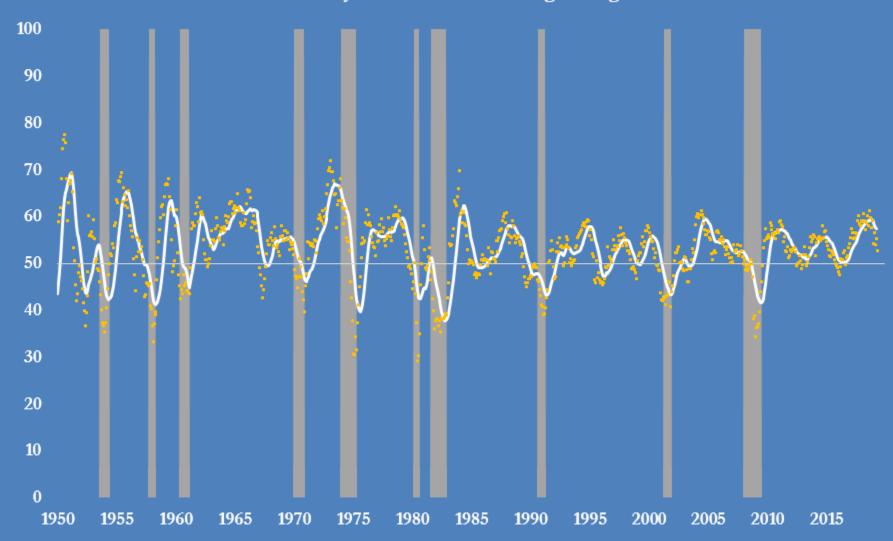
U.S. manufacturing slowdowns and Fed responses Selected indicators

JOHN KEMP REUTERS 2 May 2019

U.S. Purchasing Managers' Index, 1950-2019

Manufacturing, diffusion index, base = 50 Monthly and 12-month moving average



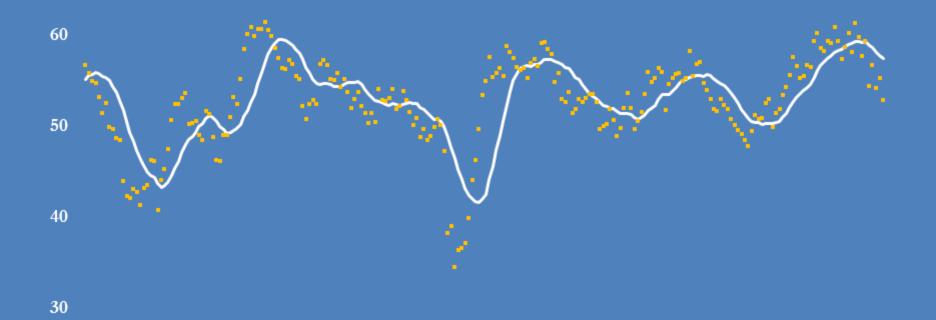
Source: Institute for Supply Management, Manufacturing Report on Business



