INSIGHTS

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Rethinking Asset Allocation

KKR
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Rethinking Asset Allocation

Low bond yields, a surge in geopolitical tensions, and a shift towards fiscal stimulus are all fueling a fundamental rethinking by the investment management industry of how to generate the best risk-adjusted returns. Against this backdrop, we have tried to articulate actionable solutions to many of the most complex investment questions that we are increasingly fielding from clients who – like us – use a rigorous, top-down approach to asset allocation. An important message, we believe, is that – amidst lower expected returns – the traditional relationship between stocks and bonds is now starting to mean revert after a 20-year hiatus. As such, we think that most multi-asset class portfolios likely need to be restructured to thrive in the new environment that we envision. Within the private markets, we remain constructive on the illiquidity premium, especially in Private Equity and Real Assets at this point in the cycle. Overall, though, as investors migrate towards more thoughtful multi-asset class portfolios to overcome the headwind of lower absolute returns, we think that there are some important 'Rules of the Road' to follow surrounding pacing, correlations, volatility, and liquidity, all of which matter to create successful outcomes for those who are currently rethinking their asset allocation.

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One's destination is never a place but rather a new way of looking at things.

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HENRY MILLER
AMERICAN WRITER

There has certainly never been a dull moment in the macro and asset allocation business since I entered it in the early 2000s. What has changed in recent years, though, is that the complexity of mandates has taken an exponential step function upward. Record low bond yields amidst outsized intervention by the global central banking community as well as a surge in nationalist sentiment have fueled a rethinking of how to best generate strong risk-adjusted returns for pensions, endowments, foundations, sovereign wealth funds, and even individual investors. Without question, the growing complexity of the opportunity set has required a much deeper immersion into multi-asset class investing mandates. At KKR, we view this shift as a secular, not cyclical change, and as such, we have been increasingly addressing our clients' requests by using a broader, more integrated tool kit than just our traditional macro and asset allocation work streams, including liability management, downside protection, hedging, and portfolio construction. Consistent with this initiative, we have also begun to work much more closely with accomplished CIOs to integrate and structure both liquid and illiquid mandates across a variety of investment disciplines, including insurance companies, run-off pension plans, and sovereign wealth funds.

Beyond the aforementioned strategic partnership and asset allocation mandates, we have completed two in-depth surveys on asset allocation strategies of the insurance and high net worth markets to better understand our clients' needs and preferences within the Alternatives arena. In recent years we have also worked closely with KKR's senior management to help better allocate the Firm's own Balance Sheet, which now totals $17 billion in assets across all of the Firm's major investment businesses, including Private Equity, Real Estate, Credit, Infrastructure, etc., on a global basis. Finally, we have become much more integrated with our Customized Portfolio Solutions team (CPS), which was formed by Saleena Goel in 2010 as a one-stop shop for those seeking a more thoughtful way to access a broader swath of private markets.

As one might expect, we are increasingly fielding an array of questions on market-related topics, including current macro trends, expected returns, illiquidity premiums, and portfolio construction. To be sure, we don't have all the answers and we are constantly learning alongside our clients as well as evolving our business model. However, given the steady drumbeat of questions around a few of today's 'hot' topics, we thought we might share our thoughts on several key areas where we think most global CIOs should likely have a strong view. They are as follows:

- ***Given lower expected returns, how does one think about a portfolio optimization process that leverages many of KKR's top-down investment themes?*** Because of our forecast for lower returns, we think that portfolio optimization becomes even more important in the new environment we are envisioning for macro players and global asset allocators. Importantly, beyond a more thoughtful approach to asset allocation, we also believe that investing behind long-tailed investment themes that leverage both periodic dislocations as well as secular growth drivers will become an increasing source of alpha for CIOs who run multi-asset class portfolios that extend across regions. To this end, we detail below four long duration, macro-oriented investment themes that we believe can help investors generate significant outperformance during the next 5- to 10-years. Importantly, while each theme is different, there is a common thread amongst all of them: Buy Complexity and Sell Simplicity.

- ***Is Private Equity still an attractive asset class, particularly given the amount of capital that has now been raised in the sector?*** As our work below shows, we think that the underlying premise of Private Equity as a high returning asset class still holds true in absolute terms. Maybe more importantly, we think that Private Equity can handily outperform Public Equity at the asset class level in this part of the cycle. However, unlike many of the other asset classes in which our clients invest, manager selection in Private Equity is of paramount importance. So too is a thoughtful deployment schedule. Details below.

- ***How should we think about the illiquidity premium in Credit and Equity? What are the key drivers and is it still attractive in absolute and relative terms?*** See below for full details, but we identify several commonly watched macro factors that can help investors to better explain what drives the illiquidity premium across both Credit and Equity during different periods in the cycle. At the moment, our work shows that the illiquidity premium is appropriately priced (i.e., an investor is not overpaying for the return per unit of illiquidity). Interestingly, despite more capital coming into the alternatives arena, our research shows that illiquidity premiums have — thus far — remained fairly constant in recent years. However, as we detail below, there are parts of the alternatives market where we do have our concerns, including the lower end of the Direct Lending business. Our bigger picture conclusion, though, may be more important: given where absolute rates and relative credit spreads are trading in the liquid markets, the pick-up in return if a manager of illiquid assets can perform is as high as it has been since just after the GFC.

- ***How do you think about interest rates in a post-Quantitative Easing (QE) environment?*** This question is a tricky one, but we think the key relationship on which to focus is the relationship between nominal rates relative to nominal GDP. Also, the rate at which inflation is increasing is a key input. Our base case remains that, while nominal GDP is accelerating, we do not see upward inflationary pressures massively destabilizing the long-end of the curve. Key to our thinking is that some of the largest contributors to inflation, including rent and healthcare costs (*Exhibits 57* and *58*), are actually poised to plateau. As such, we see U.S. 10-year yields reaching 3.25% in 2018 and peaking at 3.50% in 2019. If we are wrong and rates do exceed our forecast, then we believe it will be linked to a combination of higher wages and a depreciating dollar.

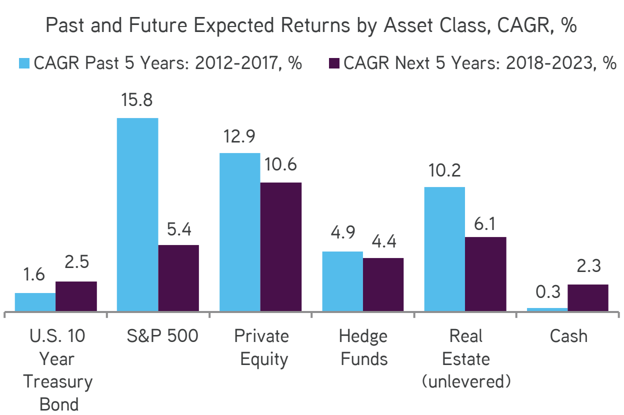
- ***As one builds a more substantial private markets portfolio (in addition to a traditional liquid portfolio), what are the key portfolio construction metrics on which to focus?*** While there are many aspects of portfolio construction to consider, we focus on our top four for this note: pacing, correlations, proper comparisons for private market assets, and liquidity. There is no exact or 'right' way to approach these topics, but we strongly believe that there are tools that can be implemented to create better risk-adjusted outcomes, particularly as more and more CIOs increase their mix of private and public assets in their portfolios. One can also mitigate the negative effects of the J-curve in areas such as

Private Equity through thoughtful implementation strategies, we believe. See below for details.

Looking at the big picture, our view is that we have entered a period of lower forward returns (See *Exhibit 1*, below). Indeed, given high margins and generally lofty multiples amidst low interest rates, more modest return forecasts certainly make sense to us. So, the real challenge is in implementing investment processes that minimize the downside – and unequivocally, we see the penalties for getting this wrong rising exponentially as QE comes to a close. We believe, for one, that there needs to be a greater emphasis on asset allocation than in the past rather than reliance on security and manager selection alone. Our visits with many CIOs, particularly in the pension, high net worth, and endowment communities, suggest that this shift is not as far along as it needs to be. Indeed, many plans are still only earning alpha from manager selection, not from asset allocation. We do not think this approach will be adequate in the new environment we are entering. Our world view also suggests that more allocators of capital should consider an investment in their global footprints – including a local presence in key markets – to better understand the profound impact that key considerations such as China, the millennial populations, and central bank policy are having on the macroeconomic and geopolitical landscape in each world region.

EXHIBIT 1

We See Expected Future Returns for the Investment Management Industry Headed Lower During the Next Five Years



Data as at July 15, 2018. Source: Bloomberg, Cambridge Associates, NCREIF, HFRI Fund Weighted Composite Index (HFRIFWI Index), KKR Global Macro & Asset Allocation analysis.

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We strongly advocate a diversified portfolio that now benefits more from an improvement in nominal GDP.

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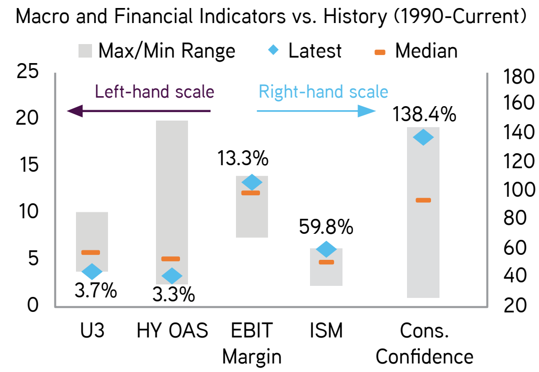
EXHIBIT 2

Many Inputs in Our Forecasting Models Are Now at Peak Levels



U3 = unemployment. Data as at September 30. 2018. Source: Bloomberg, S&P.

Section I

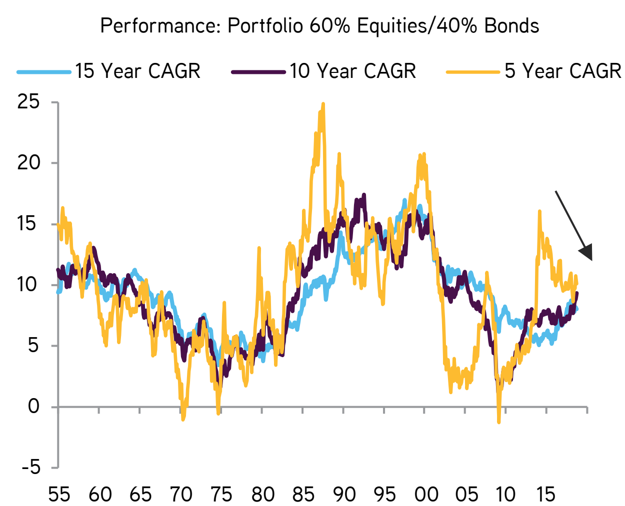
In this section below we specifically address in greater detail our response to the five questions that we most frequently field from our clients, global CIOs in particular.

Given lower expected returns, how does one think about a portfolio optimization process that leverages many of KKR's top-down investment themes?

As any CIO who benchmarks his or her performance to a multi-asset class passive index knows, the traditional 60/40 portfolio has done exceedingly well in recent years. One can see this in *Exhibits 3* and *4*, which underscore that not only performance has been strong but also on a risk-adjusted basis, it has been even better.

EXHIBIT 3

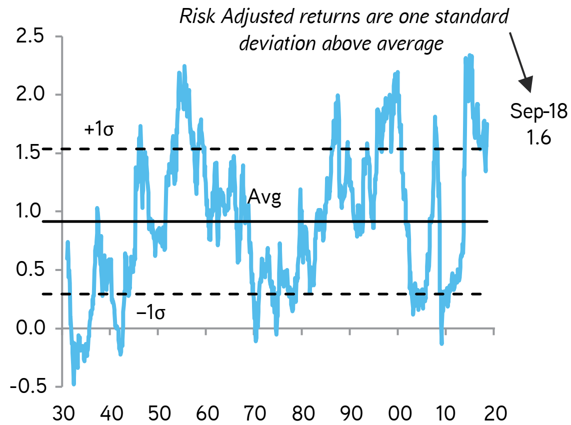
The Traditional 60/40 Portfolio Has Done Exceedingly Well Over the Past Five Years, But the Path Ahead Is Now Becoming Much More Challenging, We Believe



Stocks = S&P 500 Total Return, Bonds = U.S. Long Bond Returns. Data as at September 30, 2018. Source: Shiller data http://www.econ.yale.edu/~shiller/data.htm, Bloomberg, KKR Global Macro & Asset Allocation analysis.

EXHIBIT 4

The Risk Adjusted Return Ratio of a 60/40 Portfolio Has Recently Been Significantly Above Average, But We Now Expect Lower Returns and Higher Volatility Ahead



Stocks = S&P 500 Total Return, Bonds = U.S. Long Bond Returns. Data as at September 30, 2018. Source: Shiller data http://www.econ.yale.edu/~shiller/data.htm, Bloomberg.

However, as our expected returns assumptions indicate in *Exhibit 1*, the forward outlook could be quite a bit more muted, in our view. Indeed, assuming equity returns are roughly five percent over the next five years while bond returns are three percent, then a traditional 60% stock, 40% bond portfolio should only return about four percent in aggregate, which is well below most asset allocators' return requirement of about seven percent. Even in a bull case scenario of 10% equity returns, high rates would result in zero percent bond returns, causing the portfolio to fall short of the seven percent target (*Exhibit 6*).

"

Our world view also suggests that more allocators of capital should consider an investment in their global footprints – including a local presence in key markets – to better understand the profound impact that key considerations such as China, the millennial populations, and central bank policy are having on the macroeconomic and geopolitical landscape in each world region.

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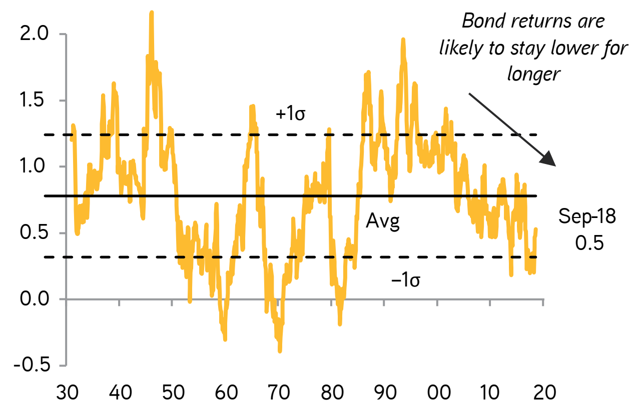
EXHIBIT 5

The Call to Arms for CIOs to Shift Out of Government Bonds Has Rarely Been Higher



Data as at September 30, 2018. Source: Shiller data, Bloomberg.

EXHIBIT 6

Generating Returns Using Just Stocks and Bonds Will Be Much More Challenging in the Future

RETURN ASSUMPTIONS		5-YEAR OUTLOOK BASE	BULL	BEAR
Stocks		5%	10%	0%
Bonds		3%	0%	6%
ALLOCATION		EXPECTED RETURNS		
STOCKS	BOND	BASE	BULL	BEAR
0%	100%	3.0%	0.0%	6.0%
10%	90%	3.2%	1.0%	5.4%
20%	80%	3.4%	2.0%	4.8%
30%	70%	3.6%	3.0%	4.2%
40%	60%	3.8%	4.0%	3.6%
50%	50%	4.0%	5.0%	3.0%
60%	40%	4.2%	6.0%	2.4%
70%	30%	4.4%	7.0%	1.8%
80%	20%	4.6%	8.0%	1.2%
90%	10%	4.8%	9.0%	0.6%
100%	0%	5.0%	10.0%	0.0%

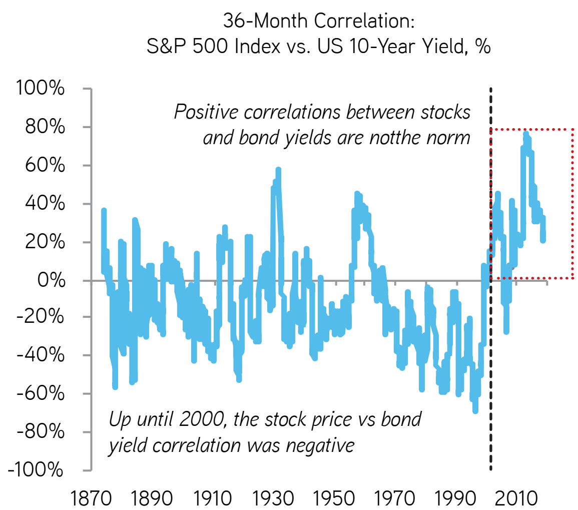
Data as at September 30, 2018. Source: KKR Global Macro & Asset Allocation analysis.

The other relationship that is changing, which we think could be a big deal for all macro and asset allocation professionals, is the correlation between stocks and bonds. To review, since the tech bubble peak in 2000, stocks and bond prices have been negatively correlated. As a result, weakness in the stock market has actually largely been offset with strong bond market performance amidst falling interest rates. One can see this in *Exhibit 7*. Not surprisingly, this macro backdrop has been a boon for multi-asset class investors, particularly levered ones such as Risk Parity.

However, this relationship is actually somewhat anomalous – an input that we think many current investors may be underappreciating. In fact, if you take a longer term perspective, the relationship between stocks and bonds since 2000 is actually an outlier, as stock and bond performance is traditionally positively correlated, not negatively correlated. So, in the event of a market dislocation in the future, *we believe that many multi-asset class portfolios could endure much greater downside capture than in the past*. The catalyst, we believe, will be the notable shift that we are now seeing amongst the global 'Authorities' away from monetary policy towards more fiscal policy (which likely means bigger deficits). As a result, bond prices will likely no longer rally in the event of an equity sell-off.

