Executive Summary: Although it is widely viewed as a lagging economic indicator, the unemployment rate has tended to bottom about eight months before a business cycle peak, at least during the post-war period. The “trigger” for recessionary forces in post-war cycles has been 1) a period of Fed tightening that 2) eventually pulls NGDP growth below average hourly wage growth (Sumner, Musical Chairs Model). Along the same lines, the historical data show yield curves tend to invert and real narrow money growth tends to go negative around the time that unemployment falls below historical averages or official estimates of sustainable levels. As noted earlier this week, anytime the U.S. unemployment rate has risen 0.5 percentage points or more from year-earlier levels (after a period of annual declines), the U.S. has either been in recession or on the cusp of one with no exceptions to this rule in post-war history. If the Fed gets the timing of the ZLB liftoff and the magnitude of the rise correct (i.e., it is shadowing the Wicksellian equilibrium rate higher), the business cycle should carry on. What we should watch out for is the high likelihood that the equilibrium real rate is far lower now than in cycles past (our simple model of prime age labor slack and risk premiums suggests the equilibrium rate probably won’t be much higher than 25-50 bps on short rates by yearend, assuming the trends in the prime age EPR continue). This means that it may not take much Fed tightening to create business cycle/recessions risk relative to past cycles. Low long rates and contained inflation breakeven spreads confirm this view as does the modest trend in NGDP growth and inflation throughout this cycle, something that would NOT occur if rates were chronically being held below equilibrium levels as many seem to believe.

Although it is widely viewed as a lagging economic indicator, the unemployment rate has tended to bottom about eight months before a business cycle peak, at least during the post-war period. The typical recession features a 1) 350 bps trough-to-peak rise in the unemployment rate and 2) a 25%-30% stock market decline.

<table>
<thead>
<tr>
<th>Year</th>
<th>UR Trough, %</th>
<th>Year</th>
<th>UR Peak, %</th>
<th>Change</th>
<th>UR Trough, Date</th>
<th>End of Cycle, Date</th>
<th>Lag (Months)</th>
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<tbody>
<tr>
<td>1948</td>
<td>3.4</td>
<td>1949</td>
<td>7.9</td>
<td>4.5</td>
<td>Jan-48</td>
<td>Dec-48</td>
<td>11</td>
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<tr>
<td>1953</td>
<td>2.6</td>
<td>1954</td>
<td>6.1</td>
<td>3.5</td>
<td>May-53</td>
<td>Aug-53</td>
<td>7</td>
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<tr>
<td>1957</td>
<td>3.7</td>
<td>1956</td>
<td>7.5</td>
<td>3.8</td>
<td>Mar-57</td>
<td>Sep-57</td>
<td>7</td>
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<tr>
<td>1960</td>
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<td>1961</td>
<td>7.1</td>
<td>2.3</td>
<td>Feb-60</td>
<td>May-60</td>
<td>3</td>
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<td>1966</td>
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<td>6.1</td>
<td>2.7</td>
<td>Sep-66</td>
<td>Jan-70</td>
<td>15</td>
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<td>1979</td>
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<td>1980</td>
<td>7.8</td>
<td>2.1</td>
<td>May-79</td>
<td>Jan-80</td>
<td>8</td>
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<tr>
<td>1980</td>
<td>7.2</td>
<td>1982</td>
<td>10.6</td>
<td>3.6</td>
<td>Apr-81</td>
<td>Jul-81</td>
<td>3</td>
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<td>1983</td>
<td>5</td>
<td>1982</td>
<td>7.8</td>
<td>2.8</td>
<td>Mar-83</td>
<td>Jul-90</td>
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<td>Mar-01</td>
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<td>2006</td>
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<td>2009</td>
<td>10</td>
<td>5.6</td>
<td>Oct-06</td>
<td>Dec-07</td>
<td>14</td>
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Source: Bloomberg, MKM Partners

See pages 9-10 for analyst certification and important disclosures.
As noted earlier this week, annual changes in the Conference Board’s Present Situation Index tend to correlate closely with annual job gains and year-to-year moves in the unemployment rate. As far as the data goes back, declines in the PS of more than 15 index points from year earlier levels have been associated with recessionary moves in the unemployment rate and negative payroll growth. The Conference Board’s Employment Trends Index (ETI), which includes data from the Conference Board and several other cyclical indicators, also tends to correlate closely with annual changes in the unemployment rate. Both of these indicators are consistent with a further tightening in labor market conditions.
The “trigger” for recessionary forces in post-war cycles has been 1) a period of Fed tightening that 2) eventually pulls NGDP growth below average hourly wage growth (Sumner, Musical Chairs Model). This will tend to depress profits and lead to subsequent cutbacks in hours worked and jobs (i.e., rising unemployment).

Source: FRED; Bloomberg; Moneyillusion Blog
Along the same lines, the historical data show yield curves tend to invert and real narrow money growth tends to go negative around the time that unemployment falls below historical averages, as this is why the Fed is likely to be tightening in a way that risks ending the business cycle. Thus, how long it takes to fully close employment “gaps” can be one way to judge how long this cycle may last. Although we are close to a normal employment gap on a U3 basis, we are still 1-2 years away on a U6 basis and 4-5 years away on a prime age employment-to-population ratio basis.