Manufacturing, diffusion index, base = 50 Monthly and 12-month moving average

70

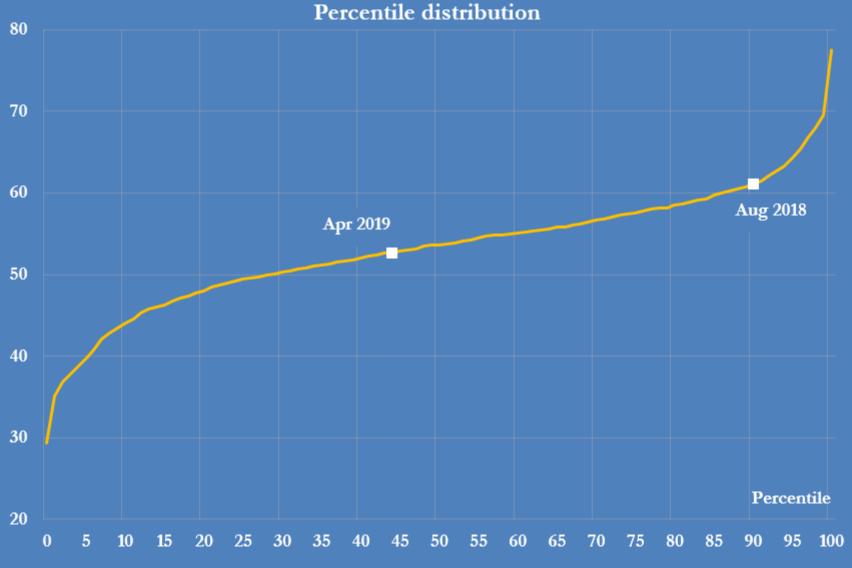
80



20 2000 2005 2010 2015

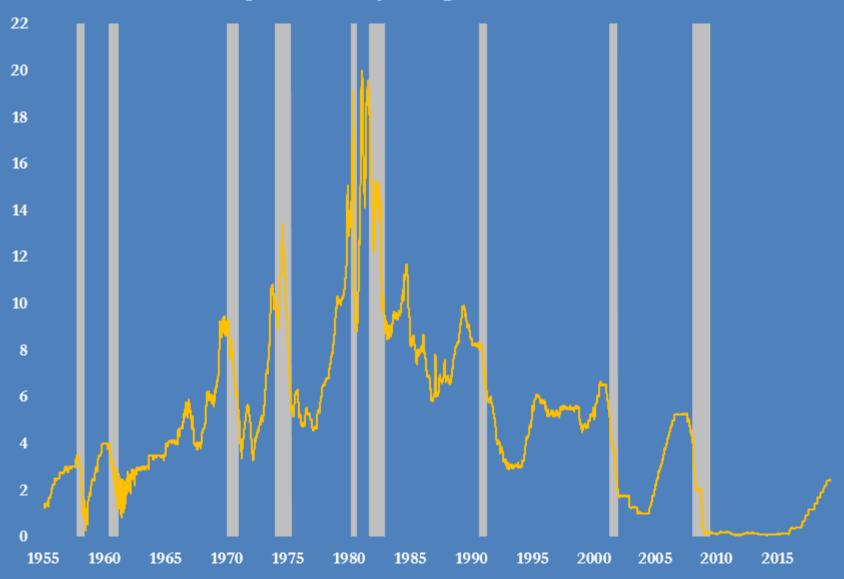
Source: Institute for Supply Management, Manufacturing Report on Business

U.S. Purchasing Managers' Index, 1950-2019 Diffusion index, base = 50



Source: Institute for Supply Management, Manufacturing Report on Business

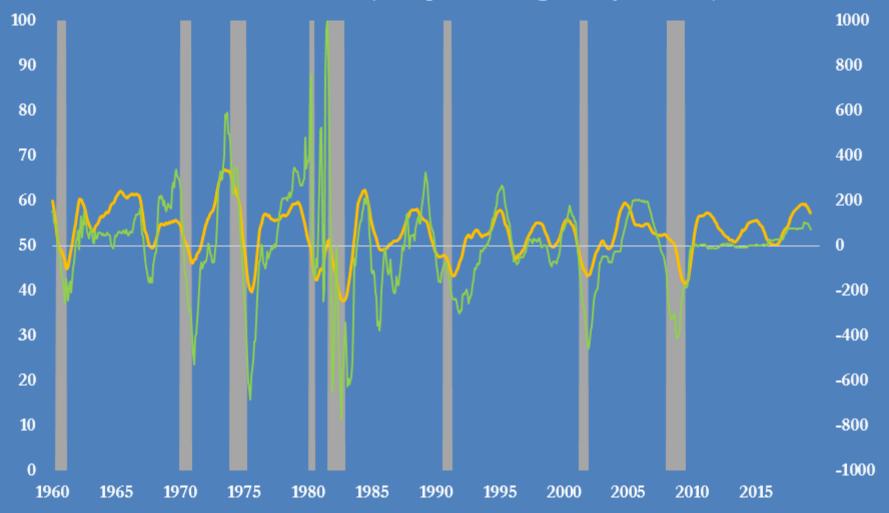
Effective federal funds rate, 1955-2019 annualised percent, 20-day average, NBER recessions shown



Sources: Board of Governors of Federal Reserve System, National Bureau of Economic Research @JKempEnergy

## U.S manufacturing activity and short-term interest rates

ISM composite index (12-month average)
Effective fed funds rate (basis points, change from year earlier)