EXHIBIT 7

We Think That We Are Seeing a Secular Shift in the Relationship Between Stocks and Bonds

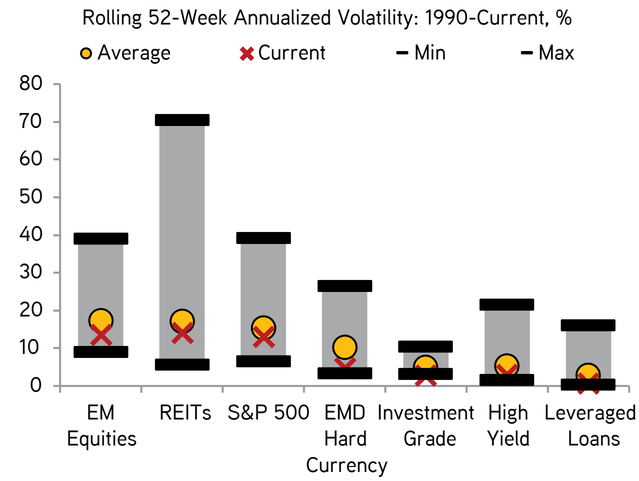


Data as at September 30, 2018. Source: Shiller data, Standard & Poor's, Federal Reserve Board, U.S. Treasury, Haver Analytics.

Consistent with this view, there is also the risk of much higher volatility ahead across the global capital markets. So, beyond the threat of lower absolute returns, our work also shows that the Sharpe ratio, or return per unit of risk, could be poised to fall. A mean reversion in Sharpe ratios would come as a significant jolt to many investors as return per unit of risk has been running well above trend line across most asset allocation accounts we monitor in recent years. We link the boost in return per unit of risk to the notable increase in coordinated global QE that started with the Federal Reserve and accelerated following the ECB's commitment to do 'whatever it takes' in 2012. However, with QE shifting towards quantitative tightening (QT), we think that a secular shift in asset allocation is now upon us.

EXHIBIT 8

We Believe There Is Risk of Much Higher Volatility Ahead



Data as at September 30, 2018. Source: Bloomberg.

If we are correct in our macroeconomic forecasts, then all allocators of capital need to consider either lowering their liability payout amounts and/or shifting their allocations towards higher returning products. Just consider, if volatility remains constant from current levels, risk adjusted returns will fall a full 40% on average across asset classes as returns are expected to be lower across the board. This automatically results in lower Sharpe ratios, even before making any adjustments for potentially higher levels of volatility (which we think is inevitable). One can see this in *Exhibits 11* and *12*.

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So, in the event of a market dislocation in the future, we believe that many multi-asset class portfolios could endure much greater downside capture than in the past. The catalyst, we believe, will be the notable shift that we are now seeing amongst the global 'Authorities' away from monetary policy towards more fiscal policy (which likely means bigger deficits).

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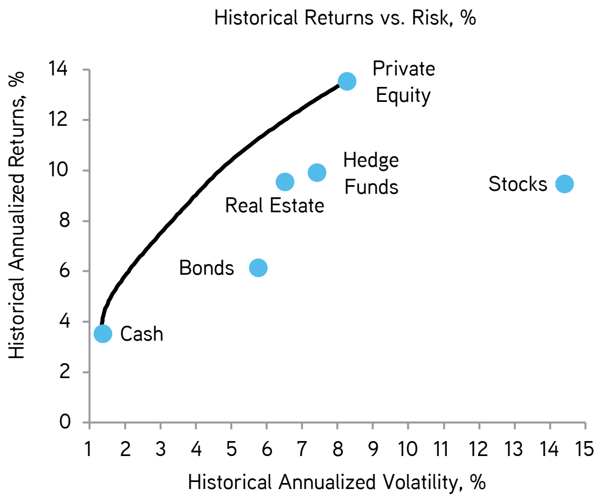
EXHIBIT 9

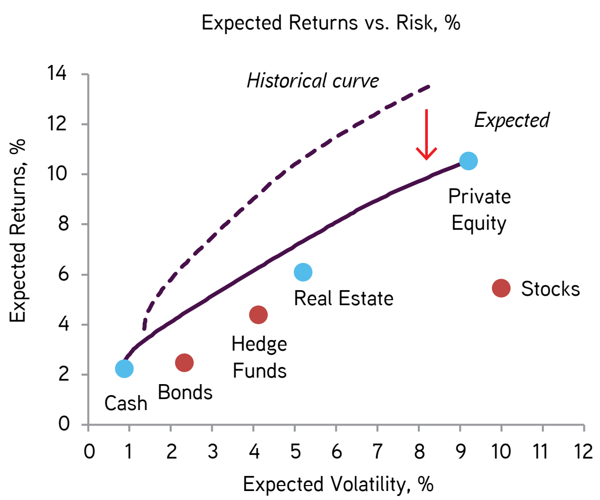
Historical Returns Are an Important Guidepost, But...



Note: MSCI AC World Gross USD for Listed Equities; Barclays GlobalAgg Total Return Index Unhedged USD for Fixed Income; Cambridge Associates Global Private Equity for Private Equity; HFRI Fund Weighted Composite Index for Hedge Funds; and Barclays US T-Bills 3-6 Months Unhedged USD for Cash. Data as at 1Q86 or earliest available to 4Q17, and de-emphasizing 2008 and 2009 returns at one-third the weight, due to the extreme volatility and wide range of performance which skewed results. Source: Cambridge Associates, Bloomberg.

EXHIBIT 10

...We Now Believe Future Returns Will Be Well Below Historical Returns



Data as at 1Q86 or earliest available to 4Q17, and de-emphasizing 2008 and 2009 returns at one-third the weight, due to the extreme volatility and wide range of performance which skewed results. Source: Cambridge Associates, Bloomberg.

EXHIBIT 11

We Are Exiting a Period of Extremely Strong Returns per Unit of Risk Across Almost All Asset Classes

ASSET CLASS	HISTORIC ANNUALIZED RETURNS	NEXT 5-YEAR EXPECTED RETURNS	% CHG
Listed Equities	9.5	5.4	(42%)
Fixed Income	6.1	2.5	(60%)
Private Equity	13.5	10.6	(22%)
Hedge Funds	9.9	4.4	(56%)
Real Estate (Unlev)	9.5	6.1	(36%)
Cash	3.5	2.3	(36%)
AVERAGE	**8.7**	**5.2**	**(40%)**

Source: MSCI AC World Gross USD for Listed Equities; Barclays GlobalAgg Total Return Index Unhedged USD for Fixed Income; Cambridge Associates Global Private Equity for Private Equity; HFRI Fund Weighted Composite Index for Hedge Funds; and Barclays US T-Bills 3-6 Months Unhedged USD for Cash. Data as at 1Q86 or earliest available to 4Q17, and de-emphasizing 2008 and 2009 returns at one-third the weight, due to the extreme volatility and wide range of performance which skewed results.

EXHIBIT 12

Sharpe Ratios Are Poised to Fall Under Almost Any Scenario We Envision

ASSET CLASS	HISTORIC RETURN / RISK RATIO	WITH 20% INCREASE IN VOL	% CHG
Listed Equities	0.7	0.3	(52%)
Fixed Income	1.1	0.4	(66%)
Private Equity	1.6	1.1	(35%)
Hedge Funds	1.3	0.5	(63%)
Real Estate (Unlev)	1.5	0.8	(47%)
Cash	2.6	1.4	(47%)
AVERAGE	**1.5**	**0.7**	**(50%)**

Data as at 1Q86 or earliest available to 4Q17, and de-emphasizing 2008 and 2009 returns at one third the weight, due to the extreme volatility and wide range of performance which skewed results. Source: MSCI AC World Gross USD for Listed Equities; Barclays GlobalAgg Total Return Index Unhedged USD for Fixed Income; Cambridge Associates Global Private Equity for Private Equity; HFRI Fund Weighted Composite Index for Hedge Funds; and Barclays US T-Bills 3-6 Months Unhedged USD for Cash.

Against this backdrop, however, we do not expect allocators of capital to sit idle. Rather, we expect them to seek out pockets of alpha, align with the best managers, and cultivate relationships that allow them to drive better investment processes. To this end, we see at least four major macro themes that we believe that asset allocators, including both pensions and high net worth investors, can leverage to earn above average returns in the coming years as part of the asset allocation 'refresh' that we are advocating in this new era of investing.

First, we advocate a diversified portfolio that now benefits more from an improvement in nominal GDP. Without question, we believe that governments around the world are shifting their focus from monetary policy towards fiscal policy (*Exhibit 13*). This change is a big deal, in our view, and it requires a new approach to asset allocation. Given this viewpoint, we have materially increased our exposure to Asset-Based Finance. Indeed, as book values have again begun to grow in the banking sector, publicly traded financial intermediaries have finally started to 'reposition' their portfolios, including selling performing hard assets with onerous capital charges as well as seeking out capital relieving joint ventures with third party investors, including alternative asset managers. 'Last mile' residential construction in areas such as Spain and Ireland has been a particular focus of ours of late within Asset-Based Finance. We also view Asset-Based Finance as an elegant play on our desire to lock in low cost liabilities in today's QE-driven market, allowing investors to earn above-average spreads. Finally, we are seeing an increased opportunity set in the B-piece segment of the commercial mortgage market, driven by 'new' retention rules that notably favor investors with long duration liabilities.

Meanwhile, within the Infrastructure sector, we have seen a notable number of divestitures of hard assets, particularly those with contractual revenue set-ups, in recent quarters. From our perch, it appears that Europe has emerged as the most active region for infrastructure carve-outs, but trend lines in both the United States and Asia are firming too. Importantly, this carve-out opportunity is in addition to some of the structural increases in infrastructure investment that we think will occur as governments rely more on fiscal spending than monetary stimulus to bolster growth in the years ahead.

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We expect allocators of capital to seek out pockets of alpha, align with the best managers, and cultivate relationships that allow them to drive better investment processes.

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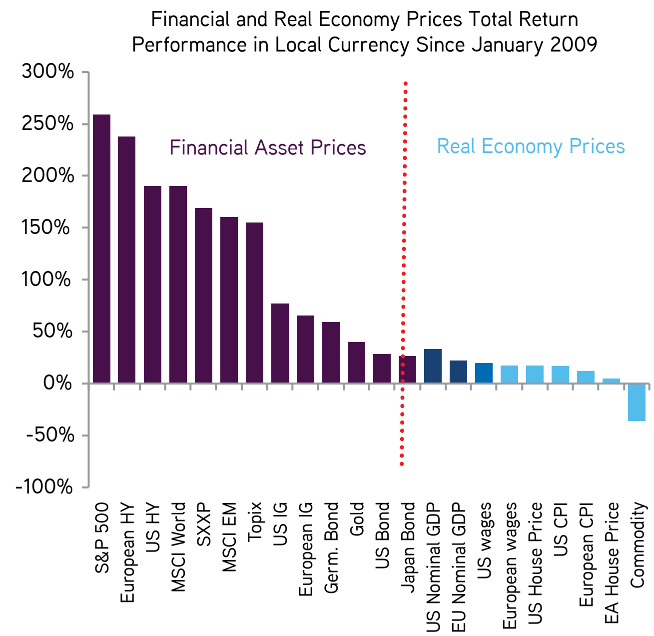
EXHIBIT 13

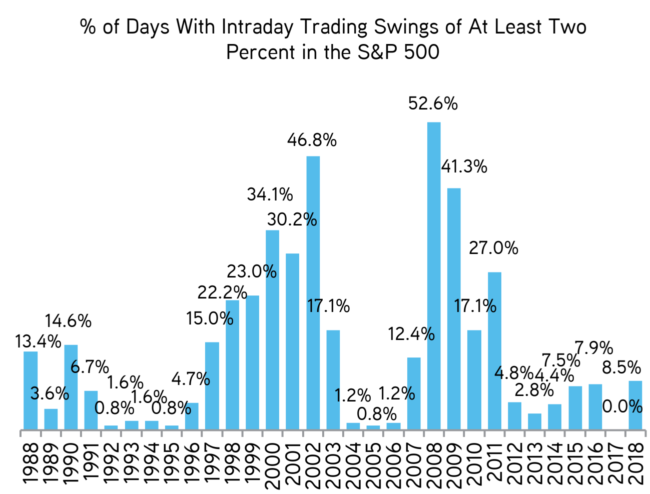
We Think That Governments Are Now Focused on Driving Better Returns in the Real Economy Relative to the Financial Economy



Data as at August 31, 2018. Source: Goldman Sachs.

EXHIBIT 14

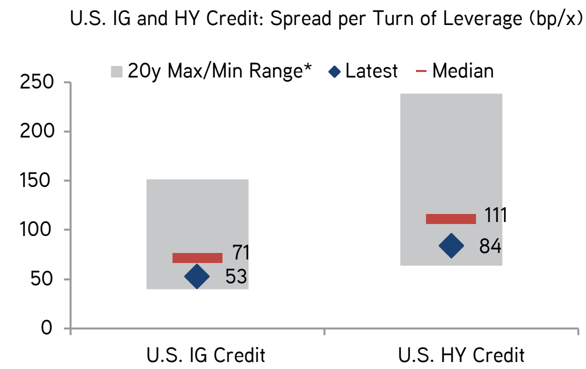
As There Is A Shift From Monetary to Fiscal Stimulus, We Expect More Volatility



Data as at October 18. 2018. Source: Bloomberg.

EXHIBIT 15

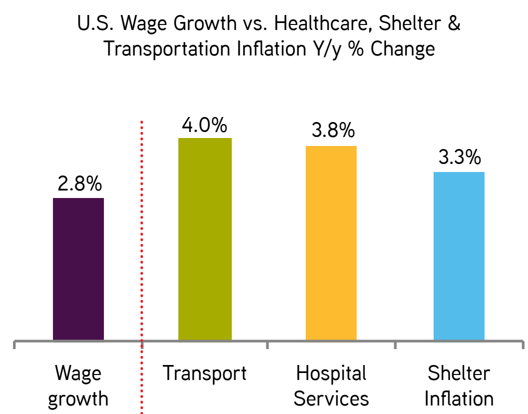
Spread-Per-Turn of Leverage Is Well Below Median Levels Across Both Investment Grade and High Yield Debt



Note: * Max refers to 95th percentile. Data as at 2Q18. Source: KKR Global Macro & Asset Allocation analysis, Haver Analytics, Bloomberg.

EXHIBIT 16

Despite Stronger Economic Growth, the U.S. Consumer Is Still Facing Some Headwinds From Higher Input Costs

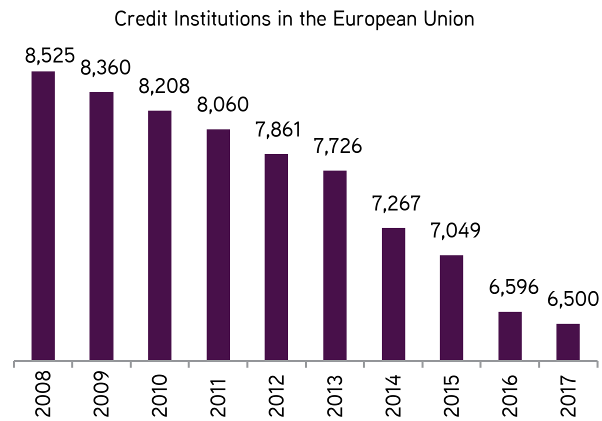


Data as at September 30, 2018. Source: Bureau of Labor Statistics, Haver Analytics.

Second, we continue to see a secular shift in capital formation away from traditional banks towards more Private Credit alternatives. Recall that before the GFC, banks and specialty finance companies and proprietary trading desks were the primary providers of debt capital globally. Now, with heightened regulation around leverage levels, global banks have constrained lending activity in many instances. Thus, we expect the demand for Private Credit from non-traditional capital providers to continue, particularly for financial sponsors that want speed and certainty around financings. Real estate credit in the U.S. (both B-piece and Stabilized Credit), bank disposition sales in Europe (both performing and non-performing), and performing Private Credit in Asia (*Exhibit 19*) all look interesting to us at the moment. As part of our normalization thesis, we also favor owning financial assets like mortgage servicing rights, which become even more valuable cash flow assets as rates increase (assuming unemployment does not spike during a downturn, which is our base view).

EXHIBIT 17

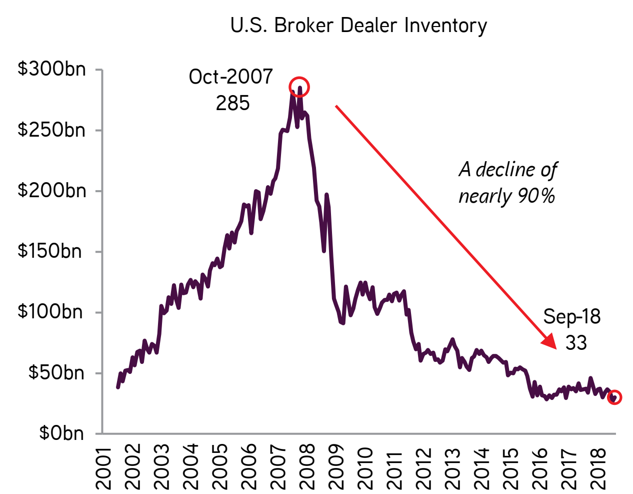
The Number of Public Credit Providers in the European Union Has Been Steadily Shrinking



Data as at December 31, 2017. Source: European Banking Federation.

