MORNING BRIEFING
April 11, 2017

DIY Fed Policy

See the collection of the individual charts linked below.

(1) The old normal vs. the new abnormal for Fed policymaking. (2) Monetarism's brief day in the sun. (3) Normalization now involves reducing an abnormally large balance sheet. (4) Learning-by-doing at the Fed. (5) Dudley and Yellen gang up on Taylor. (6) Taylor worked for Greenspan, then devised a linear equation to replace him. (7) Inflation and output gaps. (8) Atlanta Fed has an app for running monetary policy.

The Fed I: Abnormalization. Prior to the financial crisis of 2008, the Fed responded to such events by slashing interest rates (*Fig. 1*). Those crises typically triggered recessions (*Fig. 2*). Once the crises abated and the economy started to recover, the Fed would start a process of normalizing monetary policy. Again, prior to the financial crisis of 2008, that simply meant that the Fed would start raising the federal funds rate back to some normal level (*Fig. 3*).

It has usually been up to the FOMC to set the course for normalization and to assess what is the normal level for the federal funds rate. In other words, monetary policy has usually been based on the collective judgment of the monetary policy committee. So running monetary policy has usually been based on the discretion of the FOMC.

During the 1960s and 1970s, Milton Friedman strongly criticized this approach and championed a rule-based monetary regime. He favored setting a growth rate for the money supply and sticking to it. Fed Chairman Paul Volcker gave it a try starting during October 1979, but abandoned "monetarism" in 1982. Discretionary policymaking has remained in fashion at the Fed since then.

In response to the latest financial crisis, the Fed lowered the federal funds rate down to zero on December 16, 2008. To provide more monetary stimulus, the FOMC implemented a series of QE bond-purchasing programs, which swelled the Fed's securities held outright on its balance sheet from $489 billion when QE1 started on November 25, 2008 to $4.25 trillion currently, as Melissa and I discussed yesterday (*Fig. 4*).

Now the process of normalization is much more complicated because it involves reducing the size of this gigantic balance sheet at the same time as hiking the federal funds rate. As we noted yesterday, the Fed has hiked the federal funds rate three times since late 2015, but the balance sheet has remained at its record level since the Fed terminated QE purchases at the end of October 2014. That was accomplished by reinvesting the proceeds from maturing securities back in Treasury and mortgage-backed securities (MBS) (*Fig. 5*).

The 3/15 FOMC minutes indicated that the Committee soon will proceed to include a reduction in the Fed's balance sheet as part of the process of normalization. That's easy to do in theory since the Fed currently has $261.5 billion in Treasuries maturing in one year or less and another $1,194.5 billion maturing in one to five years (*Fig. 6*). Its $1,757.8 billion of MBS generates lots of income that includes principal payments.

The problem is that FOMC officials have no experience with normalizing both the Fed's balance sheet and the federal funds rate. This suggests that even had they adhered to some rule for conducting monetary policy in the past, it would be hard to implement under the current circumstances. So it will be learning-by-doing for a while at the Fed. The Fed may have to raise interest rates at a more gradual pace as it reduces the size of its balance sheet.

The other major central banks will face similar challenges when they begin to normalize their policies (*Fig. 7*). In dollars, the assets of the BOJ have increased from $1.00 trillion in late summer 2008 to $4.34 trillion during March. The ECB's balance sheet has swelled from $2.17 trillion to $4.38 trillion over this same period.

The Fed II: Rule vs. Discretion. Top Fed officials have gone out of their way recently to dis rule-based monetary policy. That's because a few congressional critics of the Fed have been promoting such an approach. Again, under the current circumstances of normalizing both the balance sheet and the level of the federal funds rate, discretionary policymaking makes more sense to us. Here is how FRB-NY President Bill Dudley and Fed Chair Janet Yellen made a similar case in recent speeches:

(1) *Dudley.* In a 3/30 speech titled "The Importance of Financial Conditions in the Conduct of Monetary Policy," Dudley stated, "The importance and complexity of financial conditions also underscore the need for caution in following any mechanical monetary policy rule." He bluntly said that "such rules often perform poorly at times when the economic environment and outlook are rapidly changing. This is one important reason why I do not support proposals that would require the Federal Reserve to explain to Congress whenever its federal funds rate target deviates from a particular prescriptive monetary policy rule."

