10 Frequently Asked Questions DoubleLine Shiller Enhanced CAPE®

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As DoubleLine's Deputy Chief Investment Officer, Jeffrey Sherman oversees and administers DoubleLine's Investment Management sub-committee coordinating and implementing policies and processes across the investment teams. He also serves as lead portfolio manager for multi-sector and derivative-based strategies. He is a member of DoubleLine's Executive Management and Fixed Income Asset Allocation Committees. He can be heard regularly on his podcast "The Sherman Show" (@ShermanShowPod) where he interviews distinguished guests, giving listeners insight into DoubleLine's current views. In 2018, Money Management Executive named Jeffrey Sherman as one of "10 Fund Managers to Watch" in its yearly special report. Prior to joining DoubleLine in 2009, he was a Senior Vice President at TCW where he worked as a portfolio manager and quantitative analyst focused on fixed income and real-asset portfolios. Mr. Sherman was a statistics and mathematics instructor at both the University of the Pacific and Florida State University. He taught Quantitative Methods for Level I candidates in the CFA LA/USC Review Program for many years. He holds a BS in Applied Mathematics from the University of the Pacific and an MS in Financial Engineering from the Claremont Graduate University. He is a CFA® charterholder.

QUESTION 1:

DoubleLine has partnered with Professor Robert Shiller to create an equity offering. Can you describe the motivation for the strategy and how the DoubleLine Shiller Enhanced CAPE® Strategy enhances DoubleLine's current suite of products?

First off, CAPE® stands for Cyclically Adjusted Price-to-Earnings. The DoubleLine Shiller Enhanced CAPE® Strategy extends and complements our current product suite by offering what we believe was a previously unavailable large-cap equity strategy while pairing it with our core competency as fixed income managers. The DoubleLine Shiller Enhanced CAPE® Strategy gives investors access to a unique source of equity alpha, which we seek to enhance by pairing the portfolio with a fixed income collateral pool that seeks to outperform cash. The primary generator of potential return will be the value approach to large-cap stocks, implemented via the Barclays Shiller CAPE® U.S. Sector Total Return Index (the "CAPE® Index"), but the strategy will seek additional return from the fixed income collateral. This "double-value" proposition allows an investor to obtain exposure to equities while hopefully generating positive return on the invested cash simultaneously. The concept is that $1 worth of the fixed income collateral roughly backs $1 exposure via swaps to the CAPE® Index.[1]

QUESTION 2:

How did DoubleLine come to partner with Professor Robert Shiller?

A combination of factors brought the partnership together. In particular, I would emphasize a shared philosophy toward value as an investment discipline and the robustness of Professor Shiller's pioneering research on long-term equity returns and market mispricings. Let me elaborate on those points.

For more than two decades, while endeavoring to construct portfolios to mitigate downside risk, the investment team now at DoubleLine has worked to identify fixed income securities generating what we believe are the cheapest cash flows. That's the essence of "value investing," although the phrase is rarely heard in the fixed income lexicon. We apply this pursuit of value not only to individual security selection but also to our sector allocations.

Over the years, I had followed Professor Shiller's academic work on both the behavioral aspects of the financial markets as well as asset pricing. I consider the CAPE® Ratio as one of the better predictors of future stock market returns over an intermediate- to long-term time horizon. Professor Shiller partnered with Barclays to create an index, the Barclays Shiller CAPE® U.S. Sector TR Index, which implements the philosophy behind the CAPE® Ratio to deploy capital across the large cap equity space. We found a lot of similarities between the value mechanics

[1] Market fluctuations likely will preclude full $1 for $1 exposure between the swaps and the fixed income portfolio.

at work in the CAPE® Index and our own relative value-driven approach to the active management of the sector allocations in our multi-sector bond portfolios.

After exhaustive research into the historical behavior of Professor Shiller's CAPE® Ratio, we concluded that the CAPE® Index methodology provides a better exposure to the relatively commoditized market of large-cap stocks than other indices. We then decided to create a product giving investors exposure to both the DoubleLine value approach to fixed income and the value approach of the CAPE® Index to U.S. equities.

QUESTION 3:

How is the CAPE® Index constructed and what does the CAPE® Ratio seek to accomplish?

The cyclical adjustment in the CAPE® Ratio is based on a long-term historical average of inflation-adjusted earnings, 10 years to be exact. Of course, this is a significant departure from the widespread practice of using trailing 12 months of earnings to value stock prices. Short term earnings can be volatile as the result of changes in the business cycle, therefore rendering the price-to-earnings ratio for purposes of stock valuation meaningless. Professor Shiller has joked that stock selection based on price to 12-month earnings is akin to using astrology to forecast asset returns.