EXHIBIT 18

U.S. Broker Dealer Inventory Has Declined Nearly 90% Since 2007

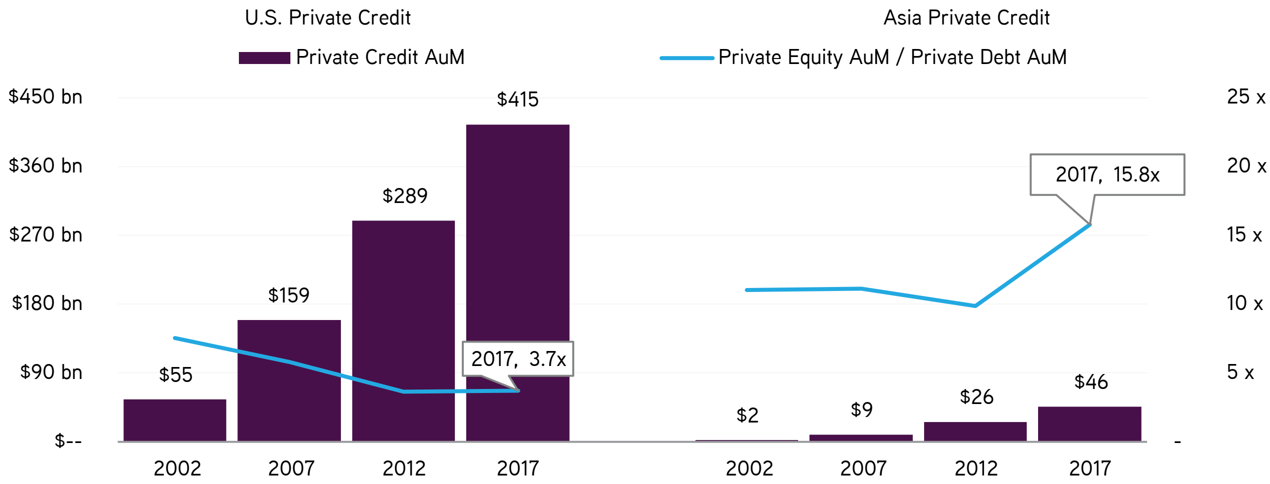


Data as at September 30, 2018. Source: Federal Reserve Bank of New York, Haver Analytics.

"We expect the demand for Private Credit from non-traditional capital providers to continue, particularly for financial sponsors that want speed and certainty around financings."

EXHIBIT 19

There Is an Emerging Private Credit Opportunity in Asia, We Believe



Data as at December 31, 2017. Source: Preqin.

Third, we expect consumers to continue to shift towards more Experiences and away from more Goods. While this theme is not a new one for us, the pace of implementation appears to have accelerated in recent months. Importantly, we do not think the trend towards experiences is just the 'Amazon' effect. Rather, we believe that key influences such as increased healthcare spending, heightened rental costs, and rising telecommunications budgets (e.g., iPhones) are leaving less and less discretionary income for traditional items, particularly mainstream retail goods. One can see this in *Exhibit 20*. Recent trips to continental Europe as well as Asia lend support to our view that this trend towards experiences is global in nature and cuts across a variety of demographics. For example, in Japan and Germany, aging demographics are boosting the use of later stage healthcare offerings, while younger individuals in the U.S. are embracing more health, wellness and beautification. Our view is that mobile shopping and online payments are only accelerating this trend and our recent travels lead us to believe that this shift is occurring in both developed and developing countries. One can see this in *Exhibit 23*. Nowhere is this shift towards e-commerce more prevalent these days than in China (*Exhibit 21*) with its outsized millennial population (see *China: A Trip to the Epicenter,* August 2018). By way of background, of the total 828 million millennials in Asia, Frances Lim estimates that fully 40%, or 330 million, are today in China. To put the 330 million in perspective, we would note that there are 'just' 66 million millennials in the U.S.

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We expect consumers to continue to shift towards more Experiences and away from more Goods.

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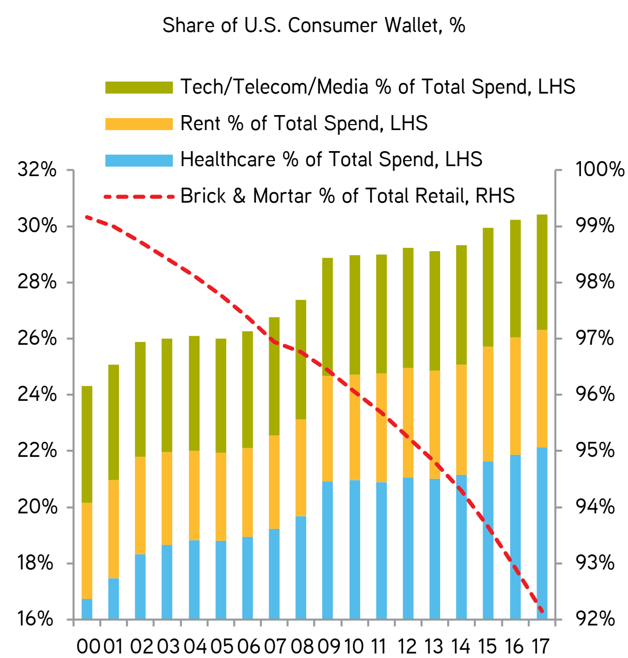
EXHIBIT 20

Disposable Income Available for Traditional 'Things' Is Waning at a Time of Significant Change in Consumer Spending

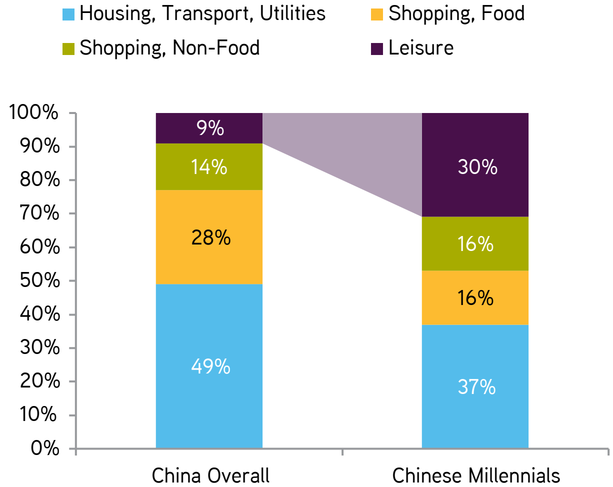


Data as at December 31, 2017. Source: Bureau of Economic Analysis, IDC, KKR Global Macro & Asset Allocation analysis.

EXHIBIT 21

Chinese Millennials Save Less, and Allocate Three Times More of Their Income to Leisure

Spending Breakdown China Overall vs. Chinese Millennials

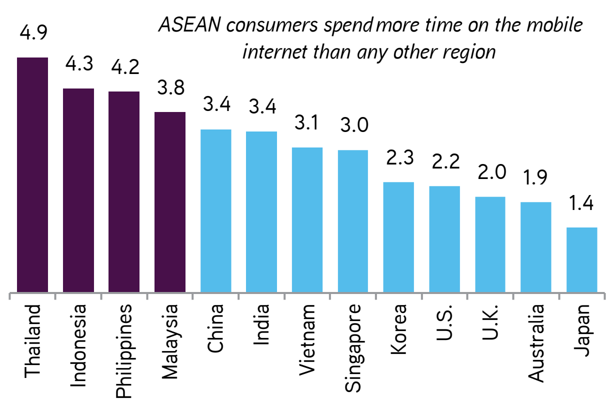


Data as at May 31, 2017. Source: Bureau of Labor Statistics, Haver Analytics, KKR Global Macro & Asset Allocation analysis.

EXHIBIT 22

Internet Users in Southeast Asia Are Incredibly Engaged, Spending Three to Four Hours per Day on Mobile Internet, More Than in Any Other Region in the World

Average Hours Per Day on Internet Via Mobile Phone (Hours), 2017



Data as at 3Q17. Source: Hootsuite 2018 Digital Yearbook and Globalwebindex based on a survey of Internet users aged 16-64.

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We are structurally bullish on deconglomeratization.

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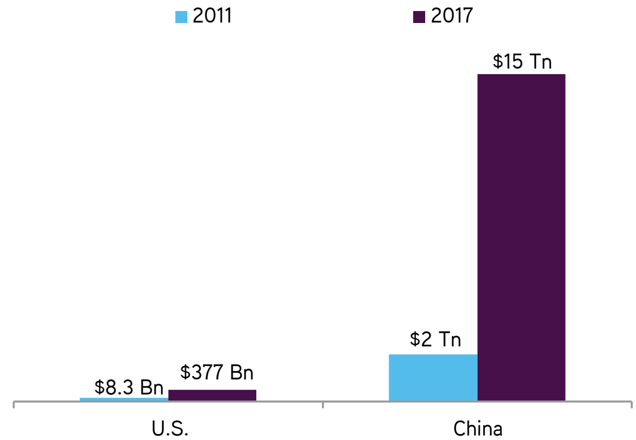
EXHIBIT 23

When It Comes to Mobile Payments, China's Activity Dwarfs That of the U.S.

U.S. vs. China Mobile Payments, U.S.$ Billions and Trillions



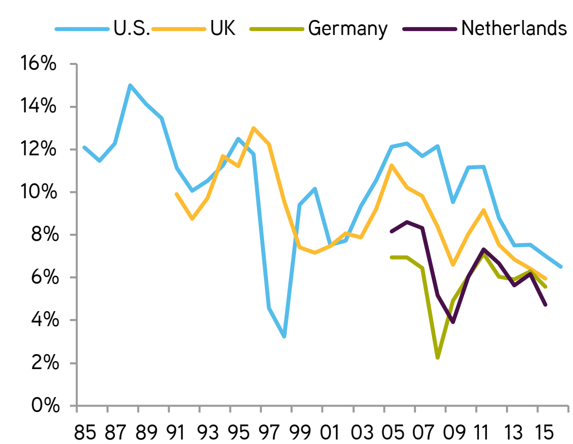
Source: iResearch, Forrester, Alibaba and Tencent Set Fast Pace in Mobile-Payments Race, WSJ, September 22, 2017.

Finally, we are structurally bullish on deconglomeratization. This theme is not new, but it is a powerful one that is accelerating the pace of corporate restructurings across the global capital markets. In our humble opinion, corporations used low-cost funding to over-expand in recent years, and with global trade now slowing at the same time domestic agendas are taking precedent, we expect more firms to hive off unprofitable subsidiaries and non-core businesses (*Exhibit 25*). This trend has fully gained momentum in Japan, Europe, and India, and we expect other business communities to move this way in the coming months and quarters.

EXHIBIT 24

Rate of Returns for FDI Declining in Many Areas of the Global Economy

Rate of Return on Outward Foreign Direct Investment, %

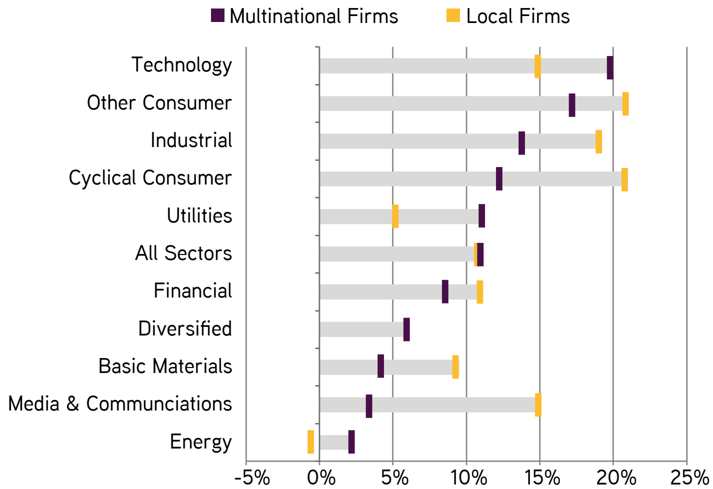


Data as at December 31, 2016 or latest available year. Source: National Statistics, OECD.

EXHIBIT 25

Local and Regional Competitors Are Increasingly Challenging the Returns of the Multinational Firms

Top 500 Global Companies Return on Equity, LTM as at 2016, %



Data as at January 31, 2017. Source: National Statistics, OECD, *The Economist*.

EXHIBIT 26

Japan Has Emerged as One of the Most Compelling Pure-Play Examples on Our Thesis About Corporations Shedding Noncore Assets and Subsidiaries

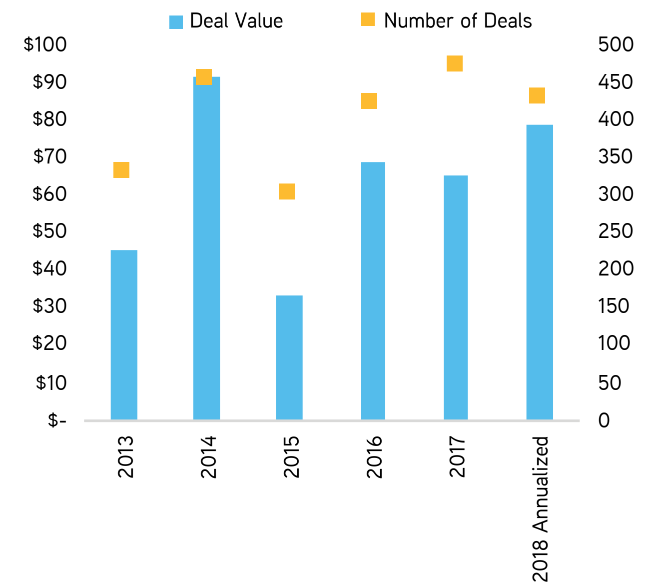
NUMBER OF LISTED COMPANIES BY NUMBER OF CONSOLIDATED SUBSIDIARIES						
	NUMBER OF COMP.	UNDER 10	10 -49	50 -99	100 -299	300 OR MORE
Nikkei 400	400	51	157	91	77	24
TSE First Section	1,956	882	802	155	90	27
TSE Second Section	539	467	71	1	0	0
Mothers	239	226	13	0	0	0
JASDAQ	773	693	79	1	0	0
Total	3,907	2,319	1,122	248	167	51

Data as at 2017. Source: Macquarie.

EXHIBIT 27

U.S. Upstream Now Seems to Be in Consolidation Mode; We View This Trend as Positive for Alternative Managers

U.S. Upstream Transactions: Deal Value and Count by Year, US$ Billions



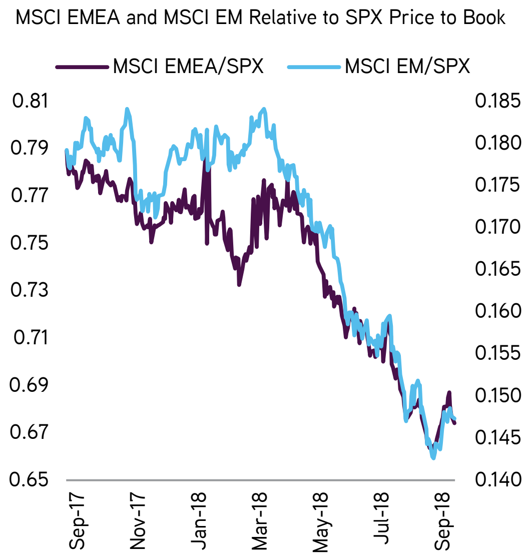
Data as at September 30, 2018. Source: PLS.

We also note that we are seeing a lot of corporate ‘streamlining’ occurring outside of the traditional multinational sector. Indeed, after several quarters of inactivity, we are finally seeing U.S. energy companies rightsizing their footprints, as Wall Street encourages many of these companies to shed slower growth assets in favor of ‘hot’ shale basins. While this activity may not necessarily be long-term bullish for the stocks of publicly traded energy companies, it is creating significant, near term value-creation opportunities for the buyers of these properties, particularly for players with expertise in the production and midstream segments of the oil and gas markets.

Looking at the big picture, our bottom line for CIOs is that expected returns are now falling at a time when volatility is increasing. So, on a risk-adjusted basis, the next five years are likely to look dramatically different than the past five years. There are, however, important offsets to consider that can help to mitigate these challenging headwinds. First, we believe that asset allocators and macro investors can adjust their portfolios to better optimize their outcomes. One can see this in *Exhibits 8, 9* and *10*, respectively. Second, we believe that a much more theme based approach will be required to take advantage not only of secular themes but also periodic, tactical mispricings in the markets. As we described above, we are recommending four themes to capitalize on this approach. Finally, we think that, with operating margins high amidst low rates and full valuations, investors need to migrate towards buying some form of complexity (*Exhibits 28* and *29*) in a market where the consensus cherishes simplicity. In our view, this approach will help to minimize the adverse effects of the historic surge in financial asset prices that we have seen unfold since the end of the GFC in 2009.

EXHIBIT 28

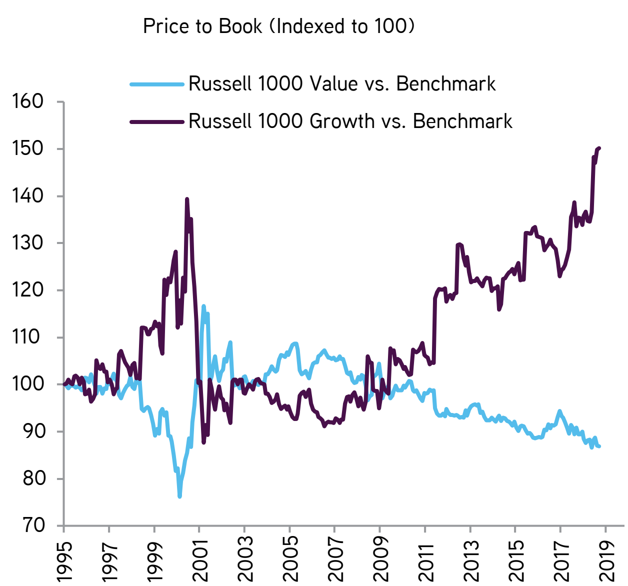
We Think That International Markets Now Warrant Investor Attention, As Some Form of Mean Reversion Is Likely



Data as at October 1, 2018. Source: Bloomberg, Morgan Stanley Research.

EXHIBIT 29

Given the Valuation Discrepancies, We Favor Buying Complexity and Selling Simplicity



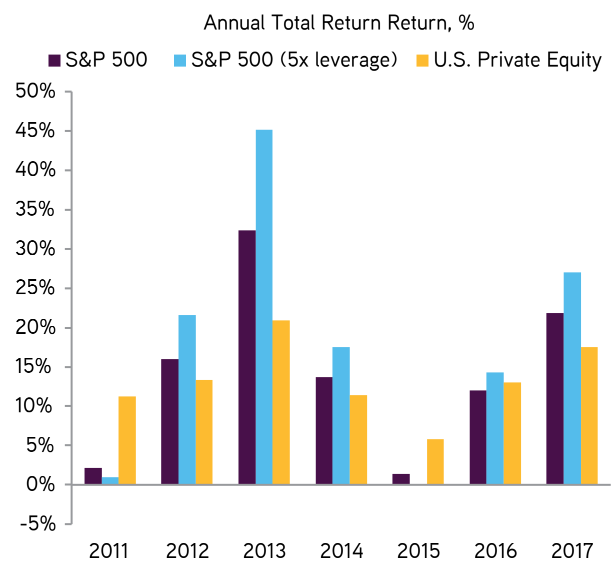
Data as at September 30, 2018. Source: Bloomberg.

