Openness to Trade and the Potency of Monetary Policy: How Strong is the Relationship?

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Abstract

Economic theory suggests that an economy's openness to international trade reduces the ability of monetary policy to affect output. Using quarterly data from the 1960:Q1-1993:Q4 period for a set of eight countries (Australia, Canada, Germany, Italy, Japan, South Africa, the U.K., and the U.S.A.), this article's empirical results support this theoretical prediction: the more open the economy, the smaller the output effects of a given change in the money supply. This finding, robust across all the different specifications and estimation methods examined, has straightforward implications for stabilization policy. Moreover, it suggests that an economy's net benefit from joining a monetary union is increasing with the economy's openness to foreign trade.

Economic theory predicts that monetary expansions raise output (at least temporarily), while monetary contractions have the opposite effect.¹

In addition, however, economic theory suggests that the potency of monetary policy depends on the openness of the economy to foreign trade. In particular, the ability of money to affect output is supposed to be weaker in more open economies. Interestingly, this theoretical result applies both in the traditional Mundell–Fleming-type Aggregate Demand–Aggregate Supply framework and in more modern models that emphasize intertemporal optimization in an environment of monopolistic competition and nominal rigidities.²

The intuition behind this theoretical result is straightforward. To illustrate, consider the effects of a certain monetary expansion in two economies: one that is very open, having sizable export and import transactions in relation to GDP, and one that is relatively closed. Even if the aggregate-demand effects are similar in the two economies, the aggregate-supply ones will not be. In particular, due to the consequent depreciation (or expected depreciation) of the currency, wage demands will increase by more in the more open economy, so that more of the monetary expansion will be reflected on prices and less on output. The opposite will be true for the less open economy. Thus, Germany

\[
Y = \text{GDP} \quad M = \text{Money Supply} \quad \text{OP = Openness}
\]

\[
\begin{align*}
Y &= \ldots B_1 M + B_2 (M \times \text{OP}) + \ldots \\
\frac{\partial Y}{\partial m} &= B_1 + B_2 \times \text{OP} \quad \frac{\partial Y}{\partial m} \text{ Less}
\end{align*}
\]

"greater shift" i AS