Econ 352 - Business Cycle Measurement

(See Williamson Ch. 3)

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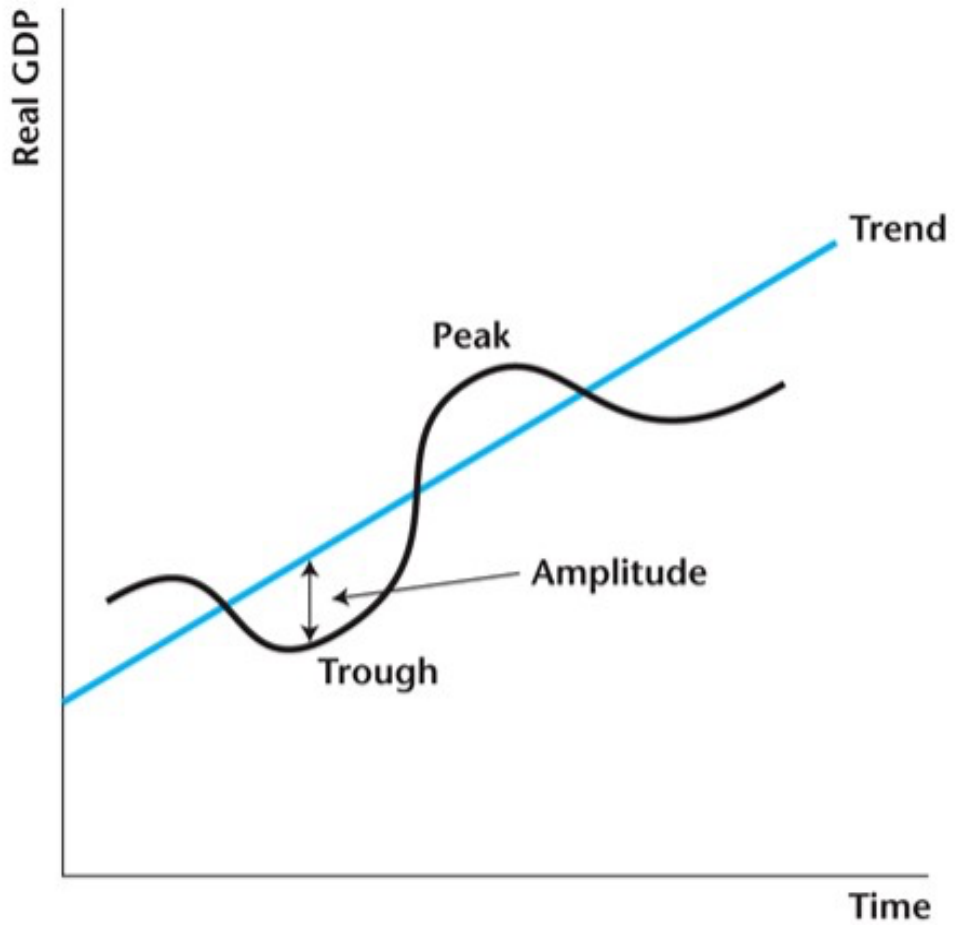
Measuring Business Cycles

- In this lecture we'll think about how deviations of GDP from trend and the things that co-move with it
- Explaining the co-movements is key: constrains theory space sharply!
- Note: my #'s will deviate from Williamson's because I'll be using a different filter, but lessons are same

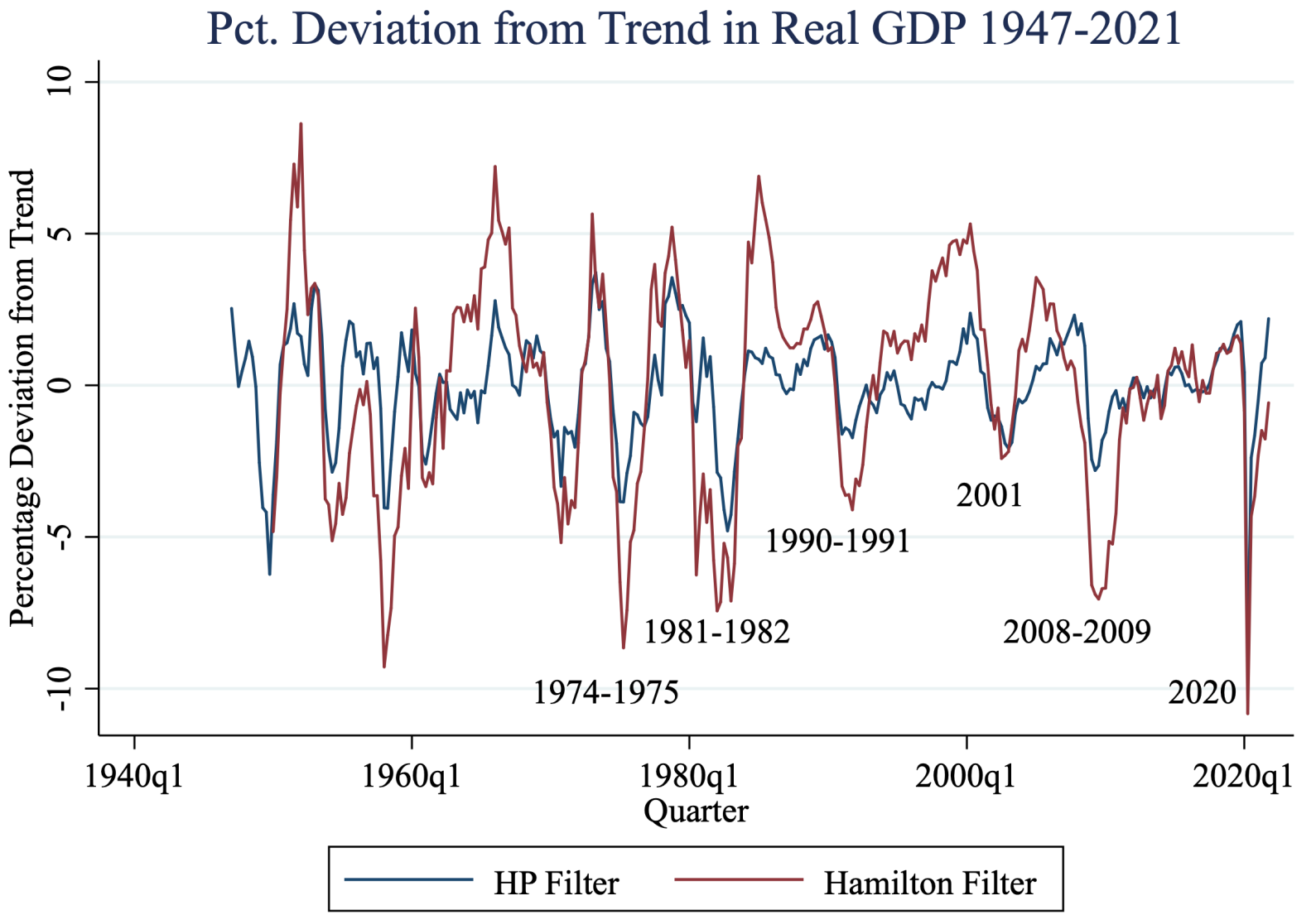
Measuring Business Cycles

- In this lecture we'll think about how deviations of GDP from trend and the things that co-move with it
- Explaining the co-movements is key: constrains theory space sharply!
- Lesson for life: whenever you create a hypothesis to explain X, thinking of side predictions on Y and Z (that you didn't create the model to explain, but it has opinions on) is a very valuable practice!

