March 2017

Panel: The Role of Endowments in Financing Higher Education

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Artemis Wealth Advisors, LLC

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Global Economies At A Significant Inflection Point

† 2017 Is Likely To Be A Year of Uncertainty and Volatility – We are in a Short Term Cyclical Upswing in the middle of a Long Term Secular Downswing

† Will Global Authorities shift their focus toward Reflationary Policies and abandon austerity or will they continue to pursue deleveraging?
Secular Backdrop
US At End Of Grand Super-Cycle In Debt Creation

US Total Debt % of GDP

http://thekeep.eiu.edu/jcba/vol0/iss12/31
Growth Muted When Debt Burdens are Falling

In the US, since 1920, there have been roughly eight major periods of rising or falling debts, four where debts were rising and four where debts were falling, as shown below. Nominal and real growth rates have been significantly lower during periods of flat or falling debts compared with periods of debt expansion.

### G7 Growth Expectations when Debt Burdens are Rising / Falling

<table>
<thead>
<tr>
<th></th>
<th>Real Growth on Falling Debt periods</th>
<th>Real Growth in Rising Debt Periods</th>
<th>Inflation in Falling Debt Periods</th>
<th>Inflation in Rising Debt Periods</th>
<th>Nominal Growth in Falling Debt Periods</th>
<th>Nominal Growth in Rising Debt Periods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average</strong></td>
<td>1.4%</td>
<td>2.6%</td>
<td>2.4%</td>
<td>3.1%</td>
<td>3.8%</td>
<td>5.8%</td>
</tr>
<tr>
<td><strong>United States</strong></td>
<td>1.1%</td>
<td>5.2%</td>
<td>1.9%</td>
<td>2.6%</td>
<td>2.9%</td>
<td>7.8%</td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td>1.1%</td>
<td>5.1%</td>
<td>0.4%</td>
<td>4.5%</td>
<td>1.5%</td>
<td>9.6%</td>
</tr>
<tr>
<td><strong>United Kingdom</strong></td>
<td>1.2%</td>
<td>2.8%</td>
<td>7.2%</td>
<td>3.6%</td>
<td>8.4%</td>
<td>6.4%</td>
</tr>
<tr>
<td><strong>Canada</strong></td>
<td>1.4%</td>
<td>2.4%</td>
<td>2.9%</td>
<td>4.9%</td>
<td>4.3%</td>
<td>7.3%</td>
</tr>
<tr>
<td><strong>Germany</strong></td>
<td>1.8%</td>
<td>2.2%</td>
<td>2.3%</td>
<td>3.2%</td>
<td>4.1%</td>
<td>5.3%</td>
</tr>
<tr>
<td><strong>France</strong></td>
<td>1.5%</td>
<td>1.9%</td>
<td>7.8%</td>
<td>2.6%</td>
<td>9.3%</td>
<td>4.5%</td>
</tr>
<tr>
<td><strong>Italy</strong></td>
<td>0.9%</td>
<td>1.2%</td>
<td>6.9%</td>
<td>4.3%</td>
<td>7.7%</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

Secular Backdrop Explains Current Global Condition

- During periods of deleveraging conventional fiscal or monetary tools are not available or less effective:
  - Fiscal stimulus is constrained due to debt burden
  - Monetary Policy can be effective but at the moment bounded by zero interest rates
  - Currency Devaluation can work but only if you gain a competitive trade advantage

- US reacted in a timely fashion hence the reason for its improved economic state

- Europe and Asia too late in implementation hence the reason for their weak economic state

- Result will be prolonged period of global economic malaise

- Interest Rates remain beneficially low
With Populism Improve the Secular Backdrop?

- Relevant question at the moment is whether the populist reflationary themes that has swept through the market in late 2016 will be sustained

- There is a perception that global authorities will abandon fiscal austerity in favor of short term growth

A CHANGE IN DIRECTION WILL HAVE SIGNIFICANT ECONOMIC RAMIFICATIONS
Will the 30 Year Bond Bull Rally See Its End?

