The Impossible Trinity

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I. ABSTRACT

The impossible trinity in international finance is a policy trilemma that all governments face when trying to satisfy three objectives of international financial policy: monetary autonomy, exchange rate stability, and free capital mobility. Conceptualized independently by Robert Mundell and Marcus Fleming in the 1960s, it states that a central bank can only pursue two of the three chief objectives. Decisions regarding which objective to abandon are not always straightforward and depend on the current state of the economy and its needs. This paper first discusses the three objectives in detail, with a brief introduction to key exchange rate regimes, and explains the desirability of each. It then discusses why all three cannot be achieved, analyzing the three ways in which the trilemma can be resolved. Finally, it uses hypothetical and real-life examples to illustrate how governments have approached the trilemma.

II. THE TRINITY AND THE IMPORTANCE OF EACH OBJECTIVE

The impossible trinity revolves around three chief objectives of a sovereign country (as opposed to countries within a nation such in the case of the United Kingdom). Often, the term monetary union is used, signifying the uniform monetary policy throughout its bounds. The three objectives are as follows.

A. Monetary Autonomy

The ability to conduct independent monetary policy for domestic macroeconomic stability, through control of the interest rates. Control of the interest rate (i.e., the

rate at which the central or reserve bank lends money to other banks) has a direct effect on the demand for money in the country. Higher costs of borrowing would mean that domestic spending and investment would decrease. Both can have negative effects on growth and gross domestic product (GDP).

A government would want to be in control of the interest rate to control the money supply in the economy. To combat rising inflation, for example, it might increase interest rates which would decrease borrowing and spending, in turn reducing demand. On the other hand, the government might want to reduce interest rates to promote more borrowing and spending during an economic downturn or recession.

B. **Exchange Rate Stability**

The ability to avoid destabilizing volatility in the nominal exchange rate. This is a key aspect of monetary policy is control of the exchange rates. While the exchange rate regime of a country can be anywhere between a fixed exchange rate, usually pegged to a stable and economically significant currency such as the United States Dollar (USD), to a freely floating exchange rate where the rules of supply and demand in foreign currency markets determine the price of the traded currency in terms of the trading currency. Midway between these two regimes is a managed float, where the exchange rate is allowed to float between two bounds, with the central bank intervening if it crosses a threshold.

This particular objective points towards the ability to have a fixed exchange rate, as that reduces market-induced volatility by eliminating the effects that market forces can have on the exchange rate. Therefore, another way of looking at it is the ability of a country to have a fixed exchange rate. Governments would want to have such stability as it protects them from major shocks in the world economy. In terms of international trade, a fixed exchange rate would mean that imports always cost the same, and depending on the nature and volume of the imports, it can lead to low inflation and consistent price levels domestically. In a floating exchange rate regime, an appreciation of the foreign currency would lead to domestic consumers paying more for imported goods. Depending on the nature of the goods – whether they are essentials or luxuries – and on the volume of the imports, an appreciation of the foreign currency would lead to higher prices domestically and consequently, higher inflation and sometimes, higher price levels overall. For the purposes of simplicity, unless otherwise noted, the USD shall be the currency of concern in subsequent discussions.

C. **Free Capital Mobility**

The ability to take advantage of free flows of capital from foreign savings. Simply put, it is the ability to allow unhindered influx of foreign money (or currency) through investment. Instances include foreign direct investment (FDI) in business ventures, saving money in domestic banks, or purchasing domestic assets such as bonds. On the other hand, it also points towards a country's ability to allow

unrestricted outflows of capital. This would be the objective most closely associated with economic liberalization or financial market openness.

Governments would want to have free capital mobility because it can lead to higher investment in the economy and therefore be a contributing factor in economic growth. For example, the liberalization of the Indian economy 1991 onwards led to an increase in cash flows in and out of the country, increasing trade and FDI.

III. THE TRILEMMA: CONCEPTUALS

Let us first look at the theoretical reasons why this trilemma exists. As the name suggests, there are three scenarios to be considered. To simplify things a little bit, we would look at these scenarios through the hypothetical case of two countries – India and the United States. The Indian Rupee (INR) and the United States Dollar (USD) are the currencies of concern. In each case, we would assume a perfect adoption of two policies, and a perfect rejection of the third policy. This is important to remember, since real-life approaches to the trilemma are not always as clear-cut to the conceptual boundaries of each policy, with political motivations and external factors playing a role into the overall monetary framework of each country.

A. Monetary Autonomy + Exchange Rate Stability

Suppose India decides to have monetary autonomy via control of interest rates and a fixed exchange rate. As per the impossible trinity theory, this implies that it

would not be able to enjoy free capital mobility. If capital was allowed to flow freely through the borders, it would threaten the stability of the fixed exchange rate, leading to overvaluation or undervaluation of the INR as the demand or supply for the INR changed.

B. Exchange Rate Stability + Free Capital Mobility

If India wishes to have a fixed exchange rate and unhindered capital flows, it has to let go of the power to exercise monetary policy through control of its interest rate. This is because if it did have the autonomy over interest rates, as soon as there was a change between the interest rate domestically and the interest rate in the United States, there would be capital and cash flows to the country with a higher interest rate as investors scouted higher returns. This would threaten the stability of the fixed exchange rate, as the demand for domestic currency would change noticeably.