What is our view on the Private Equity vs. Public Equity debate?

While we certainly field lots of questions about the forward-looking returns, one of the most frequent questions we get is actually not one about our views on absolute levels of return for each asset class in which KKR invests. Rather, it is about relative returns. In particular, we are most often asked whether Private Equity as an asset class will outperform Public Equities during the next five to seven years (i.e., the full life cycle of a private fund). Our simple answer is yes; we do think so, but we also want to caution that it is certainly not a 'no brainer,' particularly if you have a shorter time horizon. First, let's start with where we have been. As we showed in *Exhibit 1*, Public Market Equities have actually outperformed Private Equity as an asset class handily over the past five years. Moreover, if one actually levers up the S&P 500 a turn or two from three to five times debt-to-EBITDA (i.e., more in line with a traditional buyout), then Public Equities have handily outperformed reported S&P 500 returns in recent years. One can see this in *Exhibit 30*.

EXHIBIT 30

Both Unlevered and Levered Public Equities Actually Outperformed Private Equity in Recent Years. We Think That This Relative Outperformance Is Now Poised to Mean Revert

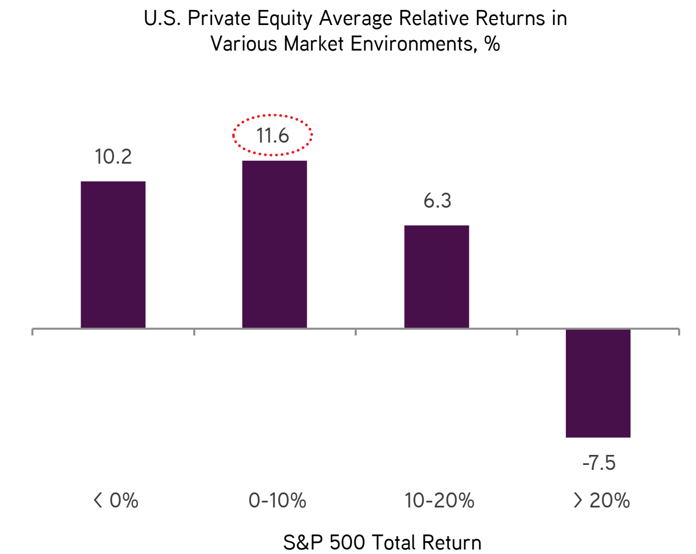


Note: Leverage = Debt to LTM EBITDA. Data as at December 31, 2017. Source: Factset.

> **"Looking at the big picture, our bottom line for CIOs is that expected returns are now falling at a time when volatility is increasing."**

EXHIBIT 31

Private Equity Typically Outperforms Over the Cycle Relative to Public Equities. However, the Majority of the Alpha Comes When Capital Markets Conditions Are Not So Ebullient



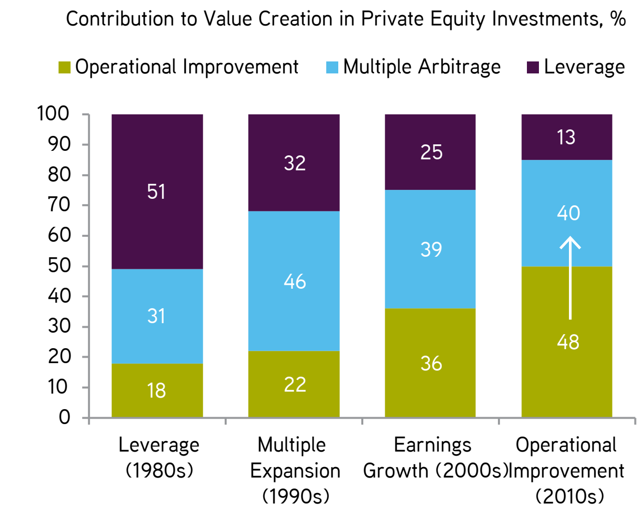
Note: Private Equity returns as per Cambridge Associates. Data based on annual returns from 1989-2016. Source: Cambridge Associates, Bloomberg, KKR Global Macro & Asset Allocation analysis.

So, given the recent underperformance, why would we be forecasting higher returns for Private Equity than Public Equities? For starters, our historical work suggests that Public Equities often excel early in the cycle, so we are not surprised in a turbo-charged, QE-driven bull market that Public Equities have outperformed (*Exhibit 30*). In our humble opinion, that is to be expected, given the starting level of stocks in 2009 as well as the $16 trillion that has been amassed on the balance sheets of global central banks in recent years. However, as public markets get more mature and more expensive during the later stages of the economic cycle, a more focused approach, particularly around value creation, sector selection, and target choice, usually makes more sense.

> **"As public markets get more mature and more expensive during the later stages of the economic cycle, a more focused approach, particularly around valuation creation, sector selection, and target choice, usually makes more sense."**

EXHIBIT 32

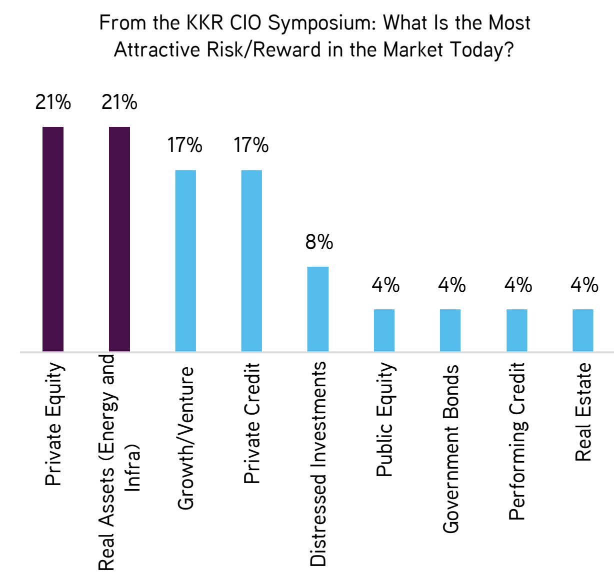
Over Time, the Way Private Equity Creates Value Has Shifted Towards Operational Expertise



Source: BCG analysis *How Private Equity Firms Fuel Next-Level Value Creation* dated February 2016.

EXHIBIT 33

KKR Clients View Alternative Investments as Among the Most Attractive Opportunities in Today's Market



Data as at September 2018. Source: KKR CIO Symposium.

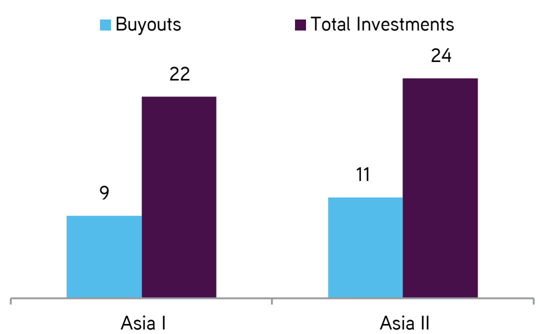
Second, as the industry has evolved, we think its comparative advantage has become more sustainable. In particular, we note that the Private Equity industry has substantially repositioned its skill set to focus more on operational expertise (relative to leverage), which tends to be more of a sustainable differentiator, particularly later in the economic cycle. One can see this in *Exhibit 32*. This point is a subtle but important one – one that we think sometimes is underappreciated by investors who have spent more of their time in public markets and may not fully recognize how much operational intensity goes into an investment during the typical five- to seven-year 'holding' period.

Another point to consider, one which we certainly see from our perch at KKR, is that Private Equity now covers a much broader definition than simply a traditional buyout. In our view, this flexibility of mandate in the Private Equity world should be a benefit at a time when it feels like many assets are being fully valued. In our Asia practice, for example, less than 50% of the deals are actually buyouts (*Exhibit 34*). In fact, a majority are linked to corporate carve-outs, de novo businesses, growth capital, etc. Also, in certain countries, Private Equity can provide a more thoughtful approach to sector exposure to key markets that may be either under- or over-indexed. In Indonesia, for example, the public markets actually have zero exposure to fast-growing sectors such as Technology (*Exhibit 35*). A similar story holds true in many Asian private credit markets as well. Meanwhile, in Europe, the Banking sector still accounts for 9.9% of the MSCI Europe index[1], despite the reality that most private equity firms do very few bank-related deals (and the sector's downbeat performance has been a material drag on overall public market performance).

EXHIBIT 34

Private Equity Is No Longer Simply Buyouts. In Particular, Asia Private Equity Includes Many Forms of Capital Commitments to Companies

Private Equity Investments in KKR Asia Fund I and KKR Asia Fund II



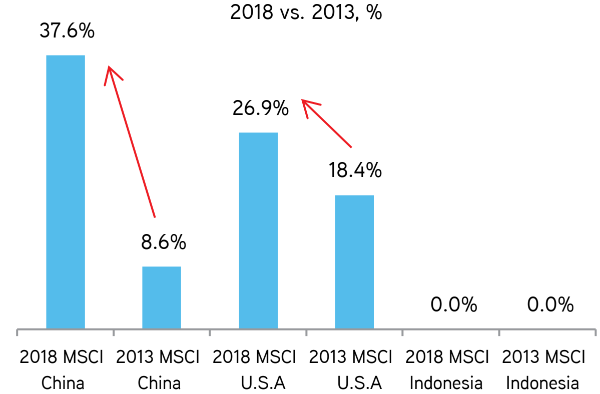
Data as at March 31, 2018. Source: KKR Global Macro & Asset Allocation analysis.

> "Another point to consider, is that Private Equity now covers a much broader definition than simply a traditional buyout."

EXHIBIT 35

The Lack of Sector Exposure in Key Markets Such as Technology Represents a Significant Opportunity for Private Equity Managers

Sector Weighting of Info Tech in MSCI Country Indexes, 2018 vs. 2013, %



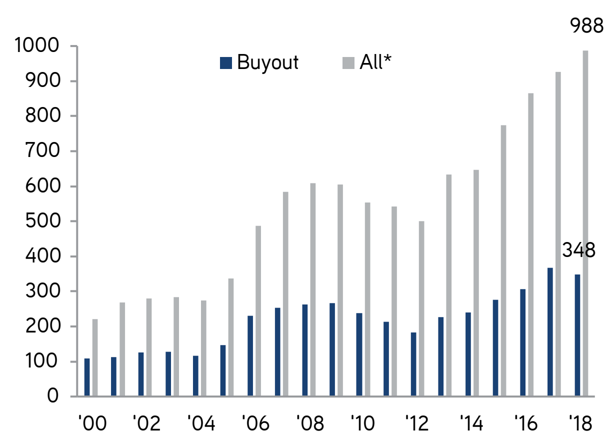
Data as at August 31, 2018. Source: MSCI.

We think that there are two other points to consider. First, we are not as bearish as some folks about the excess 'dry powder' in the industry. Key to our thinking is that dry powder is a function of available investment opportunities, and as one can see in *Exhibit 37*, the dry powder as a percentage of market capitalization is actually not much larger than it was a few years ago. This point of potential dollars to invest relative to the opportunity set is no different than the way we think about margin debt and merger and acquisition activity (i.e., both should also be looked at relative to market capitalization). Furthermore, unlike liquid market funds, dry powder tends to be deployed over a three- to five-year horizon.

EXHIBIT 36

Although Dry Powder in the Alternatives Industry Is at Record Highs in Absolute Terms...

North America Private Equity Funds: Dry Powder, US$ Billions

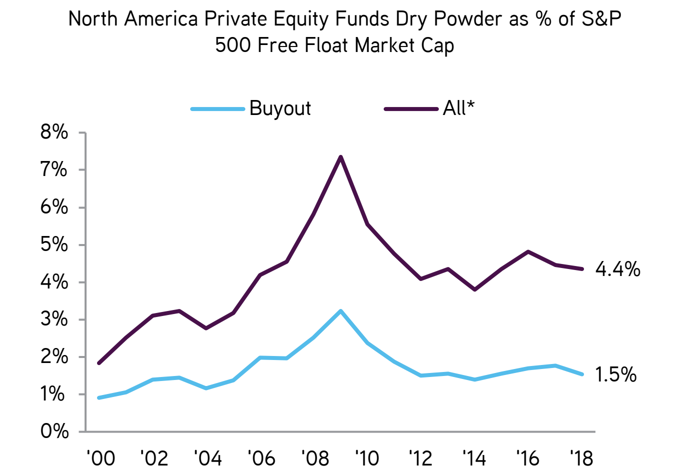


*Includes Buyout, Distressed, Growth, Mezzanine, Real Estate and Venture Capital Note: 2018 datapoint is as of June 2018 Source: Preqin, S&P, Bloomberg, KKR Global Macro & Asset Allocation analysis.

1 Data as at August 31, 2018. Source: MSCI.

EXHIBIT 37

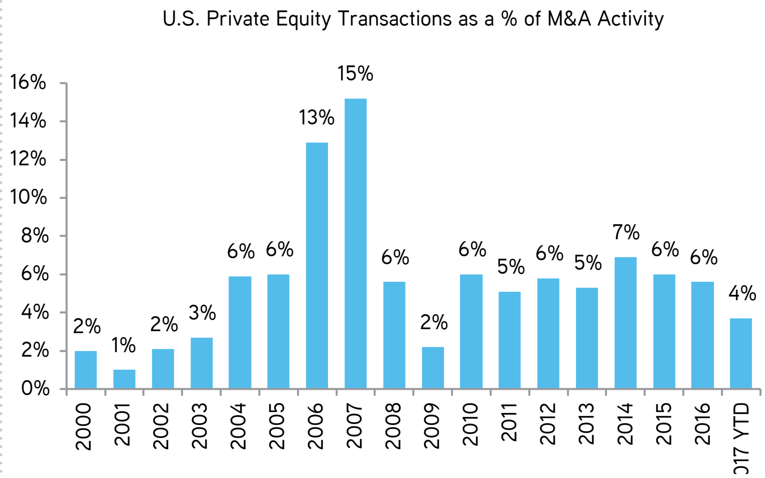
…It's Not at Peak Levels When Viewed as a Percentage of S&P 500 Market Cap



*Includes Buyout, Distressed, Growth, Mezzanine, Real Estate and Venture Capital Note: 2018 data point is as of June 2018 Source: Preqin, S&P, Bloomberg, KKR Global Macro & Asset Allocation analysis.

EXHIBIT 38

Transactions as a Percentage of M&A Activity Are Still Well Below Pre-Crisis Levels but Stable in Recent Years



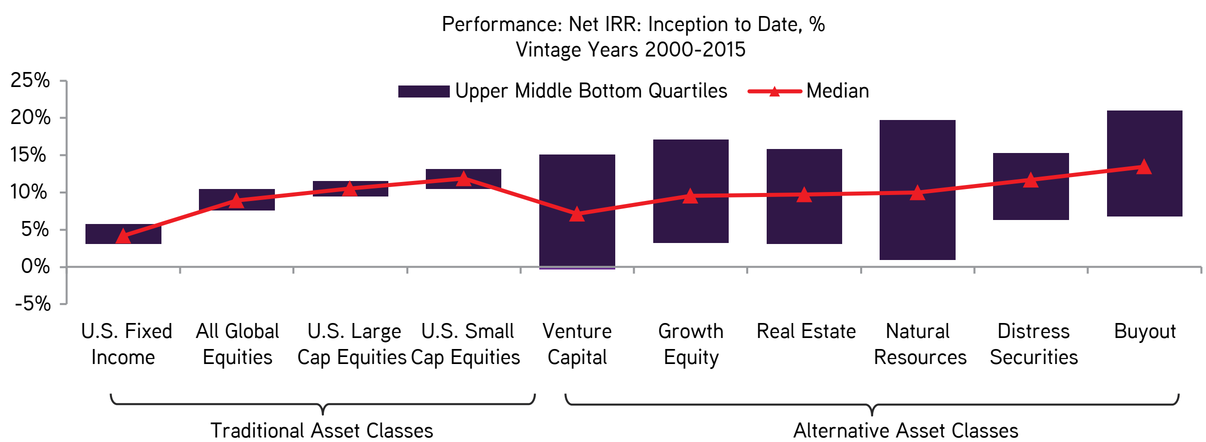
Based on deal value. PE is defined here as private equity or venture capital transactions using capital raised by investors, where the financial sponsor engages in non-strategic acquisitions acting as a financial buyer. Data as at October 2017. Source: ThomsonOne online database.

Second, we believe manager selection matters (and can be a true absolute performance differentiator relative to Public Equities), particularly in Private Equity relative to many liquid alternatives. One can see this in *Exhibit 39*, which shows the difference between upper and lower quartile managers across a variety of asset classes.

At the high end of the dispersion analysis is where we find Private Equity, which makes sense, given the operational and strategic opportunities that we have highlighted earlier in this section as well as the ability to time entry and exits.

