



CENTRE FOR
GREEN GROWTH

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.

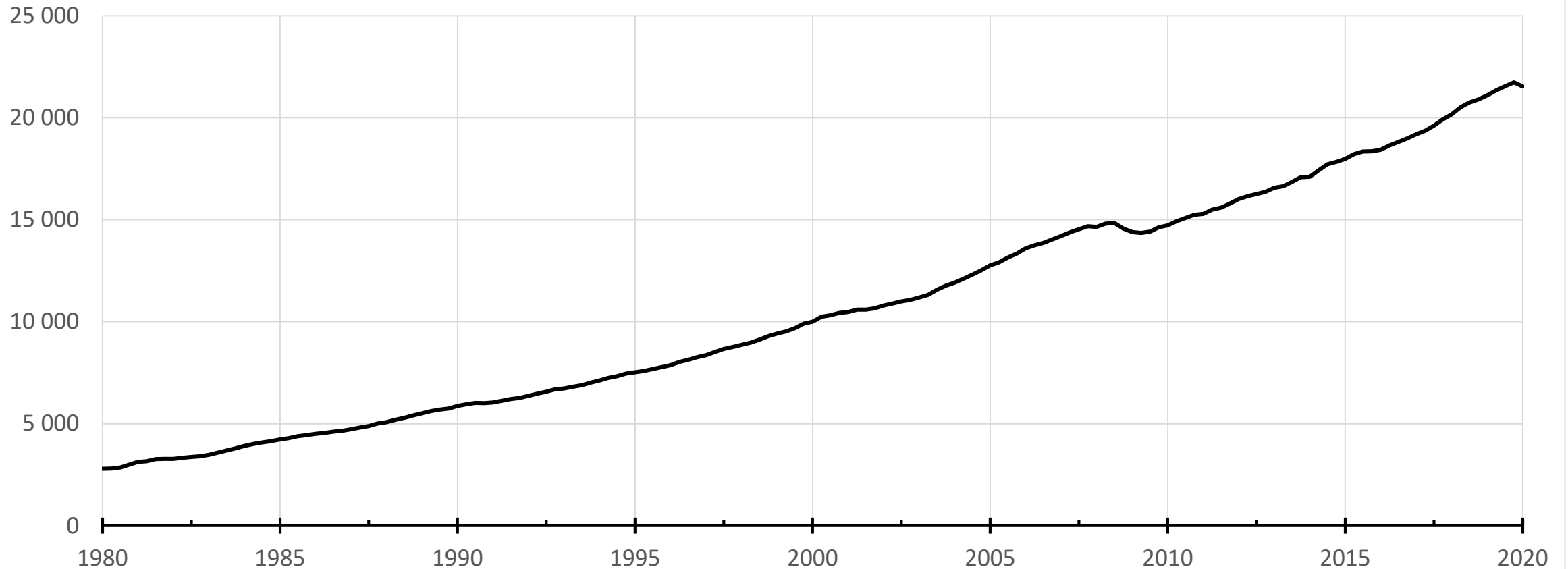
Author link

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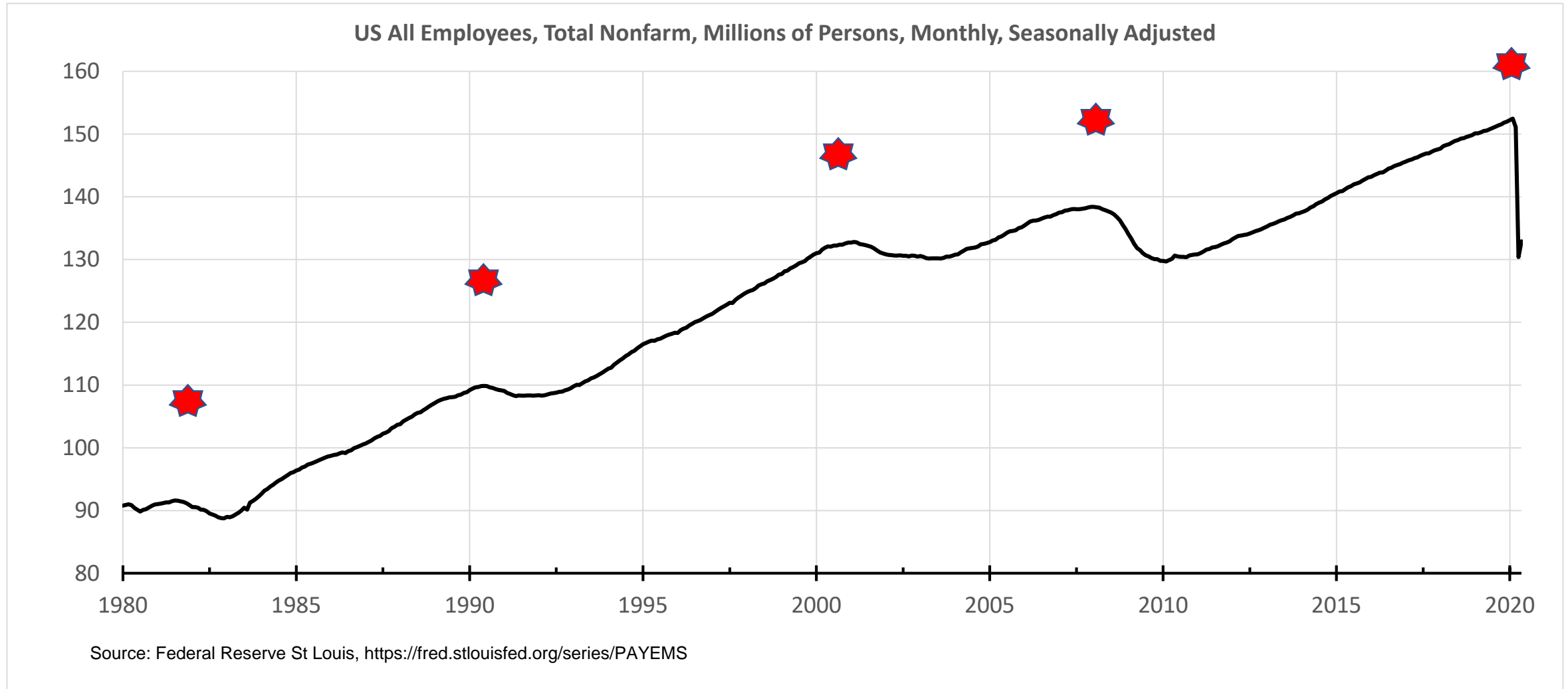
Growth: US economic activity (GDP) 1980 - 2020

