Patient Capital: Challenges and Opportunities in a Low Return World

Framing the Issue: Slow Growth Angst

The slow growth environment will continue as lackluster demand shows few signs of abating. Concern over future growth will, in and of itself, impede growth further as consumers spend less and companies are hesitant to invest.

Populist Roulette

Anger over stagnant-to-falling real incomes has manifested into populist political movements globally. Concerns over what populist political candidates would do in office adds further uncertainty to the slow growth environment.
EVERYONE’S IN THE POOL

Developed Market Central Bank Policy Rates – %

Emerging Market Central Bank Policy Rates – %

Source: Northern Trust, Bloomberg. Weekly data through 9/30/16.

ASYMMETRY? COSTS OF ULTRA-LOW RATES

Recent cost/benefit analyses of ultra-accommodative interest rates are inconclusive – as costs rise and benefits are less apparent. Central bankers would like to exit, but the less risky (more likely) approach is more of the same.

FED MONITOR: CURRENT FORECASTS (VS. PREVIOUS)

Slow growth and lack of inflationary pressures will keep interest rates low over the five-year horizon.

The markets have priced in the economic challenges, but do not yet fully appreciate the effect of low rates globally.

**FIXED INCOME: INTEREST RATE EXPECTATIONS**

We remain lower for longer. As market expectations came down in the wake of Brexit, our expectations have been pushed down further.

**GLOBAL EQUITIES VALUATION SUMMARY**

**P/E MULTIPLES & S&P 500 RETURNS**

Variation in P/E multiples on the S&P 500 explain just 5% of the variation of subsequent 12 month index returns.


\[ R^2 = 0.0526 \]
LONGER TERM, VALUATION MATTERS

FRAMING THE CHALLENGE: LOWER FOR EVEN LONGER

Global equity returns are expected to make slow progress in choppy market waters while global interest rates remain anchored at low levels over the next five years.

EFFICIENT FRONTIERS (2013 – 2016)

Lower expected returns for Risk Assets are reducing the slope of the efficient frontier
A BIT OF GOOD NEWS? STUCK-FLATION

The combination of supply/demand dynamics (low demand, "enough" supply) and low future inflation expectations will make it difficult for central bankers to dislodge "stuck" inflation over the five year horizon.

LOWER FUTURE EQUITY RETURNS; SIMILAR REAL RETURNS?

Expected nominal returns are below historical average, but so too is expected inflation.

Historical Forecasted

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<th>Global Equity Returns</th>
<th>Inflation</th>
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Expected nominal returns are below historical average, but so too is expected inflation. Expected nominal returns are below historical average, but so too is expected inflation. Expected nominal returns are below historical average, but so too is expected inflation. Expected nominal returns are below historical average, but so too is expected inflation.

OUR CHALLENGE: ASSUMING MORE RISK TO ACHIEVE SAME RETURN

Achieving a consistent return today compared to 20 years ago requires more risk and complexity.
ASSUMING MORE RISK TO ACHIEVE SAME RETURN

Achieving a consistent return today compared to 20 years ago requires more risk and complexity.

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<th>Risk (Standard Deviation)</th>
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<td>13.0%</td>
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<td></td>
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<td>16.0%</td>
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SEPARATE LONG-TERM SIGNAL FROM SHORT-TERM NOISE

What we observe can be divided into:

What We See

Signal

Noise
SIGNAL FROM NOISE – US MARKET FACTOR
(1927-2015)

Source: Ken French Data Library. Data through December 2015. The graph shows calendar year factor returns. The average return (arithmetic) and volatility (standard deviation) are calculated from monthly returns. Past performance is not indicative of or a guarantee of future results which will fluctuate as market and economic conditions change.

Average Return (signal): 7.7%
Volatility (noise): 18.7%

- It takes 23 Years worth of market factor returns to distinguish a statistically significant return premium.

NOISE EXACERBATES BEHAVIORAL BIAS
Investors often react to short-term noise, but should focus on long-term signal.