EXHIBIT 39

Manager Selection Matters, Particularly in Alternative Asset Classes, as There Is a Wide Dispersion of Performance Between Top Quartile and Bottom Quartile Managers

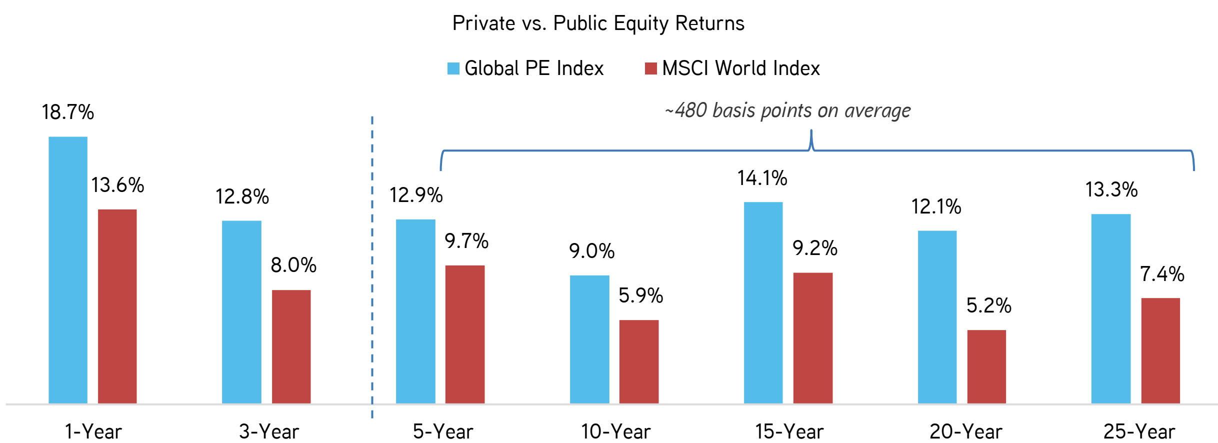


Data as at 3Q2017. Data for alternative investments based on the average since-inception-IRR for vintage years 2000-2015 from Cambridge Associates. Data for traditional asset classes based on average CAGR for time periods 2000-3Q17, 2001-3Q17, etc. through 2010-3Q16 from eVestment Alliance database to match the alternative asset class time frame. Source: Cambridge Associates, eVestment.

In sum, we think market timing between Private and Public Equities is largely a fool's game, and as such, we continue to follow the long-term fundamentals, many of which suggest Private Equity remains a compelling asset class on both an absolute and relative basis. One can see the performance track record of PE on both an absolute and relative basis in *Exhibit 40.* Importantly, for larger allocators of capital who also invest in co-investments at a lower fee cost structure alongside their fund commitments, there is also the opportunity to reduce, or 'buy down', their overall cost per unit of PE capital deployed. That said, the industry is clearly changing, and we see competition intensifying even more. As such, for the Private Equity industry to earn its 500 basis points or more of illiquidity premium, it must continue to evolve towards being solution providers for corporations, which encompasses greater levels of industry expertise, operational acumen, and cross-border/consolidation capabilities, we believe.

EXHIBIT 40

Relevant Time Periods Show That Private Equity Returns Have Generated Outperformance Over Comparable Public Market Returns



Source: Cambridge Associates LLC Benchmark Statistics. Data as at June 30, 2018.

Is the return premium in private markets still large enough to justify the illiquidity across Credit and Equities?

As members of the KKR GMAA team have had the opportunity to work more closely with CIOs on macro and asset allocation mandates, we have been able to delve more deeply into the merits and potential risks of using longer-duration capital to improve returns by tapping into the illiquidity premium. These efforts have been particularly relevant of late in key markets where global QE has made it extremely difficult for managers to deliver on their liability payout assumptions. Not surprisingly, though, we have found that the most adept users of illiquid assets, including thoughtful insurance companies and pensions, generally follow a disciplined pacing program, and they implement a diverse, appropriately sized co-investments program to manage J-curve considerations. They also place a huge emphasis on liquidity considerations, so that they are never forced sellers.

So, if we agree that those are some of the potential guiding principles to which we should all adhere, then another key part of the debate about investing in Alternatives is whether the absolute level of the illiquidity premium makes sense for the risks being taken. There is no 'right' answer to this question we believe, but my colleague Frances Lim and I decided to dig deeper into this topic by looking at the illiquidity premium for both the private equity and private credit markets.

Historically, our work shows that illiquid investments have performed better than liquid market investments. We think this is true for a number of reasons. First, investments in the private markets are not passive investments. They are bought and actively managed as owners and operators in many instances. As we mentioned earlier, the importance of operational improvement has grown steadily over time (*Exhibit 32)*. Second, illiquid markets, by definition, are not as efficient. They also provide an embedded option on when to buy and when to sell, which we think is quite valuable relative to the traditional liquid markets. Third, there is often much better alignment between management, investors and shareholders. For example, in today's environment, the ability to have a long-term view and execute on that vision to create value, regardless of the short term fluctuations in the markets, is a competitive advantage, we believe. One only has to look at why more and more companies in the U.S. Technology sector are staying private in today's environment.

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Historically, our work shows that illiquid investments have performed better than liquid market investments.

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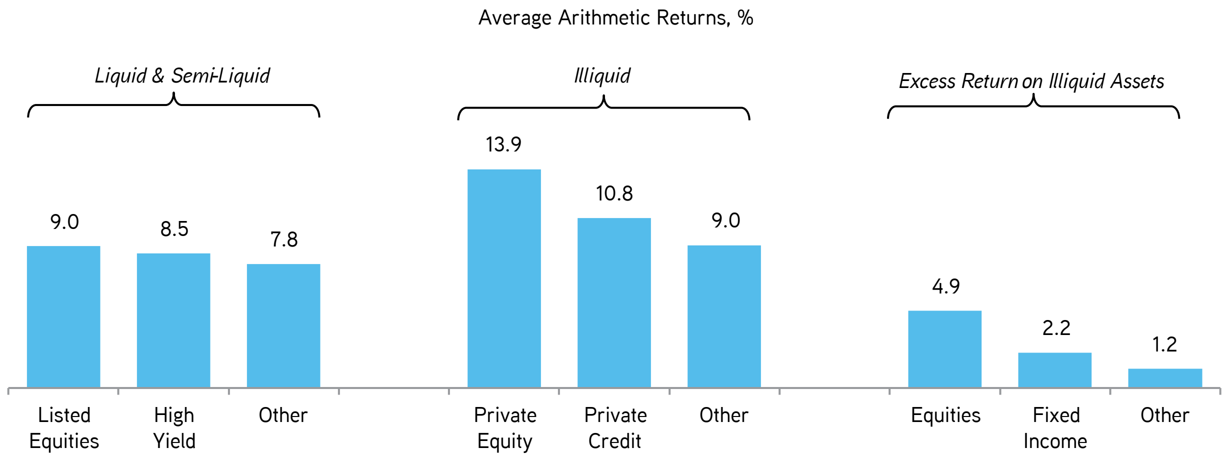
EXHIBIT 41

Historically, Private Market Asset Classes Have Outperformed Public or Liquid Traded Asset Classes



* Past performance is no guarantee of future results. Liquid Other = Hedge Funds and Commodity Futures, Swaps, Notes. Illiquid Other = Real Estate and Infrastructure. Data for 4Q88-4Q17 except Infrastructure as 4Q98 is the first quarter with data for 10 or more funds, and HFRI Fund Weighted Composite as data starts in 1Q90. 4Q88 is the first quarter with data for 10 or more Private Credit funds. Source: Bloomberg, Cambridge Associates, KKR Global Macro & Asset Allocation analysis.

So how do we do think about the illiquidity premium across asset classes? On the equity side, for example, our view is that the average outperformance of global Private Equity relative to the MSCI All Country World Index (ACWI) typically hovers, around 400-500 basis points. One can see this in *Exhibit 42*. As one might expect, the outperformance does not occur every year. In fact, we estimate that during the past 30 years, there have been 10 years when Private Equity underperformed Public Equities, with the average underperformance totaling 820 basis points — not an insignificant number for about one third of the time.

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As such, for the Private Equity industry to earn its 500 basis points or more of illiquidity premium, it must continue to evolve towards being solution providers for corporations, which encompasses greater levels of industry expertise, operational acumen, and cross-border/ consolidation capabilities, we believe.

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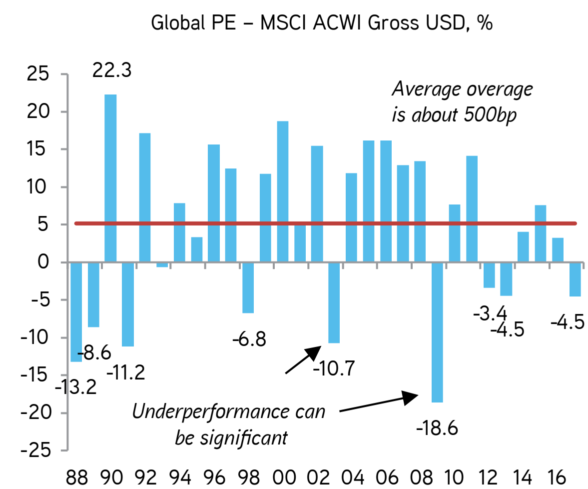
Interestingly, though, as we show in *Exhibit 43,* the periods when the liquid markets did better than Private Equity typically occurred in years with exceptionally strong public market performance. All told, during these 10 years when Private Equity 'underperformed' liquid markets, the average return for Private Equity was a full 16.1%, compared to a sizeable 24.3% for Public Equities during the same period (and 10% for U.S. Public Equities on a long-term basis).

EXHIBIT 42

Average Spread Between Private Equity and Global Listed Equities Is About 500 Basis Points



Data as at 4Q2017. MSCI ACWI = MSCI All Country World Index. Source: Cambridge Associates, MSCI, Bloomberg.

EXHIBIT 43

Periods of Private Equity Underperformance Are Usually Periods of Overall Strong Public Equity Market Performance

ANNUAL RETURNS (%)	GLOBAL PRIVATE EQUITY	MSCI AC WORLD TR GROSS USD	GLOBAL PE – MSCI ACWI GROSS USD
1988	10.8	24.0	(13.2)
1989	9.0	17.6	(8.6)
1991	8.7	19.9	(11.2)
1993	24.2	24.9	(0.7)
1998	15.2	22.0	(6.8)
2003	23.9	34.6	(10.7)
2009	16.8	35.4	(18.6)
2012	13.4	16.8	(3.4)
2013	19.0	23.4	(4.5)
2017	20.1	24.6	(4.5)
Avg	**16.1**	**24.3**	**(8.2)**

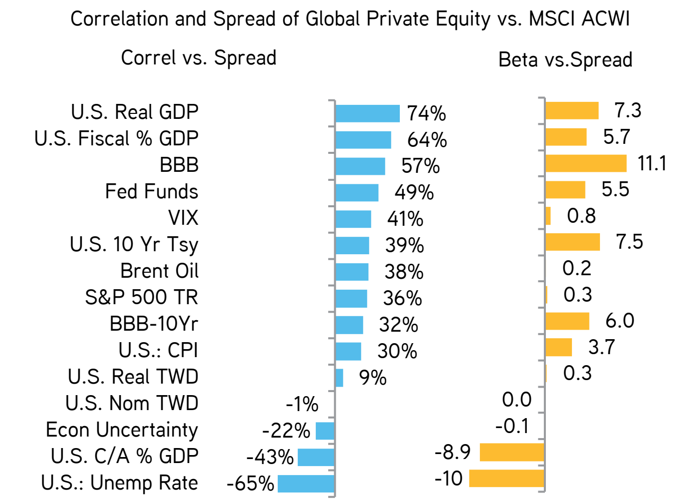
Data as at 4Q2017. MSCI ACWI = MSCI All Country World Index. Source: Cambridge Associates, MSCI, Bloomberg.

So, what macro factors influence the long-term performance of Private Equity over Public Equities? Our work shows that the long-term 'overage', or outperformance of Private Equity relative to the MSCI ACWI, is – as one might expect – positively correlated to growth factors like real GDP, equity market performance, and credit spreads. The overage is also positively correlated with interest rates. Higher rates normally reflect both a strong growth environment and more demanding funding environment, which often leads to multiple contraction. One can see the variety of influences as well as their betas in *Exhibit 44*.

My colleague Frances Lim then took the analysis a level deeper and looked for direct explanatory variables where we could create some predictive capability. She identified five factors, including U.S. real GDP growth, the U.S. Fed Funds rate, corporate BBB yields, the U.S. nominal trade weighted index, and the VIX volatility index, that help to explain about 80% of the illiquidity premium for Private Equity, we believe. One can see this in *Exhibit 45*. As one might expect, however, the overage of PE performance relative to Public Equity performance tends to be negative coming out of a recession. This fact pattern makes sense to us given significant multiple expansion that Public Equities enjoy early in the cycle as well as the relative value creation via operational improvements by Private Equity later in the cycle.

EXHIBIT 44

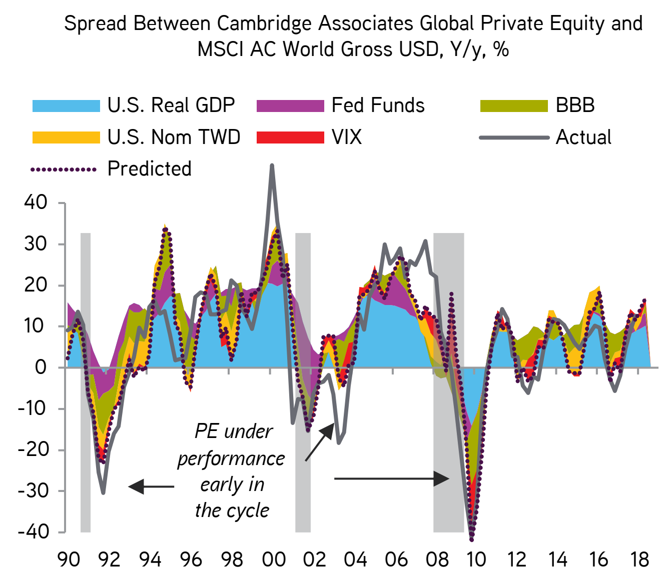
The Equity Illiquidity Premium Is Correlated to Growth and Rising Rates, but Negatively Correlated with Uncertainty



Correlations for 1Q1990 to 4Q2017. Source: Cambridge Associates, MSCI, Bloomberg, Haver Analytics.

EXHIBIT 45

Private Equity Tends to Generate More of Its Outperformance Later in the Cycle



Data as at 4Q2017. Shaded areas denote U.S. recessions. Source: Cambridge Associates, MSCI, Bloomberg, KKR Global Macro & Asset Allocation analysis.

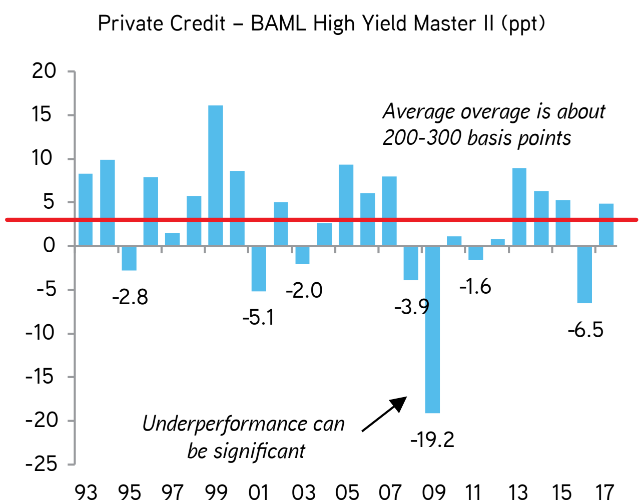
On the Credit side, many of the patterns we identified in Private Equity relative to Public Equities also hold true, though the absolute premium is smaller. Specifically, according to our work, Private Credit generally outperforms the liquid high yield market by about 200-300 basis points throughout the cycle, compared to 500 basis points or so for Private Equity relative to Public Equities. One can see this in *Exhibit 46*, though the illiquidity premium can be materially larger for certain Asset-Based Lending mandates.

However, similar to Private Equity relative to Public Equities, the outperformance is not always consistent. In fact, there are significant periods of underperformance for Private Credit relative to Liquid Credit (*Exhibit 47*). As one might expect, the periods of lagging performance are generally linked to strong capital markets performance, including liquid credit securities.

Maybe more importantly, Frances also spent time understanding the drivers of the variance in the Credit illiquidity premium. The macro factors impacting the Credit illiquidity premium were actually quite different than those identified for Private Equity. While U.S. real GDP growth remained a common factor for forecasting the overage amount and the absolute level of the illiquidity premium in both Private Credit and Private Equity, the other macro drivers were different for Private Credit. Specifically, instead of using the Fed Funds rate, the BBB yield, the VIX volatility index, and the U.S. trade weighted dollar (all four of which were used in our PE illiquidity premium model), our forecasting model for the illiquidity premium in Private Credit uses the 10-year Treasury yield, the performance of the S&P 500, U.S. CPI, and the U.S. deficit. All told, these five factors can explain 71% of the variation in the illiquidity premium.

EXHIBIT 46

Average Spread Between Private Credit and High Yield Is About 200-300 Basis Points



Data as at 4Q2017. Source: Cambridge Associates, BAML, Bloomberg.

> **"As one might expect, we think getting interest rates right is one of the most important drivers of outperformance in the macro and asset allocation arena."**

EXHIBIT 47

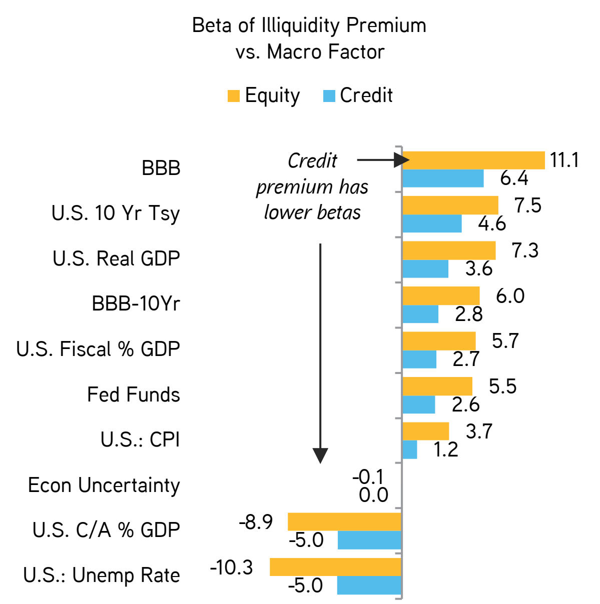
Periods of Private Credit Underperformance Are Generally Periods of Strong Credit Markets

ANNUAL RETURNS (%)	CAMBRIDGE ASSOCIATES PRIVATE CREDIT	BAML HY MASTER II	PRIVATE CREDIT – BAML HIGH YIELD MASTER II
1995	17.7	20.5	(2.8)
2001	-0.7	4.5	(5.1)
2003	26.1	28.1	(2.0)
2008	-30.3	-26.4	(3.9)
2009	38.4	57.5	(19.2)
2011	2.8	4.4	(1.6)
2016	11.0	17.5	(6.5)
Avg	**9.3**	**15.2**	**(5.9)**

Data as at 4Q2017. Source: Cambridge Associates, BAML, Bloomberg.