US Gross Domestic Product, Billions of Dollars, Quarterly



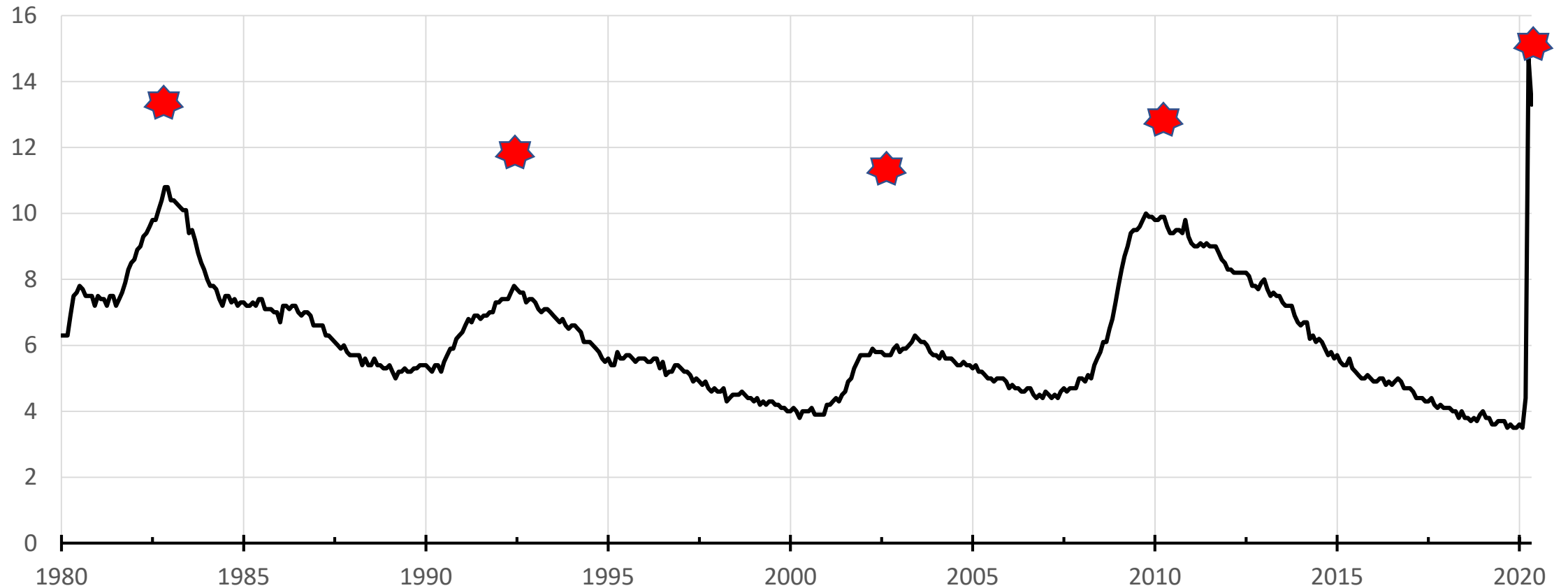
Source: Federal Reserve St Louis, <https://fred.stlouisfed.org/series/GDP>

