eventually took, so I’m referring to them as BGI, but they were Wells Fargo when they developed the first institutional index fund. Before them, there were no passive investments but there were indexes, so you could see whether you

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were beating the market and you could take money away from managers who were underperforming and give it to managers who are performing well. So, even before Bogle and BGI, there was passive investment as a kind of a ghost hovering over the active management world and you could compare passive to active results even when there was no index fund to invest in.\(^4\) In that sense, each supports the other and neither will go out of business any time soon.

**The endowment model: Magic or baloney?**

**Frank:** The endowment model has come under fire recently for exorbitant management fees and, at the same time, inferior performance. You worked at an endowed institution, the Ford Foundation, for 15 years. I’ll bet you have an opinion on this - what is it?

**Larry:** I have a lot of opinions on the endowment model – are you ready? The most important one is that endowment managers are just like anybody else. They’re human. They respond to incentives. They tend to be smart but not modest. But I think endowments are a well-run segment of the investment industry. Their leaders are honest, which is not something I can say about everybody on Wall Street. They’re nice: very important if you’re going to work for one for 15 years.

But performance comes and goes. At the Ford Foundation, we moved over time from an almost entirely public market strategy to one that had a lot of private equity and real estate, and eventually hedge funds. Our performance was varied, like that of almost every other institution. It was very good during the great bull markets of the 1980s and 1990s because of larger-than-average equity exposure. As far as alternative investments are concerned, at one time it seemed as though the early adopters, Harvard and Yale, walked on water, but given enough time they had runs of bad performance like everybody else.

**Institutional and behavioral barriers to effective management**

**Larry:** There are a couple of critiques of the endowment model. One is behavioral and I’ll start with that one because it’s more fun. If you’ve ever been to a trustees’ meeting at a university or a large foundation, you’ll find that many trustees are big donors who came into their fortunes by doing something very specialized and avoiding diversification. They worked like crazy to build a business and sell it for a lot of money, and that’s how they became donors.

They then try to apply that knowledge to investment management, and they think that all this talk about prudence and diversification is baloney. They chafe at the idea that

\(^4\) Even earlier, there was a time with no indexes – or, at least, no cap-weighted total-return indexes (the Dow Jones is price-weighted and excludes dividend income, so it’s not a good benchmark). Peter Bernstein recalls that the benchmark was, “Did I beat so-and-so at the country club, who is known to be a pretty good investor?” Not very scientific, but there is at least a little bit of information flow there.
you take a billion dollars that they gave you and diversify it across, say, 5000 stocks all over the world – actually they regard it as insanity. They require a lot of education on why this is not insanity and why Sharpe and Markowitz and the people who follow in their footsteps are not idiots. But it’s hard to tell a billionaire who’s paying your medium-sized salary that you know more about investing than they do.

The Ford Foundation was an exception. It did not have big donors on the board when I was there, because the Ford family left the organization in the late 1970s thinking that we were becoming a socialist organization rather than a capitalist one and they may have been right. So the board consisted instead mainly of heads of non-profit organizations around the world. The head of the World Wildlife Fund was the chair of the board. She knows a lot about oryxes and ibexes, but not much about investment management; nevertheless, the board had to make decisions about whether we, the investment staff, were doing a good job. That tension is not generally conducive to good investment management. But we were usually lucky enough to have one investment person who would keep the rest of the board on the straight and narrow, and we were very thankful to those people.

**Endowment management performance and fees**

**Larry:** The other critique of endowment investment managers is that they pay huge fees for exotic alternative investments that, in the long run, don’t do any better after fees than more conventional investments like equities and bonds. That is a legitimate concern. With private equity you are typically paying 20% of *realized* profits, but the profits can take a very long time to be realized. The result is that the fees could be paid on somebody else’s watch, far in the future, while the interim estimates of profit, largely based on appraisals, are additive to your performance and thus your (potentially seven-figure) bonus – whether or not the apparent profits eventually turn into real ones. This structure is a huge incentive for endowments to take risk in illiquid investments.

With hedge funds, the compensation is a little more mechanical: 20% of the profits above some benchmark each year, with clawbacks and high-water marks to make sure that the fees don’t get completely out of hand. The funds also charge up to 2% of assets under management each year in what is called a “flat” fee. It’s not the 20% of profits that gets you; it’s the 2%! The 20% profit share seems like a fair deal to me; they’re lending their skill and you’re lending your capital. Skill is the scarcer of the two resources so maybe 20% of the profits isn’t enough. The 2%, however, is charged every year whether the performance is any good or not and adds up to a huge sum of money over time. (To make matters even more fun, some funds charge expenses, including the large paychecks of hedge-fund employees, to the fund, not the management company.)

