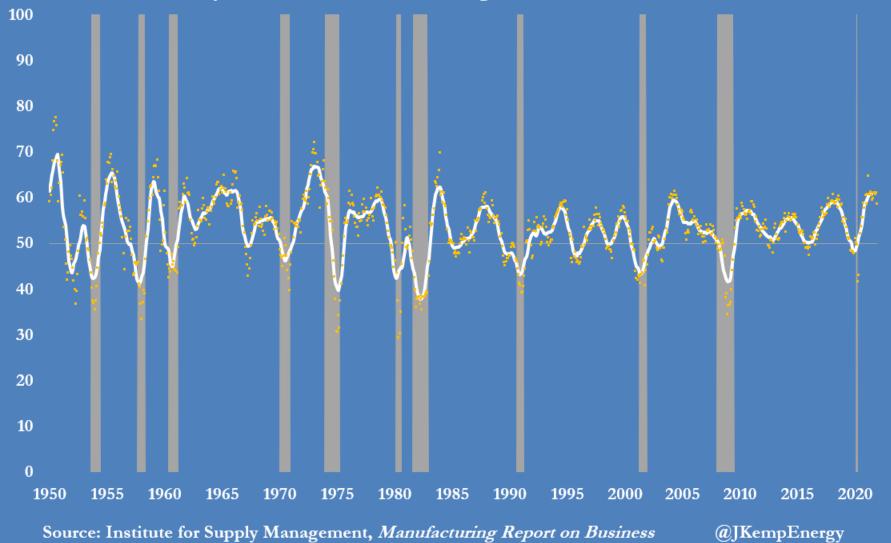
Commodity prices and the manufacturing cycle Selected indicators

JOHN KEMP REUTERS 27 Jan 2022

U.S. Purchasing Managers' Index, 1950-2021 Manufacturing, diffusion index, base = 50 Monthly and 12-month centred average, NBER recessions shown



U.S. manufacturing cycle troughs since 1950

Cyclical low points in ISM manufacturing index

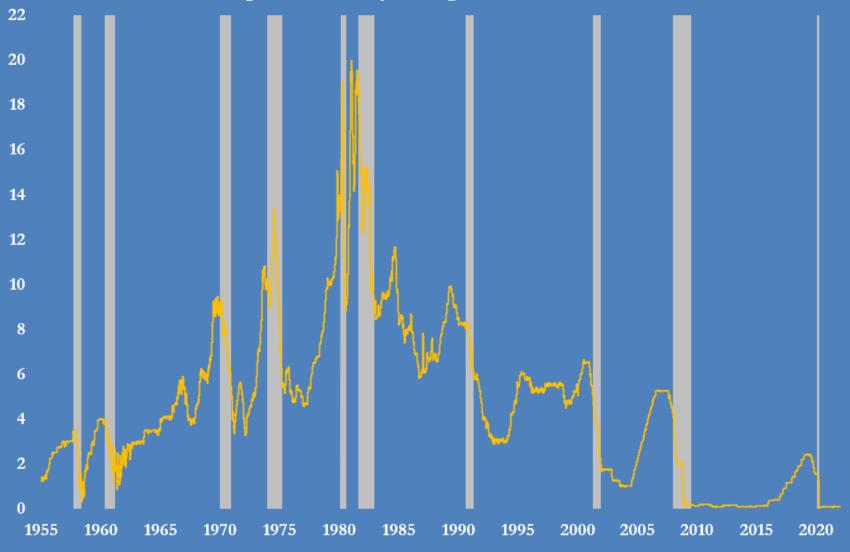
ISM trough	Months since last trough	NBER recession?
Apr 1952		
Dec 1953	20	Yes
Jan 1958	49	Yes
May 1960	28	Yes
Aug 1962	27	No
Apr 1967	56	No
Nov 1970	43	Yes
Jan 1975	50	Yes
May 1980	64	Yes
May 1982	24	Yes
May 1985	36	No
Jan 1991	68	Yes
Jan 1996	60	No
Dec 1998	35	No
Oct 2001	34	Yes
Dec 2008	86	Yes
Nov 2012	47	No
Jan 2016	38	No
Apr 2020	51	Yes

