
Real versus Financial Activity Indicators

Financial Advisory Roundtable
November 2019

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Questions for the F.A.R

1. How should policy respond to conflicting signals from real and financial activity?
2. What feedback effects operate between monetary policy and financial conditions?
3. What are the differences between the business cycle and the financial cycle?

Broader measures of financial conditions do matter for the real economy

- Numerous market economists (including Jan Hatzius from Goldman Sachs, whose work is cited here) have argued that monetary policy's impact on the real economy is best analyzed as a two-stage process
 - Direct impact of policy actions or policy messaging on financial conditions
 - Impact of financial conditions on the real economy
- The latter appears to be fairly stable over different time horizons, when financial conditions are viewed and measured broadly. This suggests that financial conditions matter for the transmission of monetary policy
 - Numerous measures of financial conditions have been explored, spanning long and short term rates, credit spreads, equity and FX markets

The Response of GDP to Financial Conditions

Simple OLS regression of the output gap on two of its own lags and two lags of financial conditions

Dependent Variable: Output gap			
Sample:	GS FCI		
Variable:	1960Q1-2017Q3	1985Q1-2017Q3	1995Q1-2017Q3
Output Gap (-1)	1.14 [17.70]**	1.17 [13.44]**	1.04 [8.50]**
Output Gap (-2)	-0.24 [-3.74]**	-0.24 [-2.69]**	-0.13 [-1.14]
FCI(-1)	-0.42 [-4.18]**	-0.33 [-3.12]**	-0.43 [-3.08]**
FCI(-2)	0.36 [3.47]**	0.3 [2.98]**	0.28 [2.12]*
Observations	221	129	89
R ²	0.91	0.91	0.93

Note: Figures in squared brackets are t-statistics;
The * and ** denote significance at 5% and 1% levels

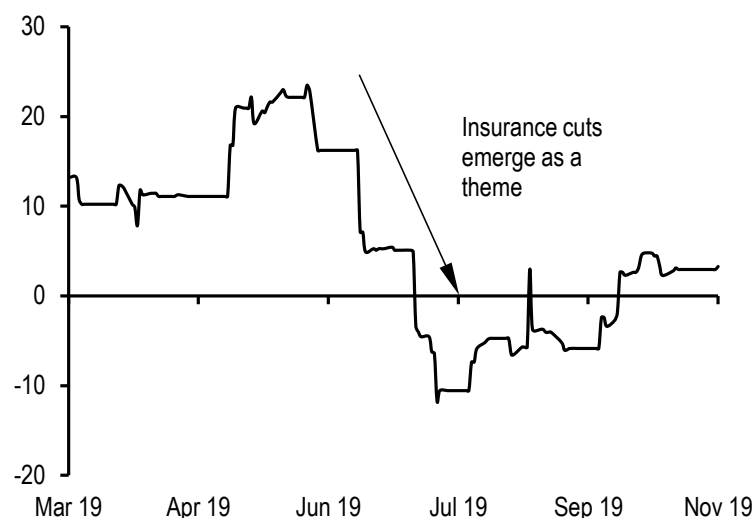
Source: Goldman Sachs Global Investment Research. See *The Case for a Financial Conditions Index*, Hatzius and Stehn, Goldman Sachs Economic Research Note, 7/16/2018.

The impact of monetary policy on financial conditions

- Most broad measures of financial conditions include longer term rates, but also other market variables such as credit spreads / FX rates and equity markets
- Monetary policy tools are of course most closely linked to rates themselves. In this regard, the pass through from policy actions and policy signaling into longer term rates has generally been quick and effective, even during the crisis

The J.P.Morgan *Fedspeak* index continues to illustrate the effectiveness of Fed messaging on longer term rates