It’s no wonder that hedge fund returns have been disappointing lately because, with so many hedge funds in the market, you run out of arbitrages and market inefficiencies to exploit. You wind up buying some stocks and hoping they go up, and shorting others
and hoping they go down. Even Jim Simons, the head of Renaissance, probably the best performing hedge fund in history, is way down this year.

So how are endowment-model investors doing? They’re doing okay. They’re not floating in air above the rest of us. Nor are they in the tank destroying their capital. Their performance has generally been measured by their critics relative to an unfair benchmark, the S&P 500, which has gone up at an almost unprecedented rate in the last decade. They’re not supposed to take as much risk as the S&P 500 so they won’t do as well in a historic bull market. The real benchmark for endowments should probably be global balanced – say, 60% in global equities, which have lagged the S&P, and 40% in global bonds and cash. I think endowments have, on average, done about as well as the global benchmark that we should be using.

Frank: I am going to put in a plug in for The Journal of Portfolio Management. We are going to have a special issue on investment models and I hope you’ll commit to writing the piece on the endowment model.

Larry: It depends on whether I can get a co-author who has good data and good ideas. I have a couple of people in mind and I will let you know.

The education of an analyst

Frank: How do you think security analysts, quantitative analysts, and asset allocation analysts should be trained in the future? What credentials, skills, and experiences do you see are needed?

Larry: I think that the traditional, financial statement analysis background of security analysts is becoming less relevant. There are too many of them, all doing the same type of analysis on the same data. The best education for an analyst, especially an asset allocation analyst who makes the big decisions, is probably a general education with a very strong humanistic background. You can study history, political science, obviously economics; also anthropology and psychology. Those are the real drivers of behavior and technology, which then drive performance.

If most of the growth is going to take place in technology broadly construed – “technology” meaning whatever ideas, methods, and equipment are available to help you do more with less – then you can build a pretty good team out of those disciplines. For example, solar and wind energy have become almost required spending for governments that are interested in green technology. Are those really green? What are the inputs, and where do they come from? What are the outputs, and where do we put them?

One output that hasn’t been discussed very much is solar panel waste. The panels don’t last forever and disposal is becoming a problem. To install a wind turbine you need to dig 300 tons of concrete out of the ground, schlep it plus the turbine itself to the site,
then attach it to the grid using copper wires and store the energy for when it is needed. These new energy sources are very labor intensive and very energy intensive to build and install. A good energy analyst understands all these costs and benefits and doesn’t just believe what the company tells them.

So, if you have a keen, cradle-to-grave understanding of the whole technology being analyzed, you will make a better estimate of how much money they’re going to make, or lose, and how big a subsidy they’re going to require and what happens when the subsidy is taken away under a different government. The key to this kind of analysis is combining a generalist or humanist perspective with a very strong technological background. You could do that by putting both kinds of people on the team, but they’d better be able to talk to each other. Or you can do it by hiring people whose knowledge spans both disciplines, but they are harder to find. Maybe we’d better adjust our educational system to produce more of them.

**Personal history**

Frank: Larry, how did you get started in this business? It doesn’t seem like you are a typical finance jock. How did you link up with Roger Ibbotson, who I understand hired you as his first employee? And how did you wind up at the Ford Foundation afterwards?

Larry: For getting started on the path, I’m going to credit Gary Hoover, who was an undergraduate but older than me at the University of Chicago when he was studying economics. I wanted to understand the economy better, but Gary was doing something I thought was even more interesting, which was to start businesses. He was a serial entrepreneur even in college. He started a bus company and some other kind of company and, when I expressed interest, he introduced me to Yale Brozen at the University of Chicago Graduate School of Business, which is now known as Booth. Professor Brozen hired me to do some research and I then applied to Booth, to which I was admitted with Brozen’s help although I wasn’t really qualified because I had no business experience.

My initial finance sequence at Booth was taught by Roger Ibbotson, who was not a typical finance jock either. He had been a cowboy and a real estate developer and had lived in Africa – you get the picture. He was a wild man. He made finance fascinating and entertaining. It all sounded like a big intellectual puzzle that can also make you money. I was the kind of student who went to the professor’s office during office hours, so I got hired to grade papers and do research, which turned into a job at Ibbotson Associates but not without a long hiatus.