30 Year Chart US Government Interest Rates
Cyclical Backdrop
Economy Is Expanding Modestly But We Are Getting Late in the Cycle

- Quadrant II: Japan, Europe
- Quadrant III: U.S.
- Quadrant I: China
- Quadrant IV: Brazil
Macro Quadrant Positioning Summary - US

❖ US – Positives

❖ Private sector still in excellent shape
  ❖ Household Net Worth at record levels
  ❖ Unemployment at 4.7%
  ❖ Wage growth steadily increasing

❖ Corporations well capitalized and liquid – some deterioration noted

❖ Bank lending still supportive

❖ Service sector at normalized growth levels

❖ Market sentiment has significantly improved

❖ Oil market has stabilized
## Household Net Worth At Record High

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016 Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Assets</strong></td>
<td>$77,124</td>
<td>$82,334</td>
<td>$92,701</td>
<td>$97,977</td>
<td>$101,697</td>
<td>$105,106</td>
</tr>
<tr>
<td><strong>Tangible Assets</strong></td>
<td>23,453</td>
<td>25,151</td>
<td>27,228</td>
<td>28,707</td>
<td>30,474</td>
<td>31,965</td>
</tr>
<tr>
<td>Real Estate</td>
<td>18,328</td>
<td>19,885</td>
<td>21,849</td>
<td>23,201</td>
<td>24,767</td>
<td>26,110</td>
</tr>
<tr>
<td><strong>Financial Assets</strong></td>
<td>53,671</td>
<td>58,083</td>
<td>65,449</td>
<td>69,270</td>
<td>71,223</td>
<td>73,141</td>
</tr>
<tr>
<td>Total Deposits</td>
<td>8,702</td>
<td>9,227</td>
<td>9,602</td>
<td>10,146</td>
<td>10,738</td>
<td>11,126</td>
</tr>
<tr>
<td>Credit Market Instruments</td>
<td>4,428</td>
<td>4,316</td>
<td>4,335</td>
<td>3,993</td>
<td>4,440</td>
<td>3,734</td>
</tr>
<tr>
<td>Corporate equities</td>
<td>8,295</td>
<td>9,670</td>
<td>12,852</td>
<td>14,357</td>
<td>14,160</td>
<td>14,748</td>
</tr>
<tr>
<td>Mutual Fund Shares</td>
<td>4,435</td>
<td>5,255</td>
<td>6,251</td>
<td>6,726</td>
<td>6,504</td>
<td>6,875</td>
</tr>
<tr>
<td>Life Insurance Reserves</td>
<td>1,199</td>
<td>1,186</td>
<td>1,233</td>
<td>1,283</td>
<td>1,311</td>
<td>1,357</td>
</tr>
<tr>
<td>Pension Fund Reserves</td>
<td>17,299</td>
<td>18,335</td>
<td>19,784</td>
<td>20,659</td>
<td>21,248</td>
<td>22,088</td>
</tr>
<tr>
<td>Equity in Noncorporate Business</td>
<td>7,524</td>
<td>8,314</td>
<td>9,513</td>
<td>10,098</td>
<td>10,829</td>
<td>11,174</td>
</tr>
<tr>
<td>Other Assets</td>
<td>1,788</td>
<td>1,780</td>
<td>1,880</td>
<td>2,009</td>
<td>1,994</td>
<td>2,040</td>
</tr>
<tr>
<td><strong>Total Liabilities</strong></td>
<td>$13,580</td>
<td>$13,636</td>
<td>$13,785</td>
<td>$14,233</td>
<td>$14,520</td>
<td>$14,910</td>
</tr>
<tr>
<td>Home Mortgages</td>
<td>9,702</td>
<td>9,491</td>
<td>9,404</td>
<td>9,461</td>
<td>9,547</td>
<td>9,708</td>
</tr>
<tr>
<td>Consumer Credit</td>
<td>2,758</td>
<td>2,920</td>
<td>3,096</td>
<td>3,318</td>
<td>3,536</td>
<td>3,696</td>
</tr>
<tr>
<td>Other Liabilities</td>
<td>1,120</td>
<td>1,225</td>
<td>1,285</td>
<td>1,453</td>
<td>1,437</td>
<td>1,506</td>
</tr>
<tr>
<td><strong>Net Worth (Market Value)</strong></td>
<td>$63,545</td>
<td>$69,598</td>
<td>$79,384</td>
<td>$83,744</td>
<td>$87,118</td>
<td>$90,196</td>
</tr>
</tbody>
</table>

Notes: 1) Balance Sheet of Households and Nonprofit Organizations  
2) Billions of dollars; amounts outstanding end of period, not seasonally adjusted
Unemployment Rate Back to Pre-Crisis Levels

Unemployment rate for people with less than a high-school diploma stable in December