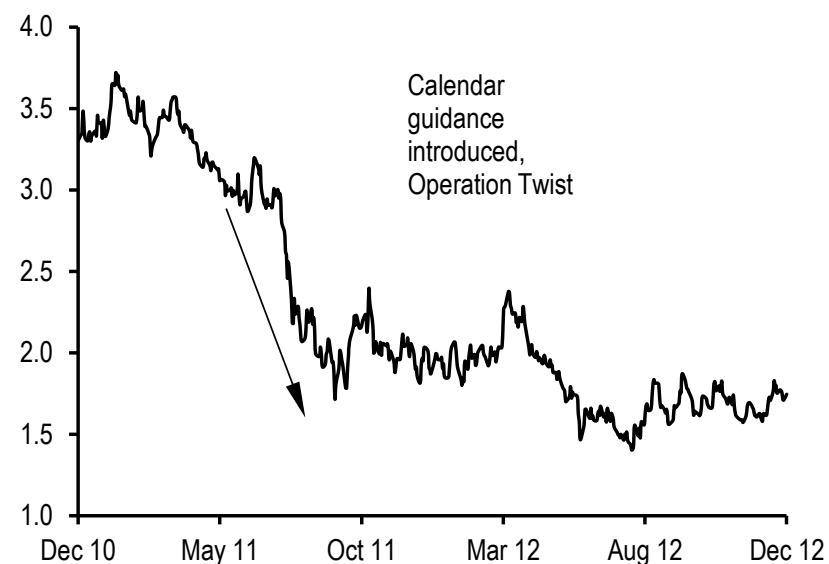
J.P.Morgan *Fedspeak* Index, bp



Fedspeak Index: Change in the 5Y Treasury yield in the 5 minutes following a communication by the Fed (speech, statement or press conference), accumulated over time. Since 1/1/2010
Source: Bloomberg, J.P. Morgan

Even during the crisis and its aftermath, monetary policy and policy signaling (funds rate, QE, forward guidance, Twist) were effective in influencing longer term rates ...

10-year Treasury yield (%)



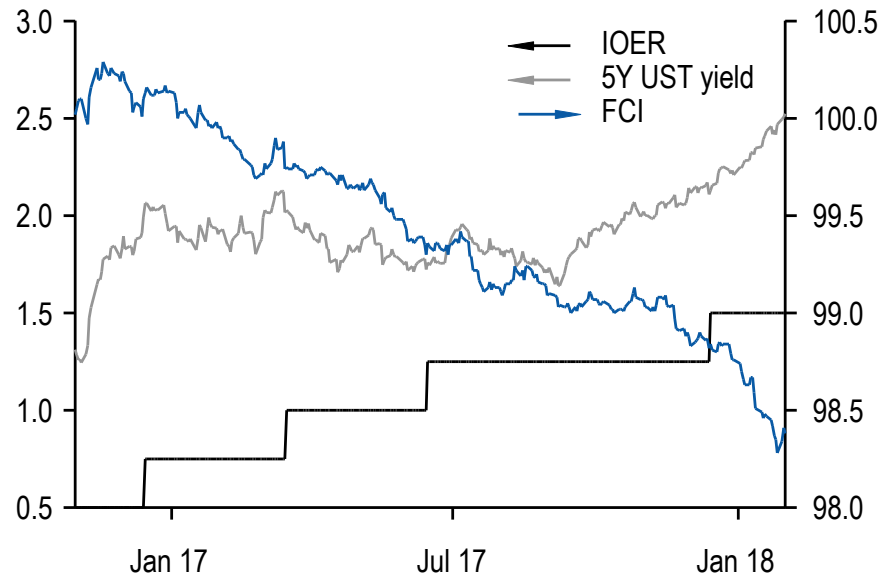
Source: J.P. Morgan

Impact of Monetary Policy on Financial Conditions – transmission to broader markets can be complicated

- The early stages of the recent tightening cycle provide one example... even after 100bp in IOER hikes, with ~100bp pass through into 5Y US Treasury yields, financial conditions continued to ease steadily by ~2.5 points
- In part, exogenous factors were at work, including the post-election rally in the stock market, and the abatement of contagion fears as oil prices stabilized (which helped to contain high yield spreads)

Interest on excess reserves, 5Y UST yield, and the GS index of financial conditions

FCI (points), IOER (%) and 5Y UST yield (%)