Idealized Business Cycle

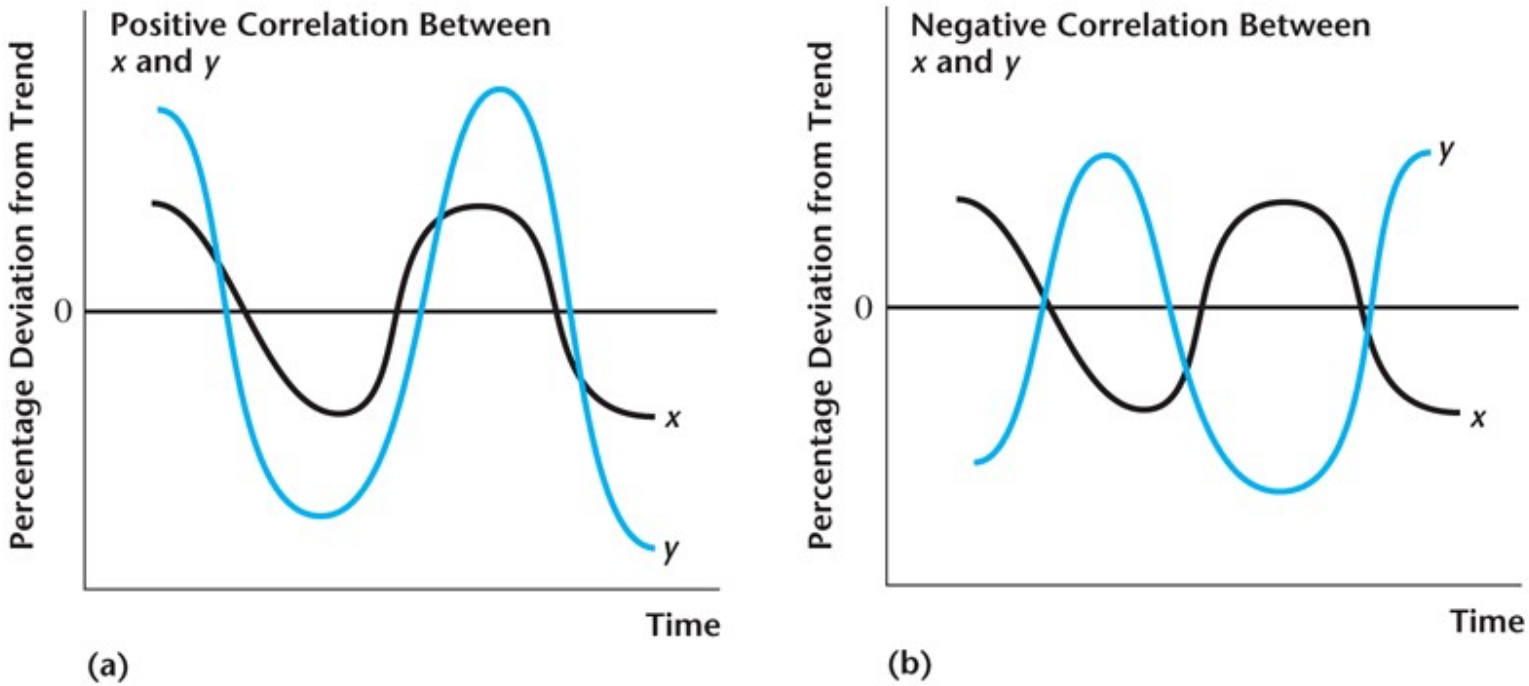


Real GDP Deviations



Takeaways: deviations are persistent, magnitudes are a few years of growth at most

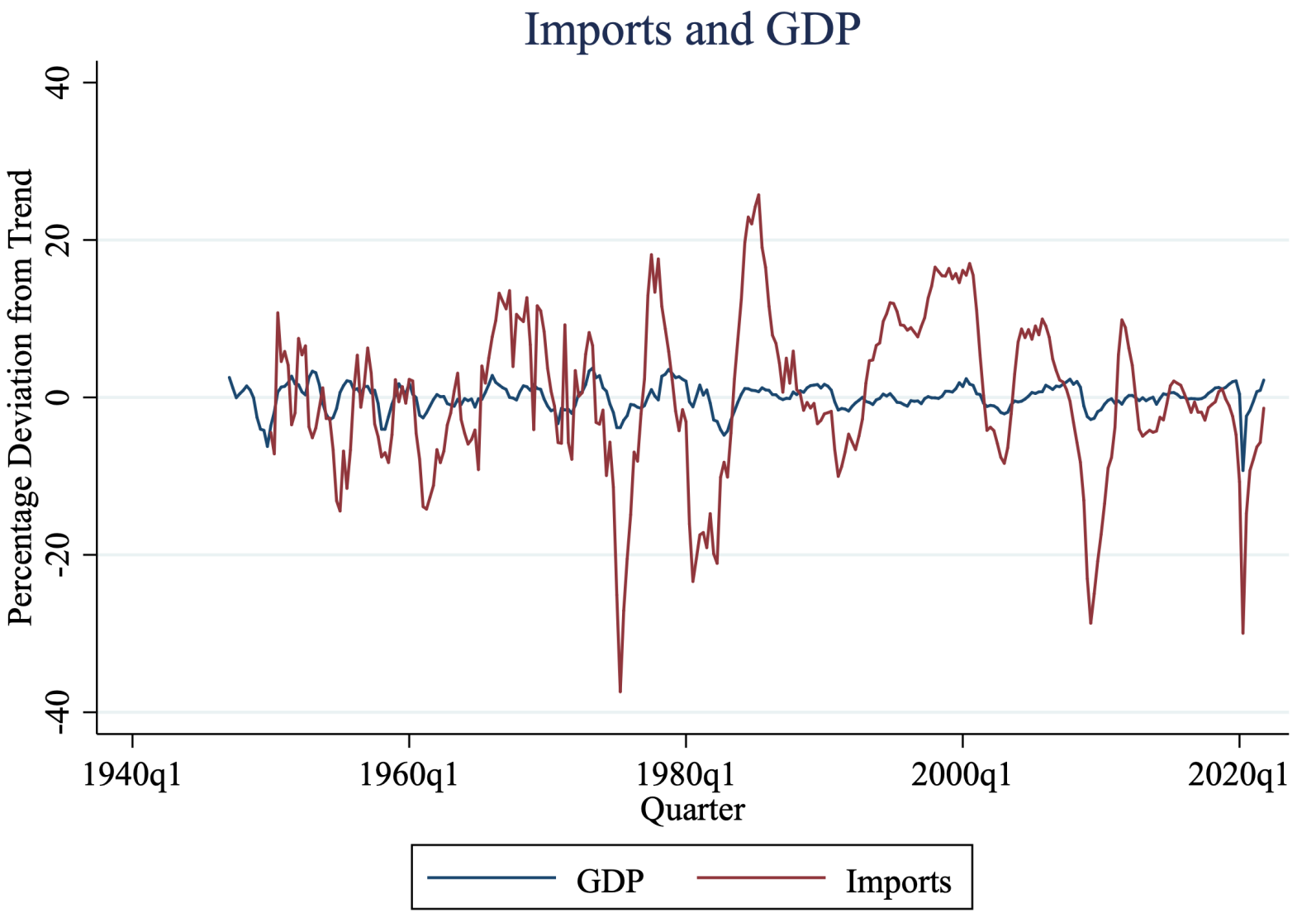
Positive vs Negative Comovement



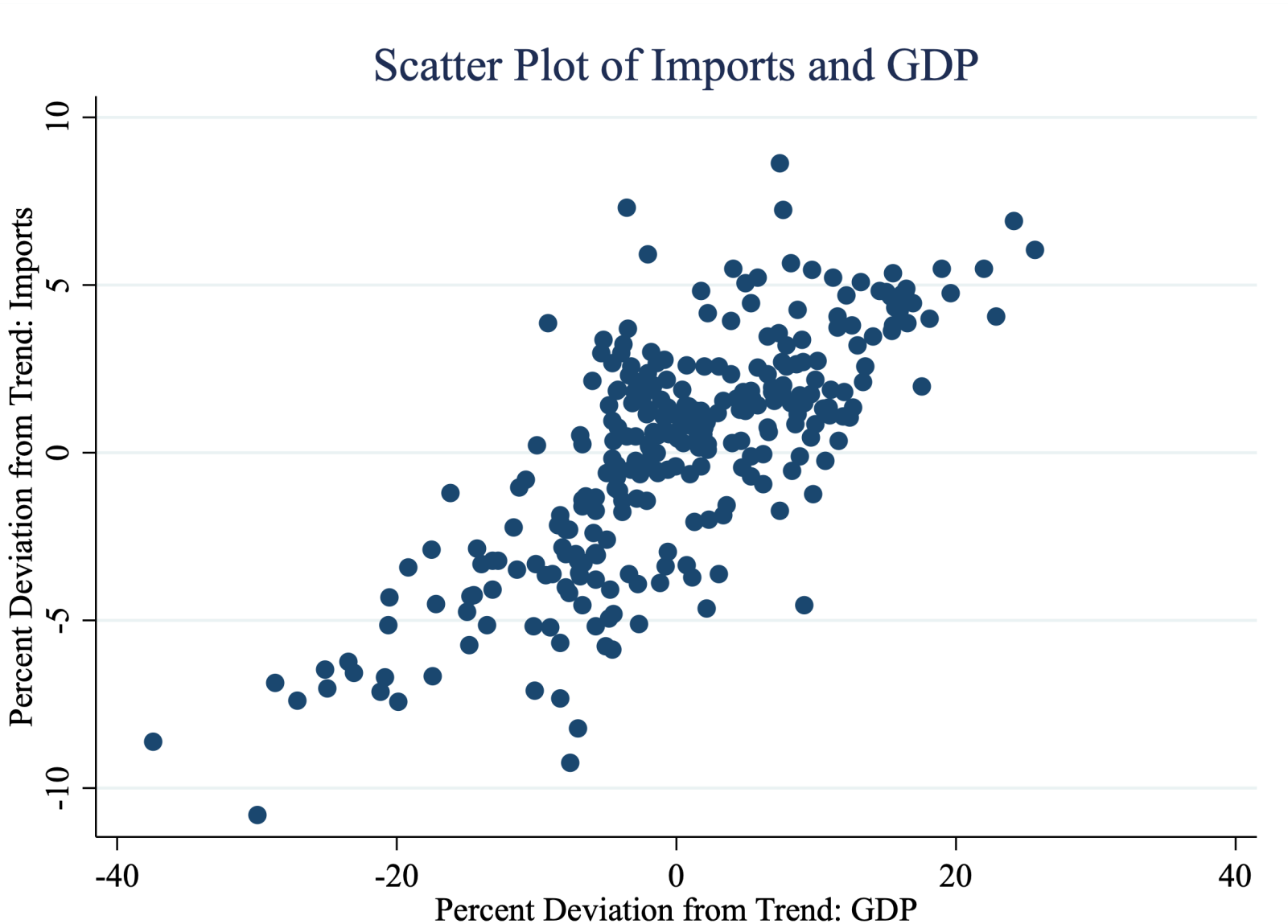
Cyclicality

- If something moves with GDP (cyclically) then it's **procyclical** (like employment)
- If something moves the opposite direction of GDP (cyclically) then it's **countercyclical** (like unemployment)
- If something doesn't move with GDP then it's **acyclical**