The CAPE® Ratio tries to gauge the value of a company in a way that is independent of the business cycle. The idea is that a valuable company will have significant earnings power in the future as well as a robust history of earnings performance. The topic of identifying intrinsic value has been a topic of long debate, harking back to the days of Benjamin Graham and David Dodd in Security Analysis. In that work, they too said that true earnings potential could only be measured over a full business cycle, and that is exactly what the CAPE® Ratio seeks to do.

While the CAPE® Ratio has been a useful predictor of long-term stock market returns, further adjustment to the ratio is required before equity sectors can be compared and undervalued sectors identified. Together, Professor Shiller and Barclays developed the Relative CAPE® Indicator.

This step adjusts for the valuation differences between equity sectors due to differing growth and accounting assumptions unique to each industry. The Relative CAPE® Indicator is calculated by dividing a sector's current CAPE® Ratio by its 20-year rolling average CAPE® Ratio. This levels the playing field when comparing valuations across sectors. To construct the CAPE® Index, one calculates the Relative CAPE® Ratio for the large-cap stocks, in aggregate, in each of the 10 sectors and ranks them highest-to-lowest. The five sectors with the lowest ratios are selected. The sector with the worst 12-month price momentum is then removed to avoid value traps – sectors that are valued cheaply because they are experiencing secular declines. The Index then invests equally in the remaining four sectors, which represent the most undervalued sectors with the most positive price momentum. This process is repeated monthly.

QUESTION 4:

When I invest in this strategy what am I getting and is there any leverage involved?

Each $1 investment seeks to obtain $1 of exposure to the CAPE® Index via swaps and $1 of exposure to the underlying portfolio of bonds managed by DoubleLine.[2] This is what we call our "double value" proposition. Therein lies the beauty of this strategy: by using swap contracts, DoubleLine gains 100% exposure to stocks while also investing in a portfolio of bonds with the objective of generating a yield that is superior to cash. This capital efficiency is one of the key enhancements of the DoubleLine strategy.

This portfolio has no financial leverage because no money is borrowed in order to increase the net exposure of the portfolio. There is implicit economic leverage as the strategy obtains both $1 in fixed income exposure and $1 in equity exposure due to the use of unfunded swaps. This allows us to collateralize 100% of our exposure with the second half of the "double value" proposition - namely, the bond portfolio.

[2] Market fluctuations likely will preclude full $1 for $1 exposure between the swaps and the fixed income portfolio.

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QUESTION 5:

How have your asset allocation decisions in fixed income compared to price peaks and troughs within those sectors?

Our fixed income focus on cash flows causes us to revise sector allocations prior to shifts in sector cycles. In general, our process has driven us out of "overpriced" segments of the fixed income market prior to their peaks and into to the "cheaper" segments before the valuation bottoms. This is very much in line with Professor Shiller's philosophy on value which is why this relationship is such a good fit.

This has proven to be a benefit in managing risk. If one looks at historical performance of various fixed income sectors, outperformance phases are analogous to taking an escalator up: a slow grind of incremental return. Under-performance phases tend to be more compressed in time, more vertical, like taking an elevator down. It is much harder to exit a sector after the onset of such sharp downdrafts in valuation and liquidity. Due to this return asymmetry, we believe our value-oriented process provides for a smoother volatility profile throughout a market cycle. We would rather get off the escalator early, even at the cost of giving up some of the final leg of a sector's upward momentum, than risk capital impairment that will occur once the market punches the down button on the elevator. This discipline also affords us "dry powder" to deploy when markets present buying opportunities.

QUESTION 6:

How does DoubleLine manage the duration and interest rate risk of the fixed income portfolio?

Duration is one of the risk premia in the fixed income market that should reward investors over time. As such, we run the fixed income portfolio with a duration that is consistent with our forward looking assessment of return potential and risk. Typically, the portfolio's duration will be between one and eight years. With today's elevated uncertainty in interest rates, we feel it is prudent to position the portfolio towards the shorter end of the mandate. The portfolio currently has a weighted average portfolio duration of less than two years while maintaining a current yield target of 3%.[3] This strong yield-to-duration ratio allows the portfolio to potentially outperform cash even in the event of a modest rise in interest rates.

[3] Subject to change without notice.

QUESTION 7:

I've heard that the current level of the overall CAPE® Ratio for U.S. equities is elevated. How do you address this issue within your strategy?

The absolute level of the CAPE® Ratio for the overall stock market is not a factor for this strategy. The strategy invests only in the four "cheapest" sectors of the large-cap space. These sectors are identified by measuring each large-cap sector's Relative CAPE® Ratio relative to its own historic level – and discards the one sector within the five "cheapest" sectors which has experienced the most negative price momentum over the preceding 12 months. It is each sector's Relative CAPE® Ratio that dictates how to deploy capital in the equity space.

QUESTION 8:

Can you elaborate on the Relative CAPE® Ratio used by the DoubleLine Shiller Enhanced CAPE® Strategy?