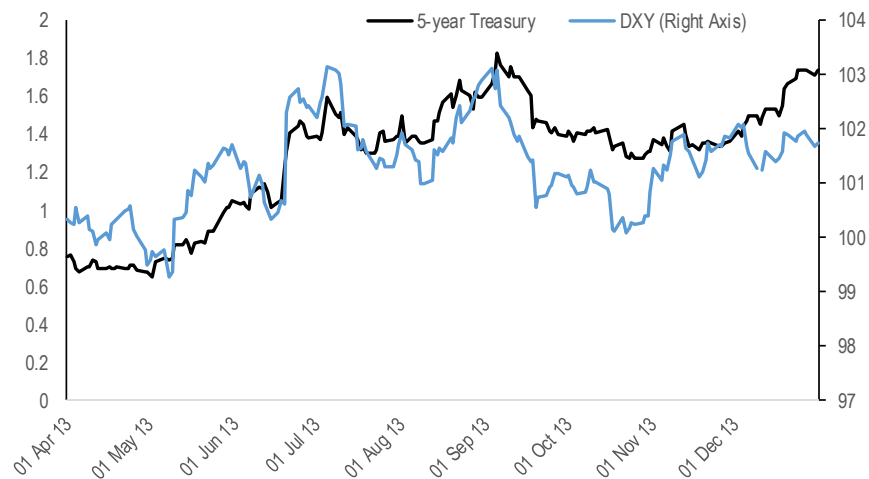
Source: Bloomberg, J.P. Morgan

Is there a reverse feedback loop?

- There is much more market experience with respect to understanding policy's impact on markets, as opposed to the reverse
- But episodes such as the “taper tantrum” serve to illustrate the risk that markets might aggressively price in policy expectations in a way that could create headwinds ahead of actual policy actions
- Policy actions can also impact the information content of market variables (a weak form of Goodhart's law). While known and anticipated, it can be hard to quantify and account for, potentially creating a channel for feedback into monetary policy
 - This is illustrated, for instance, by the impact of the “QE1” asset purchase program – which included purchases of (relatively less liquid) TIPS – on the 5Yx5Y forward inflation breakeven, a measure of long run inflation expectations used by policymakers

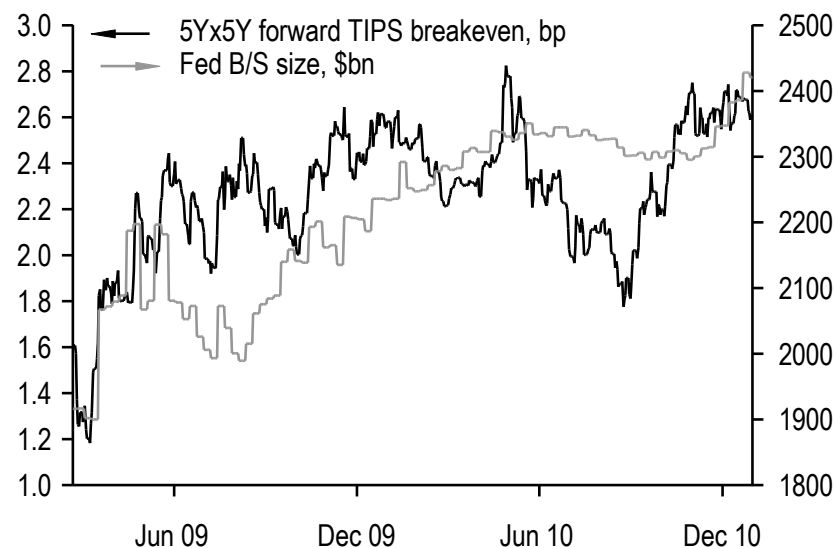
Treasury yields rose sharply in response to a whiff of a taper in the Fed's asset purchase pace in 2013

5-year Treasury yield (%), Dollar Index



Source: J.P. Morgan, Bloomberg

5Yx5Y forward TIPS breakeven (bp), versus the size of total Federal Reserve balance sheet assets (\$bn)



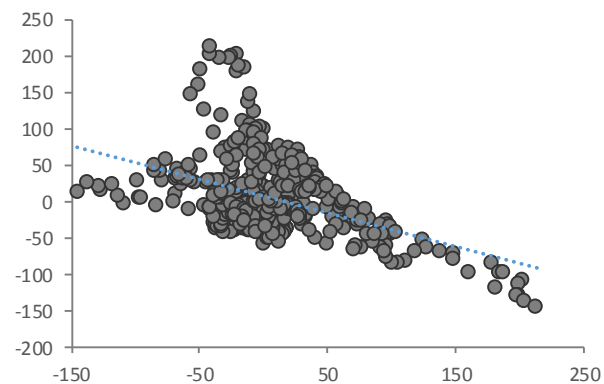
Source: J.P. Morgan, Bloomberg

Drawbacks of Financial Indicators

- Financial indicators have their drawbacks, they can be noisy and volatile while mean-reverting over horizons that are short enough to be of little significance to economic performance