Unemployment rate

College graduates: 25+ yrs
Less than HS diploma: 25+ yrs

Pre-crisis average
# S&P Pro-forma Consolidated Financial Ratios

<table>
<thead>
<tr>
<th></th>
<th>2016 Q3</th>
<th>2015</th>
<th>2014</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Liquidity Ratio</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and Equivalent/Current Liabilities</td>
<td>0.80</td>
<td>0.78</td>
<td>0.77</td>
<td>0.79</td>
</tr>
<tr>
<td>Current Assets/Current Liabilities</td>
<td>1.50</td>
<td>1.48</td>
<td>1.52</td>
<td>1.54</td>
</tr>
<tr>
<td><strong>Debt Ratios</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Term Debt/Equity</td>
<td>1.09</td>
<td>1.07</td>
<td>1.02</td>
<td>0.90</td>
</tr>
<tr>
<td>Long Term Debt/Total Liabilities</td>
<td>0.65</td>
<td>0.66</td>
<td>0.65</td>
<td>0.63</td>
</tr>
<tr>
<td><strong>Profitability Ratio</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Profit as % Sales</td>
<td>0.36</td>
<td>0.36</td>
<td>0.35</td>
<td>0.35</td>
</tr>
<tr>
<td>SG&amp;A as % Sales</td>
<td>0.24</td>
<td>0.24</td>
<td>0.23</td>
<td>0.21</td>
</tr>
<tr>
<td>Operating Income as % Sales</td>
<td>0.14</td>
<td>0.14</td>
<td>0.14</td>
<td>0.15</td>
</tr>
</tbody>
</table>
Bank Lending Normalized & Supportive

Commercial & Industrial Loans
Changes in Amount Outstanding

Source: Federal Reserve Board

Commercial Paper + C&I Loans
Changes in Amount Outstanding

Source: Federal Reserve Board

Total Bank Credits
Changes in Amount Outstanding

Source: Federal Reserve Board

Total Bank Credits excluding Securities
Changes in Amount Outstanding

Source: Federal Reserve Board

http://thekeep.eiu.edu/jcba/vol0/iss12/31
Auto Industry Back to Pre-Crisis Production Levels

Source: US Bureau of Economic Analysis

Total Light Vehicle Sales

mln. units

Per capita break even

Scrappage rate

Source: US Bureau of Economic Analysis
Housing Has Rebounded

Median Price of Existing Single Family Homes Sold YoY%

Existing single-family months' supply, homes for sale

NAHB Survey and single-family housing starts

NAHB index of present sales vs. future sales
Macro Quadrant Positioning Summary - US

† US – Negatives

† Dollar has maintained its strength
  † 68% of S&P Earnings derived from MFG
  † Limited trading partner growth (EM)
  † CAPEX non-existent
  † Effects are still lingering

† Housing market still struggling from over-regulation
  † Home ownership dropping at significant rate
  † Mortgages available to only the most credit worthy buyers
  † Single family housing struggling

† Earnings and Margins need to be questioned
  † Earnings are at record level of GDP
  † Little slack in employment and capacity
  † Margins will compress with wage acceleration
Impact of US Dollar Strength & Lower Energy on Manufacturing Sector Profits

S&P 500 Operating Earnings

Source: Artemis Wealth Advisors LLC
Single Family Housing Still Sluggish

NAHB Survey and single-family housing starts

Index, sa

Thousands, saar

Source: Bloomberg

Published by The Keep, 2017
Will “Trumpenomics” Improve Cyclical Uptrend?

Certainly – Trump is proposing fiscal stimulus well into a maturing economic expansion. This is very unusual and could be hyper-inflationary

Massive “Infrastructure Spending (“IS”)” – likely to receive bi-partisan support

Tax Reform - likely to receive some bi-partisan support

Deregulation – likely to receive no bi-partisan support

However - most insightful strategy shops on the Street believe these initiatives will likely only add +.5% to GDP over the next two years
Further Federal Finances Will Constrain The Magnitude Of Fiscal Options
Monetary Accommodation Is Also Likely To Be Removed

† FED Positioning
† On verge of several rate rises
† What really matters is not what the Fed does but rather the shape/reaction of the yield curve after its actions

† ECB QE
† QE Program extended at reduced level until December 2017
† Inflation starting to emerge
† Yield curves relatively flat – interest rates negative – banking sector being pressured

† BOJ QE
† Expanded QE Program on hold
† Favorable trends reversing
† BOJ to hold 10YR at zero to help bank sector
Investment Implications – US Equities 2017 - Two Possible Outcomes