“Newsless” Headlines (i.e. no new information, but a lot of noise)

“Tech Stocks: Everyone Is Getting Rich! Here’s How to Get Your Share”
Money magazine, May 1999 cover
NASDAQ 100 returns -7% annualized over next 5 years
Recession bias / Illusion of control bias

“Worst Crisis Since 30’s, With No End Yet in Sight”
The Wall Street Journal, September 18, 2008
S&P 500 returns +11% annualized over next 5 years
Recession bias / Hindsight bias / Loss aversion bias

CONTROL YOURSELF!
Short-term noise exacerbates behavioral bias

Avoid Illusion of Control Bias
Definition: The tendency to overestimate one’s ability to control events
Example
You believe you can consistently pick stocks or time markets when returns are in fact largely random (noise).

Avoid Recency Bias
Definition: The tendency to overweight the importance of recent observations (noise) relative to the full set of observations and information (signal).
Example
You sold out of emerging markets and natural resource stocks at the beginning of 2016 because they performed poorly in 2015.
GETTING YOUR FAIR SHARE: THE HIGH COST OF MISSING OUT

OTHER WEAPON: DIVERSIFICATION

Traditional risk premiums are the foundation of capital markets, but other sources of return are available to investors:

- Alpha (Skill-based)
- Illiquidity Premiums (Private Assets)
- Alternative Risk Premiums (Value & Carry; Momentum & Trend; Insurance Premiums)
- Traditional Risk Premiums (Global Equity, Term & Credit Risk)

Systematic to Capital Markets
Idiosyncratic to Managers

THE LUXURY OF A LONG TERM TIME HORIZON

Volatility is not linear.
SELECTIVE SCREENING FOR ACTIVE MANAGERS

Key Principles:

True alpha is rare.

Combine robust alpha (alpha t-stats) with selectivity (100% - R²) to separate top performing managers with true alpha (true skill) from top performing managers with random alpha (luck).

Focus here to find true alpha

Average alpha is negative

Alpha is largely random

Factor-adjust alphas for risk, and solve for randomness (luck).

PERCENT OF ACTIVE EQUITY FUNDS THAT OUTPERFORMED THE INDEX

Five Years to December 2015

Source: S&P Dow Jones Indices LLC.

Sample includes funds available as of December 31, 2010 (5 years of performance data). Funds are categorized according to LIPPER fund classification codes and are matched to their respective benchmarks at the beginning of the period. Survivors are funds that were still in existence as of December 2015. Non-survivors include funds that were either liquidated or merged. Outperforming funds are those whose cumulative return over the period exceeded that of their respective benchmark. All fund returns are net of fees and expenses.

PERCENT OF ACTIVE EQUITY FUNDS THAT OUTPERFORMED THE INDEX

Ten Years to December 2015

Source: S&P Dow Jones Indices LLC.

Sample includes funds available as of December 31, 2005 (10 years of performance data). Funds are categorized according to LIPPER fund classification codes and are matched to their respective benchmarks at the beginning of the period. Survivors are funds that were still in existence as of December 2015. Non-survivors include funds that were either liquidated or merged. Outperforming funds are those whose cumulative return over the period exceeded that of their respective benchmark. All fund returns are net of fees and expenses.
ASSESS YOUR CONFIDENCE LEVEL AND RESPECT THE EVIDENCE

Market Factor
Sharpe, "Capital Asset Prices," Journal of Finance (1964)

Size & Value Factors

SIZE, VALUE, MOMENTUM AND PROFITABILITY
Time Period: 1927 – 2015

Average Premium 7.72% 2.64% 4.58% 8.23% 2.94%

Standard Deviation 18.71% 11.19% 12.25% 16.43% 7.38%

Correlation to Market Premium 1.00 0.32 0.23 -0.34 -0.21

SIZE, VALUE, MOMENTUM AND PROFITABILITY

Percentage of Rolling Periods that are Positive


US FACTOR PREMIUMS – LONG TERM RESULTS

Percentage of Rolling Periods that are Positive

SIZE AND VALUE EFFECTS GLOBALLY

Size and value effects are strong globally


Past performance is not indicative of or a guarantee of future results which will fluctuate as market and economic conditions change.