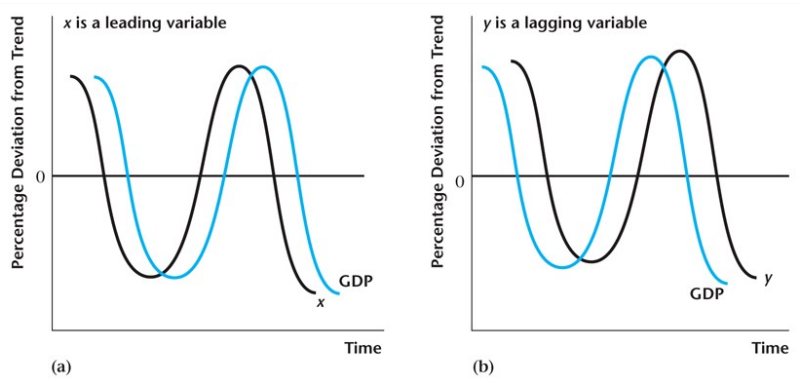
Imports and Real GDP



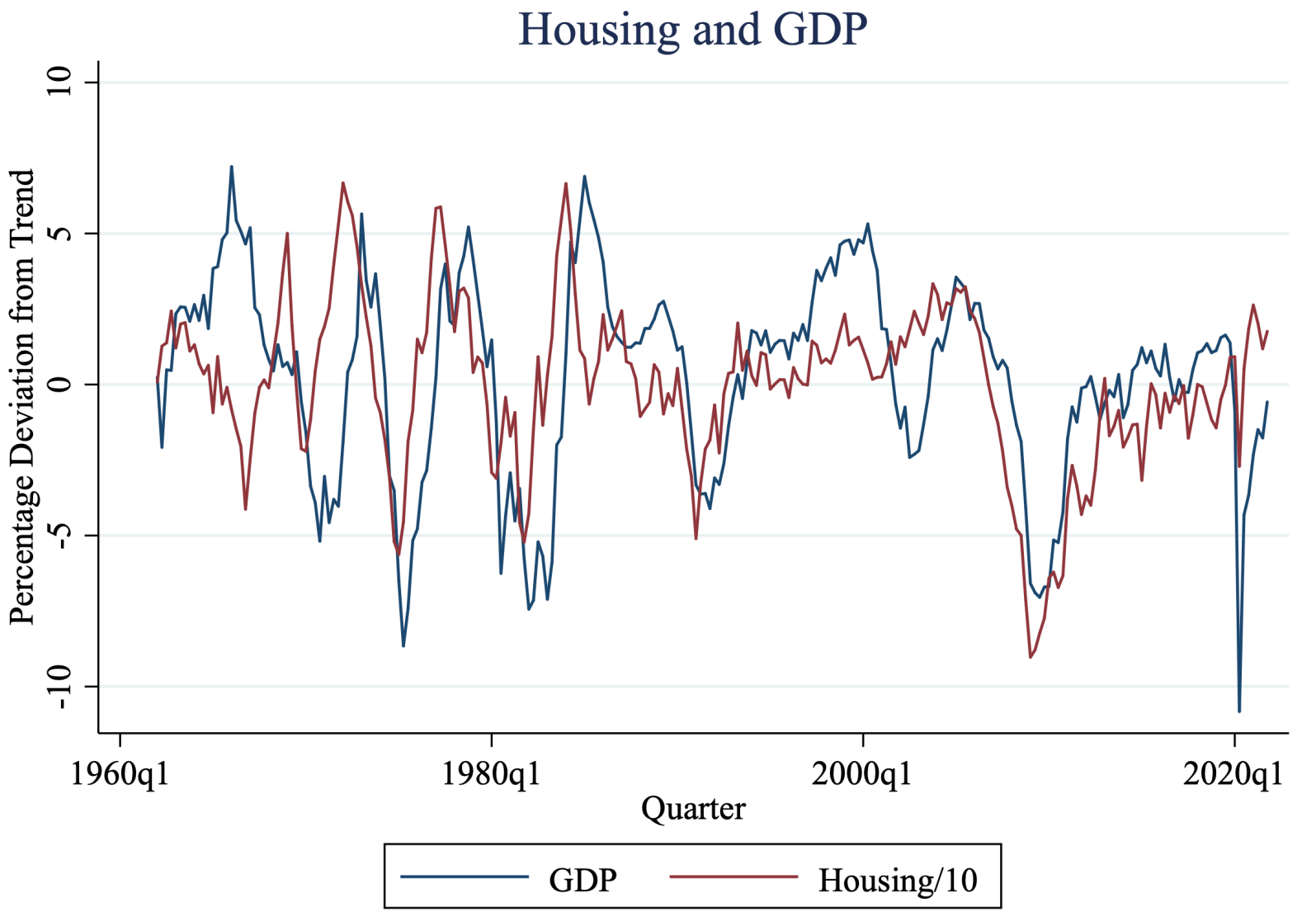
Imports and Real GDP



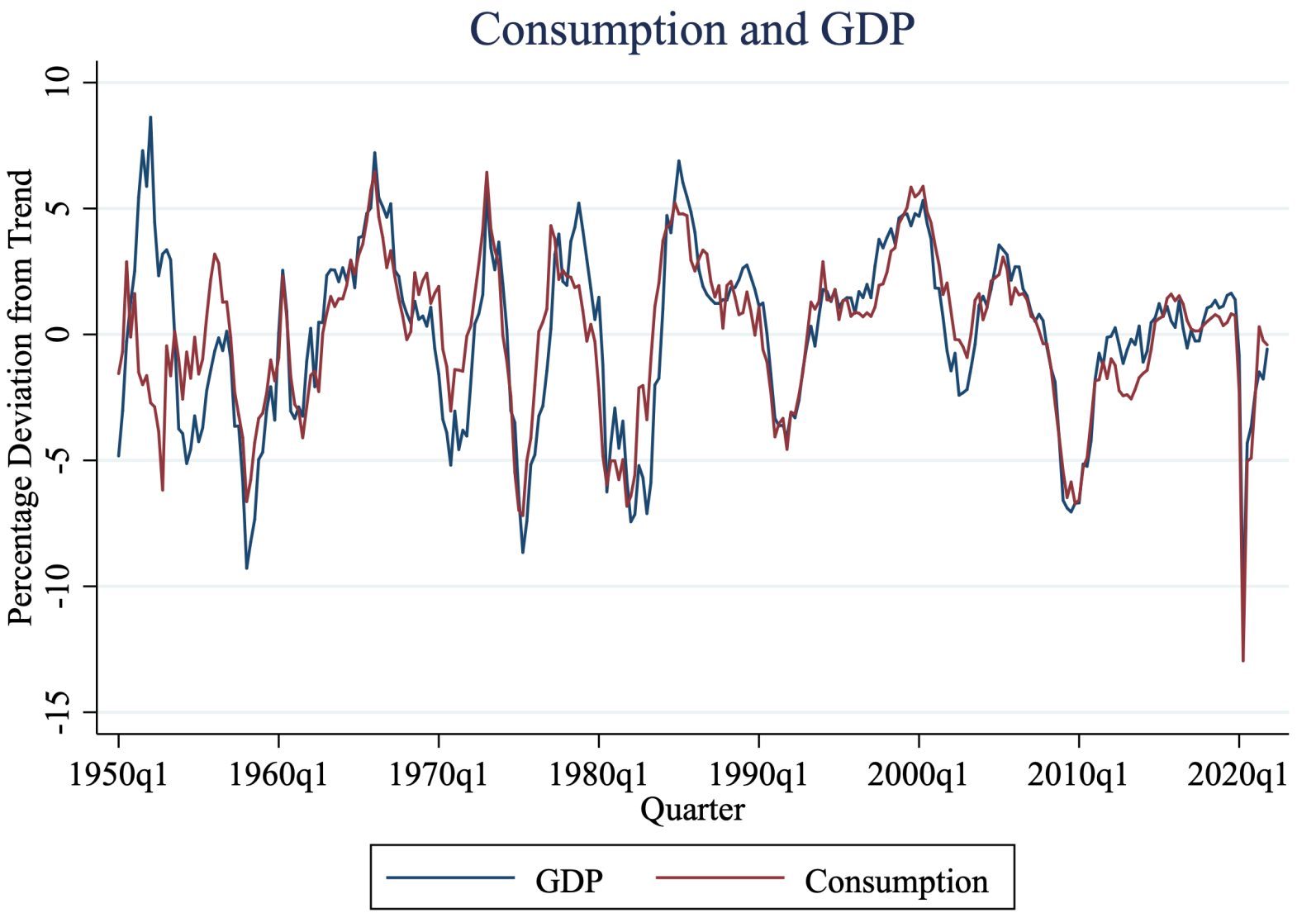
Idealized Business Cycle



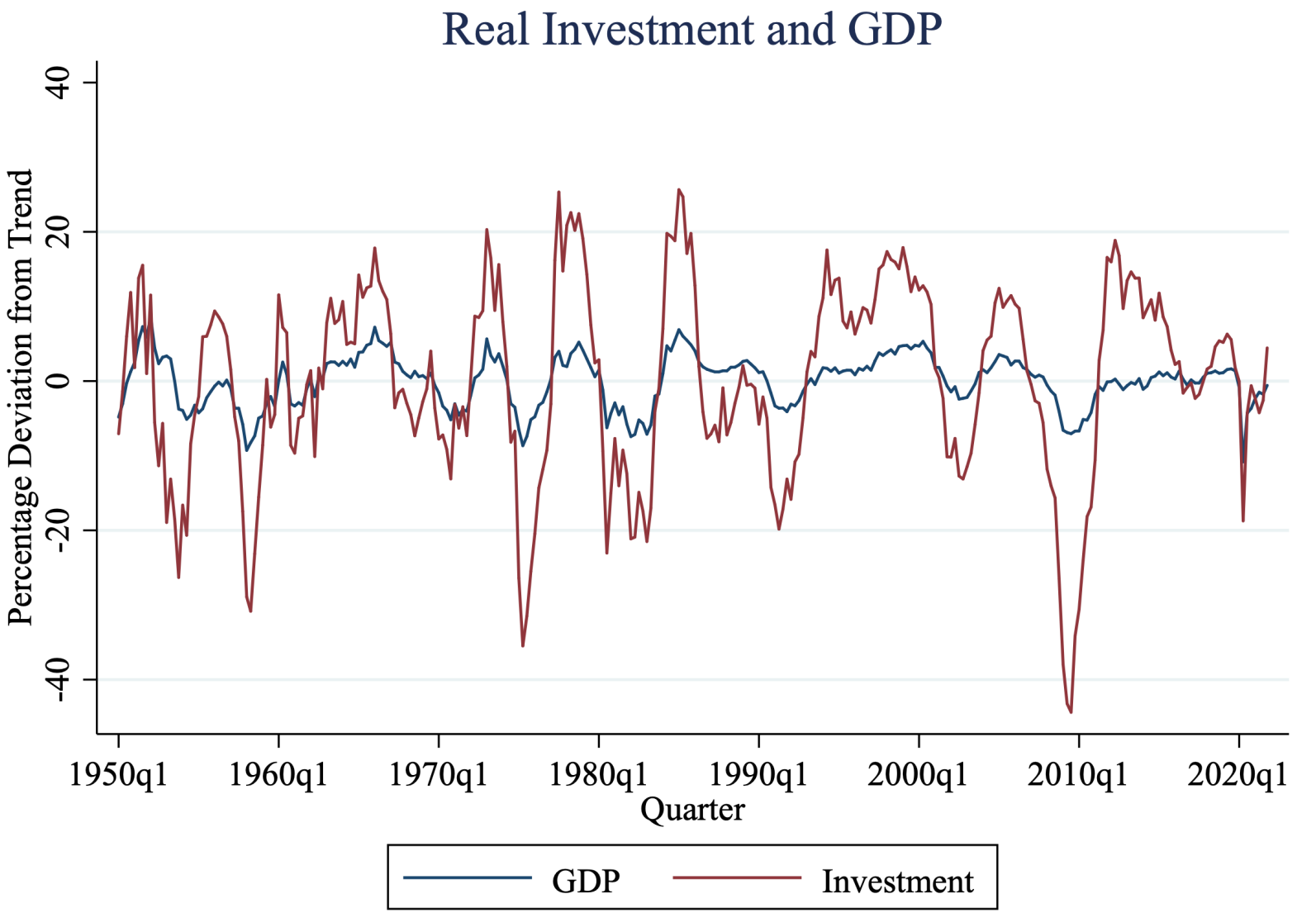
