The Impossible Trinity

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Globalization has changed the way we look at the world from different angles. The rapid technological growth has enabled people to connect with each other faster and better, despite living of different continents, have access to art products like movies and music from all over the world and, of course, travel to remote places faster and easier than before. This paper will analyse the effects of globalization on the global market, how it has changed the way countries see their economy – not as a remote island in the ocean, but as a part of a global network, where countries influence each other’s economies even without explicitly aiming to do so. The main focus will be placed on the restrictions that globalization and open markets have put on countries’ economies, like the disability to have a fixed exchange rate and still be able to maintain monetary autonomy, simultaneously allowing capital to flow freely across borders (The Economist 2016). This “trilemma” is known in economics as “The impossible trinity”.

**The Impossible Trinity and the Mundell-Fleming Model**

The impossible trinity is based on the Mundell-Fleming model which shows, how the equilibrium in the goods, the financial and the foreign exchange market comes about. The three variables of the trinity are portrayed in a triangle.

According to this model, it is not possible to control all the three variables simultaneously. The arrow C refers to having a fixed exchange rate and, at the same time, control over the money supply in the country, two variables which are simultaneously incompatible with free capital mobility. The arrow A portrays a situation when the combination of free capital mobility and fixed exchange rate makes monetary autonomy impossible, and, in the case of free capital mobility and monetary autonomy, the exchange rate cannot be fixed but has to flow, which is shown by the arrow B (The Economist 2016).

In order to explain this concept in detail, we have to look at the mechanisms described in the Mundell-Fleming model and how monetary actions and trade policies influence the equilibrium in the three markets.
Monetary policy comprises all the actions of the central bank that concern steering the supply of money. If the capital flows freely across borders and the exchange rates are fixed, they cannot respond to an increase or decrease in the money supply. For instance, if the money supply is increased, it tends to drive the domestic interest rate down, which causes investors to buy more foreign bonds and sell domestic currency. To stop the currency from depreciating, the central bank has to buy all the excess domestic currency that the market doesn’t want to hold, again decreasing the money supply on the market. Monetary policy proves to be completely ineffective under fixed exchange rates. Although, if the exchange rates are flexible and capital flows freely, the increased money supply on the market causes the domestic currency to depreciate, which stimulates exports and causes the IS-curve to shift to the right. This creates new equilibrium with higher equilibrium-income and constant interest rate. This substantiates the statement that monetary autonomy and free capital flow can only be achieved under flexible exchange rates, and that a country can only have control over its exchange rate and let capital flow freely if it gives up its monetary autonomy (Gärtner 2013: 134-135).

Free capital mobility

The algebraic expression of the Mundell-Fleming model is

\[ Y = \frac{k}{m_1} (i - i^{\text{world}}) + m_2 + \frac{x_2}{m_1} R + \frac{x_1}{m_1} Y^{\text{world}}, \]

where \( Y \) is the domestic income, \( k \) is capital mobility, \( i \) is the interest rate, \( R \) is the exchange rate, \( Y^{\text{world}} \) is the world income and \( x \) and \( m \) are factors. When capital mobility is limited by the state, \( k = 0 \) and the capital flow doesn’t respond to exchange rates or interest rates. The equation simplifies to

\[ Y = m_2 + \frac{x_2}{m_1} R + \frac{x_1}{m_1} Y^{\text{world}}. \]

Since there are no private transactions between foreign and domestic countries, the capital account is zero. The foreign exchange market can only be in equilibrium if the current account is in equilibrium: \( CA = \text{exports} - \text{imports} = 0 \). In this case it is possible to achieve monetary autonomy and fixed exchange rate simultaneously, since there are no capital flows that would increase or decrease the value of the domestic currency or foreign investors who would increase or decrease the money supply by selling or buying domestic currency (Gärtner 2013: 133). These measures are taken in some developing countries to prevent the accumulation of a high debt, which will be discussed further.
Destabilizing markets in developing countries

The fact of not being able to combine fixed exchange rates, monetary autonomy and free capital flow under one roof has had a big impact on many developing economies in the course of globalization. The changing pace and direction of capital flows has left many countries destabilized and deeply indebted. For instance, the annual GDP growth rate in Sri Lanka between 1980 and 2017 resembles a chart of a bad heart arrhythmia. Many other developing countries face a similar problem.