(2) *Yellen.* In his speech, Dudley referenced a 1/19 speech by Yellen in which she also explained why she is against rule-based monetary policy. In short, her opinion is that the members of the FOMC should consider the "advice" of monetary rules, but need to judge on their own how to conduct monetary policy. Here is what she said about this matter:

"As I noted, the Committee routinely reviews policy recommendations from a variety of benchmark rules, and I believe that their prescriptions can be helpful in providing broad guidance about how the federal funds rate should be adjusted over time in response to movements in real activity and inflation. That said, I will emphasize that the use and interpretation of such prescriptions require careful judgments about both the measurement of the inputs to these rules and the implications of the many considerations the rules do not take into account."

In addition, "simple rules ignore such important factors as fiscal policy, trends affecting global growth, structural developments influencing the supply of credit, and overall financial conditions." Then she mentioned the current complication in normalizing monetary policy:

"One special factor at the moment pertains to the Federal Reserve's balance sheet. The downward pressure on longer-term interest rates that the Fed's asset holdings exert is expected to diminish over time—a development that amounts to a 'passive' removal of monetary policy accommodation. Other things being equal, this factor argues for a more gradual approach to raising short-term rates."

The Fed III: Taylor's Rule. Both Dudley and Yellen seemed to relish beating up on the Taylor Rule in their recent speeches. John Taylor is an economics professor at Stanford University. He once worked for Alan Greenspan's consulting firm. Of course, Greenspan championed discretionary monetary policy, which to some of his critics seemed more like a personality cult.

Taylor turned into one of those critics and devised a rule to replace Greenspan and everyone else at the Fed with one linear equation: r = p + 0.5y + 0.5(p-2.0) + r* where r is the federal funds rate, p is the inflation rate, y is the output gap, and r* is the neutral rate of interest. The constant variable "2.0" is the Fed's target for the inflation rate. So, the inflation gap is p minus 2.0. The "0.5" multiplier coefficients are applied to the output gap and the inflation gap. In other words, for every percentage point that inflation increases above the Fed's target and that output increases relative to its potential, the federal funds rate should be increased by half a percentage point.

Our good friend Jim Solloway at SEI explained all of the above in English to his investors as follows: "[T]he rule provides some insight into where the federal funds rate 'should' be versus where it is. It is based on three factors: actual versus targeted inflation levels; actual employment or output versus an estimate of full-employment levels; and the level of short-term interest rates thought to be consistent with full employment and a steady (non-accelerating) inflation rate. A year ago, this measure suggested that the federal funds rate should have been in the 1.50%-to-1.75% range instead of the 0.25%-to-0.50% range targeted at the time by the FOMC. Since then, inflation has rebounded and the output gap has narrowed further, indicating (based on the Taylor Rule) that the federal funds rate should be near 2.75% compared to the current 0.75%-to-1.00% range that was approved in mid-March. Note that the federal funds rate target suggested by the Taylor Rule is close to the FOMC's forecast of 3% for the long-run equilibrium federal funds rate" (*Fig. 8*, *Fig. 9*, and *Fig. 10*).

The Fed IV: Do It Yourself. The Atlanta Fed has a Taylor Rule Utility on its website where you can pick and choose variables to generate a personalized Taylor Rule chart. It's based on the model outlined on the site, which is a little more complex than the formula outlined above. The following are the default selections for the assumptions: "Inflation Target Measure" of "Two Percent," a "Natural Real Interest Rate Measure" of "Two Percent," a "Resource Gap Measure" of "Real GDP gap, CBO" (based on the Congressional Budget Office's estimates), and an "Inflation Measure" of "Core PCE inflation, 4-quarter" along with a "0.5" coefficient and "Interest Rate Smoothing" of 0.

Hitting "Draw chart" reveals that the Taylor Rule prescription has fallen above the actual federal funds rate since Q1-2010. The Q1-2017 Taylor Rule result is a federal funds rate target of 3.15%. Even if we changed the assumption for the "Natural Real Interest Rate Measure" to be closer to zero (i.e., by selecting the "Laubach-Williams model 2-sided estimate"), the program yields a rate prescription that is higher than where the federal funds rate is now at 0.75%-1.00%. In her speech, Yellen's Figure 9 showed two additional rules besides the Taylor Rule (i.e., the Balanced-approach and the Change rules). Two of the three showed the federal funds rate to be below where the rules would have it, while the Change rule approximates it.

