

Late to Recessions: Stocks and the Business Cycle

Gómez-Cram

Discussion – Tepper-LAEF Fall 2019

Erik Loualiche – University of Minnesota

Motivation

“Sometimes the path ahead is clear, and sometimes less so. (...) This is a time of difficult judgments, as you can see, disparate perspectives.”

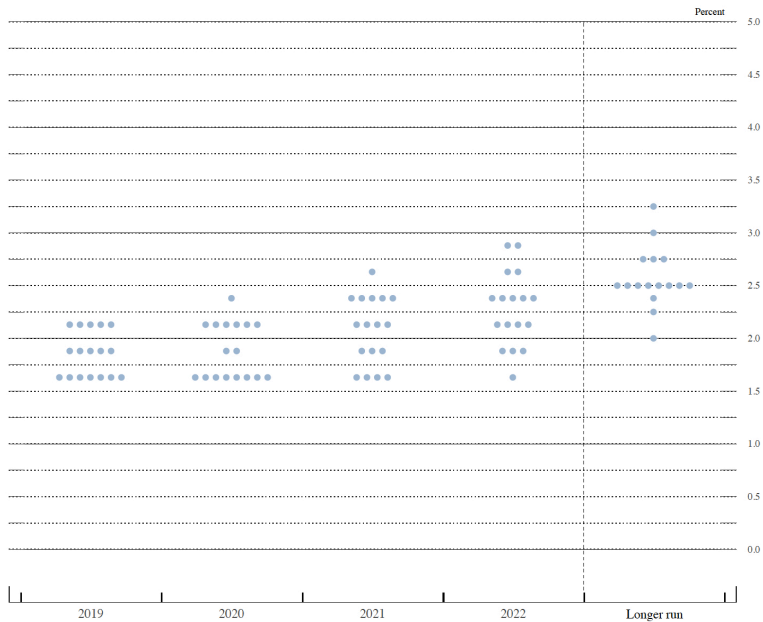
Jay Powell

Motivation

Important Topic

- Large literature on business cycle leading indicators and forecasting (e.g. Stock & Watson)
- Forecasting matters for policy
- Monetary policy: optimal timing of rate changes depend on *now*-cast and forecast of the economy
- Tuesday's Fed decision showed disagreement on board of what lies ahead

Motivation



Motivation



Donald J. Trump ✓

@realDonaldTrump



Jay Powell and the Federal Reserve Fail Again. No "guts," no sense, no vision! A terrible communicator!

1:25 PM · Sep 18, 2019 · [Twitter for iPhone](#)

Motivation

Important Topic

- Large literature on business cycle leading indicators and forecasting (e.g. Stock & Watson)
- Forecasting matters for policy
- Monetary policy: optimal timing of rate changes depend on *now*-cast and forecast of the economy
- Tuesday's Fed decision showed disagreement on board of what lies ahead

Stock Market as Information Aggregator

Macro-Finance Folk Theorem

- (Aggregate) Equity Prices incorporate all available relevant information
- Decomposing valuations from the Gordon growth formula:

$$\frac{P}{D} = \frac{1}{r - g}$$

- ▶ High valuations: the economy is either expected to grow or *expected returns* are low
- ▶ Consequence: no predictability in prices!

Shiller Regressions

- Predictability in returns:

$$R_{t,t+3m}^e = a + \underset{(t=2.6)}{3.8} D_t/P_t + \varepsilon + t + k, \quad R^2 = 0.09$$

- High prices (relative to dividends) mean returns (risk-premium) going forward are low

Dividend Yield: the best measure of Expected Returns?

Methodology

- Estimate in real-time expected returns: $\mathbf{E}\{R_{t,t+3m}^e|\mathcal{F}_t\}$
- Large set of predictors: $\mathcal{F}_t \supset \mathcal{F}(D_t/P_t)$