The Absolute CAPE® Ratio is a useful metric to compare against the standard PE ratio, but we believe less so when creating an investment strategy that attempts to determine relative value of differing investment options. To accomplish this a Relative CAPE® Ratio must be used.

The Relative CAPE® used within the DoubleLine Shiller Enhanced CAPE® Strategy is constructed by dividing a sector's current CAPE® Ratio by the 20-year average of that sector's CAPE® Ratio. This Relative CAPE® Ratio includes 30 years of earnings data and thus allows an investor to judge whether a dollar of earnings today is cheap compared with a dollar of earnings historically within each sector.

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QUESTION 9:

How does this strategy compare to other value weighting schemes such as the RAFI or the Russell Value indices?

From September 2002 to September 2019, the CAPE® Index has outperformed both the Russell 1000 Value Total Return and the FTSE RAFI U.S. 1000 Total Return in several key metrics as well as broad-based large-cap indices such as the S&P 500. The Index has delivered higher returns with a lower standard deviation while also suffering lower peak-to-trough drawdowns.[4]

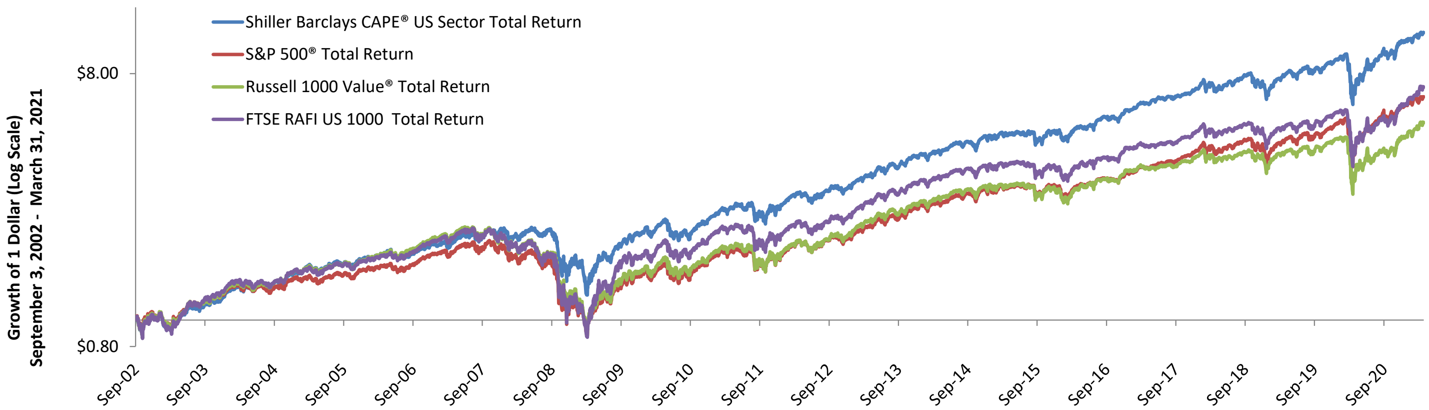
QUESTION 10:

What are the risks an investor faces with this strategy?

The main risk is exposure to the U.S. large-cap equity market. Throughout numerous stress tests and scenario analyses, we have observed that over 95% of the risk of this type of strategy historically stems from the equity market. These equity centric risks include, but are not limited to, economic slowdowns, shrinking corporate profit margins, removal of the U.S. Federal Reserve's Quantitative Easing program, and price multiple compression. However, investors also will be exposed to the traditional risks in the fixed income market - interest rate risk, prepayment risk and credit risk - through the fixed income portfolio. We believe investors potentially will be compensated for taking risk over a full market cycle. DoubleLine takes a conservative approach and is mindful of the sectors that can exhibit high correlation to the equity market, such as high yield. Astute risk management is a central tenant of our investment process as we navigate through the various business and market cycles. ■

Traditional Equity Indices - Growth of a Dollar[5] | September 3, 2002 to March 31, 2021

	Shiller Barclays CAPE® U.S. Sector Total Return	S&P 500® Total Return	Russell 1000® Value Total Return	FTSE RAFI U.S. 1000 Total Return
Geometric Return	13.94%	10.67%	9.37%	11.15%
Standard Deviation	19.03%	19.39%	20.39%	20.64%
Sharpe Ratio	0.71	0.55	0.48	0.55
Maximum Drawdown	-43.54%	-55.22%	-60.11%	-60.22%



[4]The Index went live on September 3, 2012 and was back-filled 10 years. September 3, 2002 is the inception date of the index.

[5] Source: Barclays Capital, DoubleLine. Past performance is no guarantee of future results. Any data on past performance, modeling or back-testing contained herein is no indication as to future performance. See Historical Index Performance Disclaimer in the back of this presentation. You cannot invest directly in an index.

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