Housing and Real GDP



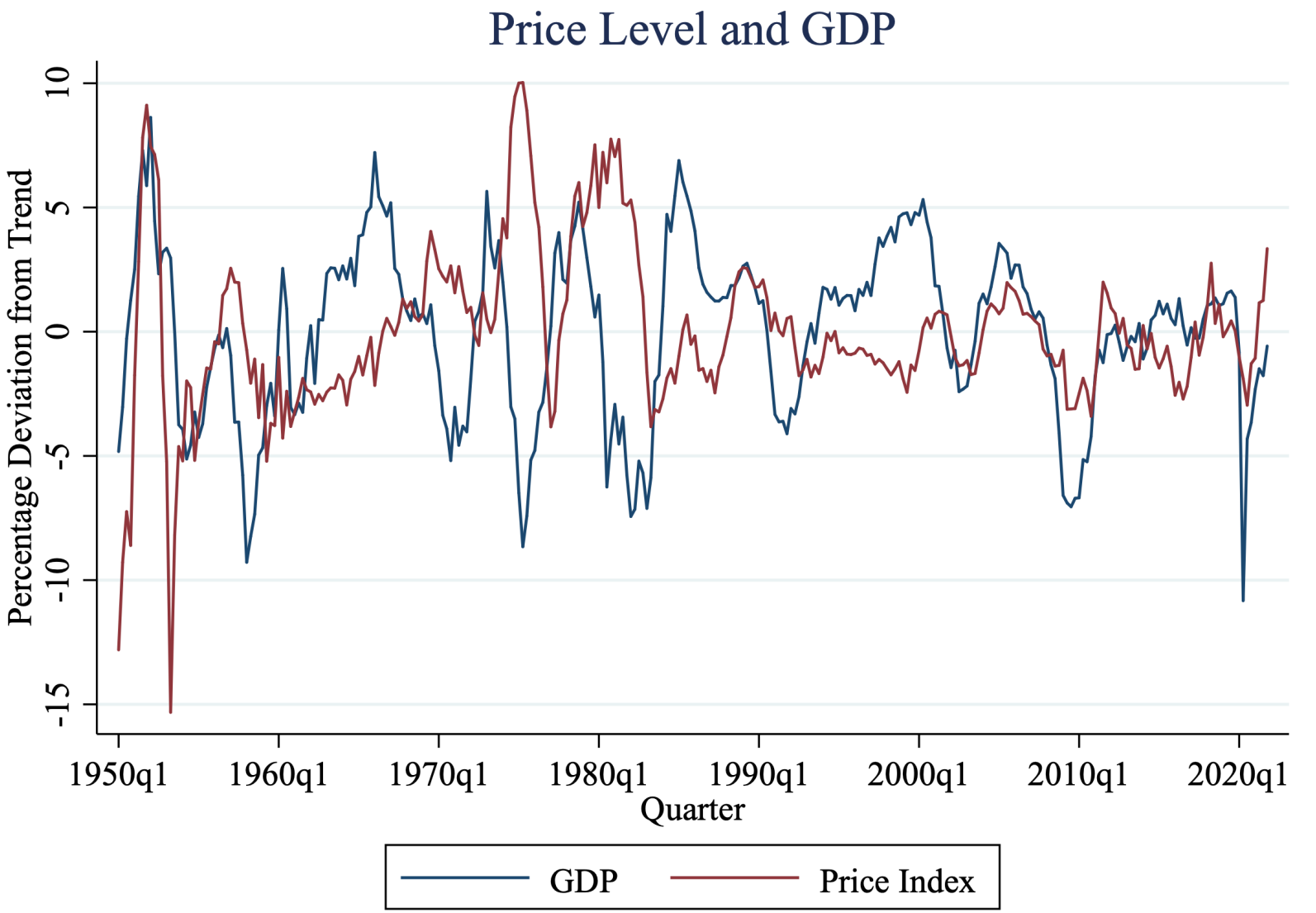
Consumption and Real GDP



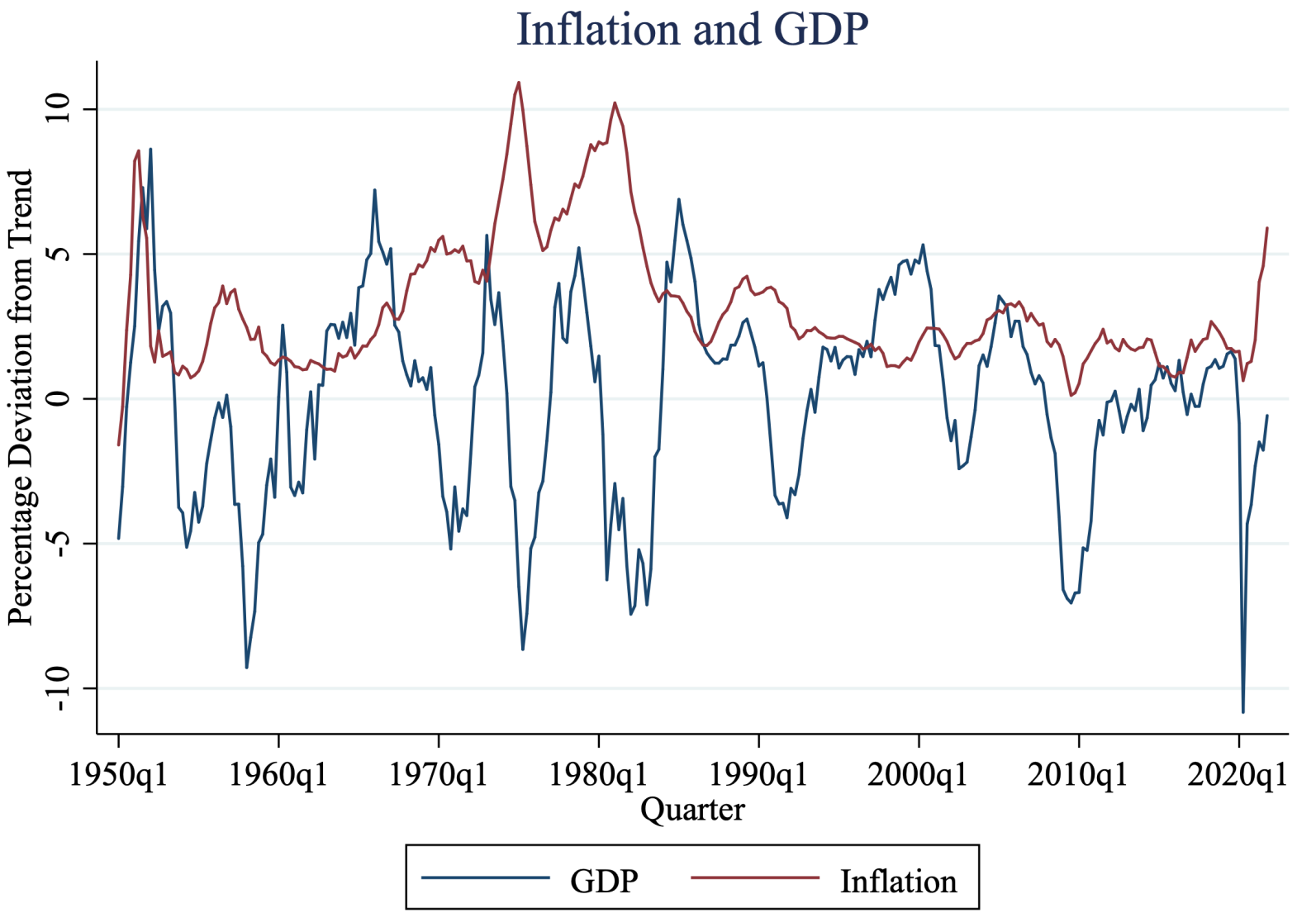
Investment and Real GDP



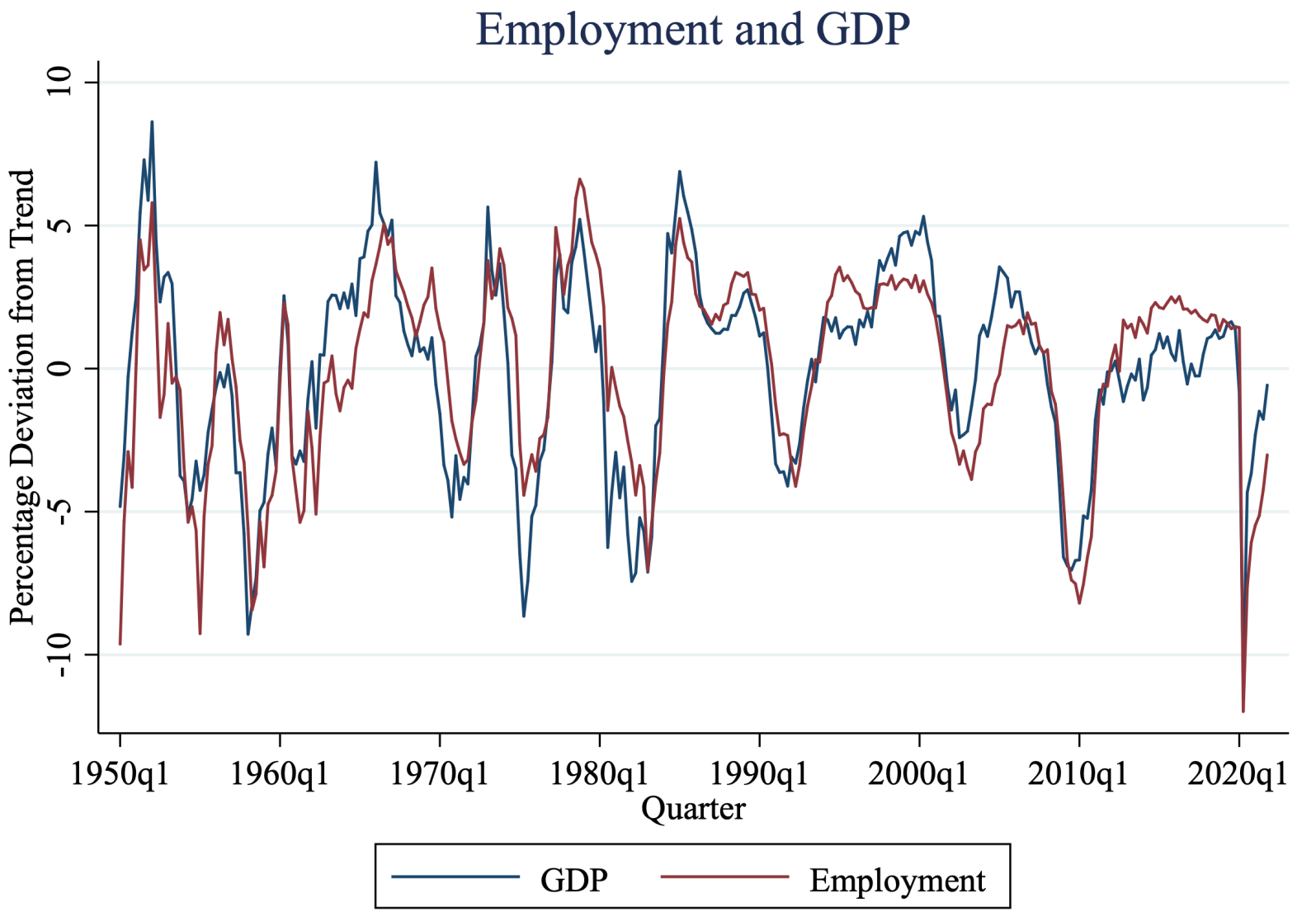
Price Level and Real GDP