For a couple years after I got my degree, I was knocking around in various low paying activities including playing in a band. I went back to Roger’s office one day in early 1979 during the great blizzard (remember global cooling?) and I said: I would like to make an appointment to talk to you about the job market. That is a standard
conversation with a professor. But he never talked about the job market. Instead, he handed me this huge pile of paper. And he said: Larry, here are some briefs – legal briefs – for a utility rate of return trial that I am going to testify at tomorrow. Tomorrow? Uh, okay. I want you to go through these, he said, and take notes and tell me what each one says. Roger then said he would come in early in the morning, read my notes, and prepare for the testimony that way. So, I’m kind of looking open-mouthed at the guy and thinking: Are you going to pay me? Is this a joke? But I did it. And he paid me very nicely.

There were more projects and, before you knew it, Ibbotson Associates was a proper business, with an office downtown and some other employees. Over time it grew to be a company that employed over 100 people and it was sold to Morningstar for $80 million in 2005. I didn’t last long enough there to get a large chunk of money. My share was worth $70,000 so I got rid of my two old junky cars and bought two nice used ones. (I’ve never bought a new car.) But I got an amazing education at Ibbotson Associates, made valuable contacts, and moved on to the Ford Foundation where Linda Strumpf, the CIO, recruited me to be their head of research in 1994.

Roger Ibbotson’s work on capital market returns: Understanding the past, forecasting the future

Frank: You’ve said in conversations that you’re not personally claiming credit for Ibbotson’s work, which you were very much involved in at a very young age. But you’ve indicated you think the work was very important. You might want to tell people why you make the claim that Roger’s work was extremely important in the industry.

The Ibbotson studies: Basic principles

Larry: What makes research important is: (1) it has to stand the test of time in terms of accuracy, and (2) it has to have lot of impact in different fields of endeavor. Ibbotson began the work in the early 1970s with his co-author, Rex Sinquefield, who founded Dimensional Fund Advisors with David Booth after whom the Booth School of Business is now named. Ibbotson and Sinquefield started collecting the historical rates of return (total returns including interest or dividends) on the major asset classes that exist in the country. Not the world, the United States. This had never been done before across asset classes. The work was published under the rubric *Stocks, Bonds, Bills, and Inflation* or SBBI for short. Figure 3 shows the results, updated through 2015.5

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5 The last few years are cut off to avoid giving away the most recent data.
Collecting historical returns on broad asset classes was not an entirely new idea. One of Ibbotson and Sinquefield’s sources was Lawrence Fisher and James Lorie’s study of U.S. stock market total returns from 1926 to 1960. That relatively short period of 34 years was dominated by two events, the Great Depression and World War II, but set the stage for the equity part of SBBI.

If you make the historical study period longer, you get more confidence in the conclusions. Ibbotson and Sinquefield did that, but more importantly, by also collecting data for bonds, bills, and inflation and making the cross-asset-class comparisons, they were able to calculate what risk premiums had been earned on different types of risk. The equity risk premium was, retrospectively, the return that had been earned on stocks in excess of the return on bonds. We now usually use the term “equity risk premium” usually to mean the prospective or forecast premium, but one of the inputs to a forecast is to look at history and see what kinds of returns have been achievable.
Understanding risk as well as return

Ibbotson and Sinquefield used the mean of the historical equity risk premium as the expected value of the forecast. (These premiums were added to then-current interest rates to get a forecast of the total return.) They then drew confidence bounds around the expected value to show the potential effects of risk. The estimation of risk in addition to return for these assets, both in the past and in the future, is an important innovation, and goes straight back to Harry Markowitz’s prescient comment in 1952 that investors should be interested in risk as well as return.

Roger and Rex also looked at other historical premiums such as that of bonds over bills (the maturity or horizon premium); and the premium of bills over inflation, which is the real riskless rate of interest.

Nobody had estimated any of these risk premiums before and that’s why Ibbotson and Sinquefield’s work is so important. The estimates are invaluable for asset allocation, financial planning, corporate capital budgeting, and many other uses. Roger and Rex did this before I started updating and expanding the data and helping to distribute them. I showed up in 1979 when their first two SBBI articles had been published in the Journal of Business as well as in a Research Foundation monograph. I was editor of the next SBBI monograph, in 1982, and I wrote the foreword, which was a meditation on evolution and economics, a topic to which I’ve returned in my more recent work.7

Uses of the Ibbotson data

The SBBI data are, as I already noted, very important inputs to the most fundamental decision that any investor makes, which is asset allocation. If you don’t know what kinds of returns to expect out of each asset class, or how much risk is involved, how can you even invest in them? You just hold your finger up in the wind and hope for the best. That is more or less what investors did before this quantitative revolution that Ibbotson and Sinquefield were part of.

