The relatively simple MODCAP model of US economic development 1980 - 2020

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Abstract

We are in the process of building a relatively simple model ("MODCAP") of the time development of a modern capitalist economy with an active government, operating in a finite environment. Our ambition is to create the simplest (while still plausible) model that can recreate ca 20 central time series for the US economy from 1980 to 2020 – without the use of exogenous time-dependent drivers (except to capture the underlying technological advance). Our ambition is to create a model that can serve as a modern and dynamic “macroeconomic theory” capable of guiding the scientific and public debate on macroeconomics.

In this interim report we present the core of our new macroeconomic theory. It consist of four “reference modes” - observed patterns in the US economy from 1980 to 2020 – and our current hypotheses concerning the underlying “basic mechanisms”. The four reference modes are presented as time graphs and the four basic mechanisms as causal diagrams.

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Growth: US economic activity (GDP) 1980 - 2020

Source: Federal Reserve St Louis, https://fred.stlouisfed.org/series/GDP
Growth and 10-year wave:  US workforce  1980 - 2020

US All Employees, Total Nonfarm, Millions of Persons, Monthly, Seasonally Adjusted

Source: Federal Reserve St Louis, https://fred.stlouisfed.org/series/PAYEMS
10-year wave: US unemployment rate 1980 - 2020

Source: Federal Reserve St Louis, https://fred.stlouisfed.org/series/UNRATE
10-year wave and 4-year cycle: US capacity utilization 1980 - 2020

Source: Federal Reserve St Louis, https://fred.stlouisfed.org/series/CUMFNS
Decade-long financial cycle:  US 3-month interest rate   1980 - 2020

US 3-Month Treasury Bill: Secondary Market Rate, Percent, Monthly, Not Seasonally Adjusted

Source: Federal Reserve St Louis, https://fred.stlouisfed.org/series/DTB3
Basic mechanism A: “Profit-driven investment”

Causing long-term growth in the economy

4 self-reinforcing loops
Basic mechanism B: “Splitting the value added”

Causing a 10-year wave in the economy

2 balancing loops
Basic mechanism C: “Adjusting inventories”

Causing a 4-year cycle in the economy

2 balancing loops
Basic mechanism D: “Setting of the interest rate”

Causing a decade-long financial cycle in economy

2 balancing and 1 selfreinforcing loops
The role of modern capitalist economies in a longer perspective

THANK YOU!
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Source: https://www.visualcapitalist.com/2000-years-economic-history-one-chart/