Growth and 10-year wave: US workforce 1980 - 2020



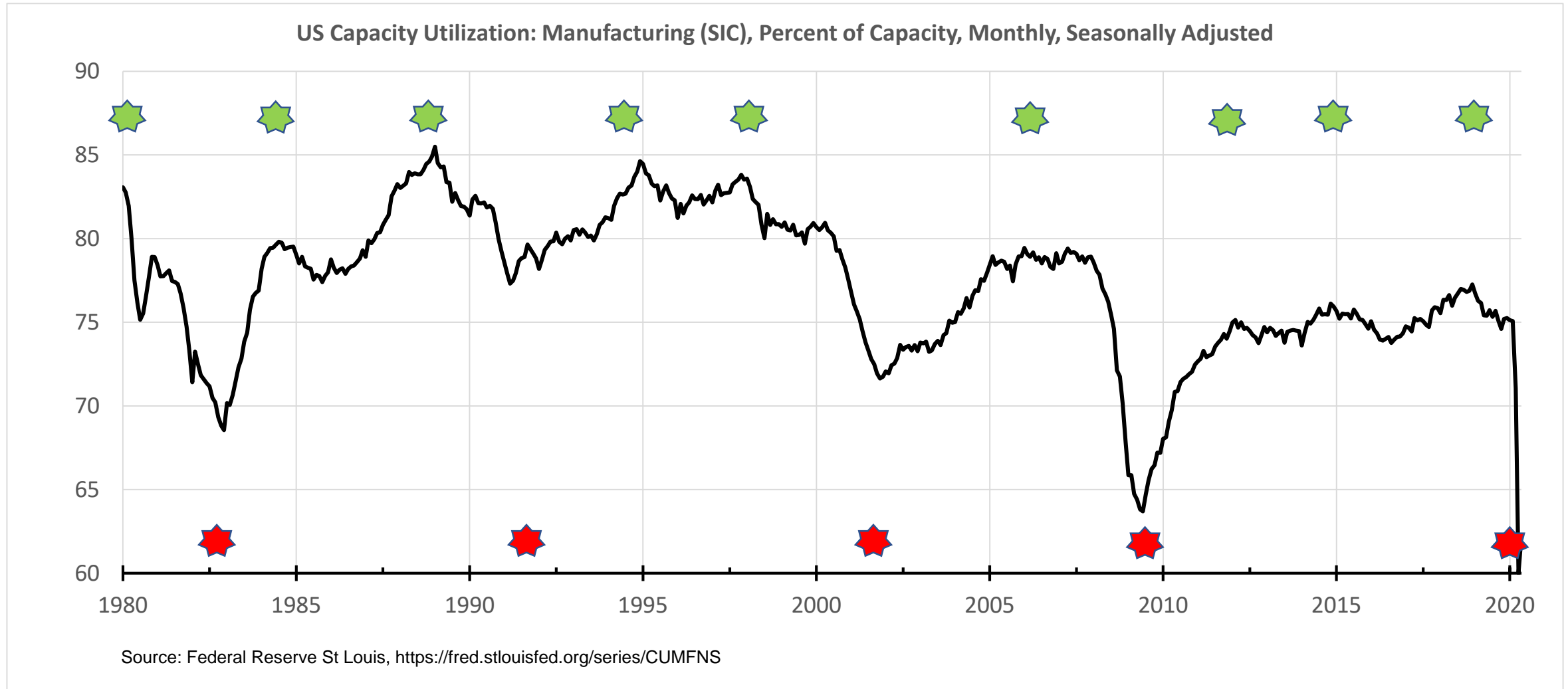
10-year wave: US unemployment rate 1980 - 2020