Duration of ISM cycles s	ince 1980 (months)
Mean	48
Median	42
Trimmed mean	37
Standard deviation	18

Duration of ISM cycles since	1950 (months)
Mean	45
Median	45
Trimmed mean	39
Standard deviation	17

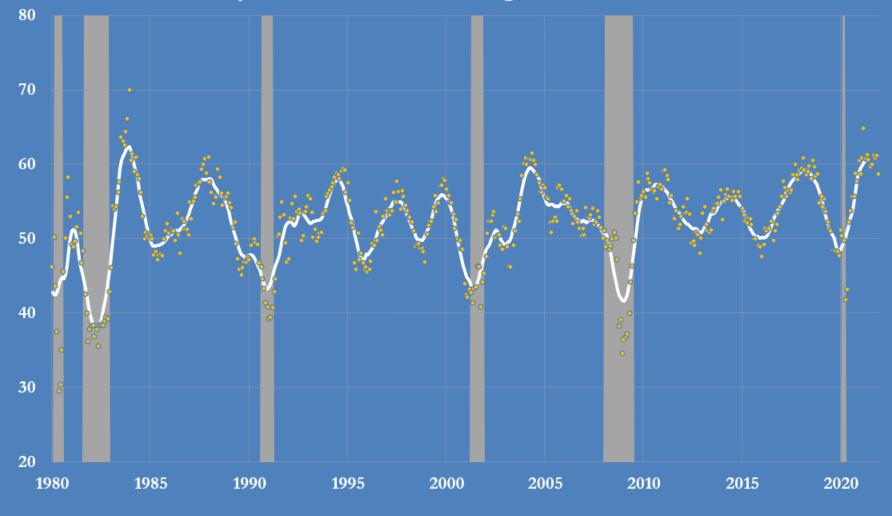
Sources: Institute for Supply Management and National Bureau for Economic Research

Effective federal funds rate, 1955-2022 annualised percent, 20-day average, NBER recessions shown



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

U.S. Purchasing Managers' Index, 1980-2021 Manufacturing, diffusion index, base = 50 Monthly and 12-month centred average, NBER recessions shown



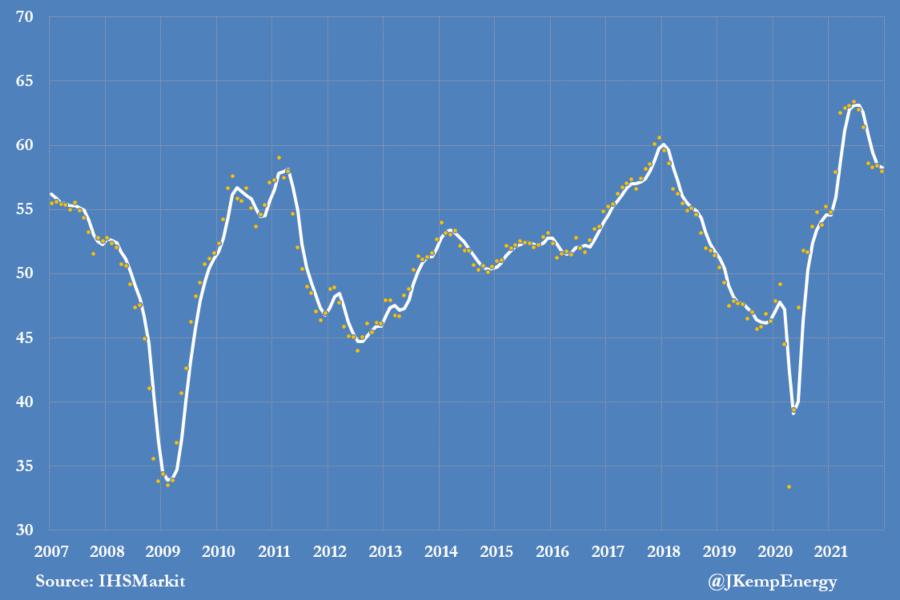
Source: Institute for Supply Management, Manufacturing Report on Business

China purchasing managers' index, 2005-2021 Manufacturing sector, monthly and 3-month centred average