YOUR STRUCTURAL ADVANTAGE

Diversification Benefits

Accredited/Qualified Frontier

Higher portfolio return / lower portfolio risk

Standard Frontier (stocks and bonds)

Accredited Frontier add unique and different sources of return to stocks and bonds:
• Illiquidity premium
• Alternative risk premium
• Less correlated private asset returns
• Skill-based returns (pure alpha)

TAKE ADVANTAGE OF YOUR STRUCTURE AND TIME HORIZON:
CAPTURE AN ILLIQUIDITY PREMIUM WITH PRIVATE EQUITY

Harris, Jenkinson, Kaplan and Stucke, "Private Equity "Private Equity Performance: What Do We Know?" Journal of Finance (2014)

<table>
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<th>Year</th>
<th>Average PME</th>
<th>Average TVPI</th>
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Average PME 1.22
Average TVPI 1.97
Average IRR 14.20
MANAGER SELECTION AND QUARTILE PERSISTENCE

Harris, Jenkinson, Kaplan and Stucker, “Has Persistence Persisted in Private Equity?”

Bottom Buyout Managers Show Performance Persistence
(all quartiles beat public equity)

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<tr>
<th>Quartile</th>
<th>Current PME</th>
<th>Quartile 1</th>
<th>Quartile 2</th>
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<td>22.0%</td>
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Top and Bottom Venture Managers Show Performance Persistence

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<td>20.4%</td>
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<td>Current</td>
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<td>1.68</td>
<td>1.07</td>
<td>0.96</td>
<td>0.90</td>
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GET STARTED: PACE COMMITMENTS AND SEEK VINTAGE YEAR DIVERSIFICATION

A good rule of thumb: commit half the target every other year

Source: Northern Trust Research

THE CHALLENGE: MOST HEDGE FUNDS ARE NOT DIVERSIFYING

Rolling 36-month hedge fund correlation to global equity

Source: Morningstar. Hedge funds are represented by the HFRI Fund-Weighted Composite Index. Global equity is the MSCI ACWI. Data through March 2016.
WHAT ABOUT HEDGE FUNDS?

THE CHALLENGE: MOST HEDGE FUNDS DO NOT DELIVER ALPHA

Rolling 36-month hedge fund alpha


Past correlations between asset classes is not indicative of or a guarantee of future asset class correlations which will fluctuate as market and economic conditions change.

BE HIGHLY SELECTIVE IN MANAGER SELECTION

- **Traditional Stock/Bond Portfolios**
  - Global Market
  - Emerging Market
  - Global Macro
  - Global Credit

- **Common Hedge Fund Exposures**
  - Global Market
  - Emerging Market
  - Global Macro
  - Global Credit

Focus on diversifying sources of return found in select hedge funds:

- **Alternative Risk Premia**
  - Currency
  - Equity
  - Event
  - Global
  - Relative
  - Value
  - Momentum
  - Premia

- **Skill-based Returns**
  - Factor
  - Technical
  - Alpha

HEDGE FUNDS: SELECTIVITY IS KEY

Annualized manager returns by quartile
Three years ending March 31, 2016

Source: Hedge Fund Research and Morningstar. Traditional asset class returns based on Morningstar institutional category returns.
TRENDS IN LIQUIDITY MANAGEMENT

Money Market Reform

Floating NAV: Institutional prime and institutional tax-exempt money market funds must shift from the current constant net asset value (cNAV) pricing standard to a floating, or variable, net asset value (vNAV) standard.

Liquidity Fees and Redemption Gates: Subject to Board decision, all non-government money market funds (institutional and retail) are allowed to impose liquidity fees and redemption gates when weekly liquidity falls below certain thresholds.

Government Funds Exempted. Not under scope for vNAV or fees and gates.

Market Implications

Higher Demand for Government Securities. The structural changes to money market funds has led to a shift away from short-term credit and towards government paper, as investors look to avoid vNAV and the possibility of fees and gates.

Steeper Yield Curve for Credit. The yield differential between prime and government funds has widened from historical levels. We expect this trend to continue and credit to offer investors attractive relative value.

RETHINK CASH: MONEY IN MOTION

Total Institutional Assets

Source: ICI, Northern Trust Fixed Income
LIBOR TRENDS (PRIME MONEY MARKET FUNDS)

3 Month LIBOR

Source: Bloomberg, 10/3/16

CHALLENGES AND OPPORTUNITIES

Key Take-Aways

1. Prepare for prospectively lower returns by assessing current portfolio structure and implementation
2. Disentangle signal from noise
3. Stay on course—there is a high cost of missing out
4. Focus on exposures with positive expected returns and high confidence
5. Sharpen your tools
6. Take advantage of your structural advantages to access the illiquidity premium and appropriate HF strategies—alpha is very valuable
7. Rethink your liquidity strategy
8. Control what you can control….get what you pay for

Appendix

Philanthropy Southwest Annual Conference
Katherine Ellis Nixon, CFA, CIMA, CPWA, CFP
Chief Investment Officer
Wealth Management
PRIVATE EQUITY ENVIRONMENT

THE CASE FOR GOING BEYOND TRADITIONAL STOCKS & BONDS

All assets in a globally diversified investment portfolio should serve a purpose. What purpose do these asset classes serve?

