

Macroeconomic policies for inclusive growth in Southern countries

A new DOC research project

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'Barrio 31: Buenos Aires's Newest Neighborhood'. (Credit: The World Bank in Latin America and the Caribbean/Flickr licensed under CC BY-NC-ND 2.0) (via: bit.ly)

The idea of this project is to analyse what kind of macroeconomic policy is most conducive to growth in developing countries and to investigate whether particular fiscal, monetary, and exchange rate

policies have similar effects in developed and developing countries or whether these effects are country specific.

Hypotheses

1. Insufficient government spending on public goods (education, health care, infrastructure, law and order, administration) can lead to a collapse of output. This happened in post-communist countries during the transformational recession of the 1990s.
2. In countries with high price rigidities, a low inflation policy tends to suppress output growth.
3. In developing countries, central bank independence contributes to lower inflation, but at the expense of growth.
4. Countries with flexible monetary policy manage adverse supply shocks better, especially if there are wage and price rigidities.
5. Exchange rate undervaluation through accumulation of foreign exchange reserves promotes export-oriented growth in developing countries because export-to-GDP ratios in these countries are generally below the optimal level.

Major hypotheses in greater detail

Fiscal policy. Insufficient government spending on public goods (education, health care, infrastructure, law and order, administration) can lead to a collapse of output. This in fact happened in transition economies in the 1990s.[\[1\]](#)

This argument here is not over the optimal size of the state – a widely discussed issue in economics. It is about the dismantling of the state

that occurred in Russia and some other former Soviet republics – unprecedented in economic history – in such a short period of time in the early 1990s. Simply put, if crime, income inequality, poverty, and corruption are on the rise, the state needs more money, not less, to bring these unfavourable developments to a halt.

If the indicator of 'change in the share of state expenditure in GDP' is added into regressions explaining output change during transition, it remains statistically significant even after factoring in conventional variables such as initial conditions (per capita GDP before transition; and distortions in industrial structure and in trade patterns inherited from central planning), the impact of wars, and macroeconomic stability (inflation rates) – see Popov, 2000, 2004, 2007.[\[2\]](#)

In general, the dynamics of government expenditure during transition seems to have been a far more important factor in successful transformation than the speed of reforms. Keeping government big does not guarantee favourable output dynamics, since government spending has to be efficient as well. However, a sharp decline in government spending, especially for an 'ordinary government', is a sure recipe for the collapse of institutions and a fall in output accompanied by growing social inequalities and populist policies.

When real government expenditure falls by 50% or more – as happened in most CIS and Southeast European states in a short period of only several years – there is practically no chance to compensate for the decrease in financing volume by increasing the efficiency of institutions. As a result, the ability of the state to enforce contracts

and property rights, to fight criminalisation, and to ensure law and order, in general, falls dramatically.

China seems to represent an exception to this rule, since there was no transformational recession in China but the share of government spending in GDP fell from 35% in 1978 to 13% in the mid-1990s. However, firstly, the major decrease occurred in the second half of the 1980s, whereas government spending in the first stage of transition grew pretty much in line with GDP. Secondly, the decrease in the share of state expenditure was a controlled process, i.e., it occurred due at the government's initiative, not in spite of government efforts. And thirdly, expenditure by 'ordinary government' – excluding subsidies, investment, and defence spending – grew in line with GDP. Finally, since 1995 the share of state expenditure in GDP in China has risen – it was around 20% in 2010.

Monetary policy. For many developing countries with rigid prices and moderate wage levels, inflation is often caused by cost-push factors (i.e., adverse supply shocks). Hence, inflation-targeting in these countries could be an excessively tight policy that puts constraints on output growth.

It looks like the negative relationship between inflation and growth occurs only when inflation is in excess of around 40%. But if inflation runs at a level of 40% or below, the relationship between growth and inflation becomes positive, following a normal Phillips curve, with a negative relationship between inflation and unemployment. The theoretical foundations for this non-linear link have been studied

extensively since Bruno and Easterly's 1996 paper,[\[3\]](#) and the presence of this non-linearity in transition economies has also been documented in a number of papers.[\[4\]](#)

Central bank independence and growth. Many studies (e.g., Cukierman, 1992) find a negative correlation between central bank independence and inflation.[\[5\]](#) It could be, however, that in developing countries with tight monetary policy (through currency boards and exchange-rate-based stabilisation), low inflation is achieved at the expense of economic growth.

Macroeconomic policy reactions to external shocks. If the terms of trade are negative or there is a financial shock leading to a deterioration in the balance of payments, there are two basic options for a country with limited foreign exchange reserves. Firstly, a country can maintain a fixed exchange rate (or even a currency board) and wait until a reduction in foreign exchange reserves leads to a reduction in the money supply: This will drive domestic prices down and stimulate exports, raise interest rates and stimulate an inflow of capital, and will eventually correct the balance of payments. Secondly, the country can allow a devaluation of its national currency – a flexible exchange rate will automatically bring the balance of payments back into equilibrium. Because national prices are less flexible than exchange rates, the first type of adjustment is associated with a greater reduction of output.