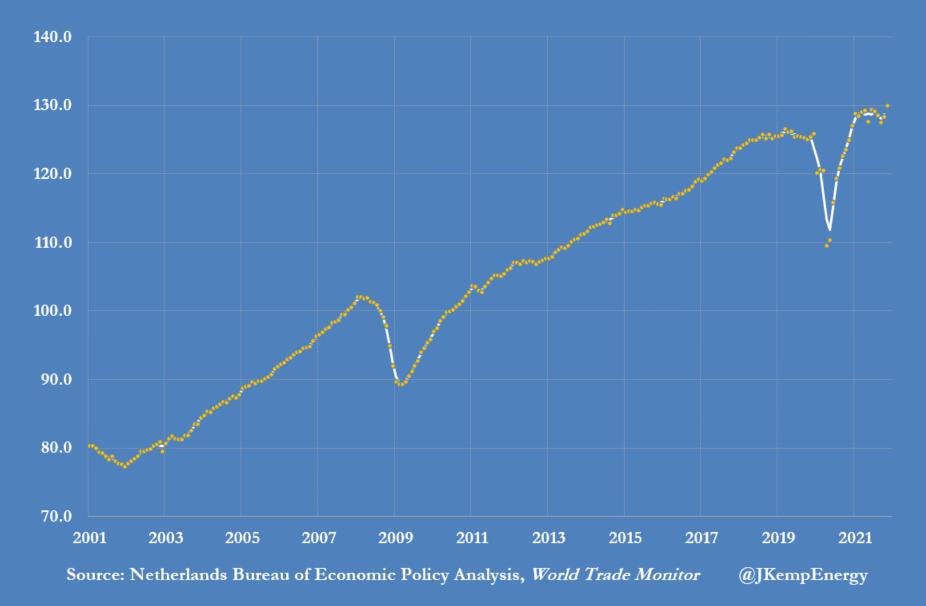


Source: China National Bureau of Statistics

Eurozone manufacturing purchasing managers' index, 2007-2021 Index base = 50, monthly and three-month average



Global industrial production, 2001-2021 production-weighted index, monthly and three-month centred average

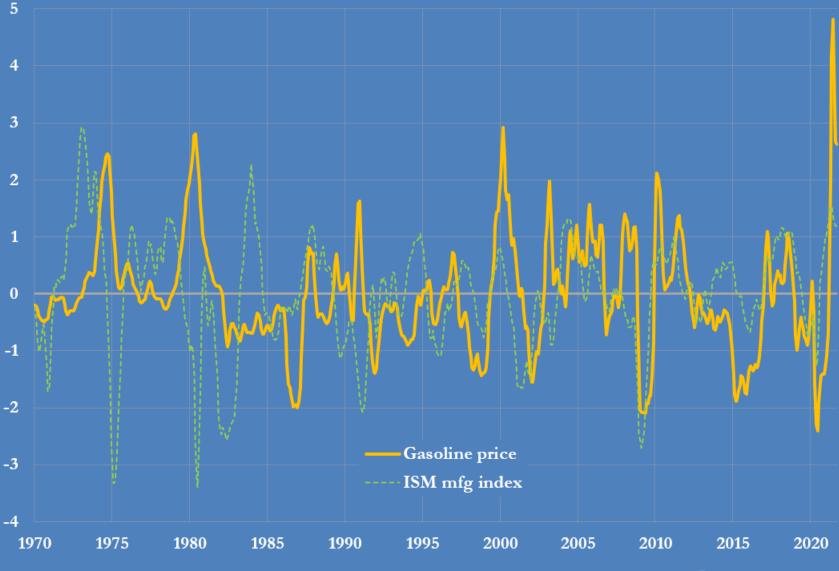


Global industrial production, 2001-2021 production-weighted percent change from prior year, monthly and three-month centred average



Source: Netherlands Bureau of Economic Policy Analysis, World Trade Monitor @JKe

U.S. gasoline prices and the business cycle, 1950-2021 gasoline price percent change from prior year, ISM mfg index, z-scores



Source: U.S. Bureau of Labor Statistics