■ NBER recessions

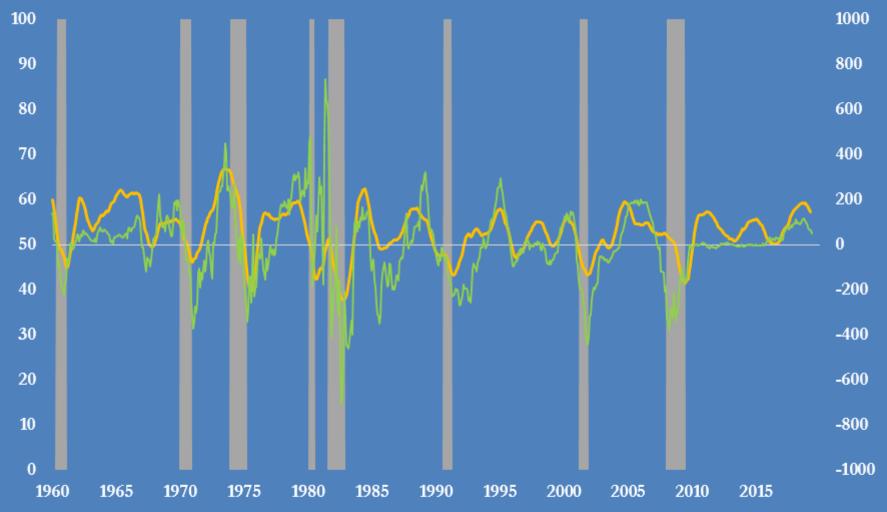
——ISM manufacturing index (left axis)

- Effective federal funds rate (right-axis)

Sources: Institute for Supply Management, Federal Reserve, NBER, Refinitiv, @JKempEnergy

## U.S manufacturing activity and short-term interest rates

ISM composite index (12-month average)
3-month U.S. Treasury bill yields (basis points, change from year earlier)

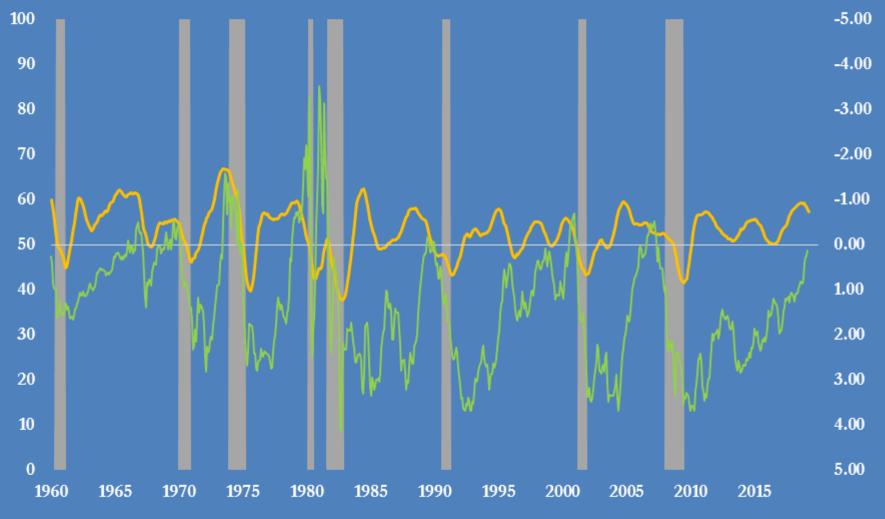


- NBER recessions
- ---ISM manufacturing index (left axis)
- --- 3-month Treasury bill yield (right-axis)

Sources: Institute for Supply Management, Federal Reserve, NBER, Refinitiv, @JKempEnergy

## U.S manufacturing activity and short-term interest rates

ISM composite index (12-month average)
Yield spread 3mth-10yr Treasuries (percent points)



NBER recessions

--- ISM manufacturing index (left axis)

--Yield spread (right-axis)

Sources: Institute for Supply Management, New York Fed, NBER, Refinitiv, @JKempEnergy

U.S. Treasury yield spread for second half of 2019 Spread between bills maturing on 27/06/19 and 02/01/2020, percent points



U.S. Treasury yield curve, 2018-2019 Percent points, 3mth bills - 10yr notes



Source: Refinitiv