- High Yield
- Global Real Estate & Listed Infrastructure
- Natural Resources
- Treasury Inflation Protected Securities

- A diversified risk premium – credit vs. equity vs. term
- A source of income in a low interest rate environment
- Tactically compelling given slow (but positive) growth
- A source of income that can keep up with inflation
- “Hybrid” asset classes exposed to many risk premiums
- High- and low- “beta” cash flow asset options
- Longer-term protection against unanticipated inflation
- A potential mitigator of geopolitical risk impact on the portfolio
- Long-term potential despite short-term challenges
- Near-term protection against unanticipated inflation
- Duration targeting allows more focus on inflation protection
- Currently low inflation expectations mean insurance is cheap

THE CASE FOR STAYING FULLY INVESTED

Equity market returns come in lumpy ways. Missing the top performing days by being out of the markets can dramatically impact your return experience.

- Global equities gained 23% over the past ten years; missing just the top 5 returning days puts the portfolio in negative territory.
- Equity markets have bad days as well – but earn positive returns over time; the more days you are invested, the better your odds.

Equity market returns have bad days as well – but earn positive returns over time; the more days you are invested, the better your odds.
Source: Northern Trust, United Nations Population Division. Data are seasonally adjusted to the nearest whole number. Total population using the geometric mean of the mid-year estimates. The working age population is defined as those ages 15-64. The number of people in working age is always less than the total population.

**GLOBAL POPULATION GROWTH: 2015 - 2050**

U.S. as an example: Currently 64.2% of the population is working age; by 2050 that number is projected to fall to 55.6%, thus leading to the -8.6% figure seen on the scatter plot.

**DEMOGRAPHICS – INFLATION**

### Category Trailing 12 Month CPI

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<th>Category</th>
<th>Under 25 years</th>
<th>25-34 years</th>
<th>35-44 years</th>
<th>45-54 years</th>
<th>55-64 years</th>
<th>65+ years</th>
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<tr>
<td>Food</td>
<td>1.6%</td>
<td>16.6%</td>
<td>16.9%</td>
<td>17.6%</td>
<td>16.9%</td>
<td>16.6%</td>
<td>16.5%</td>
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<tr>
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<td>Housing</td>
<td>2.0%</td>
<td>43.8%</td>
<td>39.0%</td>
<td>40.9%</td>
<td>40.4%</td>
<td>38.4%</td>
<td>38.7%</td>
<td>38.9%</td>
</tr>
<tr>
<td>Leisure/Other</td>
<td>0.3%</td>
<td>15.1%</td>
<td>19.4%</td>
<td>14.3%</td>
<td>14.7%</td>
<td>15.9%</td>
<td>14.0%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Transportation</td>
<td>-5.2%</td>
<td>16.0%</td>
<td>21.0%</td>
<td>21.0%</td>
<td>20.3%</td>
<td>20.7%</td>
<td>20.1%</td>
<td>18.2%</td>
</tr>
</tbody>
</table>

### CPI (YoY SA)

- 2015: 0.1%
- 2016: 0.6%
- 2017: 0.1%
- 2018: 0.2%
- 2019: 0.3%
- 2020: 0.2%
- 2021: 0.3%
- 2022: 0.5%
- 2023: 0.4%
- 2024: 0.7%

### CPI - Core (YoY SA)

- 2015: 1.8%
- 2016: 1.7%
- 2017: 1.5%
- 2018: 1.7%
- 2019: 1.7%
- 2020: 1.6%
- 2021: 1.7%
- 2022: 1.8%
- 2023: 1.8%
- 2024: 1.9%

**FED MONITOR: THE DATA**

FED MONITOR: CURRENT FORECASTS (VS. PREVIOUS)