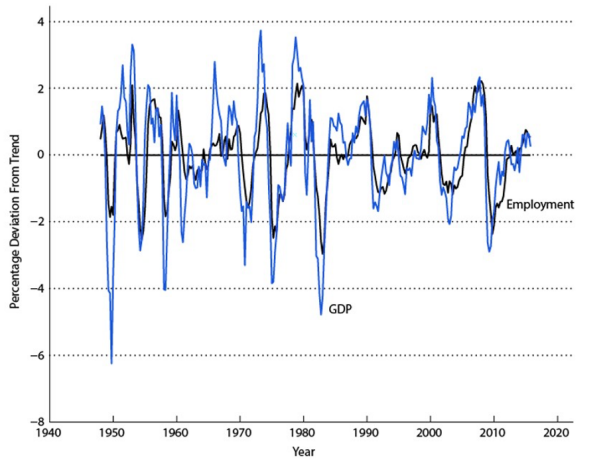
Inflation and Real GDP



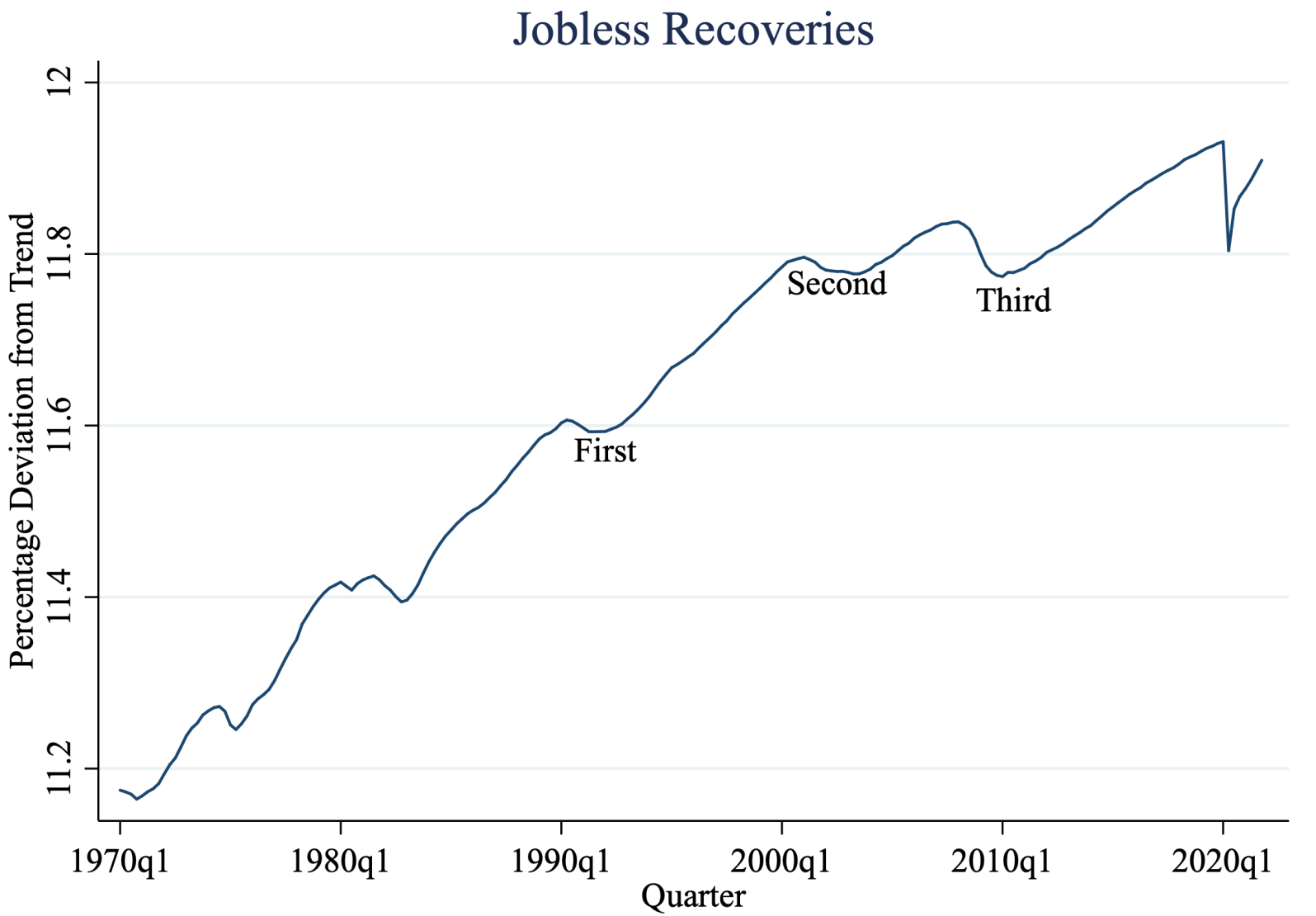
Employment and Real GDP



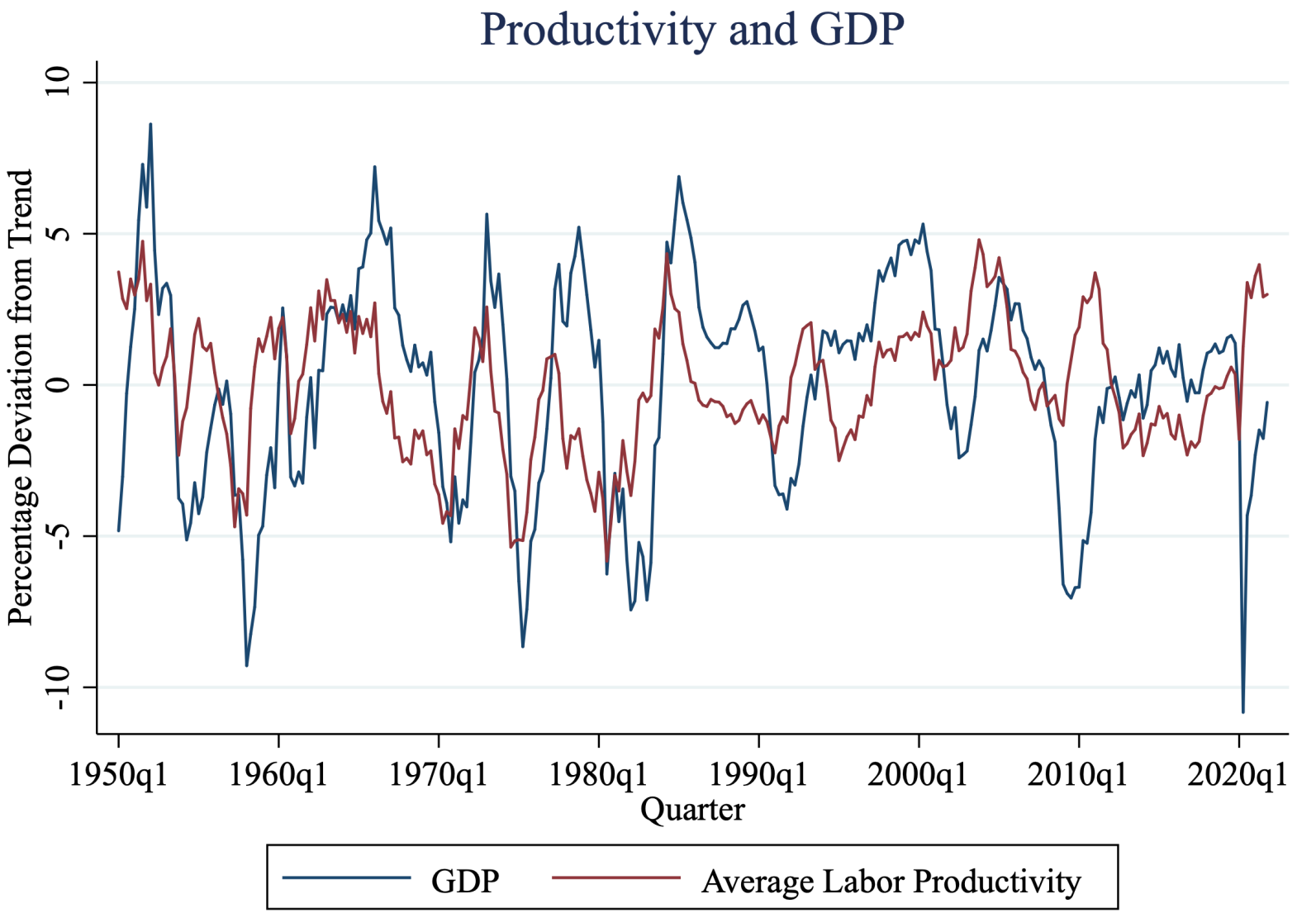
Employment and Real GDP-Williamson!



