Title: “The popularity of economic ideologies: The case of monetarism”

1. Introduction

In the history of economic thought, scholars aim to explain how certain ideas are conceptualized and then become prominent. However, they primarily use qualitative tools rather than empirical techniques. I propose a quantitative framework to analyze how economic ideas are popularized, using monetarism as a case study. I focus on this school of thought because it has enjoyed varying levels of attention in the period studied, 1983-2023.

I will first establish and conduct the methodology to analyze this issue. Then, I move to interpret the results.

2. Methodology

2.1 Review of Methodology and Stationarity

Tackling the factors that led monetarism to fluctuate in popularity requires an epistemological perspective. The consensus is that when contrasting models explain the same observed phenomenon, inflation in this case, economists select the one more capable of replicating it (DeMartino, 2011), leading to one prevailing. Thus, the extent by which monetarism replicates inflation data should be a main factor in affecting its popularity.

The first regression aims to measure this. Its goal is to gather country-specific residuals for the Quantity Theory of Money (QTM) in the USA and UK that measure the applicability of monetarism to current macroeconomic data. I assess only these countries since they are the largest producers of economic research globally (White, 2019). The second regression includes these residuals in explaining changes in the popularity of monetarism. This popularity is measured through yearly mentions of monetarism in Google Scholar publications, divided by yearly mentions of economics to adjust for overall attention to the discipline. The hypothesized causal chain of the whole process is presented below.

Figure 1: Summary of the hypothesized causal chain

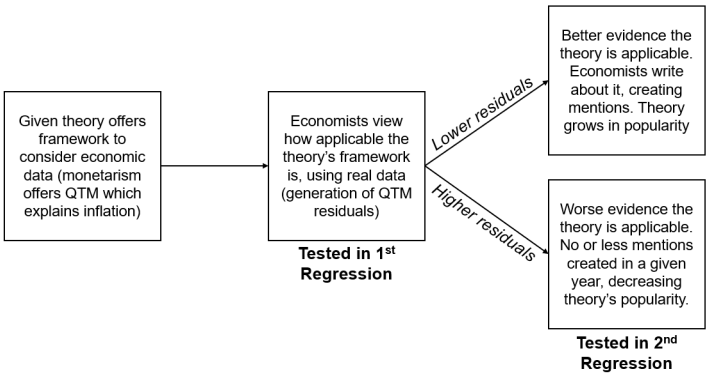


Figure 2: Nominal mentions of monetarism in Google Scholar publications, 1983-2023

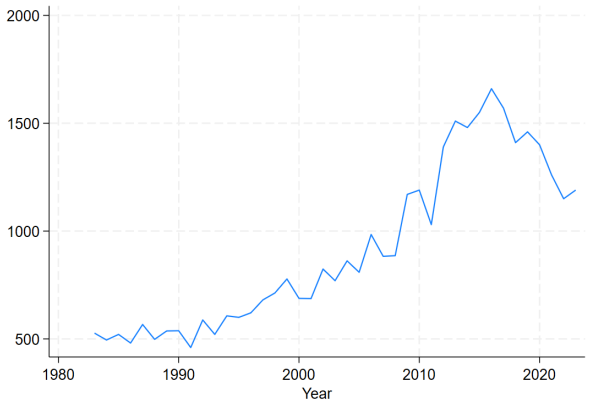
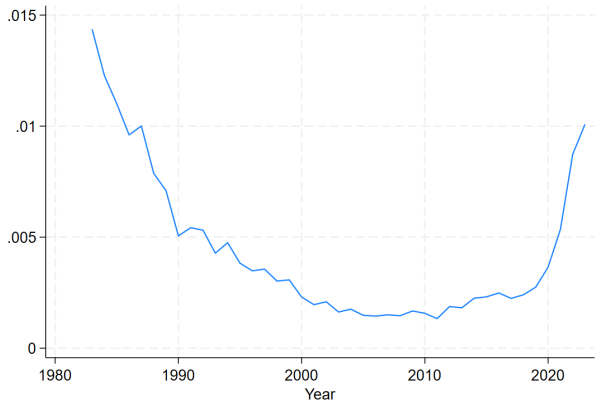


Figure 3: Weighted mentions of monetarism (as a proportion of mentions of economics) in Google Scholar publications, 1983-2023



I move to assess the stationarity of the dependent variables for the two regressions. A Dickey-Fuller test with 1 lag on US and UK inflation in 1983-2023 shows a rejection of the null hypothesis of a unit root at 5% significance. Conducting a Philipps-Perron test on weighted mentions of monetarism, adjusting for its reversing autocorrelation, shows that the null hypothesis of a unit root is rejected only at 10% significance. However, I support that further transformation would constitute overfitting at the cost of establishing causality, as keyword data is treated as stationary in the literature (Poulos et. al, 2017).

