Purely Statistical Evidence: The St. Louis Regression

Suppose we regress the change in log GDP to some measure of the stance of monetary policy such as the change in the federal funds rate.

$$\Delta \ln y_t = \hat{\alpha} + \hat{\beta} \Delta X_t + \varepsilon_t,$$

where y_t represents GDP at time t, X_t represents the level of the federal funds rate at t, and ε_t is an error term.

After performing the regression, we find that the coefficient on the federal funds rate term, $\hat{\beta}$, is statistically indistinguishable from zero. Does this finding mean that monetary policy does not matter?

The assumption that $\hat{\beta} \approx 0$ means that monetary policy does not matter is false. The causes of high or low interest rates in relation to output are twofold — either the central bank has increased interest rates to counteract overheating in the economy, or the central bank's high interest rates lead to a slowdown in the economy, and similarly in the opposite direction for low interest rates. We would expect that the effect of interest rates on the economy with this simple regression would be statistically insignificant when we account for all these different effects.