EXHIBIT 48

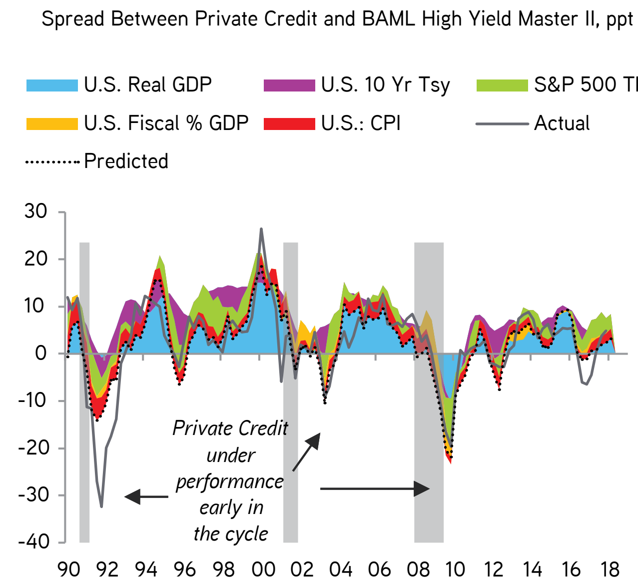
Illiquidity Premium for Credit Has a Lower Beta Than Equities



Beta of Credit illiquidity premium (spread between Private Credit and High Yield performance) and macro factors and beta of Equity illiquidity premium (spread between Private Equity and MSCI AC World performance) and macro factors. Data for 1Q1990 to 4Q2017. Source: Cambridge Associates, MSCI, Bloomberg, Haver Analytics.

EXHIBIT 49

Private Credit Also Tends to Perform Better Later in the Cycle Relative to Liquid Alternatives



Shaded areas denote U.S. recessions. Data as at 4Q2017. Source: Cambridge Associates, BAML, Bloomberg, KKR Global Macro & Asset Allocation analysis.

Not surprisingly, the correlation of the spread between Private Credit performance and Liquid High Yield performance against macro factors is actually quite similar to that of Equities both in terms of direction and magnitude. Specifically, the Credit illiquidity premium is positively correlated to growth factors and negatively correlated with the unemployment rate, current account balance, and economic uncertainty. One can see this in *Exhibit 48*.

Importantly, though, *where Private Credit and Public Equities illiquidity premiums differ is in the magnitude of their betas as the Credit illiquidity premium is lower than the Equity illiquidity premium*. We attribute this to Private Credit's position in the capital structure, which is senior to Public Equities. We also believe the beta against macro factors is lower due to the nature of underwriting where both upside and downside are more limited for Private Credit relative to Public Equities as credit underwriting is typically focused on the fixed income stream and preservation of committed capital versus more of the absolute upside in Public Equities.

So, what is our bottom line? Our work confirms the thesis that private market asset classes tend to perform better as mid-to-late cycle asset classes, which helps to boost their overall performance statistics relative to liquid markets over the life of a fund (which we view as the relevant time period). This relationship makes sense to us, given the valuation recovery liquid markets enjoy early in a cycle as well as the benefits that operational improvement provides private markets later in a cycle. The illiquidity premium is also more valuable in a low rate environment, we believe, because its contribution to the overall total return increases as expected returns decline. We also take some comfort in the fact that the illiquidity premium across both Private Credit and Public Equities does not seem to be shrinking materially, despite the continued maturity of both asset classes. Also, as we showed earlier, dry powder relative to market capitalization is actually in line with historical norms.

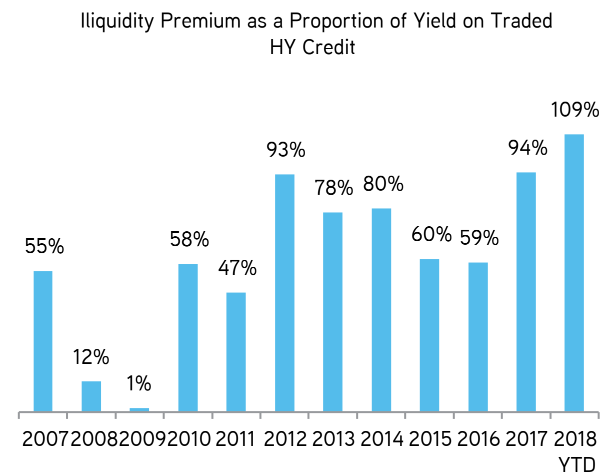
EXHIBIT 50

The Illiquidity Premium for Direct Lending Has Actually Grown in Importance Since 2016 for Loans

Data as at September 30, 2018. Source: Ares, Bloomberg.

EXHIBIT 51

A Similar Story Holds True in Other Parts of the Private Credit Market, Including Asset-Based Lending



Data as at September 30, 2018. Source: Ares, Bloomberg.

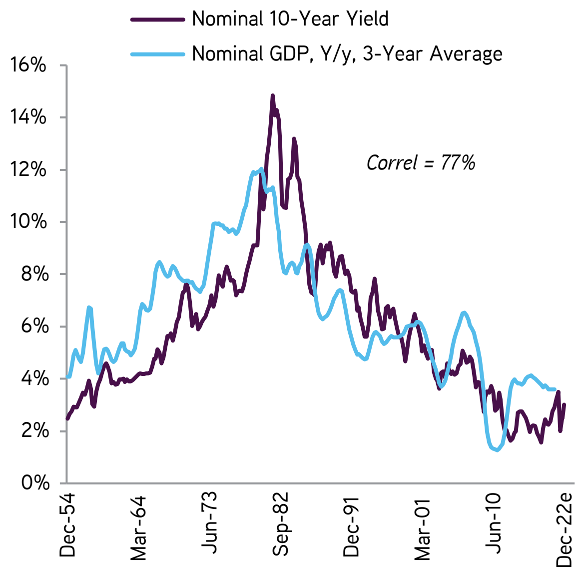
If interest rates are the key to valuation across most asset classes, what is your framework for forecasting the direction of interest rates?

As one might expect, we think getting interest rates right is one of the most important drivers of outperformance in the macro and asset allocation arena. Key to our thinking is that government bond yields form the base for price discovery in almost all other fixed income asset classes, and as such, they shape how and where investors allocate capital across the global fixed income universe, in both liquid and illiquid markets. Interest rates also impact cap rates and drive equity multiples. So, if there is one question investors need to get right at a time when quantitative easing is transitioning towards quantitative tightening, then we think it is linked to the direction of U.S. interest rates.

At its core, we view interest rate policy as being inherently linked to nominal GDP growth. One can see the tightness of the relationship in both *Exhibits 52* and *53*. So, to get interest rates right, one needs to get nominal GDP right, and to get nominal GDP right, you have to have a view on U.S. real GDP growth and U.S. inflation.

EXHIBIT 52

Long-Term Interest Rates Are Highly Correlated with Nominal GDP Growth



Data as at June 30, 2018. Source: Bureau of Economic Analysis, Federal Reserve, Haver Analytics.

"

While regimes have varied, what we think stands out is that in the U.S., interest rates have tended to run moderately below the level of nominal GDP growth as long as the Fed was not actively trying to suppress run-away inflation.

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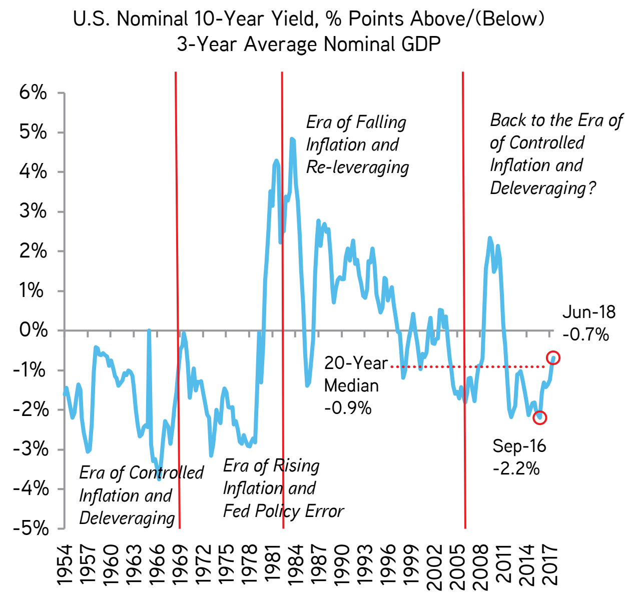
EXHIBIT 53

The Current Regime for Rates Is Approximately 50-150 Basis Points Below Nominal Trend Growth, We Believe



Data as at June 30, 2018. Source: Bureau of Economic Analysis, Federal Reserve, Haver Analytics.

EXHIBIT 54

Our Base Case for Nominal U.S. GDP Includes a Mild Pullback in 2020. On the Inflation Front, We Forecast It to Peak at 2.5% in 2018

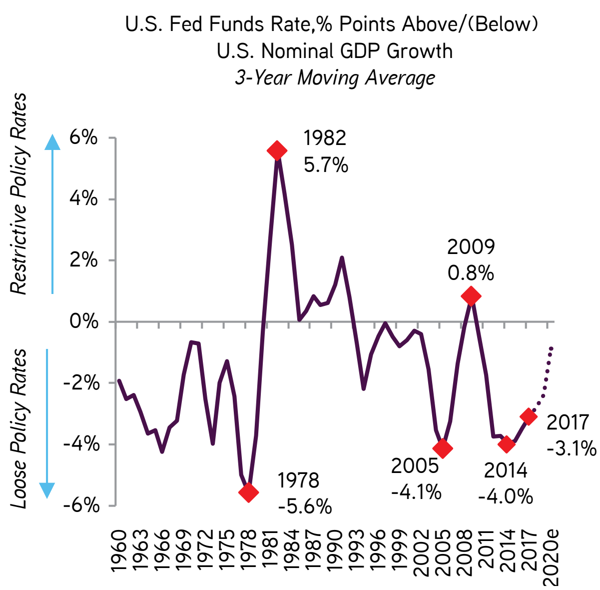
	BASE CASE		HIGH CASE		LOW CASE	
	NOMINAL GDP	INFLA-TION	NOMINAL GDP	INFLA-TION	NOMINAL GDP	INFLA-TION
2016a	2.8%	1.3%	2.8%	1.3%	2.8%	1.28%
2017a	4.1%	1.8%	4.1%	1.8%	4.1%	1.8%
2018e	5.6%	2.5%	5.9%	2.8%	4.0%	1.50%
2019e	4.2%	2.2%	5.6%	2.5%	2.8%	1.25%
2020e	1.0%	1.0%	4.5%	2.0%	-0.5%	1.00%
2021e	3.5%	1.5%	4.3%	2.0%	3.3%	1.75%
2022e	3.8%	1.8%	4.0%	2.0%	3.3%	1.75%
5-Year CAGR	**3.6%**	**1.8%**	**4.9%**	**2.3%**	**2.6%**	**1.4%**

Note: Inflation is GDP Deflator. Data as at September 30, 2018. Source: KKR Global Macro & Asset Allocation estimates.

Importantly, though, while U.S. interest rates and U.S. nominal GDP growth are highly correlated, the relationship is not static over time. *Exhibit 53* illustrates the different regimes of yields relative to nominal GDP that have existed since the 1950s. While regimes have varied, *what we think stands out is that in the U.S., interest rates have tended to run moderately below the level of nominal GDP growth as long as the Fed was not actively trying to suppress run-away inflation.* It was only during the Chairman Paul Volcker Fed era of the 1980s that rates ran notably above nominal GDP for a sustained period. Put in a more simplistic way, we view Fed policy and corresponding interest rates as a function of nominal GDP growth. When growth is too weak, then interest rates are held below nominal GDP to accelerate growth. When growth and inflation are strong, interest rates are often held above nominal GDP growth.

EXHIBIT 55

The Government Has Focused on Stimulating Nominal GDP Through Monetary Policy

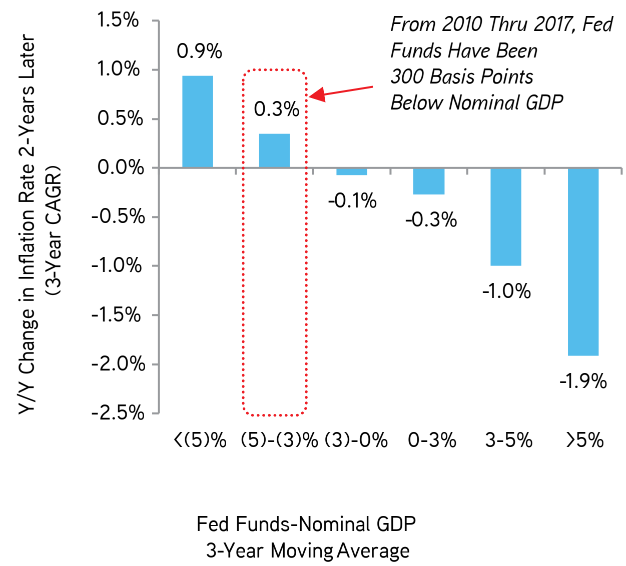


Data as at May 31, 2018. Source: Bloomberg, KKR Global Macro & Asset Allocation analysis.

"The illiquidity premium is also more valuable in a low rate environment, we believe, because its contribution to the overall total return increases as expected returns decline."

EXHIBIT 56

After the GFC, Fed Policy Was Intended to Prevent Deflation. To Hedge Against an Overshoot, We Favor Real Assets Linked to Nominal GDP

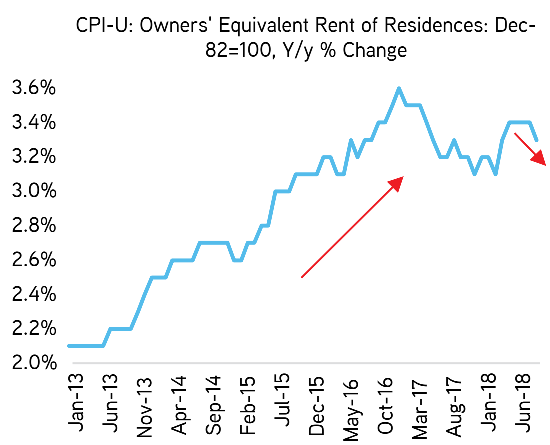


Data as at May 31, 2018. Source: KKR Global Macro & Asset Allocation analysis.

Looking ahead, our belief is that inflation will move up but not run away to the upside (i.e., we will not have a prolonged, upward surge in inflation, which is what materially dents bond yields). Key to our thinking is that the Phillips Curve is not as steep as it used to be, in our view. Employers generally have pricing power/negotiating power, though we do acknowledge that cyclical pressure on wages is likely; importantly, we agree with the Federal Reserve that the participation rate has a little more wiggle room to increase.

EXHIBIT 57

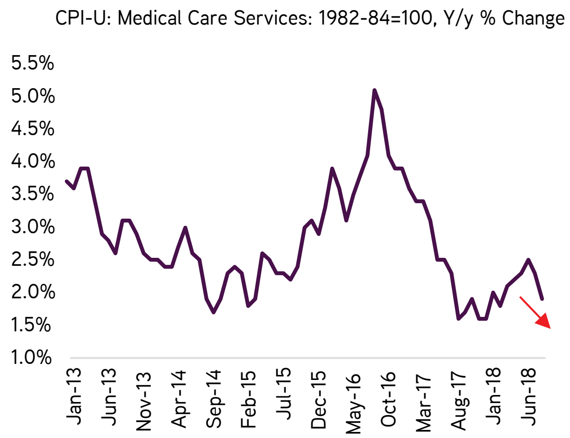
While Market Rates Have Moved Higher, Inflation Trends Have Actually Moderated Somewhat for Key Categories Such as Rents...



Data as at September 26, 2018. Source: Bureau of Labor Statistics, Haver Analytics, KKR Global Macro & Asset Allocation analysis.

EXHIBIT 58

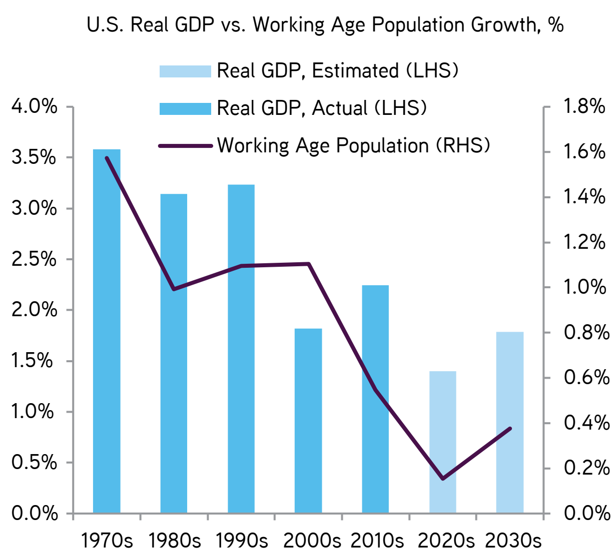
...While Healthcare Inflation Has Also Moderated in Recent Months



Data as at September 26, 2018. Source: Bureau of Labor Statistics, Haver Analytics, KKR Global Macro & Asset Allocation analysis.