Using the past to forecast the future isn’t a perfect method, but our long term, 20- and 30- year forecasts turned out to be fairly accurate. At first the forecasts were too low, as the great bull market of the 1980s and 1990s emerged. Then the forecasts looked like they were going to be too high during the Lost Decade of 2000-2009. Recent gains,

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6 This is sometimes also called the liquidity premium, but that designation is misleading because Treasury bonds are usually about as liquid as short-term bills.

however, have brought realized returns back up to roughly the rates of return we expected.

There is a lot more to the Ibbotson story. Roger and I, both together and separately, have worked on a “supply model” of stock returns that provides a reality check on the equilibrium SBBI model. We think investors should use both.

**Fewer, richer, greener**

**Frank:** I should have Roger on at some time in the future. I’ll ask him the same question and he’ll take off on it. I am interested in your book, *Fewer, Richer, Greener*. It’s on a topic that’s quite different from investment analysis. What is the book about and why did you write it?

**Larry:** Once you understand that I’m talking about the future of the human race, the title “Fewer, Richer, Greener” is fairly self-explanatory. I’ll explain it anyway. “Fewer” means fewer people – fewer than we were expecting, anyway. The global population explosion that consumed a lot of our mindshare in the last century is almost over. The population isn’t actually going down yet, but it will late in this century after reaching a peak around 10 billion.

**Richer**

“Richer” is kind of obvious – the economy grows quite reliably on a *per capita* basis, making today’s world better off than any group of human beings that has ever lived before us. This change was in the works for centuries but really got moving with the Industrial Revolution somewhere between 1750 and 1800. The curve took a leap upward from very little growth to a sustainable average of about 1.8% per year, per capita growth in the world economy. This compounds up to a huge number. The GDP per capita of the United States in today’s dollars was less than $2,000 at the time of the American Revolution. Now it’s about $68,000. Figure 4 shows economic growth, again per capita, for roughly the last two centuries for the United States and the world.

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This kind of growth, sustained for so long, is completely unprecedented in human history. Other countries, other civilizations have had their periods of prosperity - the Greeks, the Romans, the Quattrocento in Italy which had all that beautiful art. And aspects of China and India and other places at other times. But until the last two centuries much of the world was stuck at medieval levels of poverty. Today, half the world is middle class and the proportion of people in extreme poverty as defined by the World Bank is the lowest it’s ever been – about 9%, compared to 40% only forty years ago.

It’s worth figuring out why this happened, if only as a guide path for other civilizations that want to prosper. There are several reasons. Capitalism. Good laws that allow you to keep the fruits of your labor and of your inventions and creations. Stable governments. Ways of storing and conveying knowledge across time and space; I think we’ve finally got that one figured out.

Many people are worried about inequality. While it’s a concern, I am more worried about alleviating poverty. The rest of the world started playing catch-up with the First

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9 To be precise, these are “2011 dollars.” To convert to 2021 dollars, multiply by 1.19.
World around 1948 and has grown much faster than the First World since then. China is now quite prosperous. India is moving up very fast, from a low starting point. Countries that were very poor at the beginning of my life (I was born in 1954) – Spain, Portugal, South Korea, Taiwan, even Japan – have grown from very low living standards to modern, developed-country living standards in a short time. I don’t see why that shouldn’t continue, if the world continues to pursue a policy of freedom, openness, and good government. That recipe is faltering right now, but hopefully not for long.

**Greener**

“Greener” is a more complex issue. As the world began to industrialize, it got dirty fast. This motivated a great deal concern about the environment, as there should be always. But the only way we’re going to get greener is to get richer, so that we have the money to pay for environmental quality. (“Degrowth,” another strategy that has been proposed to make the world greener, means sending billions of people back into poverty and misery – and probably wouldn’t help the environment one bit.)

Environmental quality is an expensive good that costs a substantial part of what people earn. Energy is one important component of environmental quality and bears on the question of climate change. We could sit and wait for new technologies, or try to make do with low-yielding ones such as solar and wind power, but we have one old technology that works very well, sitting right in front of us: nuclear power. It isn’t being used effectively at all. We will need it. The world right now produces 1.5 petakilowatt-hours (petawatts for short). And, with the economic and population growth that we can expect in the next 30 to 50 years, it will need 5 petawatts. So, we need to triple energy output in that period of time if people around the world are going to have the kinds of living standards we regard as humane and civilized.

The only technology we have that will accomplish that is nuclear power. Solar and wind will help and fossil fuels will continue to help. But we’re going to need all these technologies plus new ones that we haven’t discovered yet. The “Greener” part of my book talks about these issues.