US Unemployment Rate, Percent, Monthly, Seasonally Adjusted

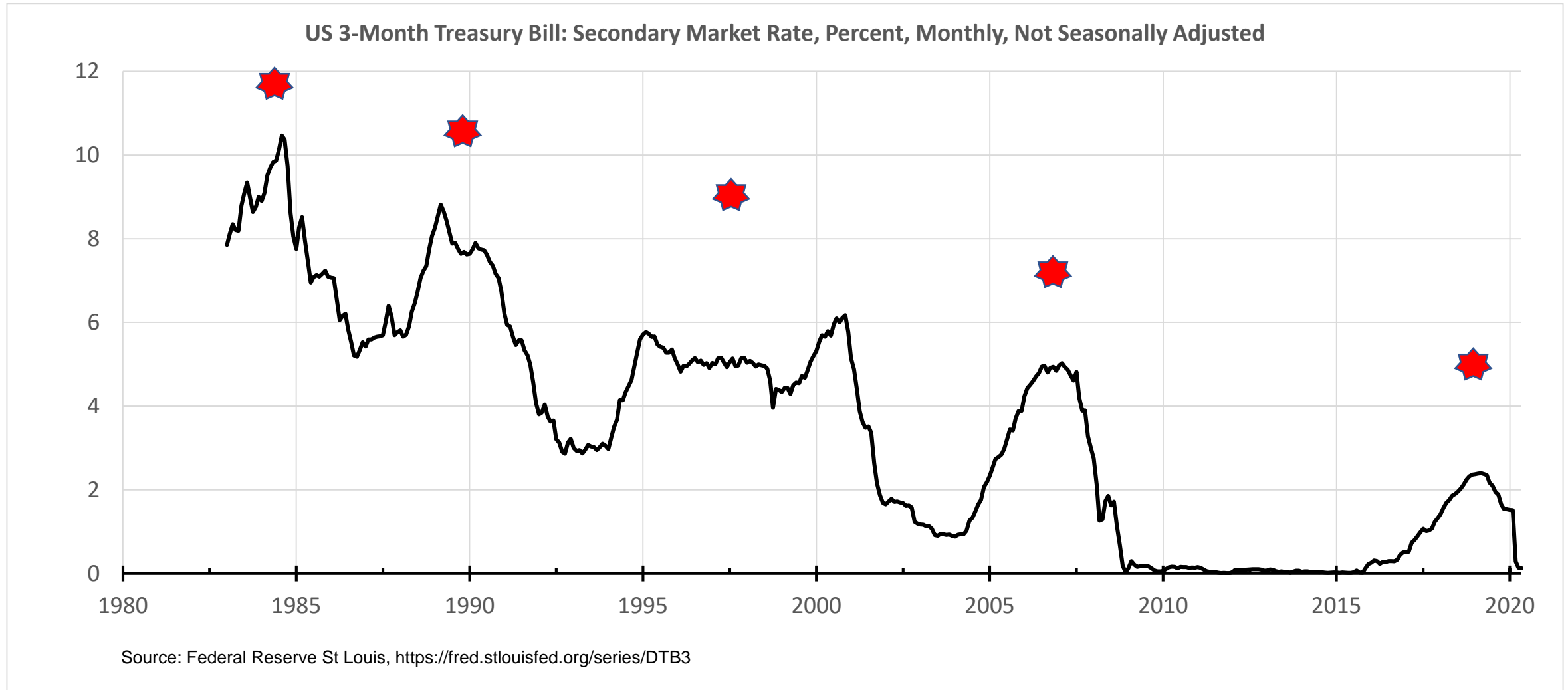


Source: Federal Reserve St