

# Business Cycles and Macroeconomic Policy in Emerging Market Economies

## Project Leader

Valery Charnavoki, Assistant Professor, New Economic School  
<https://sites.google.com/site/charnavoki/>

This research project is a continuation of the project started in 2016. This year we will focus on the study of optimal macroeconomic policies aimed at stabilizing emerging market economies after negative terms of trade shocks, sudden stops, sovereign debt defaults or large devaluations. Students with interests in open economy macroeconomics, business cycles and macroeconomic policy are invited to participate in this project. [Frankel \(2010\)](#) provides a good survey of the earlier literature on this topic.

## 1 Business Cycles in Emerging Market Economies

Business cycles in most countries of the world economy are characterized by well-defined empirical regularities, documented, for example, by [Backus, Kehoe, and Kydland \(1992\)](#), [Mendoza \(1991\)](#) and [Mendoza \(1995\)](#). These studies demonstrate that co-movements of consumption, investment, employment and net exports with output are quite uniform across countries. However, the magnitude of output fluctuations varies significantly, with developing economies experiencing larger fluctuations. Moreover, real interest rates in developing countries are counter-cyclical and lead the cycle, consumption is more volatile than output, net exports are strongly counter-cyclical and real exchange rates are approximately three times more volatile than the real exchange rates in industrial countries (see [Neumeyer and Perri, 2005](#); [Hausmann, Panizza, and Rigobon, 2006](#)).

One reason for this large volatility is the greater magnitude of supply shocks in primary sectors (agriculture, mining, forestry, and fishing) which make up a large share of their economies (see [Koren and Tenreyro, 2007](#)). These activities are vulnerable both to extreme weather events and supply disruptions domestically and to volatile prices on world markets. However, recently [Schmitt-Grohe and Uribe \(2015\)](#) have challenged the traditional view that the terms of trade shocks are an important determinant of macroeconomic dynamics in emerging market economies. They have estimated annual country-specific SVARs for 38 poor and emerging countries and showed that terms-of-trade shocks explain only 10% of movements in aggregate activity on average. [Ben Zeev, Pappa, and Vicendoa \(2016\)](#) have confirmed these findings for a sample of Latin American countries, but showed that term-of-trade *news* shocks explain a bigger fraction of cyclical fluctuations. According to their estimates, unexpected and news terms-of-trade shocks account on average for 37% of output fluctuations.

[Aguilar and Gopinath \(2007\)](#) have suggested simple RBC model without any policy and financial frictions, which is able to explain the stylized facts for developing countries. Their model is driven by permanent and volatile shocks in total factor productivity, summarizing the effect of numerous supply shocks affecting these countries. However, [Garcia-Cicco, Pancrazi, and](#)

Uribe (2010) estimated Aguiar and Gopinath (2007) RBC model for Argentina and Mexico and found that this model does a poor job at explaining business cycles in these countries. Neumeyer and Perri (2005) presents an alternative RBC model of a small open economy, where the real interest rate is decomposed in an international rate and a country risk component. Country risk is affected by fundamental shocks but, through the presence of working capital, also amplifies the effects of those shocks. Using a panel VAR and an estimated open economy multi-sector model with financial frictions, Shousha (2016) demonstrates that commodity price shocks are an important source of business cycle fluctuations for small open commodity exporters, with stronger effects on emerging countries. The main channel that accounts for these different effects is the response of the country interest rate to commodity price shocks and differences in working capital constraints faced by firms.

## 2 Sudden Stops, Contractionary Devaluations and Sovereign Debt Crises

The second reason of large volatility in the emerging market economies is a strong dependence on international capital flows, instability of domestic macroeconomic policy and greater incidence of default risk.

Financial crashes in developed countries are often followed by sudden stops in emerging economies. A sudden stop is a sharp reversal in external capital inflows, which is often measured by a sudden jump in the current account. The economies affected by sudden stops experience deep recessions, sharp depreciations of the real exchange rates and collapses in asset prices. Starting from 1990s, the sudden stops are widely studied in the economic literature (see Mendoza and Calvo, 2000; Caballero and Krishnamurthy, 2001, 2004; Chang and Velasco, 2001; Kaminsky and Reinhart, 1999; Martin and Rey, 2006, among others). Mendoza (2010) and Korinek and Mendoza (2013) document the key stylized facts that characterize sudden stops episodes and propose a general equilibrium business cycle model with collateral constraints explaining these stylized facts.

Sudden stops are usually followed by large devaluations. Alessandria, Kaboski, and Midrigan (2010) and Burstein, Eichenbaum, and Rebelo (2005) study the effects of large devaluations in emerging markets. Edwards (1986) found that devaluation in developing countries is contractionary in the first year, but then expansionary when exports had time to react to the enhanced price competitiveness. Confirming this phenomenon, Reinhart and Calvo (2001) demonstrate that exports do not increase at all after a devaluation, but rather fall for the first eight months. The reason is that firms lose access to working capital and trade credit even when they are in the export business (see, for example, Korinek and Mendoza, 2013).