**My motivation for an optimistic book about the future**

Why would I write about this and who am I to think I’m qualified? Well, I’m kind of self-educated in a lot of fields and interested in everything, so I can write like a journalist on many different subjects. I’m going to make mistakes and people who are more informed on a particular topic will critique my work – please do!

But I have an underlying purpose that I think is important. We’re teaching our kids that the world is going to hell in a handbasket and that they might as well not even live in it. Almost everything about that is wrong. They will, of course, face challenges. How will they address the challenges if they believe that it’s hopeless?
The truth is that their lives will be richer in many dimensions than those of any large group of people who’s ever gone before them. We should be telling them the upside of being alive at this time in history and helping them to make it even better and fix some of the problems that will arise. They need to know how to distinguish between problems that they can fix and problems that you just have to live with.

**Saving the children**

I think the book accomplishes some of that. My closing chapter is called “Save the Children – from Apocalyptic Thinking.” I hear a lot of dejected, apocalyptic thinking and most of it is simply scientifically wrong. There are some legitimate concerns. If global warming proceeds at the pace that has recently been observed and doesn’t turn around naturally or get corrected by human effort, a lot of people are going to have to move uphill or to cooler climes.

It’s not the end of the world. A lot of people moved due to climate change in past centuries. These include my ancestors who came from Europe in the Little Ice Age (roughly 1600-1880) because Europe was overcrowded and couldn’t grow enough food to support itself. They got on leaky boats and crossed the Atlantic, landing in New York, which had a much more favorable climate, and spread out from there. This was not the first Great Migration due to climate change, either. The Great Migration after the fall of the Roman Empire was related to another Little Ice Age that started in, I believe, the 400s or 500s, when the Germans came to Rome.

We have one big advantage over these ancient wanderers: technology. We have airplanes instead of leaky boats. We have weather satellites so we can figure out where the climate is improving and where it’s becoming worse. We have money to pay for these moves. About 200 million people who live in coastal areas around the world will have their habitats threatened given the sea level rise that’s forecast for the rest of the century. But did you know that 180 million people a year move from one country to another? So we would need to add about one extra year of international migration to get people out of locations that are going to be underwater. This is doable and we’re going to do it.

These are the kinds of issues that I wanted to address in the book when I hear that high school students are told that they have 8 more years before the world becomes unlivable. At the Bishop’s School in La Jolla, California, which educates the sons and daughters of some of the world’s wealthiest people, a professor from the nearby Scripps Institution of Oceanography came over and told them that they have 8 years before the end of human life is baked into the cake. Not literally 8 years to live, but 8 years to make the changes needed so that they will be able to have a long life. It’s just not true.
I wanted to encourage young people to live their lives productively and in a way that helps solve problems rather than ignoring them because they believe it’s hopeless. I am thinking about writing an abridged and simplified edition of Fewer, Richer, Greener, for students and teachers. For God’s sake let’s stop torturing these girls and boys.

**Parting thoughts**

**Frank:** Thank you, Larry. Last question - you said that there was a time period when you earned an income as a musician. What did you play?

**Larry:** I play piano, guitar, and violin. I play mostly folk and rock and country. I’m not much of a jazz player but I’ve learned a little about it. I studied classical music as a kid; I realized there are only two paths for a classical musician: become one of the very best in the world or do it at home for your family and friends. So I do it at home for my family and friends.

**Frank:** I’m trying to picture you with very long hair and well as a rocker ...

**Larry:** There’s a picture on my Facebook page with long hair. I was 20 and it is a crowd shot with a group of college kids. But you can see that I was a genuine hippie. To be a hippie you have to have long hair, smoke a formerly controlled substance, and listen to hippie music. I not only listened to hippie music; I made some of my own. I’m mostly a backup musician rather than a band leader; my best-known collaborator was my great friend Tom Dundee, who sadly passed away at the tender age of 59. I have not found a replacement and he cannot be replaced, but I may get involved in music again anyway.

**Frank:** I’m sure you keep busy, but since you’ve retired from full-time work I guess you can allocate more time to that passion. I do want to thank you for taking the time, not only for doing this, but for all the time you devote to *The Journal of Portfolio Management* and helping us in various ways as well as contributing to articles. In addition, when I did books for the CFA Institute Research Foundation, you were right there editing from page 1 all the way through to the index and you helped improve the monographs. My co-authors and I do want to thank you about that. So I wish you the best.

**Larry:** I’ll do it again. I’m still there and you’re still writing for them.

**Frank:** Okay – well, then, thank you very much. Have a nice Thanksgiving.

**Larry:** Same to you, Frank.