Source: Bloomberg; MKM Partners
*Data before 1994 estimated with U3 Rate*
Historically, anytime the U.S. unemployment rate has risen 0.5 percentage points or more from year-earlier levels (after a period of annual declines), the U.S. has either been in recession or on the cusp of one with no exceptions to this rule in post-war history. In fact, the most the unemployment rate has risen from year earlier levels without the U.S. headed for a recession has been 0.4 percentage points (which occurred in 1956 and 1963). The 0.5 percentage point rise in mid-2003 did not follow a period of year to year declines.

Source: Bloomberg; MKM Partners
<table>
<thead>
<tr>
<th>Unemployment / Employment Indicator</th>
<th>Rise/Fall from During Recession (%)</th>
<th>Fall/Rise From Peak During Expansion (%)</th>
<th>Ratio to Fed Goal / Pre-Crisis Level</th>
<th>Years to Full Recovery</th>
<th>Comments</th>
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<tbody>
<tr>
<td>U3</td>
<td>4.9</td>
<td>-4.6</td>
<td>0.95</td>
<td>0.3</td>
<td>U3 probably overstates labor market tightness</td>
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<td>U6</td>
<td>4.7</td>
<td>-3.7</td>
<td>0.78</td>
<td>1.4</td>
<td>U6 seems to be Yellen’s focus</td>
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<td>Prime Age E/P</td>
<td>-4.9</td>
<td>2.4</td>
<td>0.49</td>
<td>4.6</td>
<td>Prime Age E/P correlates best with wages</td>
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<td>LT unemp. (26 Weeks and &gt;), %</td>
<td>33.1</td>
<td>-16.5</td>
<td>0.50</td>
<td>5.1</td>
<td>LT unemployment also a focus of Yellen</td>
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<th>Cycle Trough</th>
<th>Wage Growth 3% or &gt;</th>
<th>Lag in Months</th>
<th>U3 Rate</th>
<th>Prime Age E/P Ratio</th>
<th>Invol. Part Time/ LF</th>
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<td>Nov-82</td>
<td>Dec-87</td>
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<td>5.7</td>
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<td>Mar-91</td>
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<td>Nov-01</td>
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<td>5.0</td>
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<td>Average</td>
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<td>52.3</td>
<td>5.4</td>
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<tr>
<td>Current</td>
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<td>n/a</td>
<td>5.4</td>
<td>77.2</td>
<td>4.2</td>
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Source: Bloomberg; MKM Partners

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<th>Stock Market Peak</th>
<th>Cycle Peak</th>
<th>Lead/Lag</th>
<th>Stock Market Trough</th>
<th>Cycle Trough</th>
<th>Lead/Lag</th>
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<td>-1</td>
<td>June 1932</td>
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<td>January 1953</td>
<td>July 1953</td>
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<td>August 1957</td>
<td>12</td>
<td>October 1957</td>
<td>April 1958</td>
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<td>August 1959</td>
<td>April 1960</td>
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<td>October 1960</td>
<td>February 1961</td>
<td>4</td>
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<tr>
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<td>March 2009</td>
<td>June 2009</td>
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Descriptive Statistics

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<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Mean</td>
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<tr>
<td>Median</td>
<td>5.5</td>
</tr>
<tr>
<td>Standard Deviation</td>
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Source: Bloomberg; MKM Partners
If the Fed gets the timing of the ZLB liftoff and the magnitude of the rise correct (i.e., it is shadowing the Wicksellian equilibrium rate higher), the business cycle should carry on. What we should watch out for is the high likelihood that the equilibrium real rate is far lower now than in cycles past (our simple model of prime age labor slack and risk premiums suggests the equilibrium rate probably won’t be much higher than 25-50 bps on short rates by yearend, assuming the trends in the prime age EPR continue). This means that it may not take much Fed tightening to create business cycle/recessions risk relative to past cycles. The long end of the yield curve and inflation breakeven markets confirm this view as does the modest trend in NGDP and inflation throughout this cycle, something that would NOT occur if rates were chronically being held below equilibrium levels. We believe this latter point is the most misunderstood aspect of monetary policy and the business cycle bar none. Aside from an inversion in the term structure/negative real narrow money growth, rising stress in credit markets/tightening financial conditions tend to precede recessions. These conditions are not present now and are not likely to be for some time to come, in our view.

The So Called "Natural Rate" Likely Remains Depressed

Source: Bloomberg; MKM Partners
MacroStrategy: The Market, the Cycle and Unemployment

Source: Federal Reserve; Bloomberg
Distribution of Ratings
MKM Partners, Equity Research

<table>
<thead>
<tr>
<th>Rating</th>
<th>Count</th>
<th>Percent</th>
<th>Count</th>
<th>Percent</th>
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<td>BUY [BUY]</td>
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<td>0</td>
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<tr>
<td>HOLD [NEUTRAL]</td>
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<td>SELL [SELL]</td>
<td>3</td>
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</table>

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“Neutral” Security is not expected to significantly appreciate or depreciate in value in the next 12 months.

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