Louis, <https://fred.stlouisfed.org/series/UNRATE>

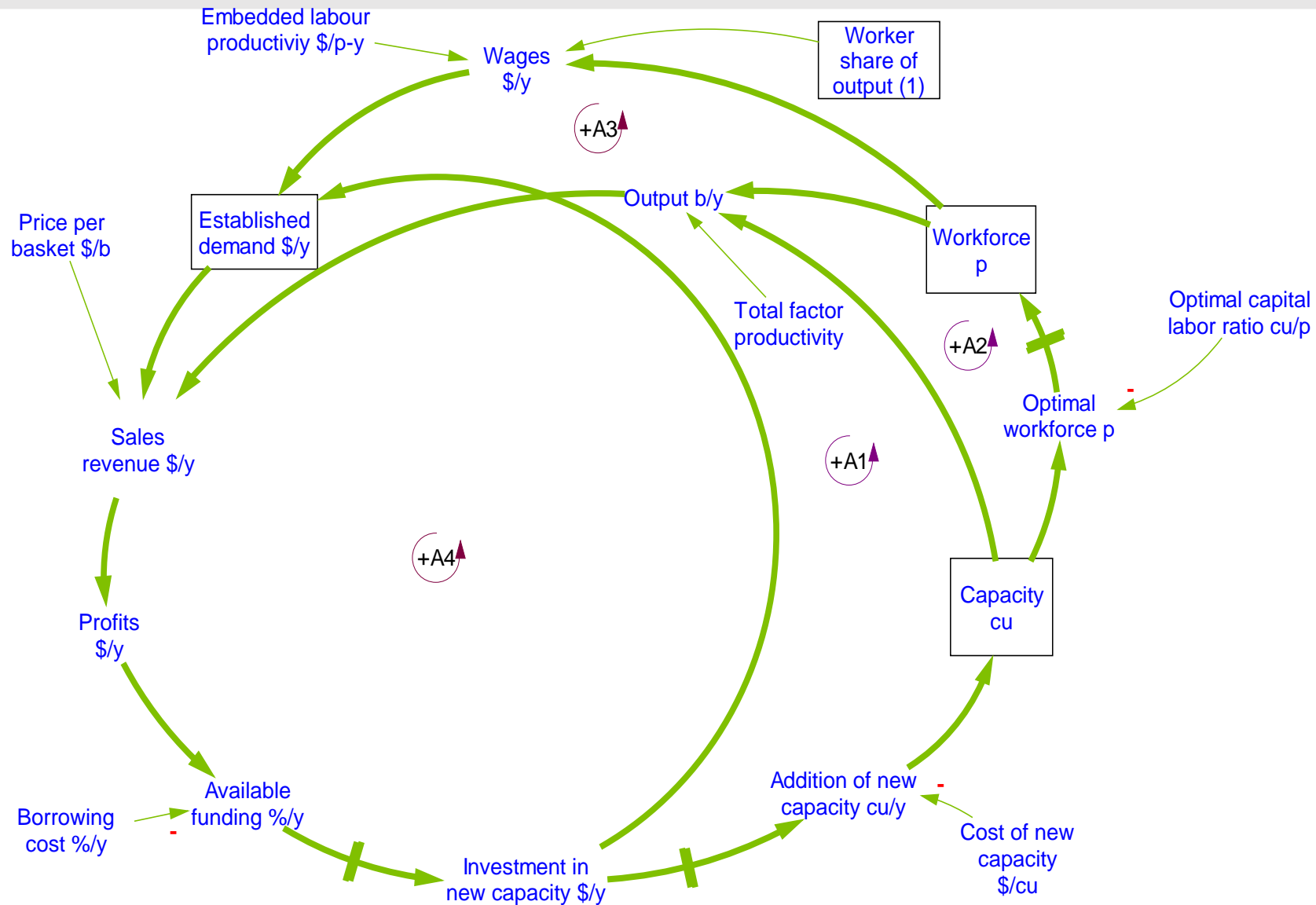
10-year wave and 4-year cycle: US capacity utilization 1980 - 2020



