Assignment 4 – Computation
The Slope of the Phillips Curve: Evidence from US States

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Task 1: Extension

The authors argue that the significant decline in core inflation during Volcker's mandate in the 1980s was primarily driven by shifting expectations about long-term monetary policy, challenging the traditional explanation based on a steep Phillips curve. Furthermore, the inflation stability observed between 1990 and 2020 is attributed to long-term inflation expectations remaining anchored near the target, rather than changes in the Phillips curve's slope. A key result supporting these conclusions is the comparison of Phillips curve estimates across two periods: pre-1990 and 1990–2018.

Between 1990 and 2018, the U.S. experienced diverse economic conditions. The Great Financial Crisis ushered in an era of very low interest rates and low inflation. To refine the analysis, I propose dividing this period into two subperiods: 1990–2006, during which Greenspan chaired the Federal Reserve, and 2007–2018, when Bernanke and later Yellen held the position. I estimate two specifications using either the lagged unemployment rate or tradeables-demand as instrumental variables (IVs). Both specifications include time and state fixed effects and control for the relative price of nontradeables. I focus on reporting regressions with time fixed effects, as they effectively absorb supply shocks and changes in long-term inflation expectations, ensuring more accurate estimation of the Phillips curve slope.

Table 1 presents the original results (two monetary periods) and the robustness checks (three monetary periods). The estimates for κ and *psi* differ notably between 1990–2006 across both specifications. Since the Phillips curve slope (κ) is of primary interest, our attention is directed there. The results indicate that post-1990 estimates are predominantly influenced by the Greenspan period, as shown by the tradeables-demand IV estimates: 0.0055 for the entire post-1990 period, 0.0053 for 1990–2006, and 0.0024 for 2007–2018.

Another notable observation is that the Phillips curve slope estimate (κ) decreases across the three time periods, being four times higher pre-1990 than during the Bernanke and Yellen era. However, these differences are not statistically significant at the 5% level. Thus, the paper's primary conclusion remains robust.

Table 1: HAS THE PHILLIPS CURVE FLATTENED?

Two monetary periods						
	Lagged unempl. IV with time fixed effect			Tradeable-demand IV with time fixed effect		
	Pre-1990	Post-1990		Pre-1990	Post-1990	
	(1)	(2)		(3)	(4)	
Panel A: Estimates of κ						
κ	0.0107	0.0050		0.0109	0.0055	
	(0.0080)	(0.0040)		(0.0062)	(0.0028)	
Panel B: Estimates of ψ						
ψ	0.198	0.090		0.422	0.332	
	(0.113)	(0.057)		(0.232)	(0.157)	
Three monetary periods						
	Lagged unempl. IV with time fixed effect			Tradeable-demand IV with time fixed effect		
	Pre-1990	1990-2006	2007-2018	Pre-1990	1990-2006	2006-2018
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Estimates of κ						
κ	0.0107	0.0100	-0.0020	0.0109	0.0053	0.0024
	(0.0080)	(0.0019)	(0.0051)	(0.0062)	(0.0017)	(0.0191)
Panel B: Estimates of ψ						
ψ	0.198	0.191	-0.114	0.422	0.411	0.045
	(0.113)	(0.069)	(0.097)	(0.232)	(0.242)	(0.433)