Can Exchange Rate Management Improve Welfare in Small Open Economies?
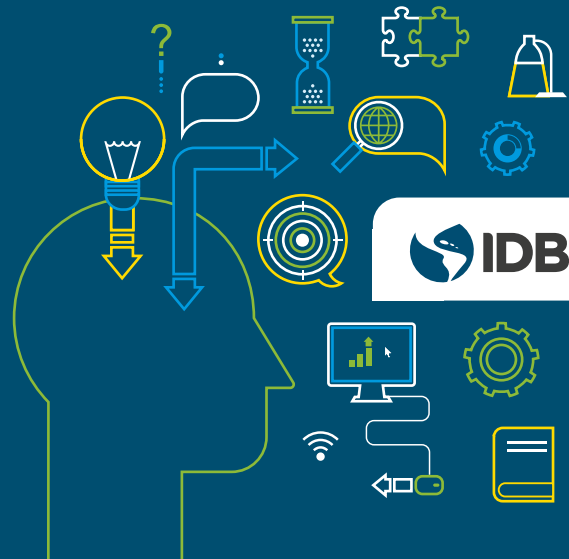
Authors: Rodrigo Heresi and Eric Parrado.

By reducing macroeconomic volatility, exchange rate management can generate significant welfare gains in economies with a high degree of trade openness.

A country like Singapore, with trade openness (exports + imports) at 280% of GDP, has benefited significantly from managing the exchange rate, showing 1.5% welfare gains in permanent consumption, when compared to the mainstream interest rate rule in which the exchange rate floats freely.

In the case of an emerging free-floater economy like Chile, any degree of trade openness above 100% (currently at 70%) would also justify using a managed exchange rate policy that avoids excessive exchange rate volatility.

CONTEXT

In recent decades, a bipolar view has dominated research on monetary and exchange rate policy. The mainstream policy approach involves conducting monetary policy using the interest rate as the primary policy instrument, leaving the exchange rate floating in response to macroeconomic shocks. On the other hand, a large body of research has focused on the costs and benefits of fixed exchange rate regimes, in which the monetary authority effectively stops conducting an autonomous monetary policy. In practice, however, most countries worldwide operate intermediate exchange rate regimes, aiming to reduce exchange rate volatility and exchange rate passthrough to imported inflation.

PROJECT

This paper builds a New Keynesian model of a small open economy to simulate and compare the welfare implications of exchange rate rule (ERR) and interest rate rule (IRR) monetary policies. The model incorporates several key features to replicate real-world conditions. First, we estimate the model under the novel ERR using data for Singapore, a country known for its unorthodox and successful managed exchange rate system and very high degree of trade openness. Second, we estimate the model under the more standard IRR using data for Chile, recognized for its free-floating monetary policy and lesser degree of trade openness.

RESULTS

The analysis reveals that, for Singapore, the ERR results in welfare gains equivalent to 1.5% of permanent consumption compared to an IRR. In contrast, for Chile, the ERR would imply a welfare loss of 0.5%, when compared to its benchmark IRR.

We generalize the analysis asking how open a country must be to justify a monetary framework centered on the nominal exchange rate (instead of nominal interest rates) as the main policy instrument. For both countries, we confirm that welfare gains under the ERR are unambiguously increasing in the degree of trade openness (See Figure 1). In our baseline results, the threshold degree of openness from which the ERR begins outperforming the IRR is 32% of GDP in Singapore (Panel B) and 100% of GDP in Chile (Panel A).

Key Concept

WELFARE LOSS

The percentage of regular consumption agents living under a benchmark monetary policy rule are willing to sacrifice to avoid switching into an alternative monetary policy rule.

Under an ERR, the monetary authority keeps the exchange rate under tight control, changing the rate of nominal devaluations *smoothly* to obtain low and stable inflation. Under an IRR, the exchange rate acts as the "shock absorber," thereby experiencing large swings to accommodate foreign shocks. To give the IRR the best chance of outperforming the ERR, in a complementary exercise, we augment the mainstream IRR with an additional feedback parameter aimed at smoothing excessive exchange rate volatility. Loosely speaking, we allow for "dirty floating" under the IRR. Notably, this generalized IRR significantly improves the performance of

standard interest rate rules (pointing again to the non-desirability of pure free-floating schemes), although it is still far from beating the ERR in very open economies.

POLICY IMPLICATIONS

The findings offer significant insights for policymakers globally. In particular, the paper underscores the critical importance of tailoring monetary policy frameworks to the specific trade profiles and economic structures of individual countries. A one-size-fits-all approach to monetary and exchange rate policy is inadequate for addressing the challenges and opportunities presented by varying degrees of trade openness.