Decade-long financial cycle: US 3-month interest rate 1980 - 2020



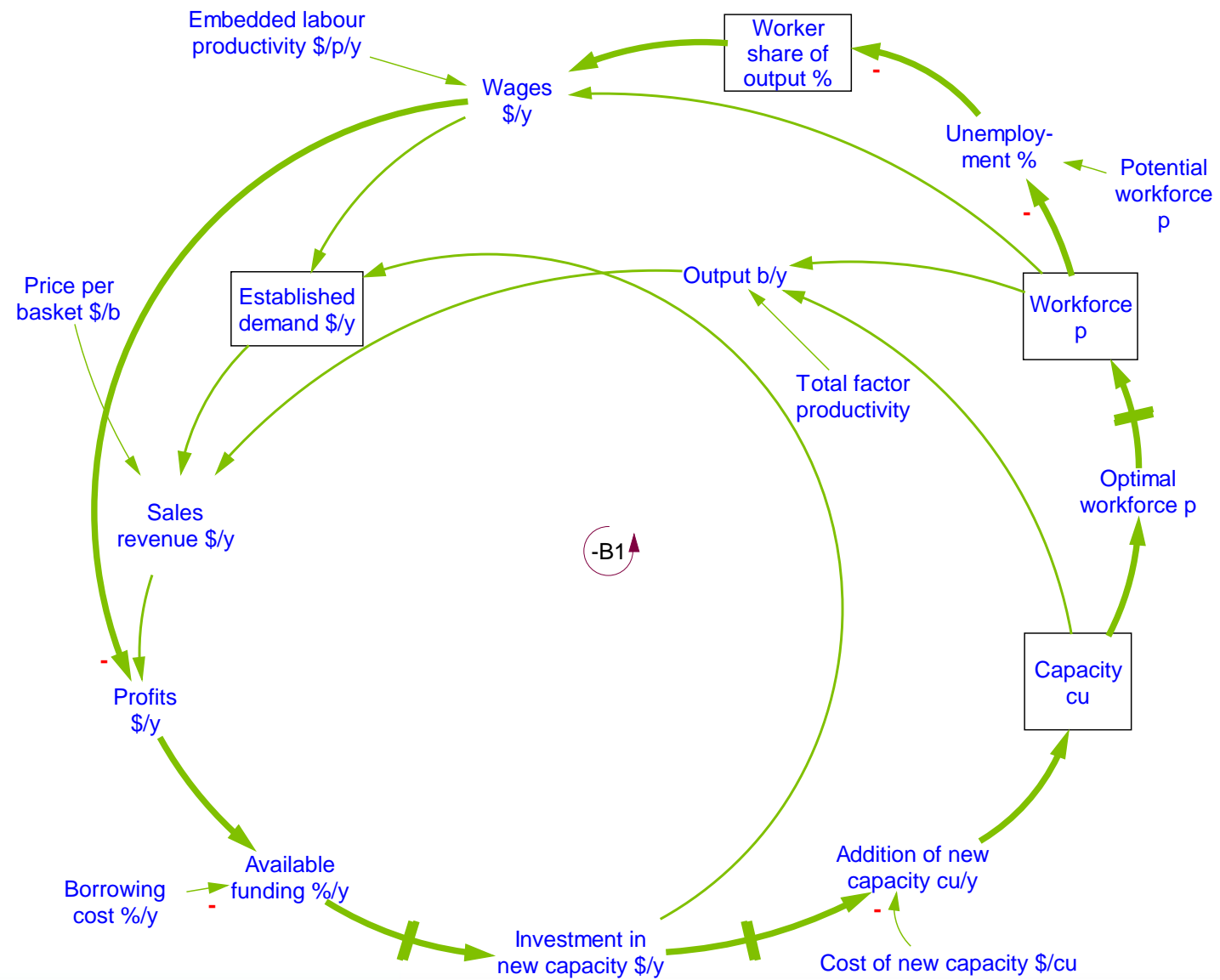
Basic mechanism A: "Profit-driven investment"