CALENDARS

US. **Tues:** NFIB Small Business Optimism Index 104.8, JOLTS, Kashkari. **Wed:** Import & Export Prices -0.2%/0.1%, MBA Mortgage Applications, Atlanta Fed Business Inflation Expectations, EIA Petroleum Status, Treasury Budget. (Bloomberg estimates)

Global. **Tues:** Eurozone Industrial Production 0.1%m/m/1.9%y/y, Germany ZEW Economic Sentiment 14.8, UK Headline & Core CPI 2.3%/1.9% y/y. **Wed:** UK Employment Change & Unemployment Rate 68k/4.7%, China CPI & PPI 1.0%/7.5% y/y, BOC Rate Decision 0.50%, Carney. (DailyFX estimates)

STRATEGY INDICATORS

YRI Weekly Leading Index (*link*): Our Weekly Leading Index (WLI)—a good coincident indicator that can confirm or raise doubts about stock market swings—recovered 1.5% during the week of April 1 after retreating three of the prior four weeks by a total of 3.1%. It's within 1.7% of its record high recorded five weeks ago. Our WLI is the average of our Boom-Bust Barometer (BBB) and Bloomberg's Weekly Consumer Comfort Index (WCCI). Our BBB rebounded 2.3% after declining three of the prior four weeks by a total of 5.4%. Jobless claims sank to 250,000 (4-wa) after rising the prior four weeks from 239,750 (lowest since 1973) to 254,500. The CRB raw industrials spot price index—another BBB component—was little changed. Meanwhile, the WCCI increased five of the last six weeks by 4.6%, nearing a new record high.

S&P 500/400/600 Forward Earnings (*link*): Forward earnings rose last week to record highs for LargeCap and MidCap. SmallCap's was down for the fifth time in eight weeks to 0.8% below its early February record. The yearly change in forward earnings is up from six-year lows in early 2016 for all three indexes as y/y comparisons have eased. In the latest week, LargeCap's forward earnings rose to a 62-month high of 8.8% y/y from 8.7%, which compares to a six-year low of -1.8% in October 2015; MidCap's dropped to 11.0% from a 30-month high of 11.5%, which compares to a six-year low of -1.3% in December 2015; and SmallCap's fell to 12.1% from 12.6%, which compares to a 34-month high of 12.8% in mid-March and a six-year low of 0.3% in December 2015. Growth rates now expected for 2017 and 2018 before the impact of tax-rate changes: LargeCap 10.8% and 12.2%, MidCap 10.1% and 13.3%, and SmallCap 9.1% and 20.3%.

S&P 500/400/600 Forward Valuation (*link*): Valuations rose across the board last week, but remain slightly below recent multi-year highs. P/Es have been melting up recently and beginning to reflect the impact of lower tax rates on corporate earnings, but the 'E' still remains low as analysts await legislative changes to the tax rate. LargeCap's forward P/E edged down to an eight-week low of 17.4 from 17.5, but remains near the 13-year high of 17.8 in early March. That's up from a 15-month low of 14.9 in January 2016 and the post-Lehman-meltdown P/E of 9.3 in October 2008, but remains well below the record high of 25.7 in July 1999. MidCap's forward P/E dropped to a 20-week low of 18.3 from 18.5; that compares to a 15-year high of 19.2 in late February and the record high of 20.6 in January 2002, but is up from a three-year low of 15.0 in January 2016. SmallCap's fell to a 20-week low of 19.4 from 19.7; that's up from a three-year low of 15.5 in February 2016 and compares to a 15-year high of 20.5 in early December, when Energy's earnings were depressed, and a record high of 20.9 in April 2002. Looking at their forward price/sales ratios since data became available in 2004, valuations are similarly elevated for the three indexes: LargeCap's P/S of 1.91 and MidCap's 1.30 are close to their recent record highs of 1.94 and 1.37, while SmallCap's 1.01 is down from 1.15 in July 2015 and a record high of 1.17 in November 2013.