EXHIBIT 59

Labor Force Growth Is Critical to GDP Growth. While the Millennial Population Will Help, the U.S. Still Faces Demographic Challenges

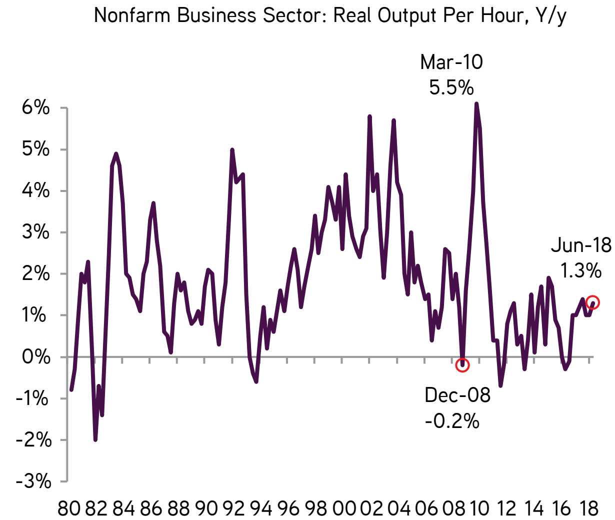


Data as at June 23, 2017. Source: United Nations, Haver Analytics.

In terms of the technical definition of the Consumer Price Index, my colleague Dave McNellis has been right to point out that the official measures include a notable combination of idiosyncratic inputs (e.g., home rental prices) as well as some regulated inputs such as health-care costs.

EXHIBIT 60

Productivity Also Matters for GDP Growth. While Improving, It Remains Below the Levels Required to Meaningfully Boost GDP Growth



Data as at June 30 2018. Source: Bureau of Labor Statistics.

As we show in *Exhibits 57* and *58*, both appear to be leveling off. So, we do not expect a sustained, near-term surprise spike in inflation reports, even if wages do increase from current levels. We also believe that U.S. real GDP will not materially overshoot on the upside, as our research continues to show that GDP will be restrained by challenging demographics and pockets of global excess capacity. Finally, with the recent surge in the U.S. dollar, our more cyclical indicators suggest the risk of a surprise bout of inflation remains minimal. As such, our base case is that rates can run in a range of approximately zero to 1.5% below the rate of nominal U.S. GDP growth.

"

So, we do not expect a sustained, near-term surprise spike in inflation reports, even if wages do increase from current levels. We also believe that U.S. real GDP will not materially overshoot on the upside, as our research continues to show that GDP will be restrained by challenging demographics and pockets of global excess capacity.

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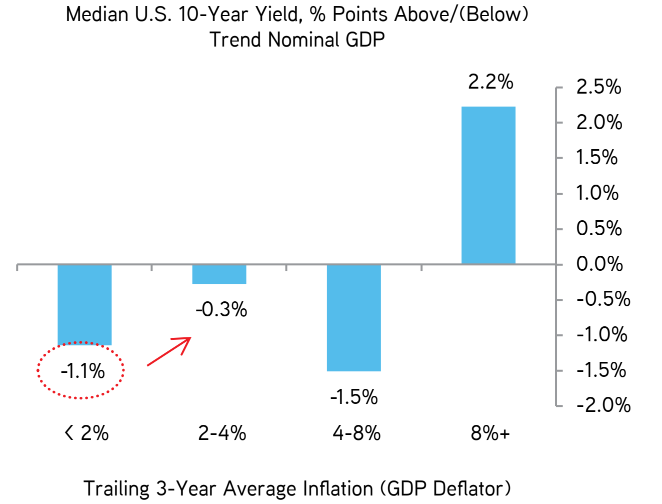
EXHIBIT 61

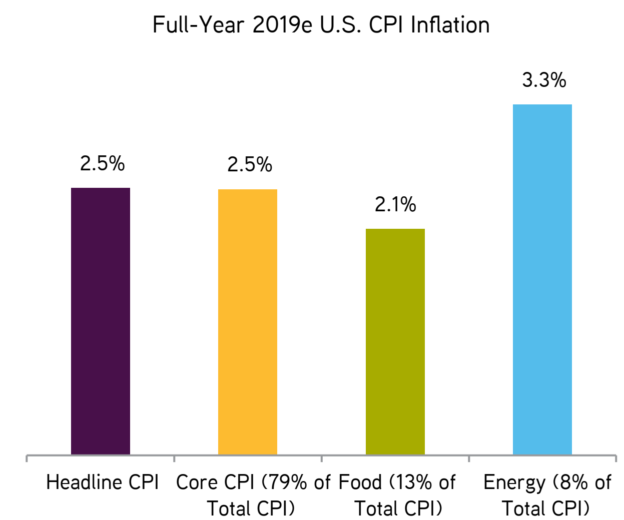
The 10-Year 'Discount' Tends to Narrow When Inflation Rises Above Two Percent



KKR GMAA analysis based on quarterly observations from 1Q15 to 2Q18. Data as of June 30, 2018. Source: Bureau of Economic Analysis, Federal Reserve, Haver Analytics, KKR Global Macro & Asset Allocation analysis.

EXHIBIT 62

We Believe Headline CPI Should Tick Downward Slightly in 2019 As a Fall in Energy Inflation Offsets a Rise in Core CPI

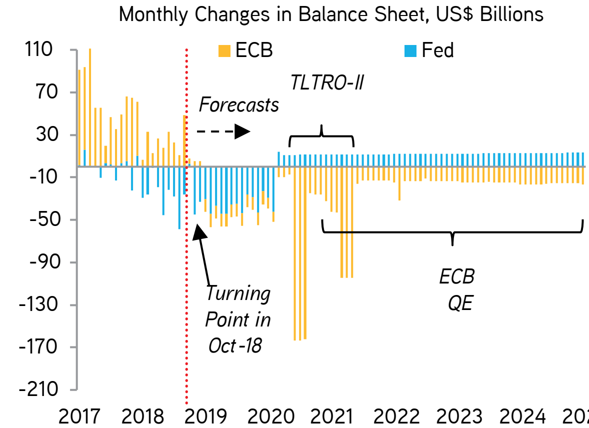


Data as at September 30, 2018. Source: Bloomberg.

Beyond the fundamentals, we also think the technical influences matter a lot. Importantly, as we show in *Exhibits 63* and *64*, we are entering a major inflection point in terms of supply-demand balance by the Federal Reserve and European Central Bank. That's the bad news, and it is likely to lead to some increase in the term premium in U.S. fixed income.

EXHIBIT 63

Quantitative Easing Is Now Being Replaced by Quantitative Tightening, Driven Largely by U.S. Measures



* Maturity of each of the four operations is fixed at four years. But we smoothed out the 'lump-sum' repayments over the calendar year for illustrative purposes. Data as at September 30, 2018. Source: KKR Global Macro & Asset Allocation analysis, Federal Reserve, European Central Bank.

EXHIBIT 64

G4 Sovereign Issuance Less Central Bank Purchases Shows that Net Issuance Inflects Notably Towards 2019

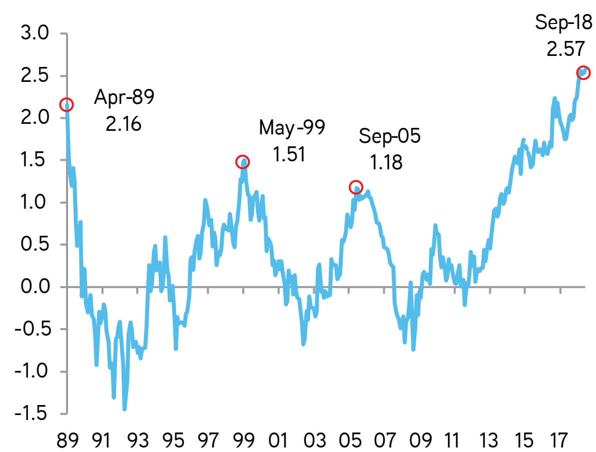
	NET ISSUANCE	Y/Y % CHANGE	CENTRAL BANK PURCHASES	Y/Y % CHANGE	NET ISSUANCE LESS QE	Y/Y % CHANGE
2011	2,446		-1,032		1,414	
2012	2,064	-16%	-508	-51%	1,556	10%
2013	1,890	-8%	-1,078	109%	812	-48%
2014	1,482	-22%	-820	-24%	663	-18%
2015	1,044	-30%	-1,093	33%	-50	-108%
2016e	964	-8%	-1,465	34%	-501	-908%
2017e	955	-1%	-1,067	-27%	-112	-78%
2018e	1,426	49%	-594	-44%	867	874%
2019e	1,560	9%	-344	-42%	1,069	23%
TOTAL	13,830		-8,001		5,717	

G4 = BoJ, BofE, Fed, Eurozone. QE = Quantitative easing. Data as at August 31, 2018. Source: National Treasuries, Morgan Stanley Research.

The good news is that we do not believe that the Fed will move quickly to sell off securities, while our conversations with central banks outside of the U.S. continue to support a very dovish outlook for global rates. This viewpoint is significant as global fixed income managers believe strongly that there is attractive relative value in U.S. Treasuries. One can see that in *Exhibit 67*. Moreover, we are close followers of Dallas Fed governor Robert Kaplan, and agree with his thesis that demographics, excess capacity in China, and rapid technological change are all likely to keep long-term rates structurally lower than traditional economic models might suggest[2].

EXHIBIT 65

U.S. Treasuries Look Attractive Relative to German Bunds at Current Levels



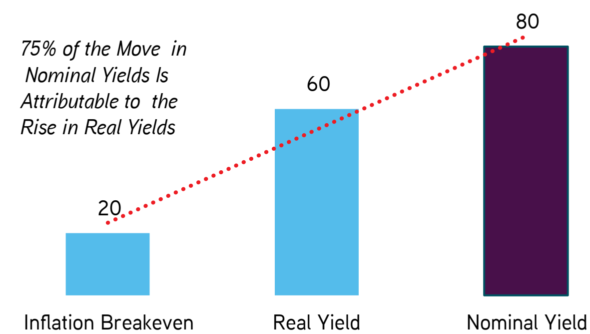
Data as at September 28, 2018. Source: Bloomberg.

> **"Beyond the fundamentals, we also think the technical influences matter a lot. Importantly, we are entering a major inflection point in terms of supply-demand balance by the Federal Reserve and European Central Bank. That's the bad news, and it is likely to lead to some increase in the term premium in U.S. fixed income."**

2 *Where We Stand: Assessment of Economic Conditions and Implications for Monetary Policy*, Robert S. Kaplan, August 21, 2018. https://www.dallasfed.org/news/speeches/kaplan/2018/rsk180821.aspx

EXHIBIT 66

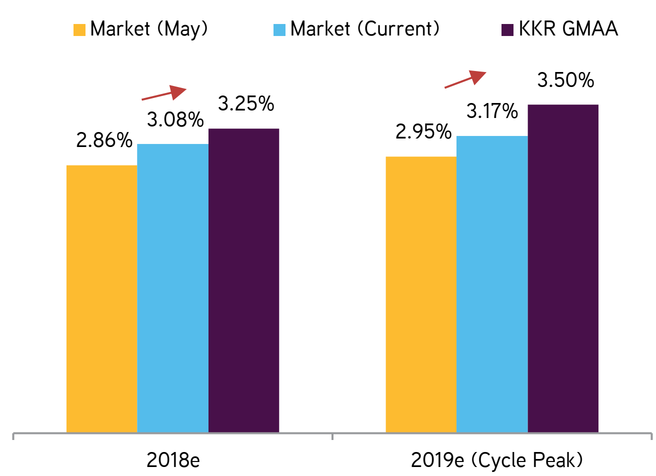
75% of the Increase in Long-Term U.S. Interest Rates in 2018 Is Linked to Real Rates Rising, Not Inflation Expectations Getting Unglued



Note: 10-Year Nominal UST Yield at 3.2% from 2.4%; 10-Year Real Yield at 1.0% from 0.4%; 10-Year Inflation Breakeven at 2.2% from 2.0%.YTD change. Data as at October 4, 2018. Source: Bloomberg.

EXHIBIT 67

We Currently See 20-30 Basis Points of Remaining Upside in the U.S. 10-Year Yields



Data as at September 26, 2018. Source: Bloomberg, KKR Global Macro & Asset Allocation analysis.

So, to summarize, our base case is that interest rates should head higher over the next few years, but not in the uncontrolled fashion that some investors now think. Key to our thinking is that inflation does not materially surprise to the upside, and as such, the long-standing relationship between nominal GDP and nominal interest rates holds. Under this scenario, we think that equity multiples will have peaked and sovereign bonds no longer perform their traditional roles as income producer and shock absorber in their portfolios. However, as we indicated in *Exhibit 1*, we still think that long-term government bonds can produce a positive nominal return for investors, albeit one that is meaningfully lower than in the past 5- and 10-year periods, respectively.

How should one think about measuring return, risk, and liquidity in a portfolio that incorporates illiquid assets into the mix?

As we have built out the Global Macro & Asset Allocation, Risk, and Balance Sheet team at KKR, we have drawn on a variety of resources from across the investment management industry in formulating the right mix of liquid and illiquid assets in a portfolio. In particular, we have levered many of the best practices from the liquid markets to help portfolio managers within our private markets operations at KKR build sound and durable portfolios across our business units. We have also implemented many of these same techniques in our strategic partnership business, as CIOs are demanding innovative ways to deliver returns via differentiated opportunities across both public and private markets. Thus, while we typically lean primarily into illiquid asset classes for their attractive illiquidity premia, we do also make tactical allocations to more liquid asset classes, (such as Liquid Credit, Liquid Equities, Total Return Swaps, etc.) with the ultimate goal of building integrated portfolios that are balanced and can perform well through various market environments and economic cycles.

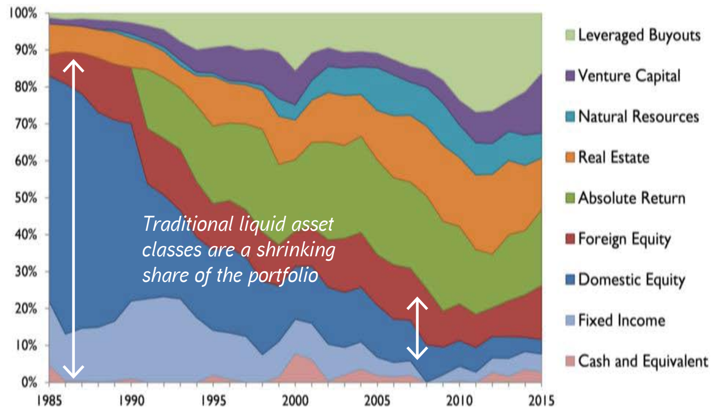
Although portfolio managers and CIOs who run these programs need flexibility to adjust their asset allocation and time to allow their convictions to play out, consensus around use of non-traditional strategies to try and earn outsized, idiosyncratic returns has grown notably in recent years since our arrival at KKR. This was apparent in our 2018 Insurance Asset Management Survey where more than half of the CIOs with whom we spoke – a group that we think collectively represents over 40% of total insurance assets – intends to increase their allocations to Private Equity and Private Credit during the next 12 months. Notably, more than one-third of these CIOs were planning to fund these increases primarily from cash reserves and Public Equities to enhance income-based returns. In addition, nearly 30% were planning to raise their allocations to Private Equity as returns are attractive enough to offset increased capital charges associated with equities.

Looking back over time, however, really provides some perspective on the growing use of Alternatives, particularly in the endowment community. In 1985, for example, over four-fifths of the Yale Endowment was committed to U.S. stocks, bonds, and cash. Today, public domestic securities account for approximately one-tenth of the portfolio, while foreign equity, private equity, absolute return strategies, and real assets represent nearly nine-tenths of the Endowment[3].

3 Source: Yale Endowment.

EXHIBIT 68

Yale Has Dramatically Reduced the Endowment's Dependence on Traditional Liquid Asset Classes



Data as at December 31, 2015. Source: Yale Endowment.

In our experience working with clients that are expanding into Alternatives, we have developed a few 'Rules of the Road' that would make sense for CIOs to ask of their managers as well as of themselves. First, somewhat similar to marriage, investing into Alternatives is not a decision that is to be taken lightly. All kidding aside, understanding what you are buying as well as using a measured, diversified approach to legging into Alternatives are critical variables. So, too, is the entry mechanism. In fact, after studying many decades of KKR's fund performance as well as some of the quantitative work KKR has done around deployment patterns in Saleena Goel's CPS team, we found that fund managers that maintained discipline around pacing outperformed. This point may be a subtle one, but it is an important one. Not surprisingly, a similar story holds true for clients that built a steady game plan for increasing exposure, versus making a concentrated bet around vintage risks. Given that the U.S. stock market is now amidst the longest bull market in history, the importance of this insight cannot be overstated, in our view.

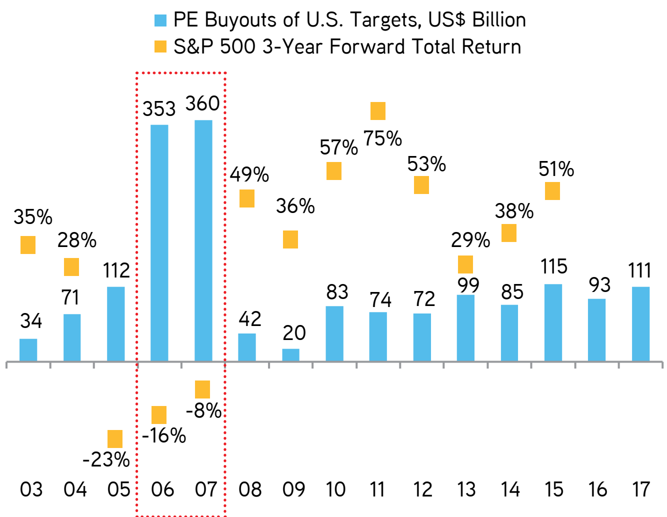
"

If there is a common thread amongst our four long duration, macro-oriented investment themes that we believe can help investors generate significant outperformance during the next 5- to 10-years, it is to Buy Complexity and Sell Simplicity.