Causing long-term growth in the economy

4 selfreinforcing loops

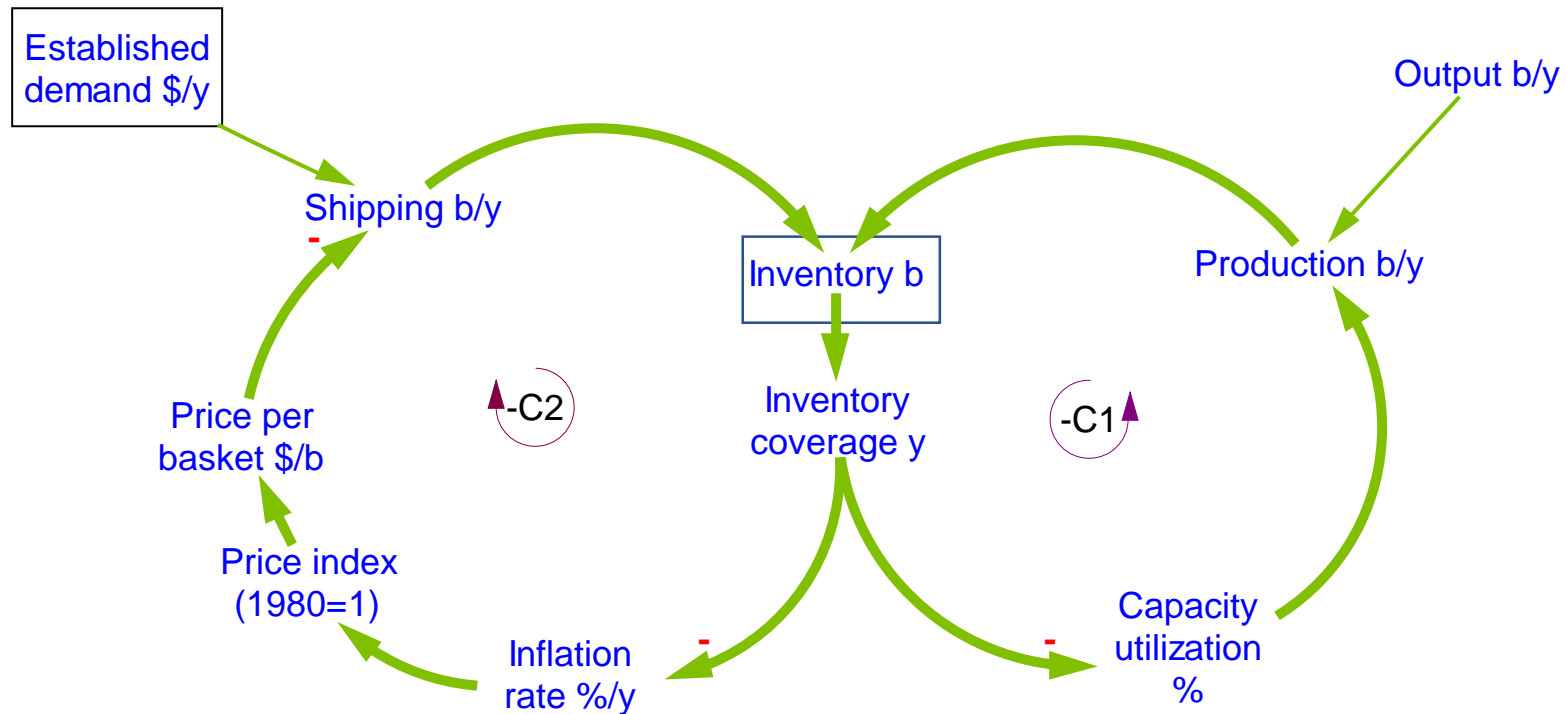
Basic mechanism B: "Splitting the value added"