Financial crises may lead to sovereign defaults (Reinhart and Rogoff, 2011). Starting from the seminal work of Eaton and Gersovitz (1981), many researchers study various aspects of sovereign debt crises (see, for example, Aguiar and Gopinath, 2006; Arellano, 2008; Yue, 2010).

## 3 Monetary Policy in Emerging Market Economies

Endogenous movements of floating exchange rates have long been viewed as an important mechanism of external adjustment (see Frankel, 2010, for literature review). According to this view, when an open economy is hit by an adverse shock, domestic demand contracts forcing domestic interest rates fall. The resulting depreciation of the home currency makes home goods and services more attractive compared with foreign ones thus producing an expenditure switching effect toward home goods and services, and this stimulates aggregate demand. The exchange rate acts thus as a shock absorber. Another attractive feature of floating exchange rates is that, under free capital mobility, they preserve the ability of a country to run an independent monetary policy, an indispensable stabilization tool.

Recent research has identified other potent channels through which floating exchange rates transmit the effects of external shocks in a financially globalized world, the so-called international lending and risk-taking channels (see, for example, [Bruno and Shin, 2015a,b](#); [Rey, 2015](#); [Aoki, Benigno, and Kiyotaki, 2016](#)). If exist, they effectively make floating exchange rates a “mixed blessing”. Loosening of monetary conditions abroad in a financial center country such as the U.S. weakens the U.S. dollar and produces outgoing capital flows chasing higher yields outside the U.S. When this capital flows into an open economy in the periphery, its currency appreciates. The appreciation of the host country’s currency makes balance sheets of global investors look healthier by inflating the dollar value of assets and thus raising investors’ net worth. In a world with financial frictions, higher net worth implies higher borrowing capacity, and this magnifies the size of capital flows even further. In practice it is often the case that a part of those capital inflows are intermediated by local financial institutions. To the extent that there is a currency and/or maturity mismatch between assets and liabilities of financial intermediaries, this process potentially leads to a build-up of financial vulnerabilities, which is likely to jeopardize financial stability in the future. When the monetary policy in the center country becomes more restrictive, capital flows revert, and this leads to a currency depreciation in the periphery, triggering a deleveraging, a fall in asset prices, and may even produce a full-scale financial crisis. As [Gourinchas and Obstfeld \(2012\)](#) document, financial crises are typically preceded by a prolonged period of credit growth and appreciating currency.

## 4 Capital Control and Macro-Prudential Policy in Emerging Market Economies

One important implication of the above narrative stressed by [Rey \(2015\)](#) is that the monetary policy is *de facto* exported from the center to the periphery even under floating exchange rates. Indeed, in the face of massive capital inflows, the central bank in the recipient country is tempted to cut interest rate in an attempt to avoid an unwanted currency appreciation and the emergence of property and asset price bubbles even though such a decision may not be its best choice from the perspective of output and price level stabilization. In this situation, the central bank cannot kill the two birds with one stone by fulfilling the two different policy goals, macro stabilization and financial stability, with one instrument, the interest rate. This gives rise to the idea to augment monetary policy by a menu of macroprudential tools such as upper limits on leverage, taxes on certain kinds of debt instruments, etc. ([Korinek, 2011](#); [Farhi and Werning, 2012, 2014](#); [Rey, 2015](#)).

A series of recent papers have noted the possibility that taxes on capital flows can correct pecuniary externalities associated with occasionally binding borrowing constraints (see, for example, [Bianchi, 2011](#); [Bianchi and Mendoza, 2010, 2013](#); [Benigno, Chen, Otrok, Rebucci, and Young, 2013](#); [Jeanne and Korinek, 2010](#)) or balance sheet effects from currency mismatch ([Aoki et al., 2016](#)).

[Devereux, Young, and Yu \(2015\)](#) study the benefits of capital controls and monetary policy in an open economy with financial frictions, nominal rigidities, and sudden stops. They find that during a crisis, an optimal monetary policy should sharply diverge from price stability. Without commitment, policy makers will also tax capital inflows in a crisis. But this is not optimal from an ex-ante social welfare perspective. An outcome without capital inflow taxes, using optimal monetary policy alone to respond to crises, is superior in welfare terms, but not time-consistent. If policy commitment were in place, capital inflows would be subsidized during crises. They also show that an optimal policy will never involve macro-prudential capital inflow taxes as a precaution against the risk of future crises.

## Potential research projects

Below there are several potential topics for research projects.

- Risk-taking channel of monetary policy in Russia
- Procyclicality of macroeconomic policies in Russia. Evidence, causes and remedies.
- Is export price targeting optimal for small commodity-exporting economy?
- How important are terms of trade shocks in Russia? Evidence from SVAR model

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