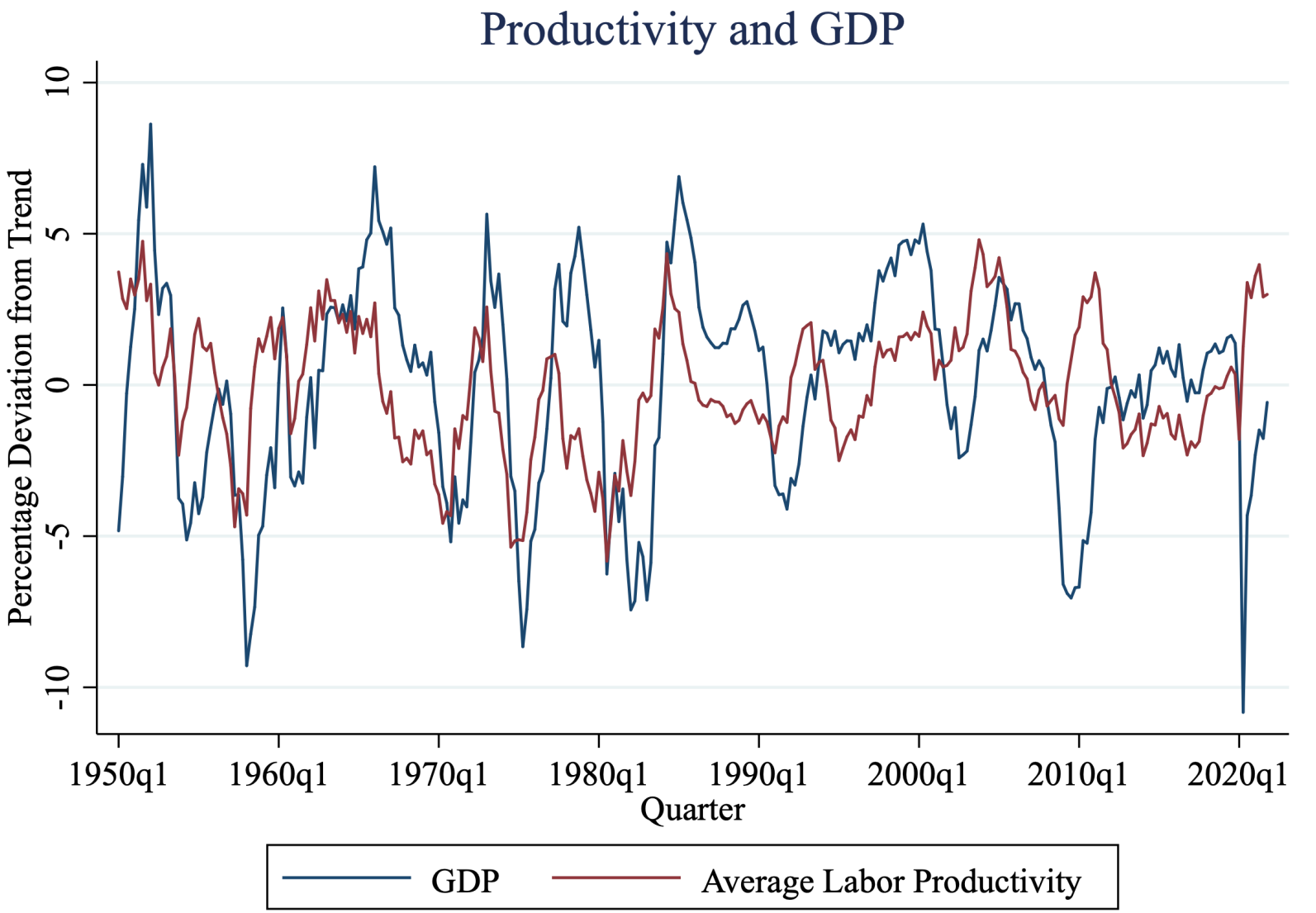
Jobless Recoveries



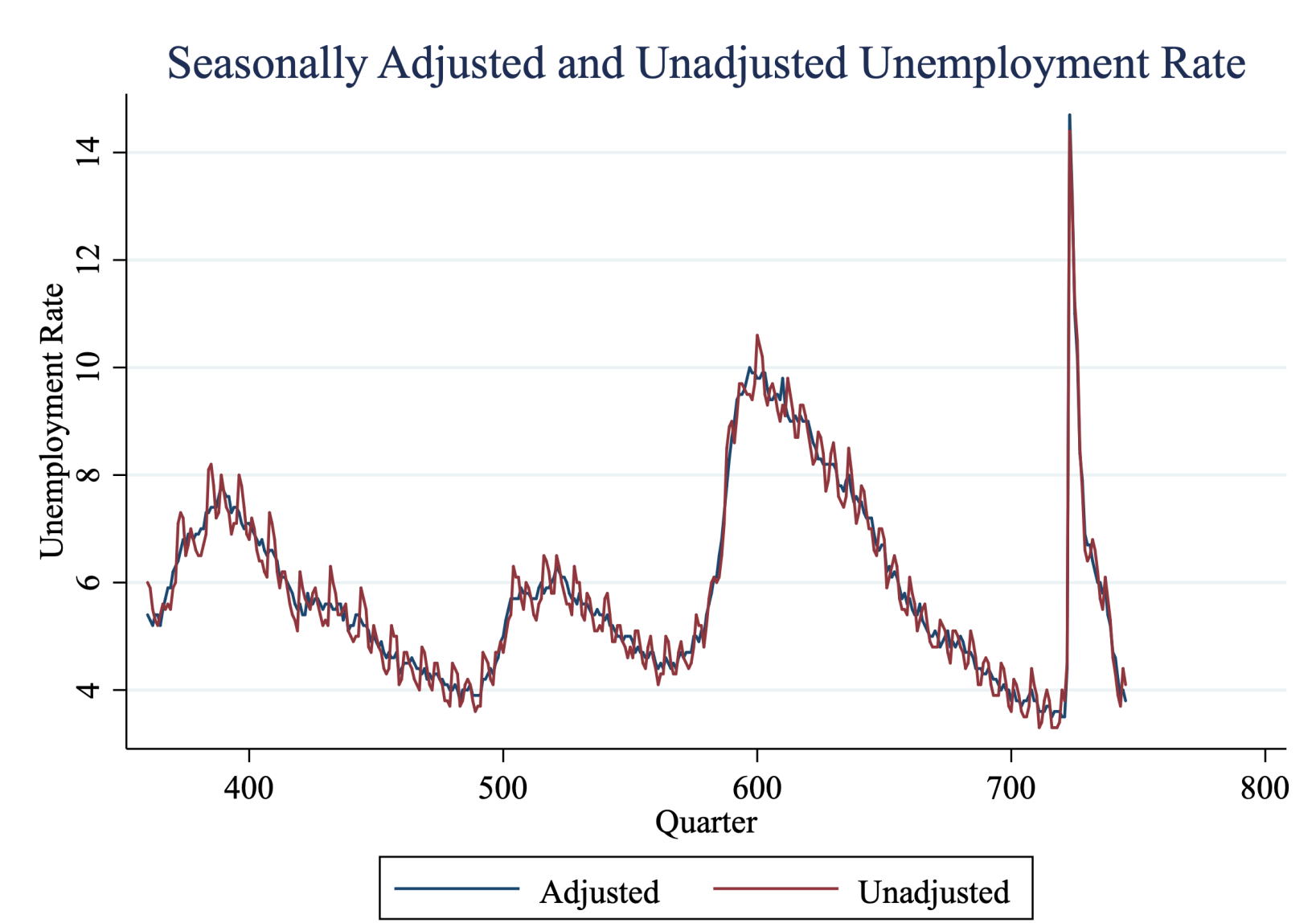
Labor Productivity and Real GDP



Stock Market and Real GDP



Seasonally Adjusted and Unadjusted Unemployment