Causing a 10-year wave in the economy

2 balancing loops

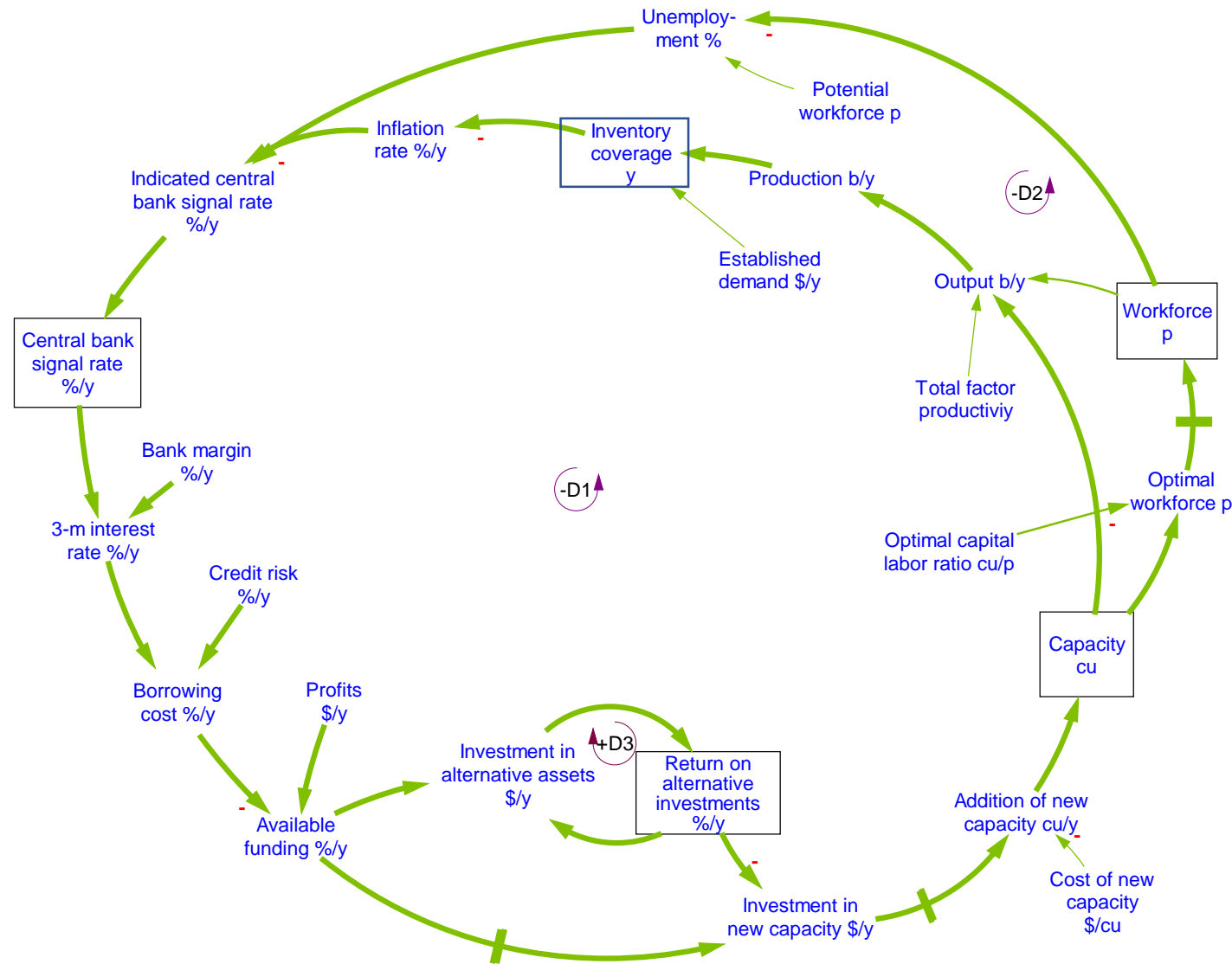
Basic mechanism C: "Adjusting inventories"



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