Table 1: Augmented Dickey Fuller (ADF) test results (1 lag) for UK and US inflation 1983-2023

	ADF test statistic	*5% significance level*
US inflation	*-3.851*	*-2.961*
UK Inflation	*-2.976*	*-2.961*

Table 2: Phillips Perron (PP) test results (1 lag) for weighed mentions of monetarism 1983-2023

	PP test statistic	*5% significance level*	*10% significance level*
Adjusted Mentions	*-2.653*	*-2.958*	*-2.612*

2.2 First Stage Regression

$$Money\ Supply\ *\ Velocity\ of\ Money\ =\ Price\ Level\ *\ Growth\ Rate$$
$$MV\ =\ PT$$
$$Ln(M)\ +\ Ln(V)\ =\ ln(P)\ +\ ln(T)$$
$$\%\Delta M\ +\ \%\Delta V\ \simeq\ \%\Delta P\ +\ \%\Delta T$$
$$\%\Delta M\ \simeq\ \%\Delta P$$

$$V\ =\ M/GDP$$
$$v\ =\ m/GDP$$

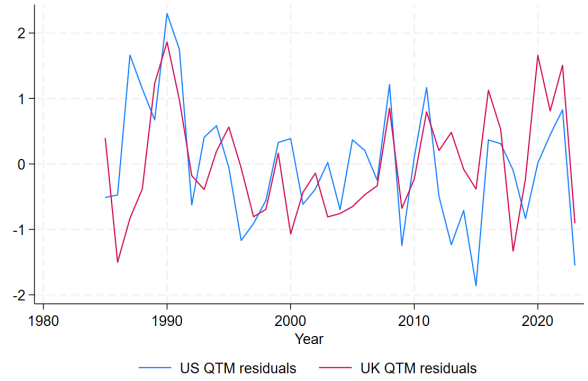
For the first stage, I attempt to simulate the QTM, shown above, using the following specification. “Π” indicates inflation that is also autoregressed to account for persistence. “s” denotes percentage change of the broad money supply and “v” is the percentage change of the velocity of narrow money. I use narrow money velocity, “v”, as a proxy for broad money velocity, “V”, as including the latter would lead to collinearity issues with “s”. It is a fitting proxy since, per the Bank of England, narrow money velocity still measures financial innovation in the economy and the rate by which actors spend, affecting inflation (1996). It is reasonable to assume that a change in money supply and velocity slowly feeds into each inflation as time passes, so multiple lags are included. “α” denotes the constant. I estimate this using annual data.

$$\Pi_t\ =\ \alpha\ +\ \sum_{j=1}^{p}(\beta^j\Pi_{t-j})\ +\ \sum_{j=0}^{p}(\beta^j s_{t-j})\ +\ \sum_{j=0}^{p}(\beta^j v_{t-j})\ +\ u_t$$

Due to the lack of country-specific monetarism keyword data, a single lag value is required for both countries. To address the maximum lag value, I select 2 years as it is most associated as being the period required for a monetary shock to affect inflation and is often used in the literature (Romer and Romer, 2004) (St. Louis Fed, 2023).

Given the maximum lag, I estimate the regressions for both countries as autoregressive distributed lag (ARDL) models. This allows for the computation of the desired residuals that measure the ability of monetarism to replicate current inflation data in the USA and UK. Addressing causality is outside of the study’s focus. Moreover, observing the below figure yields no suspicion of non-stationarity for both residuals.

Figure 4: Estimated QTM residuals of the USA and UK



2.3 2nd Stage Regression

With the country-specific residuals computed, I move on to the second regression. “M”' denotes the weighed mentions of monetarism. I include lags of “M” for persistence purposes and to better isolate the impact of a shock when subsequently calculating impulse response functions (IRFs). “UK” and “USA” are the country-specific residuals estimated in 2.2. “C” and “F” are dummy variables placed as controls. They denote the quantitative easing episode of the COVID pandemic in 2020 and the Financial crisis in 2009 respectively, two major episodes of quantitative easing that are expected to increase mentions of monetarism as they were artificial expansions of the money supply.”γ” denotes the constant.

$$M_t = \gamma + \sum_{j=1}^{p} (\beta^j M)_{t-j}) + \sum_{j=0}^{p} (\beta^j UK)_{t-j}) + \sum_{j=0}^{p} (\beta^j USA_{t-j}) + \sum_{j=0}^{p} (\beta^j C_{t-j}) + \sum_{j=0}^{p} (\beta^j F_{t-j}) + u_t$$

I address the optimal lag structure by estimating Bayesian Information Criteria for different lag values. The most negative BIC is at 3 lags. I select the shorter lag value of 2, the second lowest BIC, to limit the occurrence of other signals from the economy that could happen during the lag period, affecting economists’ research topic selections.