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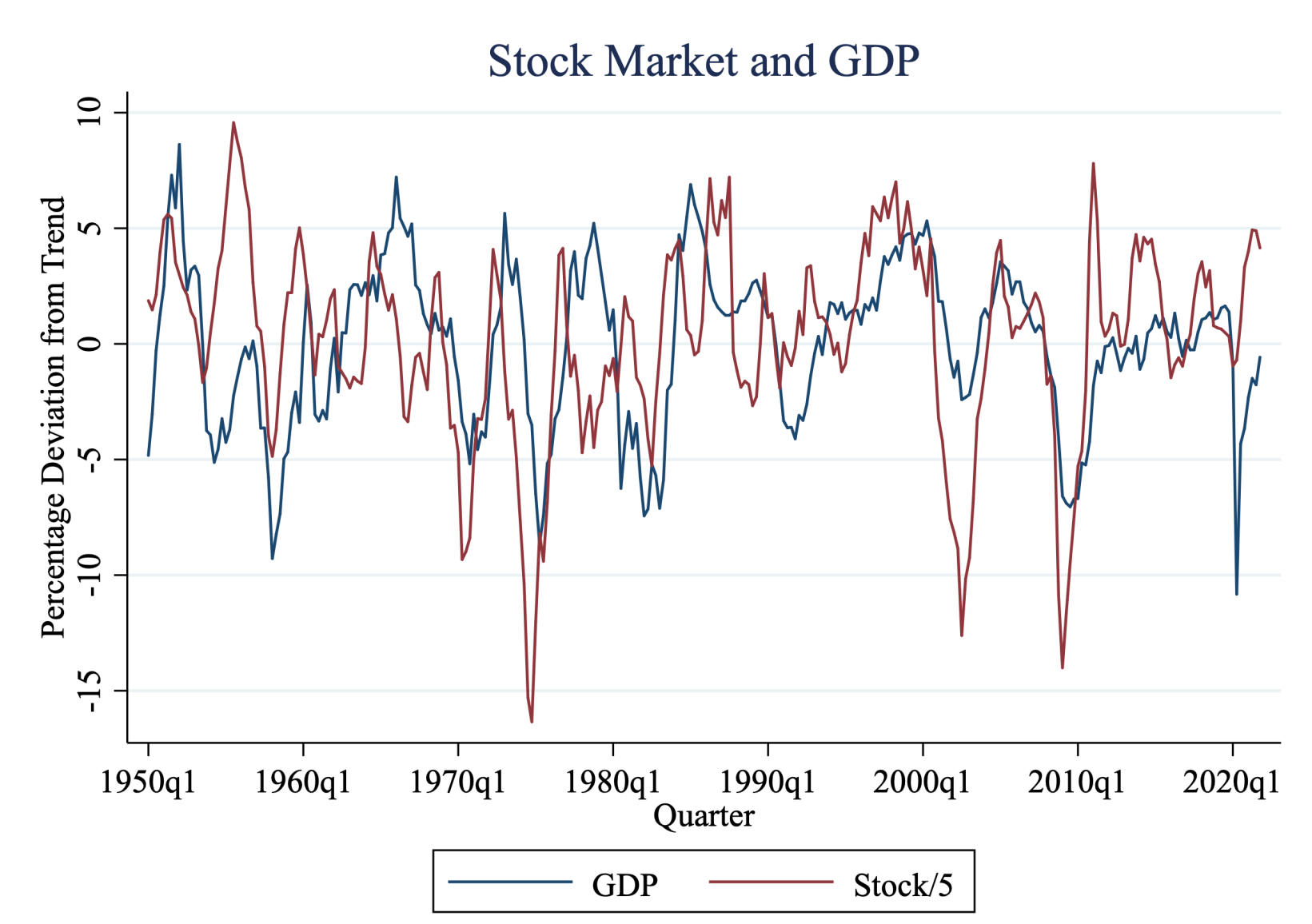
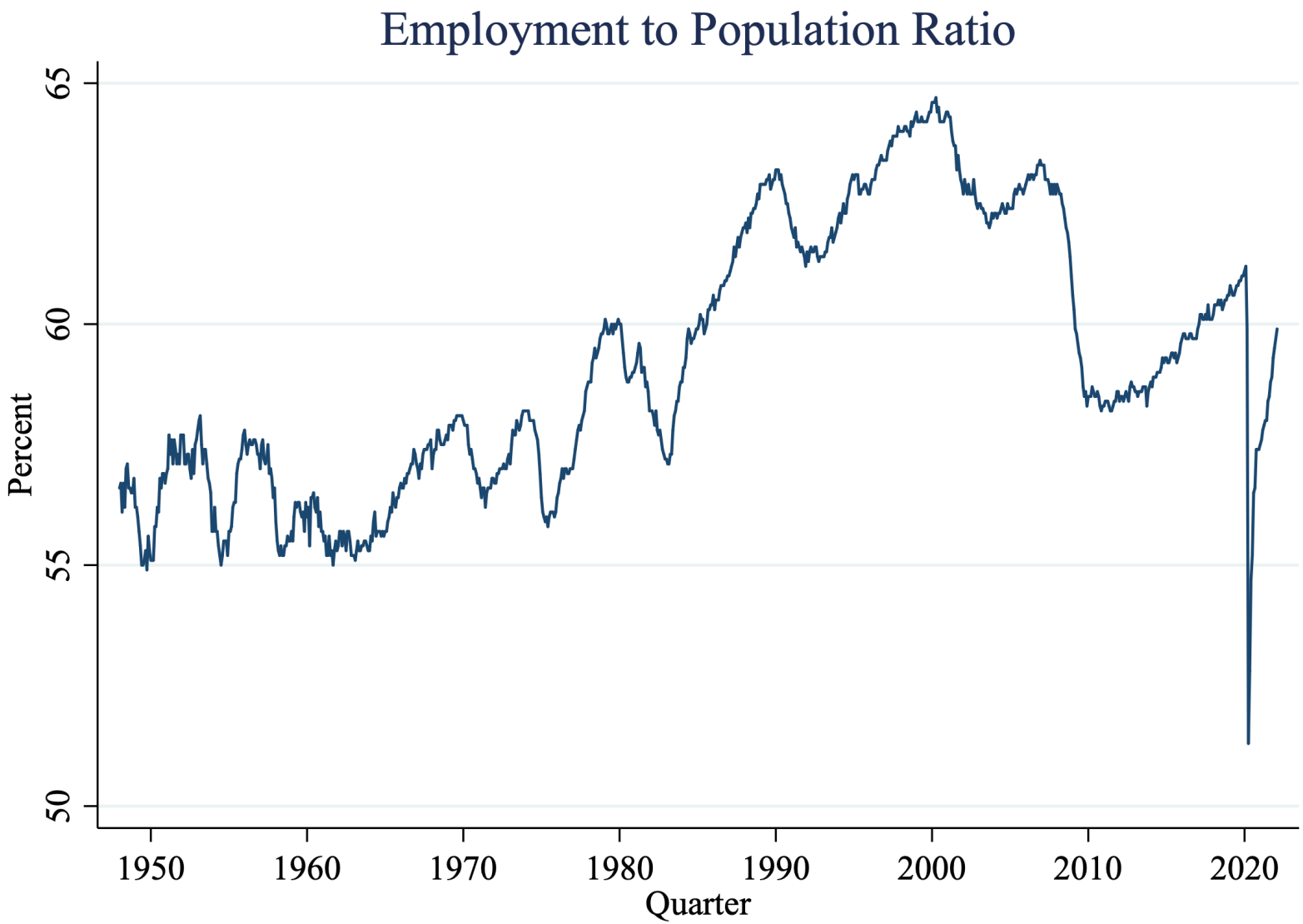
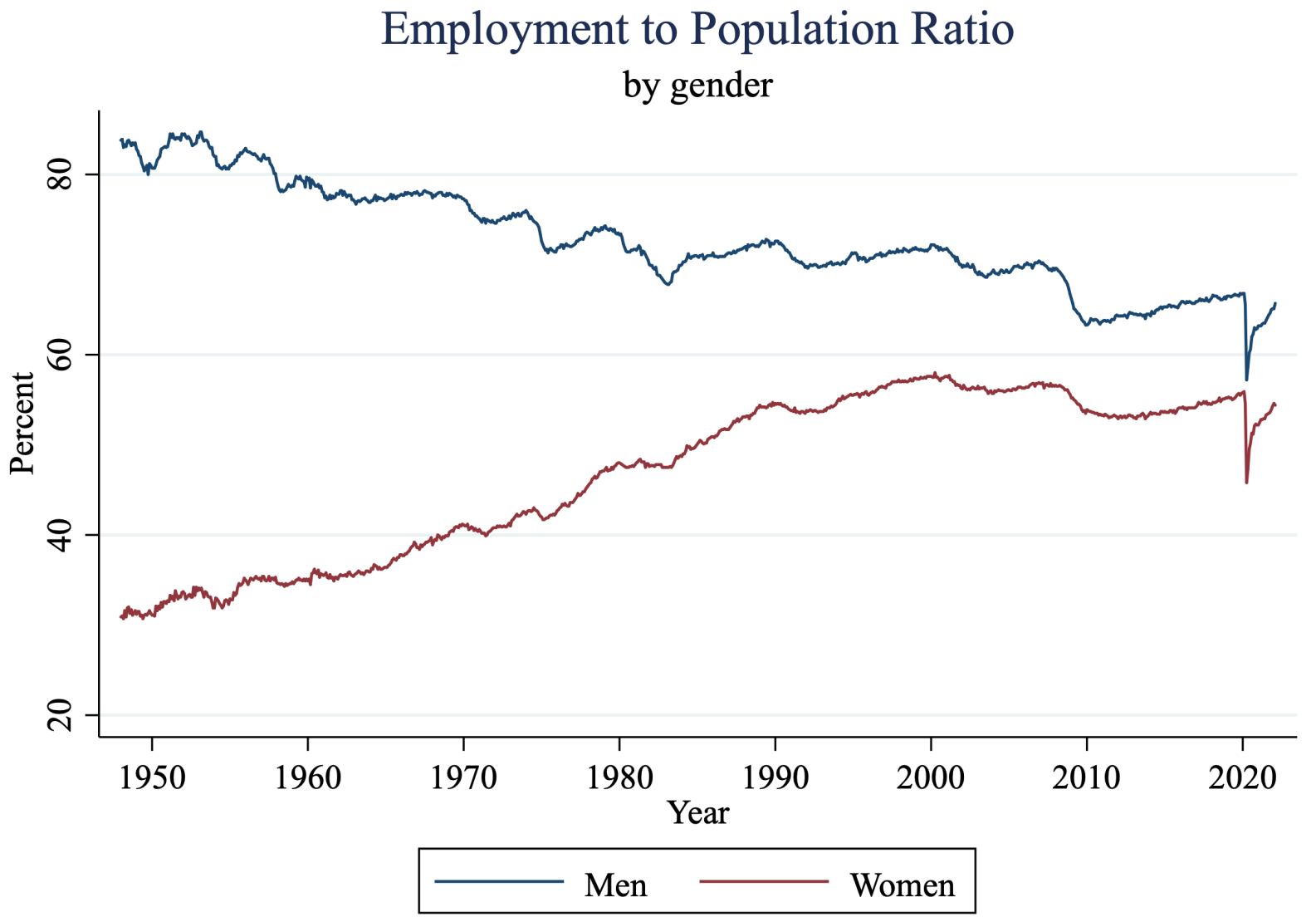