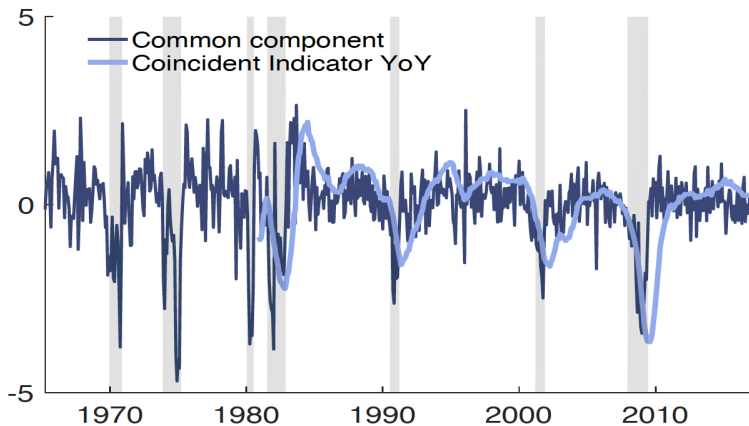
Predictability of Returns at the Onset of Recessions

- If now-cast detects a recession: contemporaneous fall in asset prices due to bad news about the future
- If we still are in a recession next period \rightarrow no news \rightarrow average prices are flat (no change in returns)

Puzzling Findings

- At the onset of a recession (when now-cast detects a regime-switch) returns are persistently negative for a few months
- Prices do not adjust contemporaneously to the indicator
 - Slow updating/learning of current conditions
 - Extrapolative expectations: overweight previous observations
- At the end of a recession (expansionary periods): standard result of negative correlation between realized returns (prices) and expected returns!

Validation of the Recession State Measure



Validation of the Recession State Measure

Validating the Estimate

- Cassandra problem: leading indicators with false positive
- Dissect: which estimates does the recession indicator load mostly on?
- Incomplete analysis on role of macro vs. financial variables:
 - ▶ no R2 of financial variables beyond macro
 - ▶ What about R2 of macro variables past the financial ones?

Predicting Returns using Conditional Information

Why Predicting the Aggregate Market Return

- General factor model for prices: $\mathbf{E}_t R_{j,t+1} = \beta'_{j,t} F_{t+1}$
- Maximum conditional Sharpe ratio needs not be the market: $R_{t+1}^{OSR} = \mathbf{E}_t F_{t+1} \Sigma_{F_t}^{-1} F_{t+1}$
- With appropriate reduction of dimensionality assumption Haddad, Kozak and Santosh show this gives us the object of interest, the SDF, loading on PCs Z_t :

$$m_{t+1} = a_t - \mathbf{E}_t Z_{t+1} \Sigma_{Z_t} Z_{t+1}$$

Predicting Returns using Conditional Information

Why Predicting the Aggregate Market Return

- General factor model for prices: $\mathbf{E}_t R_{j,t+1} = \beta'_{j,t} F_{t+1}$
- Maximum conditional Sharpe ratio needs not be the market: $R_{t+1}^{OSR} = \mathbf{E}_t F_{t+1} \Sigma_{F_t}^{-1} F_{t+1}$
- With appropriate reduction of dimensionality assumption Haddad, Kozak and Santosh show this gives us the object of interest, the SDF, loading on PCs Z_t :

$$m_{t+1} = a_t - \mathbf{E}_t Z_{t+1} \Sigma_{Z_t} Z_{t+1}$$

Factor Timing

- Factor timing (or smart beta investing) uses information on PCs Z_t to maximize investors' Sharpe ratio
- Suggests the important role $\mathbf{P}(m_{t+1} | \mathcal{F}_t(\text{financials}))$ beyond the market
- Do we find similar role for real time forecast of macro variables beyond the market? In other words:

$$\mathcal{F}_t(\text{financials}) \lesssim \mathcal{F}_t(\text{macro variables})$$

Leading Financial Indicators: Industries

Do industries lead stock markets? ☆

Harrison Hong^{a,*}, Walter Torous^b, Rossen Valkanov^b

Leading Financial Indicators: Industries

Origins of Recession Indicators

- Economics of leading recession indicator
- Use cross-section of returns (Hong et al., Ahern etc...) to
- How does your indicator fare with other predictors?
- Do the behavior of expected returns on industry factors follow similar patterns?

Final Thoughts

Thought Provoking Paper

Macro-centric View

- Is the excess predictability coming from leading macroeconomic variables?
- Financial information is more than aggregate variable
- Wealth of information in the cross-section: if you know how to find it!

Great Paper!

- A puzzle still to be explained!