The empirical evidence on Eastern European countries and other transition economies for the 1998-99 period – showing an outflow of

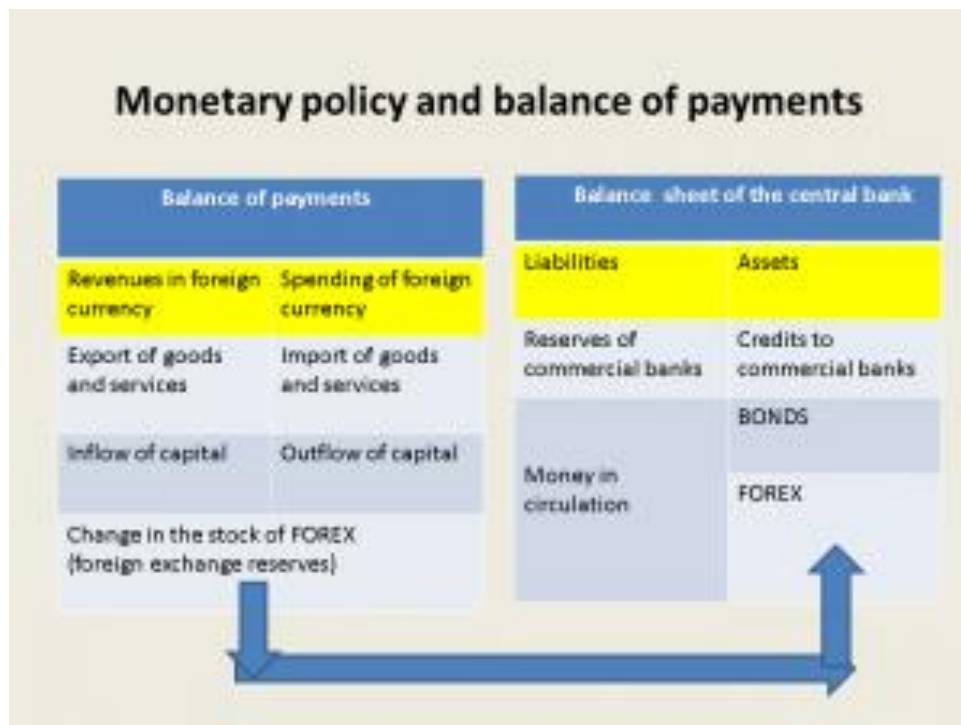
capital after the 1997 Asian crisis and the 1998 Russian currency crisis, and a slowdown of output growth rates – suggests that the second type of policy response (devaluation) was associated with a smaller loss in output than the first type (monetary contraction). Developments in 2008-09 provide additional evidence for this hypothesis.[\[6\]](#)

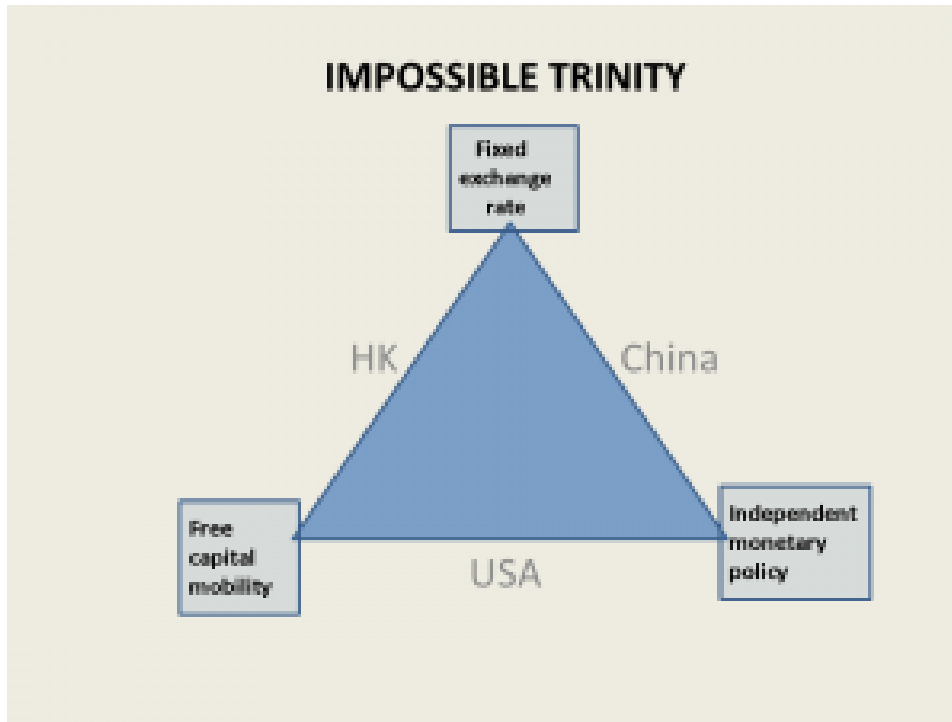
Exchange rate regimes. Macro textbook theory is based on the Mundell-Fleming model. One of its conclusions is that independent monetary policy is impossible under complete capital mobility and fixed exchange rates (the 'impossible trinity' – see figure 1) because changes in domestic interest rates take the balance of payments out of equilibrium with the resulting change in foreign exchange reserves (see figure 1). Monetary expansion (the LM curve shifts to the right), for example, results in lower interest rates and an outflow of capital, which in turn leads to a lower level of foreign exchange reserves and a contraction of the money supply (the LM curve shifts back to the left). In contrast, with flexible exchange rates monetary policy is 100% efficient: When monetary expansion leads to a fall in interest rates and an outflow of capital, the exchange rate for the national currency falls and this leads to an increase in income (the IS curve moves right), so that a new equilibrium is established at a point of higher income and at the same interest rate level (world level).