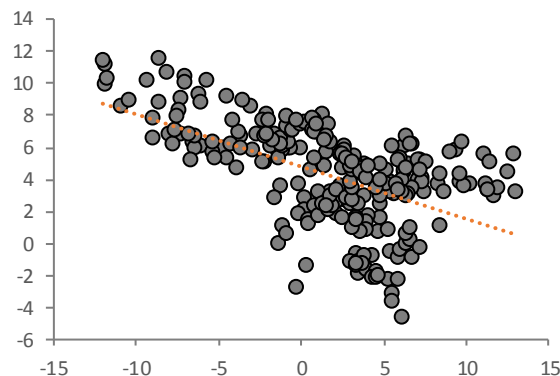
Financial market variables can move substantially and exhibit significant mean reversion over short periods, impacting measures of financial conditions, without a clear implication for long run economic performance

3 month change in High Yield Index (%) regressed on prior 3 month changes in the High Yield Index (%), from Aug 2017 to Aug 2019



Source: J.P. Morgan

3 month percent change in S&P 500 (%) regressed on prior 3 month percent change in S&P 500 (%), from Dec 2015 to Dec 2016



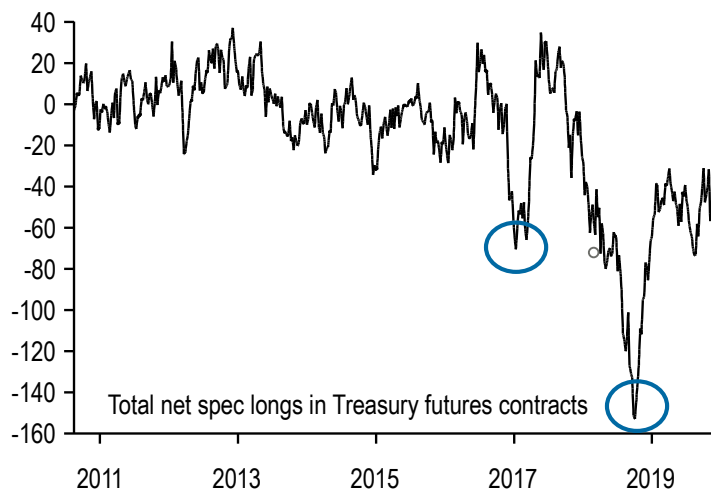
Source: J.P. Morgan

Crowded trades can produce sharp reversals, impacting market variables

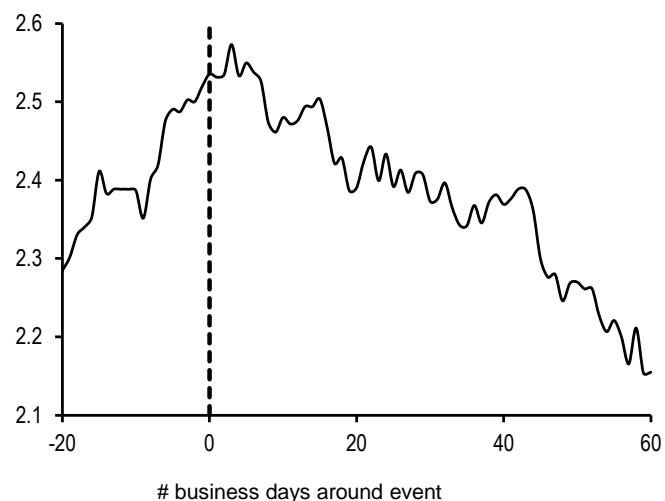
- Not all investors are equally sensitive to mark-to-market moves – when “spec” positions become extreme, they can be a precursor to sharp reversal which triggers sharp moves in rates or other financial market indicators
- For instance, total net non-commercial positions across the Treasury futures contracts (measured in \$bn 10-year equivalents) reached extreme short levels in 1Q17 and 3Q18, it produced sharp drops in yields in the following weeks as position-squaring followed

Investor positioning can reach extreme levels when trades become crowded, sparking subsequent position-squaring with significant accompanying market moves in the aftermath

Total net non-commercial futures (duration weighted, across TU/FV/TY and US contracts); \$bn 10-year equivalents



5-year US Treasury yield, averaged around 2 episodes of spec longs reaching extreme short levels in 1Q17 and 3Q19