Table 3: BIC calculations for the 2nd stage regression

	1	2	3
BIC	-397.4	-407.2	-451.3

Given the maximum lag of 2 years, I compute integrated response functions (IRFs), using the established model specification. The coefficients "φ" are now the dynamic multipliers at a certain period and "ρ" are the constants:

$$M_t = \rho + \sum_{j=0}^{8} (\varphi^j UK)_{t-j}) + u_t$$

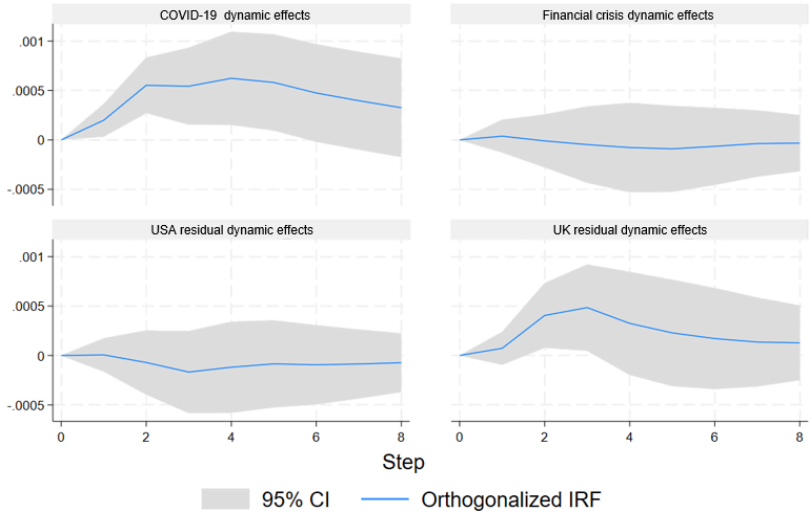
$$M_t = \rho + \sum_{j=0}^{8} (\varphi^j USA)_{t-j}) + u_t$$

$$M_t = \rho + \sum_{j=0}^{8} (\varphi^j C)_{t-j}) + u_t$$

$$M_t = \rho + \sum_{j=0}^{8} (\varphi^j F)_{t-j}) + u_t$$

3. Results and Discussion

Figure 5: IRF results



I present the plots for the dynamic effects of the IRFs for each variable above. To establish causality, I assume exogeneity of the regressors in all IRFs, as they denote predetermined information that comes to the attention of researchers, ruling out reverse causality and joint determination with the regressand. Therefore, I conclude that the effect of the UK-specific residuals is significant at periods 2 and 3 whilst the effect of COVID is significant until period 5. I observe no statistical significance in the rest of the effects. I move on to establish reasoning for these results.

Firstly, these findings show that changes in the applicability of the QTM in UK data yield a more significant effect on mentions of monetarism than those in USA data. For the following, I assume that economists are more likely to research their domestic economy rather than others, as a

country with more research institutions has been found to be more analyzed in economic journals (Robinson et. al, 2006).

The primary reason for this discrepancy could be the intellectual culture of the US economic field being less open to unconventional ideas. Thus, they tend to comment less than UK economists on issues outside the status quo, like monetarism post-1990s, which is a period which takes up most of the dataset. American economic journals have been known for higher standards that favor more conventional ideas (Frey and Eichenberger, 1993). Reinforcing this argument are comments by American economist Paul Romer, who critiqued the study of economics in his country's prominent circles as too focused on complicating established models to fit the data rather than considering more unconventional ones (2016). Thus, the findings of this paper in regard to the difference in significance of the two country coefficients can be explained by US economists being more rigid in their ideology.

Moreover, the comparison between the positive sign of the coefficient of the UK residual and the negative sign of the USA residual is noteworthy. The fact that the effect is positive could be interpreted as showing how UK economists are keener on criticizing monetarism when it doesn't work, rather than praising it when it works. This has been present in UK literature studies surrounding monetarism (Pepper, 2001). A factor driving this could be that monetarism carries more stigma in the UK than the US as the period by which monetary targets were implemented in the former was marked by more social woes such as higher unemployment (Bernanke and Snowdon, 2002), also due to the effects on deindustrialization (Viven, 2013). So, economists in the UK may be quicker to criticize monetary theory, remembering these social woes.

Furthermore, I explain why the coefficient for COVID is significant whilst that of the financial crisis is not. The most important reason is the scale of quantitative easing in the two events. Quantitative easing during the pandemic dwarfed that of the global financial crisis in size for both the UK and USA (Cukierman, 2021), leading to a larger concern over increasing inflation in the case of COVID. On the other hand, it was anticipated that the effect on inflation caused by quantitative easing in the global financial crisis would be heavily checked by low bank confidence (Benford et. al, 2009) (Joyce et. al, 2011). Therefore, these differences in the two quantitative easing episodes explain the change in significance of the two coefficients.

4. Conclusion

In this article, I aim to provide a data-driven insight into how the popularity of economic ideologies changes using monetarism as a case study, assessing cross-country differences regarding how economists learn from economic data and change their beliefs. Thus, an opportunity is created to use this framework to assess other economic ideologies in order to provide more empirical backing to the field of the history of economic thought. However, it is important to account for this paper's weaknesses, principally surrounding the keyword tracker's simplicity that does not account for the context or location of a mention.

5. Bibliography

Word Count: 1499

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5.2 Data References

Google Drive link to the database and do file for results replication:
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