US:

US Equities continue to rally – has approximately 10% upside
- Reflationary “Trumpenomics” stimulus programs increases economic activity
- FED maintains dovish stance and keeps the yield curve steep
- US$ stabilizes

US Equities Correct – has approximately 30% downside
- “Trumpenomic” policies stall or prove hyper-inflationary
- FED aggressively reacts to inflation flattening or inverting yield curve
- Economy enters a recession late 2017-2018
Europe – Attractive However Significant Risks Still Remain

- Equities Significantly Undervalued – has approximately 25% upside potential:
  - Prospect of further Euro devaluation makes this less attractive
  - Significant slack in labor force exists
  - Significant slack in capacity exists
  - The region has benefitted from a competitive currency devaluation
EAFE Hedged vs. S&P Cumulative Underperformance Since 1973
EAFE vs. S&P PE 2011 - 2016
Investment Implications – Japan 2017

Japan

- Japanese Equities Very Attractive – has approximately 25% upside
  - Abe Government proposed stimulus package will kick in shortly
  - BOJ Completely Committed to QE
  - Pension Funds increasing allocations

- Japanese Equities Could See Further PE Expansion
  - Significant Corporate reforms undertaken
  - Any number of Government initiatives to cause corporations to disgorge cash
  - Prospect of further Yen devaluation makes this less attractive
  - Pegging of 10 YR to zero will further devalue the YEN
BRIC’s have become very attractive – has approximately 40% upside

- Brazil significantly undervalued but still not out of the woods
  - Inflation could be peaking
  - CA Deficit moderating – key to FX risk
  - Political reform appears to be moving on right direction

- China transitioning to consumption led economy will be decades long exercise
  - MFG sector showing signs of life
  - $US Peg a major issue – YTD down 7%
  - Once devaluation done – could be buying opportunity

- India & Mexico – Promising but reforms need to be accelerated
  - Attractive fundamentally but uncertain as to whether it escapes global turbulence
  - Currency appears to be biggest risk
Emerging Market vs. S&P Cumulative Underperformance Since 2012
Biggest Risks To Capital Markets in 2017
FED accelerates interest rate normalization policy and/or unwinding of QE in response to Trumpenomics

- Market assumes Fed Funds at 1.0% and 1.5% at end of 2017 and 2018, respectively
  - Anything beyond that would be troublesome
- Interest rate increases will likely inflict further dollar funding crisis
- Interest rate increases will likely lead to further US$ appreciation
- FED repeatedly stated that balance sheet would be termed out once rates normalized. The issue is what is normalized short rate?
Market Interest Rate Expectations Vs. FED Dot Plot

- OIS Curve
- Fed Funds Rate Median Projection

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Why Yield Curve Shifts Are Noteworthy

The U.S. Government Yield Curve As Measured By the Yield On 30 Years Less 3 Month Bills

Source: Bloomberg

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Inversions Are Leading Indicators For Market Declines

The U.S. Government Yield Curve As Measured By the Yield On 30 Years Less 3 Month Bills

Source: Bloomberg
Market Declines Are Leading Indicators For Recessions

The U.S. Government Yield Curve As Measured By the Yield On 30 Years Less 3 Month Bills

Source: Bloomberg

http://thekeep.eiu.edu/jcba/vol0/iss12/31
Where Are We Now?

The U.S. Government Yield Curve As Measured By the Yield On 30 Years
Less 3 Month Bills

Note: Shaded areas represent economic contractions.

As of Dec 12th, 2016
Potential Crisis II

† US$ Strength Forces China to rapidly de-peg/devalue

† Capital Flight Risks could cause market malfunctions in interest rates and equities
† This will undo competitive Advantages gained by Europe & Japan leading to significant declines there
US$ Has Appreciated By Over 20% Since 2014
US Dollar Has Maintained Gains

Trade Weighted Dollar % Change
Since Fed Raised Rate (12/16/2015)
China Currency Basket % Change Since Fed Raised Rate

(12/16/2015)
European Banking Crisis

- European banks still over-leveraged
  - Never benefit from TARP-like capital infusion
  - QE programs less effective because of lack of unified sovereign market
- Heavy exposure to oil and commodities
- Yield curves have steepened somewhat
- Italy remains a serious challenge
- BREXIT adds huge uncertainty
- Contagion/Counterparty risk is high
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