For economies with high levels of trade integration, such as many in East Asia and Latin America, adopting an approach to exchange rate management can significantly enhance macroeconomic stability and welfare. This strategy helps mitigate the adverse effects of currency fluctuations on output, consumption, investment, and inflation, thereby providing a more stable economic environment. However, the adoption of such policies must be approached with caution. Ill-informed exchange rate intervention within an inflation-targeting framework is not without risks. In contexts where central bank credibility is low or where there is significant liability dollarization by domestic corporates, the potential for speculative attacks on the currency or sudden-stop financial crises may increase.

Key Concept

INTEREST RATE-BASED MONETARY RULE (IRR)

A standard monetary policy framework in which the Central Bank adjusts the nominal interest rate to control inflation and reach full employment.
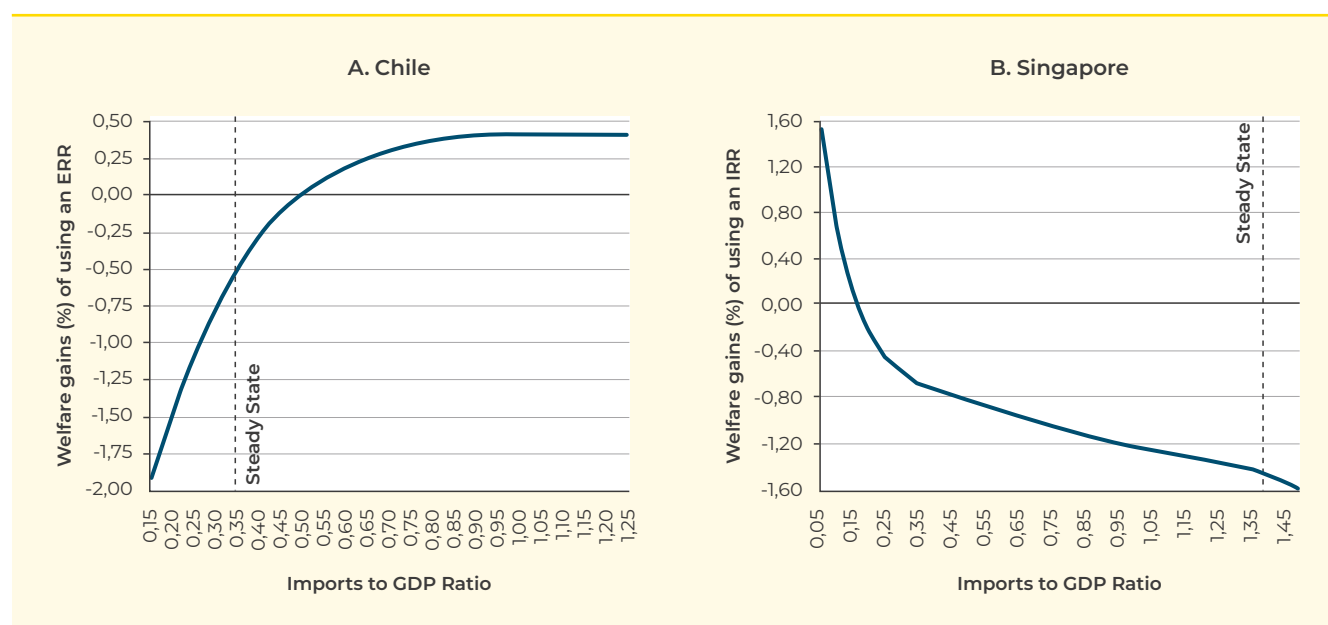
Therefore, small open developing economies considering enhanced exchange rate management must adopt a customized approach. This approach should consider a range of factors, including trade openness, exchange rate pass-through effects, Central Bank credibility, fiscal discipline, foreign shocks exposure, and the adequacy of foreign reserves. The goal should be to strike a balance between reducing excessive volatility through managed exchange rate movements and maintaining the flexibility needed to respond to external shocks. **By doing so, countries can better navigate the complexities of global trade and finance, ensuring that their exchange rate management strategies support overall economic stability and growth.**

EXCHANGE RATE-BASED MONETARY RULE (ERR)

The Singaporean-style monetary policy in which the Central Bank controls the nominal devaluation rate, rather than the interest rate, to control inflationary pressures and reach potential output.