C. Free Capital Mobility + Monetary Autonomy

If India allows free capital mobility and exercises monetary autonomy through control of the domestic interest rate, it cannot have a fixed exchange rate. If it tried to peg the INR to the USD, it would need to surrender control of the interest rate to avoid the situation presented in case B. In a freely floating exchange rate regime, a lowering of the interest rate would lead to capital inflows and an increase in the rate would lead to capital outflows. Capital inflows would lead to an appreciation of the INR as people traded USD for the INR in order to move

assets or reinvest their money in India. Similarly, capital outflows would lead to a depreciation of the INR as people sold their assets in the Indian market and exchanged INR for USD for reinvestment in the foreign market.

IV. THE TRILEMMA: REAL-LIFE EXAMPLES

A. Monetary Autonomy + Exchange Rate Stability / Restricted Capital Mobility

A prominent example of this method of trilemma resolution is that of China, which has restrictions on the cross-border movement of capital. Its currency, the renminbi (RMB) was pegged to the USD from 1994 (Investopedia, n.d.) till 2005, after which China adopted the reference basket exchange rate regime (Feng, Lee, and Yuan, 2022). Since fixed exchange rates are not subject to equalizing market forces, the RMB is deliberately undervalued by the People's Bank of China (PBC).

This has been a major contributor to the economically crucial export-oriented manufacturing sector in China and the massive trade surplus that it enjoys. By keeping the RMB devalued with respect to major Western trading partners such as the United States, for example, it is able to export goods at very competitive prices for people buying them in USD (for example), which have made it a very competitive hub for manufacturing (obviously, there are a number of other factors that have played into China's rise, but that is beyond the scope of this paper). Despite recent measures towards internationalization and opening up the RMB to

global currency markets and inclusion in the International Monetary Fund's (IMF) Special Drawing Rights (SDRs) as discussed by Feng, Lee, and Yuan (2022), the motivations for exchange rate stability and the benefits of it still hold true.

The restrictions on capital mobility shielded China from Asian financial crisis of the late 1990s (Kärnfelt, 2017), since it did not allow the rapid arrival and departure of capital that is possible with unrestricted capital flows. However, as Kärnfelt (2017) notes, tight restrictions on capital flows can be a hindrance to investment and business. China is at a place where such tight restrictions can be a hindrance to its increasingly globalized economy.

An important aspect of the easing of exchange rate rigidity has been the effect it has had on capital mobility policy. As per the results of the model created by Feng, Lee, and Yuan (2022), a loosening of the relationship between the RMB and USD has occurred simultaneously as an increase in financial market openness.

B. Exchange Rate Stability + Free Capital Mobility / Monetary Heteronomy

Hong Kong SAR pegs its currency, the Hong Kong Dollar (HKD) to the USD, but at the cost of surrendering control over its interest rate. Since the HKD is pegged to the USD, whenever the U.S. Federal Reserve (the Fed) changes the interest rate, the Hong Kong Monetary Authority (HKMA) follows suit. The HKMA exchange rate regime is the Linked Exchange Rate System (LERS), which ensures that the exchange rate stays between a tight band of HKD 7.75 to HKD

7.85 to the USD. It adopted the LERS in October 1983, after a period of major financial turbulence during the Sino-British negotiations (HKMA, 2013).

The fixed exchange rate has greatly helped Hong Kong financially. Foreign investors do not have to worry about market forces depreciating the value of their assets with respect to the currency in their home countries.

However, having a fixed exchange rate regime (or a very tightly regulated one like LERS) requires the central bank to take whatever measures are necessary to maintain it. The HKMA is required to sell or buy as many of HKD in the foreign currency markets as is required to maintain the credibility of the HKD's fixed exchange rate and to prevent concerns of over or under-valuation. This creates issues when there are major changes in demand of the HKD. Hong Kong was forced to increase interbank rates in November 2022 due to a lack of initial public offerings (IPO) in the Hong Kong Exchanges & Clearings (HKEX) markets which greatly reduced the demand for HKD. Combined with an increased capital outflow, this forced the HKMA to buy huge amounts of HKD by depleting its reserves of USD to prevent a weakening of the HKD beyond the bounds of LERS (Lee, 2022).

Another example of such a trilemma resolution strategy is of the nations that comprise the Eurozone and the European Monetary Union (EMU).

C. Free Capital Mobility + Monetary Autonomy / Freely Floating Exchange Rates

This is perhaps most indicative of the monetary frameworks of many highly developed free market economies of the West such as the United States and the EMU.

Let's consider the case of the United States and its currency, the USD. The freely floating nature of the USD is important as it is also the principal currency used for international transactions and is the world's primary reserve currency. Having a freely floating currency is beneficial even in the absence of these features, of course. For example, it makes sure that investors are never misled or are doubtful of the valuation of the currency and their assets.

The drawbacks of the freely floating exchange rate were seen during the 2008 financial crisis when countries that had adopted such regimes had to intervene heavily in the foreign exchange market, depleting reserves to stabilize their exchange rates (Davis, 2015). Davis (2015) also quotes research that discusses the phenomenon of the "global financial cycle," which involves large capital flows into emerging market economies (EMEs). This happened during the 2008 financial crisis, when capital flows to EMEs increased sharply from countries like the U.S. which were hit the hardest. The central banks of those EMEs had to consequently intervene to prevent the rapid appreciation of their currencies. Therefore, external shocks and market factors can lead to dramatic changes in the

direction and amount of capital flows between countries and consequently affect the currency in undesirable ways.

V. CONCLUSION

The Mundell-Fleming model of impossible trinity that governments face, therefore, is not just a matter of what combination works best for their economy at that point in time. It also requires a consideration of the drawbacks of each policy, and if it is acceptable. We should remember, however, that the trinity is merely a model (albeit one that is still held in good regard), and that realities are much more nuanced, in many ways such as those mentioned above and those outside the scope of this paper.

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