"

EXHIBIT 69

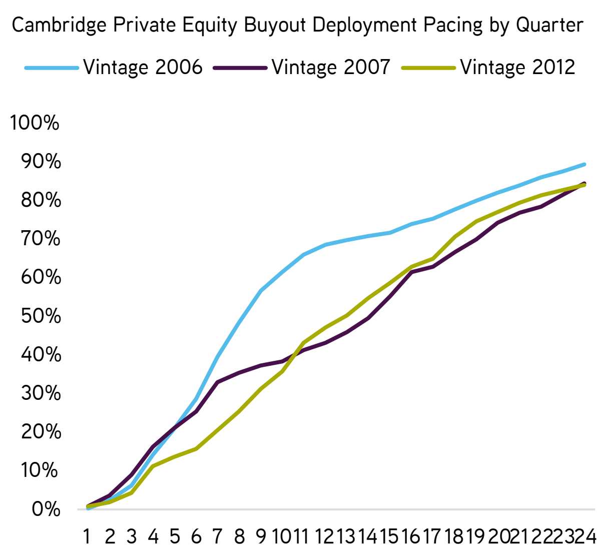
As the 2006-2007 Period Shows, the Timing of Capital Deployment Remains Key. Our Work Shows Consistency Is the Best Policy



Data as at 3Q18. Source: Bloomberg.

EXHIBIT 70

We Analyze Not Only the Pace of Deployment...

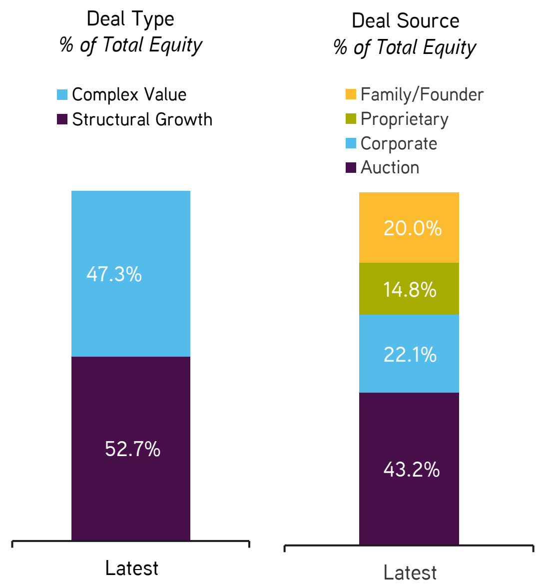


Data as at 2Q2018. Source: Cambridge Associates.

Second, understanding correlations within a fund and across funds (both liquid and illiquid) is extremely important. Most portfolio managers track correlations of individual positions across liquid market asset classes. Importantly, though, these correlations are not static, and in some cases can change and even invert.

EXHIBIT 71

...But Also the Balance Between Structural Growth and Complex Value



Data from KKR Europe Fund IV and based on cost. Data as at 2Q2018. Source: KKR Global Macro & Asset Allocation analysis.

As a result, it is critical to continually update one's perspective on the underlying positions in a single fund, or even the compilation of different funds and their underlying positions. Investing in a private market asset class should not be any different, in our view, and as such, we incorporate this reality into all of our private side risk analytics.

Maybe more important, though, is that — as asset allocators compile portfolios that transverse both liquid and illiquid portfolios – they have an integrated system that allows them to understand how the aggregate portfolio will perform. From what we can tell, many investors tend to focus either on the liquid portfolios or the illiquid portfolios in isolation. We think that the opportunity is to integrate these systems into one seamless analytical dashboard for risk management, and as such, it is a high priority for us when we are working with clients on better understanding the underlying traits of their overall plans.

> **"Understanding what you are buying as well as using a measured, diversified approach to legging into Alternatives are critical variables. So too is the entry mechanism."**

EXHIBIT 72

We Aim to Maximize the Expected Return per Unit of Risk in our Multi-Asset Class Portfolios Based on Both Historical Return and Target Return Scenarios Across Both Liquid and Illiquid Markets

Cross Asset Class Correlations

	Cash	Global Govt Bonds	IG Bonds	Inflation Linked Bonds	Direct Lending	Liquid Loans	US High Yield	EM Bonds	ACWI	US Equites	EM Hedged Equities	Hedge Funds	PE	Special Sits	Infra-structure	En-ergy Up-stream	Real Estate	GSCI
Cash	100%	27%	-3%	6%	-6%	-9%	-7%	3%	-12%	0%	0%	20%	6%	11%	31%	10%	12%	12%
Global Govt Bonds	27%	100%	49%	58%	-35%	-44%	-9%	0%	-52%	-20%	-45%	-19%	-27%	-28%	-23%	-27%	-21%	-30%
IG Bonds	-3%	49%	100%	63%	33%	38%	50%	40%	29%	15%	20%	16%	7%	22%	16%	-1%	-3%	8%
Inflation Linked Bonds	6%	58%	63%	100%	6%	15%	19%	31%	-2%	-3%	4%	2%	1%	3%	13%	0%	5%	12%
Direct Lending	-6%	-35%	33%	6%	100%	78%	71%	53%	86%	70%	71%	72%	78%	79%	50%	45%	38%	36%
Liquid Loans	-9%	-44%	38%	15%	78%	100%	85%	49%	62%	51%	53%	56%	47%	71%	30%	36%	22%	48%
US High Yield	-7%	-9%	50%	19%	71%	85%	100%	59%	74%	65%	66%	66%	44%	76%	36%	31%	12%	17%
EM Bonds	3%	0%	40%	31%	53%	49%	59%	100%	64%	51%	65%	68%	40%	58%	43%	28%	5%	22%
ACWI	-12%	-52%	29%	-2%	86%	62%	74%	64%	100%	96%	87%	92%	79%	77%	60%	49%	42%	41%
US Equites	0%	-20%	15%	-3%	70%	51%	65%	51%	96%	100%	80%	77%	69%	60%	52%	25%	29%	6%
EM Hedged Equities	0%	-45%	20%	4%	71%	53%	66%	65%	87%	80%	100%	87%	66%	67%	59%	40%	29%	31%
Hedge Funds	20%	-19%	16%	2%	72%	56%	66%	68%	92%	77%	87%	100%	64%	82%	56%	37%	16%	21%
PE	6%	-27%	7%	1%	78%	47%	44%	40%	79%	69%	66%	64%	100%	57%	70%	47%	61%	25%
Special Sits	11%	-28%	22%	3%	79%	71%	76%	58%	77%	60%	67%	82%	57%	100%	48%	48%	24%	30%
Infrastructure	31%	-23%	16%	13%	50%	30%	36%	43%	60%	52%	59%	56%	70%	48%	100%	35%	66%	36%
Energy Upstream	10%	-27%	-1%	0%	45%	36%	31%	28%	49%	25%	40%	37%	47%	48%	35%	100%	43%	53%
Real Estate	12%	-21%	-3%	5%	38%	22%	12%	5%	42%	29%	29%	16%	61%	24%	66%	43%	100%	21%
GSCI	12%	-30%	8%	12%	36%	48%	17%	22%	41%	6%	31%	21%	25%	30%	36%	53%	21%	100%

Data as at 1990 thru 2017 on a quarterly basis. Source: Cambridge Associates. MSCI, Bloomberg.

Importantly, as returns across asset classes have fallen, the dispersion of expected returns across asset classes has narrowed. This reality has encouraged us to put even more emphasis on sizing the various opportunity sets we evaluate. As a result, we are increasingly working harder to build portfolios of funds and co-investments that are not overly concentrated to one macro factor, theme, or capital markets assumption. Said differently, just analyzing traditional sector allocations is not adequate for gauging the underlying risk of one's portfolios. We also aim to assess forward-looking factors that should be considered, not just historical ones that now may be less relevant. So, when we run multi-asset portfolio optimizations at KKR, we typically seek to maximize the expected return per unit of risk of our allocations based on both historical return *and* target return scenarios under various constraints (e.g., expected risk/return profile of allocation desired by investor, target cash yields, volatility constraints, liability profile, etc.)

Third, we acknowledge that there is a significant lag in obtaining performance statistics for private market portfolios. Unlike listed and traded securities, the lag is generally between six- to-eight weeks after the quarter end, and on a quarterly basis at best. As a result, as the private market portfolio grows, an asset allocator must use proxies to understand exposures and risks holistically across the *entire* portfolio, including both private and public positions. As one might suspect, there is no perfect way to perform this exercise, and we fall back on our expected return framework for estimating returns. Ultimately, private market returns are a function of their liquid market counterparts *with* an illiquidity premium. Thus, using this framework, portfolio construction across liquid and illiquid markets is not too dissimilar.

For the private markets performance index proxy approach, there are various indexes one can use to calculate alternative investment performance, such as Cambridge Associates, Preqin, etc. For the public markets proxy approach, we typically suggest using as proxies portfolios of comparable public companies. At KKR, we spend a significant amount of time identifying the public companies that are most likely to capture as closely as possible the macro risk factor exposures of our portfolio companies and we typically leverage-adjust these public marks to account for the differences in leverage between our portfolio companies and comparable public companies.

"Importantly, as returns across asset classes have fallen, the dispersion of expected returns across asset classes has narrowed. This reality has encouraged us to put even more emphasis on sizing the various opportunity sets we evaluate."

There are pros and cons to both approaches:

- Using private markets performance indexes will better capture the actual volatility an asset allocator will see in her/his portfolio in most market environments, but can sometimes understate the intrinsic correlations with traditional asset classes. Private markets indexes are also lagged and often restated. Furthermore, benchmarks often reflect more seasoned portfolios, which can sometimes be misleading.

- Using public market proxies can do a slightly better job of capturing the intrinsic correlations with other asset classes, but will overestimate the actual volatility in marks an investor will experience in her/his portfolio. Although liquid market data is real time, CIOs and CROs must constantly remind themselves that the data is not actual, and as such, proxies can diverge meaningfully from the underlying actual private investments. There are also instances where appropriate liquid market comparables are not available, such as in the Indonesia technology example cited above in *Exhibit 35*.

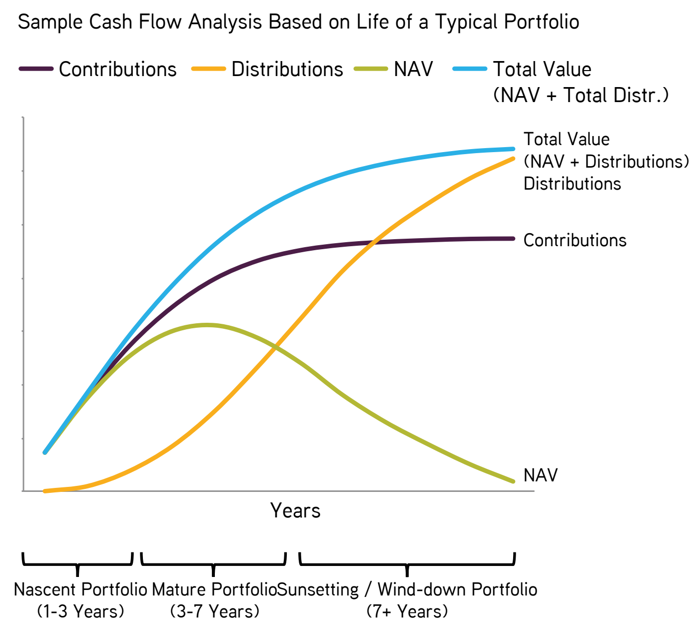
Our bottom line: What the right proxy should be really depends on the use case. In most instances at KKR, we typically use private markets proxies for asset allocation decisions for multi-asset portfolios, but we will use public markets proxies for fund-level portfolio construction decisions, particularly as we think about the pro-forma impact of potential new deals on the risk profile of a fund and cross-portfolio correlations.

"In summary, our message is that, while private market investing can produce attractive returns, there are many potential pitfalls along the way. At a minimum, pacing matters at both the fund and asset class level. Understanding correlations not only across private funds but also the relationships between all funds in a portfolio, including both public and private ones, is increasingly important, as allocators of capital try to form holistic views of their risk profiles."

Maintaining ample liquidity as well as funding considerations when one is ramping a private market program are also important inputs to our 'Rules of the Road' framework. Simply stated, the key is to build a robust private markets investment program where cash drags and upfront capital calls do not destabilize the existing plan. Of late, we have spent an increasing amount of time with insurance firms and other publicly traded entities in financial services working on innovative ways to create exposure in private markets without being over-concentrated or taking vintage risks – and not have idle cash dent returns. Thoughtful portfolio construction of PE fund types as well as innovative transition management programs can clearly help boost returns, but other techniques, including the use of co-investments and other seasoned assets, can help too. As a result, Saleena Goel and our CPS team have been able to create private market programs that have clients out of their J-curve headwinds within 6-18 months, in many instances.

EXHIBIT 73

Private Equity Cash Flows and Performance Are Driven by Size and Timing of Capital Calls as Well as Distributions



Capital is called down gradually over time, as underlying private equity funds make capital calls. Importantly, unfunded commitments begin to decline. With effective portfolio construction and vintage year diversification, capital calls are likely to occur in a smoother pattern. Furthermore, as distributions begin to ramp up, they can be used to fund capital calls.

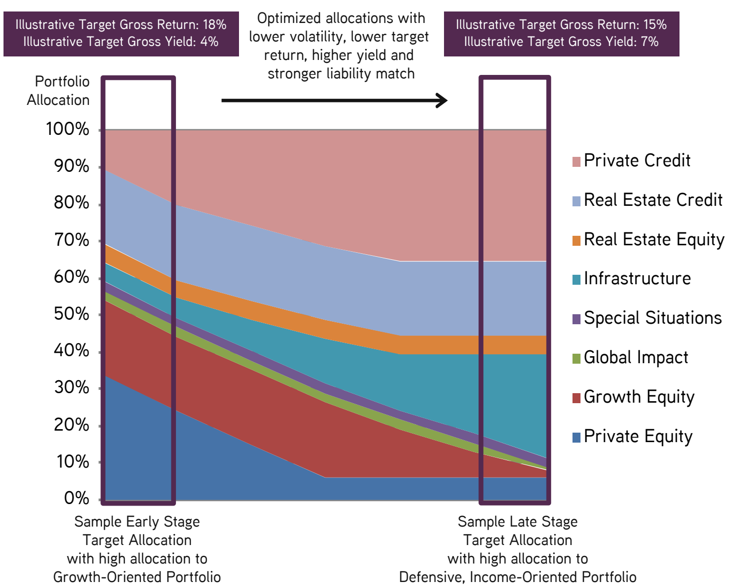
The above illustrations are for discussion purposes only. There is no assurance that the patterns described above will be achieved in any KKR or CPS portfolio, and may be significantly different than those shown here. Return on unfunded assumes unfunded portion of Fund Commitment is invested at the respective return rates. Data as at October 2018. Source: KKR Customized Portfolio Solutions.

In summary, our message is that, while private market investing can produce attractive returns, there are many potential pitfalls along the way. At a minimum, pacing matters at both the fund and asset class level. Understanding correlations not only across private funds but also the relationships between all funds in a portfolio, including both public and private ones, is increasingly important, as allocators of capital try to form holistic views of their risk profiles. Measuring performance to get an accurate snapshot of current valuation marks can also be complicated, and as such, it requires a more thoughtful approach. Selecting the right entry mechanism/partner is paramount as well. Overall, as we have detailed above, we have migrated towards an integrated approach to portfolio construction that harnesses what we believe are the best attributes of both private and public markets.

EXHIBIT 74

In Certain Instances Asset Allocations Can Shift Over Time From a Growth–Oriented Portfolio to a More Defensive, Liability Driven Investment Portfolio

Example of a Liability-Driven Private Markets Allocation Schedule



Data as at September 30, 2018. Source: KKR Global Macro, Balance Sheet and Risk Group portfolio optimization based on asset class returns provided by Cambridge Associates, HFRI, FTSE and Barclays.

Section II: Conclusion

Without question, the current period is one of the most complicated times that we can remember as top-down, macro investors, and as such, we are not surprised that the steady drumbeat of questions around what it all means for portfolios has increased materially in recent quarters. To this end, we have tried to use this article to address many of the most frequent questions that we hear from clients who use a rigorous, top-down approach to asset allocation.

To be sure, we have not covered all the topics that we have researched of late (or those that we would like to address), but we do have high conviction that:

- **Given our strong belief that forward returns are likely to be much lower, we think that portfolios need to be properly restructured for the new environment that we envision**, and it likely involves owning more alternative assets and less government bonds. This viewpoint is particularly relevant to allocators that have annual fixed payout schedules, including many pensions and endowments. Also, as we describe in detail in this article, we believe strongly that there are several top-down macro themes that can – if implemented properly – add significant alpha to one's portfolio.

- **Private Equity will likely outperform Public Equities at this point in the cycle**. Without question, we believe that operational improvement will become of paramount importance, as quantitative easing (QE) transitions towards quantitative tightening (QT). Maybe more important, though, is that almost more than with any other asset class (except maybe Venture Capital and Natural Resources), manager selection is also critical to not only driving outsized returns in Private Equity but to also limiting downside risks, including impairment of capital.

- **In today's low rate environment we remain quite constructive on the illiquidity premium and what it means for overall returns if this premium is harnessed properly**. In particular, the value of a 200-500 basis point illiquidity premium — in a world where the absolute return for stocks and bonds is less than six percent and four percent, respectively — is as high as it has been in decades, we believe.

- **We do think long-term rates are headed higher in the near term, but we do not think that they will increase in an unmanageable way**. From an asset allocation standpoint, we are underweight duration, and we favor as much upfront yield as one can find in a thoughtful risk-adjusted manner. Consistent with this view, Real Assets is a notable overweight in our target asset allocation.

- **As investors increase their allocations towards some combination of public *and* private investments**, we think that there is an important set of 'Rules of the Road' that must be followed. Pacing, correlations, volatility, and liquidity all matter to ensure a smooth transition.

While we feel confident about the frameworks that we have laid out for investors, our final point is that flexibility remains of paramount importance. Geopolitical tensions, including heightened trade disputes, are not likely to abate soon. At the core of these debates are important questions about income inequality and global supply chains. Also, technological innovation is changing traditional business models at an unprecedented rate – one that is likely to lead to a greater bifurcation between winners and losers in the global economy than in the past. Given these macroeconomic and geopolitical crosswinds, we think that investors must continue to adjust their approach to leverage not only the macro and asset allocation tools that have worked in the past but also incorporate new tools that are currently being developed, particularly in areas such as portfolio construction, new product innovation, and data analytics.

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