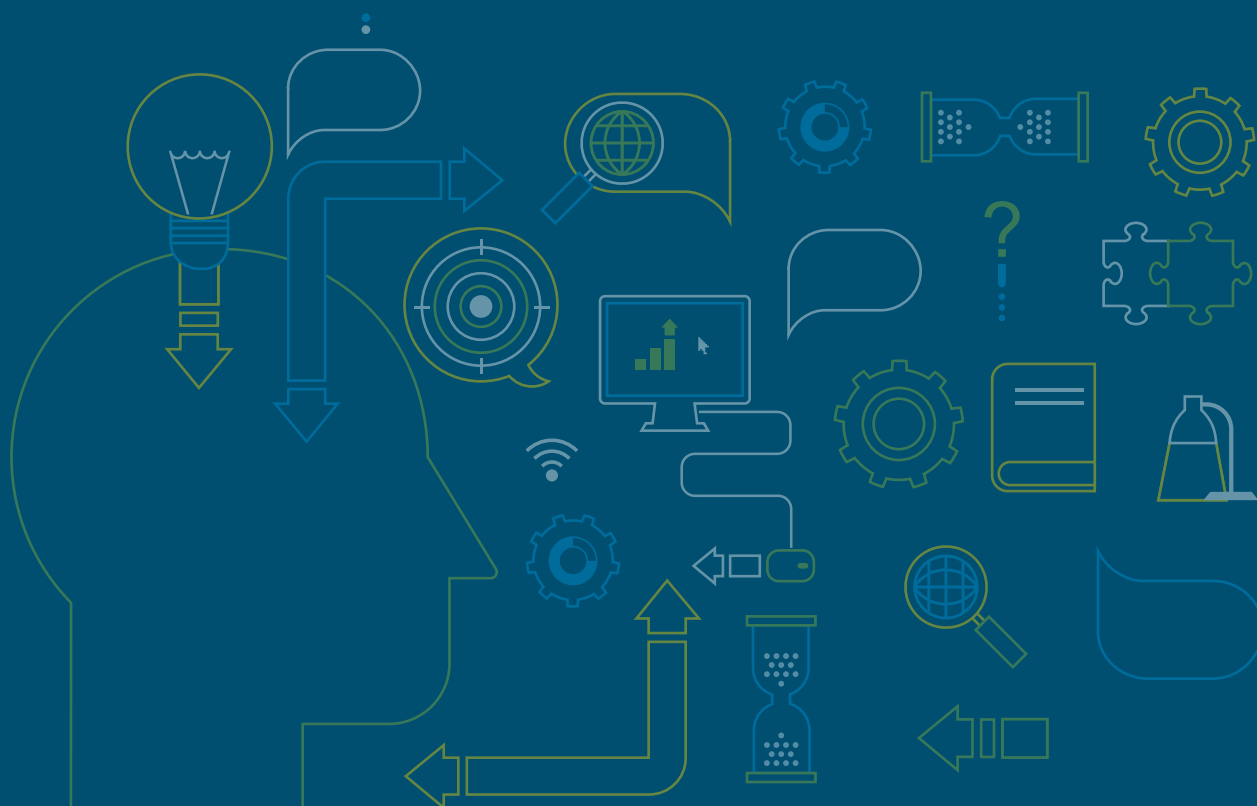**FIGURE 1. Trade Openness and the Choice of a Monetary Framework**

Note: Welfare gains of using the counterfactual monetary rule (ERR for Chile; IRR for Singapore) in the y-axis over a continuum of possible degrees of trade openness in the x-axis. Welfare gains are expressed in consumption equivalent units (percent). The degree of openness is measured as the imports-to-GDP ratio. Vertical lines correspond to each country's baseline data-based calibration. The monetary rule parameters are kept constant at their estimated values across all simulations. A positive value in the welfare gain suggests that Chilean (Singaporean) consumers are better off under the alternative ERR (IRR) rule.

FULL STUDY

Heresi, Rodrigo, and Eric Parrado. 2023. "Trade Openness and Exchange Rate Management." IDB Working Paper No. 1563, Washington, DC: Inter-American Development Bank. http://dx.doi.org/10.18235/0005490.

Department of Research and Chief Economist

The Department of Research and Chief Economist generates new ideas to enrich the knowledge base that supports the policy agenda of the Inter-American Development Bank (IDB) and its member countries for achieving sustainable and equitable development in the region. To maximize the impact of its research, the Research Department carries out activities that serve as inputs to other IDB departments, governments, the academic community and public opinion in the region.

www.iadb.org/res