S&P 500 Sectors Quarterly Earnings Outlook (*link*): Q1 earnings estimate revision activity picked up last week for the S&P 500 sectors as analysts made slight adjustments ahead of the upcoming quarterly earnings season. The Q1 consensus rose w/w for two of the 11 S&P 500 sectors, was steady for three, and fell for six. Materials' rose 2.2% w/w, and Consumer Discretionary's gained 1.2%. These two sectors had the biggest w/w percentage declines in their Q1 forecasts: Energy (-2.3%) and Consumer Staples (-0.8). The S&P 500's Q1-2017 EPS forecast rose 1 cent w/w to $29.44, but is down 3.8% from $30.53 at the end of Q4. That represents a forecasted pro forma earnings gain of 10.1% y/y, the strongest growth since Q3-2011, with the forecast unchanged from a week earlier and down from 13.8% at the end of Q4. Since the end of Q4, Q1 estimates are lower for 10/11 sectors and unchanged for Real Estate. The Q1 forecast for Tech has edged down only 1.1%. Energy and Industrials are each down 8.0%, followed by Consumer Discretionary (-6.0), Consumer Staples (-4.9), and Health Care (-4.0). The S&P 500's Q1-2017 forecasted earnings gain of 10.1% y/y would be its third straight gain after four declines and the highest since Q3-2011. Eight of the 11 sectors are expected to record positive y/y earnings growth in Q1-2017, and four are expected to beat the S&P 500's y/y earnings gain of 10.1%. That's below the 9/11 sectors that rose y/y during Q4-2016 and Q3-2016, and compares to 6/10 rising during the quarters from Q4-2015 to Q2-2016. Analysts expect Energy to report a profit relative to a year-ago loss and no longer think Industrials and Telecom will record y/y earnings declines as they had expected at the end of January. The latest forecasted Q1-2017 earnings growth rates vs. their blended Q4-2016 growth rates: Energy (returning to a profit in Q1 from a year-ago loss vs. 5.3% in Q4), Financials (15.4% vs. 11.6%), Materials (14.8, 7.1), Tech (14.7, 12.7), S&P 500 (10.1, 8.0), Health Care (2.8, 7.2), Consumer Staples (2.6, 7.2), Real Estate (1.6, 8.7), Utilities (0.8, 10.1), Consumer Discretionary (-1.4, 5.3),Telecom (-3.1, -0.2), and Industrials (-5.6, -0.9).

GLOBAL ECONOMIC INDICATORS

Germany Manufacturing Orders (*link*): German factory orders rebounded 3.4% in February after contracting at the fastest pace in eight years in January. Revisions show billings fell at a slower pace in January (to -6.8% from -7.4%) and rose at a faster rate in December (6.1 from 5.3). February's increase in orders was entirely driven by an 8.1% jump in domestic orders, led by a 13.6% surge in intermediate goods orders; capital (4.3) and consumer (0.6) goods billings also contributed to the comeback. Meanwhile, foreign billings were flat during the month as a 2.4% decline in orders from within the Eurozone offset a 1.6% gain from outside the Eurozone. From within the Eurozone, a 5.7% decline in capital goods orders more than offset the gains in consumer (3.0) and intermediate (1.4) goods billings. The rise in orders from outside the Eurozone reflected sizeable advances in consumer (5.0) and intermediate (4.8) goods orders; capital goods orders were only fractionally higher.

Germany Industrial Production (*link*): Germany's Economy Ministry noted an "extraordinarily robust" start to the year for industry, after February's increase in industrial production matched January's robust pace. February's headline production, which includes construction, built on January's 2.2% advance, reaching a new cyclical high. Construction output soared 13.6% in February, after a 0.9% advance in January; excluding construction, output rose 0.8% m/m and 3.2% over the two-month period. Manufacturing production expanded 0.9% following a 2.6% increase in January. Over the first two months of 2017, capital (5.3%), consumer (3.8), and intermediate (1.7) goods production all posted solid gains. Looking forward, Germany's March M-PMI rose for the fourth straight month to 58.3—the highest since April 2011, with the upward movement in the headline figure reflected in all five components—new orders, output, employment, suppliers' delivery times, and stocks of purchases.

Italy Industrial Production (*link*): Output in February rebounded less than expected after January's slump. Production, excluding construction, climbed 1.0% after contracting 2.3% in January, which was the first decline since September. Factory output rebounded 1.4% after a 2.9% shortfall in January. The main industrial groupings were mixed, with capital (2.9%) and intermediate (2.2) goods production in the black, and energy (-6.2) and consumer goods (-0.2) output in the red. Italy's M-PMI suggests that production should continue to recover in March, climbing to a six-year high of 55.7, as output saw a sharp acceleration during the month.

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