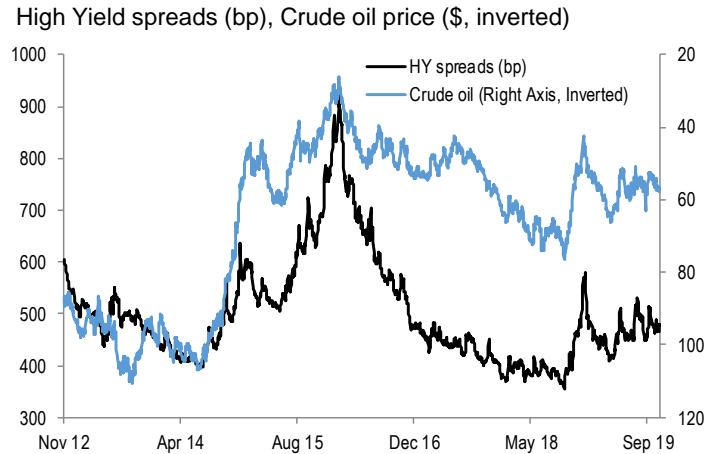


Source: J.P. Morgan, CFTC

Financial indicators sometimes deviate from other real indicators – context and detail can be useful in resolving contradictions

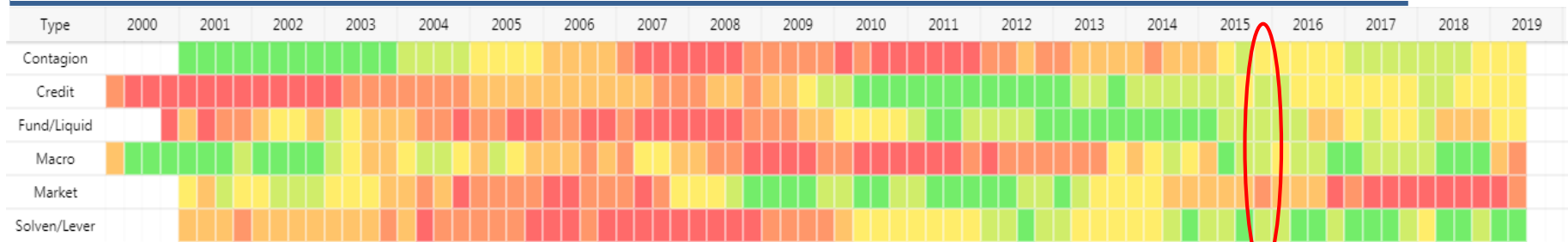
- Financial indicators are susceptible to exaggerated sensitivity to localized phenomena and can send false signals about impacts to the broader economy. Context and detail matter when interpreting financial market signals
- Good example is the oil price collapse of 2015, which caused indices of HY spreads to widen sharply. HY spreads are very well correlated with most financial conditions indices, and would have signaled downside risk to growth of ~2% of GDP. Actual GDP growth barely skipped a beat in contrast

Oil price collapse of 2015 caused indices of HY spreads to widen sharply



Crude oil price is the WTI front futures contract
Source: J.P. Morgan

OFR Financial Vulnerabilities Indices



Source: Office of Financial Research

Business versus financial cycles – credit spreads (particularly lower rated sectors) appear to serve as good indicators of a turn in the cycle

- NBER-specified recession onset dates are known well after the fact, but we may examine how various market variables behaved in the lead up to the recession
- Caution is warranted as recessions are few and far between, and numerous other factors are in play
- That said, a widening in high yield spreads preceded each of the last three recessions, more consistent than other market indicators.
 - This is likely because lower-tiered credit markets are more “levered” on the state of the economy
 - In a similar vein, real data that is more sensitive to the state of the economy can serve as indicators of turns in the business cycle

Personal consumption - YoY change in durables, non-durables and the spread

Selected characteristics of recessionary environments

	NBER recessions		
	2007	2001	1990
Start	12/1/2007	3/1/2001	7/1/1990
End	6/1/2009	11/1/2001	3/1/1991
# months	18	8	8
Last hike prior to onset (# months)	T-18	T-10	T-16
Cuts prior to onset	-75bp	-100bp	-150bp
6M SPX return	~ -4 %	~ -20%	~ 0 %
6M chg in HY spread	>300bp	>100bp (but >200bp as of Jan '01)	~ 100bp
6M chg in 10Y UST yield	~ -100bp	~ -90bp	~ +40bp

Source: J.P. Morgan, Bloomberg, St. Louis Fed (FRED)



Source: Bloomberg