These irregularities find their roots in the policy of an open capital account, or in other words, complete capital mobility. According to the neoclassical growth model by R. M. Solow, liberalization of the capital account facilitates more efficient capital placement. In case the capital return is lower in one country, the investor can simply move his assets to a more lucrative market. Since the interest rates in the developed countries are much lower than in many developing countries, which are generally characterized by rapid annual growth, the capital is pouring into these high-return markets (Henry, 2007). This development encouraged many emerging economies to load up on debt to finance massive infrastructure and other projects. The debt in some countries has now exceeded its GDP of 120% and, in some cases, even more (UNCTAD 2015).

An example of such capital placements are the deals between China and developing African countries like Sri Lanka and Namibia. Lending big sums of money to poorer countries increases the possibility that the debt will exceed the borrower’s possibilities to pay it back. In this case, a conversion of the debt into domestic assets strengthens the creditor’s position in the domestic market of the borrowing country. This was the case when Sri Lanka borrowed 6 billion dollars
from China in 2015 to pay for a Chinese construction of a new port city but couldn’t meet the payment deadlines. The offer of China was to convert these 6 billion dollars into an equity share, more specifically the ownership of a key port on the waterway between Asia and Africa. These types of deals have made many borrowing countries precautious, Thailand has even refused borrowing from China if they demand an asset guarantee (Collier 2018).

Policy recommendations

To get to the measures that are suggested to increase stability, there are a few key findings from the intensive research or French economist Hélène Rey that should be outlined. She stresses the importance of the VIX Index: A measure of uncertainty and risk aversion of the markets which co-moves with the global financial cycle of capital flows, asset prices and credit growth. Countries with more credit inflow, like many developing countries, are more sensitive to the global cycle than developed countries with less capital inflow. Using value at risk analysis, Rey has come to a conclusion that the originally postulated trilemma is actually a dilemma, because, whenever capital is freely mobile, the global financial cycle constrains national monetary policies regardless of the exchange rate situation, which means that credit flows are of great importance when it comes to financial stability and should be monitored carefully (Rey 2013).

Following this finding, Rey suggests the following measures for stability increase. The first and most plausible one is capital controls which can be imposed periodically or permanently to a specific set of assets either on the inflow or the outflow side. Since the main cause of instability is the excessive credit growth in the boom period, diverse capital control policies should target precisely this issue. Rey also mentions “macroprudential policies” which can weaken the ties between domestic monetary policy and capital inflows without capital controls (Rey 2013). Such policies would be for instance requiring banks to set aside extra capital to deal with unforeseen shocks or any other policy that would help mitigate risk for the financial system as a whole (ECB). These measures can also be implemented cyclically (during boom and recession periods). Especially during a boom lending standards and trading strategies should be monitored carefully (Rey 2013).

Another proposed measure is acting on one of the sources of the global cycle itself, like internalizing the spillover effects of a large financial centre, like the US. This measure can be problematical cause large countries’ central banks don’t pay enough attention to the
implications of their monetary policy to the rest of the world. It can also occur that these external policies contradict the domestic mandates of the central banks (Rey 2013).

The last possible effective measure suggested by Ray is the limitation of leverage. Especially in periods when financing conditions are favourable, banks and financial intermediaries strive for higher leverage ratio (or debt to equity ratio) to maximize their gains, often using borrowed capital. This increases the risk for investors which contributes to the instability of the economy. An anti-cyclical measure like limiting the leverage ratio would lower this risk, more specifically, costs of decision errors by financial intermediaries would sink and, in case of an error, the bank would not go “under water” as quickly as if it would with an excessively high leverage ratio (Rey 2013).

Conclusions

The issues of the impossible trinity seem to affect countries in very different ways. More stable economies with lower growth rates might strive for a fixed exchange rate or monetary autonomy, while countries with higher growth rates might pay more attention to the capital that is flowing in and out of the country. The decisions about how to handle the trinity limitations are not only depending from various financial factors but also from the ideology of the government. Beckmann et.al. conclude in their study that left-leaning governments tend to favour exchange rate stability over monetary autonomy, although also this impact varies between developing and developed countries (Beckmann et al. 2017). According to the literature, the main characteristic of developing countries is rapid annual growth, attracting big sums of foreign capital. Growth, generally seen as a positive phenomenon which brings modernization and increases life quality of the general population, can create rapid backlashes, as it is shown in the annual growth rate differences in Sri Lanka. The main conclusion, following the analysis of the literature, is that stability is another desirable goal, that is not easy to achieve in fast growing economies. Since the international banks often pay little attention to spillovers of their monetary policy, measures have to be taken by domestic institutions in order to prevent frequent excessive booms and recessions. According to the economist Hélène Rey, these measures should be anti-cyclic and focus on general risk limitation in an economy as a whole. This again requires strong and un-corrupted institutions, which is also still a goal to strive for in many developing countries.
Literature