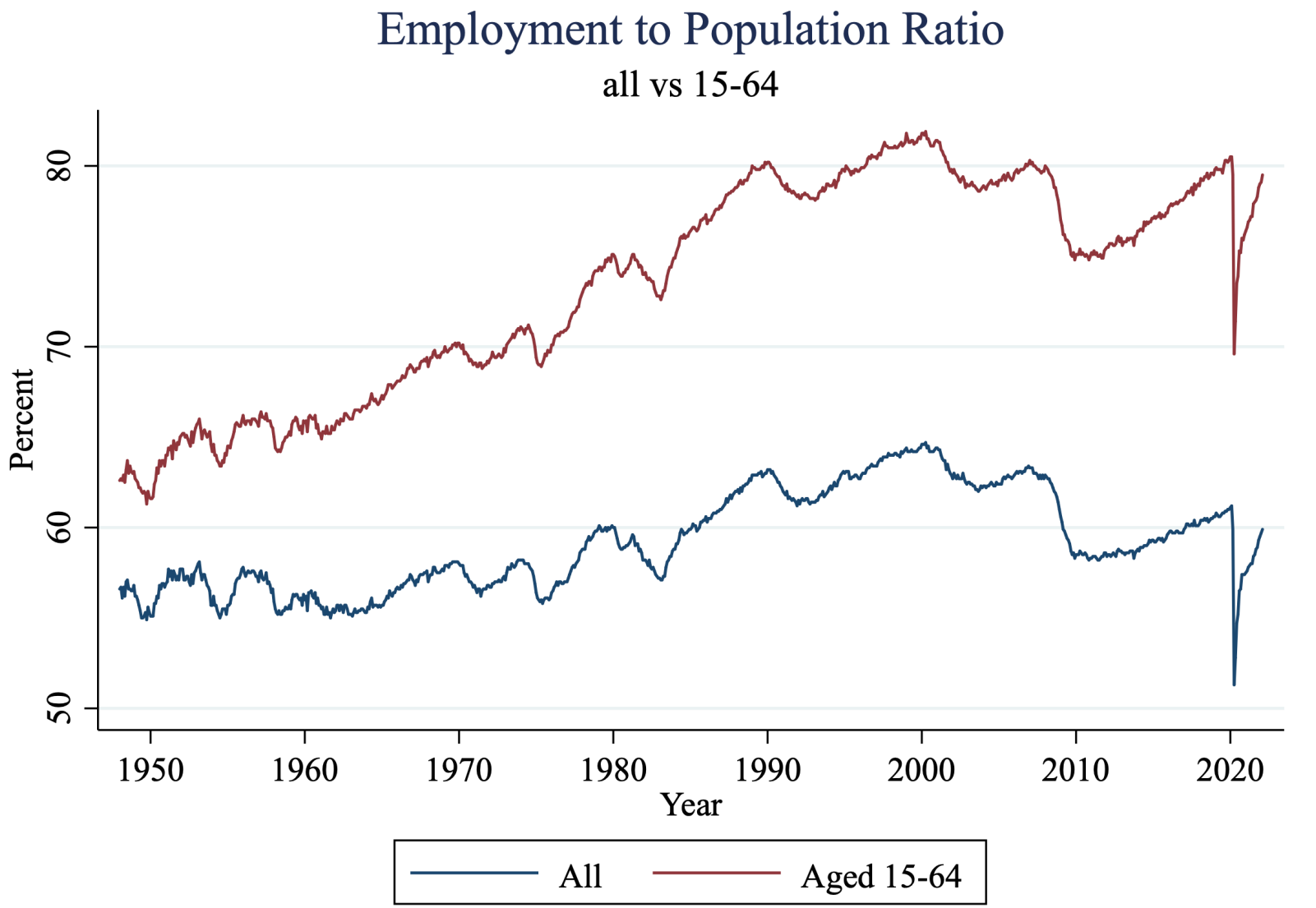
Employment to Population Ratio



Employment to Population Ratio-Men vs Women



Employment to Population Ratio-by Age



Correlation Coefficients and Variability of Percentage Deviations from Trend

Variable	Correlation Coefficient	Standard Deviation (# of S.D. of GDP)
Consumption	0.89	0.87
Investment	0.86	3.79
Employment	0.82	. 1.22
Average Labor Productivity	0.31	0.63
Housing	0.43	7.97
Price index	-0.23	0.94
Stock index	0.41	6.33

Summary of Business Cycle Facts

Variable	Cyclicality	Lead/Lag	Variation Relati
Consumption	Procyclical	Coincident	Smaller
Investment	Procyclical	Coincident	Larger
Employment	Procyclical	Lagging	Smaller
Real Wage	Procyclical	(?)	(?)
Average Labor Productivity	Coincident	Smaller	

Selected Takeaways

- We'll be building up a model to explain the time series of a bunch of facts **jointly**
- How things move with GDP is how we organize thinking
- Important facts to build up: consumption and investment move with GDP, but consumption is less volatile and investment is much more volatile
- Perhaps surprisingly to non-economists, the price level is **countercyclical**: prices are cyclically low in booms, and high in recessions!
- Next: we start to build our macroeconomy from microeconomic behaviors