Under fixed exchange rates, an adjustment to external shocks – say, to a fall in prices for exported goods or to an outflow of capital – occurs through changes in the money supply:

- Trade balance (or capital account balance) deteriorates => FOREX fall => M falls => Domestic prices fall => Real exchange rate [$RER = \text{Domestic prices} / \text{Foreign prices} \times \text{Nominal exchange rate}$] falls => Trade balance improves (exports increase, imports fall).
- Besides this, tight monetary policy (M falls) leads to higher real interest rates, so there is an inflow of capital and an improvement of the capital account which also contributes to the restoration of the balance-of-payments equilibrium.

Figure 1. Central bank balance sheet, balance of payments and the impossible trinity





The problem with this type of adjustment is that monetary contraction, if prices are sticky, affects not only prices, but also output: A reduction in the money supply leads to a slowdown of inflation, only with a lag, and during this lag output (or output growth rates) falls, so the cost of bringing the real exchange rate back to a competitive level is a recession, as happened in Russia in 1997-98 and Argentina in 1999-2002.

Under completely flexible exchange rates, the adjustment to an external shock – say, to a fall in prices for exported goods or to an outflow of capital – occurs without changes in foreign exchange reserves or the money supply, but through the exchange rate itself:

- Trade balance (or capital account balance) deteriorates=> Nominal exchange rate falls (depreciates) => =>Real exchange rate [RER =

Domestic prices/Foreign prices) * Nominal exchange rate] falls => Trade balance improves (exports increase, imports fall).

- Besides this, after devaluation, domestic assets become cheaper so there can be an inflow of capital – or a slowdown in capital outflow.

This type of adjustment is also painful in the sense that it leads to a decline in consumption (i.e., net imports decline after devaluation), but domestic prices do not fall – in fact, after some time they start to rise, eating up the pro-competitive effect of devaluation – so there is no depressive effect on output.

The goal of this research project is to examine which type of adjustment is associated with a greater reduction of output (i.e., a slowdown of growth): adjustment through money supply and a slowdown of inflation or adjustment through devaluation. I look at the experience of former communist countries, especially Eastern Europe countries – which had very different exchange rate regimes to one another – which were affected by the outflow of capital in 1997-99, after the 1997 Asian crisis and the 1998 Russian currency crisis. To the best of my knowledge, there are no papers examining this particular issue, although there is, of course, a large literature on the advantages and disadvantages of different exchange rate regimes.

The elimination of currency risk is believed to be the most important advantage of a fixed exchange rate regime – this is even more true for currency boards and dollarisation; in the latter case, currency exchange transaction costs are also eliminated. The effects of common currencies on the volume of international trade were analysed by Rose (2000), Engel and Rose (2002), Frankel and Rose (2002), and Glick,

Reuven and Rose (2002).[\[7\]](#) This research, based on the application of the gravity model, produced the surprisingly high estimate that international trade within currency unions is three times more intensive than among similar countries which do not have a common currency. Attempts to capture this effect in the euro area, however, have failed. Numerous papers came up with an estimate which is lower by at least one order of magnitude: A 10-15% increase in international trade in the first few years after the creation of the monetary union.[\[8\]](#)

Hanke,[\[9\]](#) a strong proponent of currency boards, points out that according to Eichengreen,[\[10\]](#) the evidence on the relationship between monetary regimes and growth is inconclusive and does not support the claim that dollarisation – or any exchange rate regime, for that matter – is an important determinant of growth. However, Edwards and Magendzo distinguish between independent currency unions like the Eurozone today and dollarised economies, which have no say in monetary policy formulation, like Panama and Ecuador.[\[11\]](#) They find that dollarised economies and currency unions have lower rates of inflation than countries with domestic currencies. However, dollarised countries have lower growth rates and higher levels of volatility than countries with domestic currencies. Currency unions, on the other hand, have higher growth rates and higher levels of volatility than countries with a currency of their own.

The strongest argument against fixed exchange rates is that they force countries to abandon independent monetary policy, whereas a one-size-fits-all monetary policy obviously does not work. The reduction of output during the Great Depression, as Eichengreen and Sachs (1985)

and Eichengreen and Irving (2009) show was greater in countries that stuck to the gold standard, whereas countries that devalued their currencies (China, Japan, Denmark, and Sweden) were able to limit the depth of the recession and avoid sliding into protectionism.[\[12\]](#)

Among the opponents of currency boards are Roubini (1998) and Krugman (2003).[\[13\]](#) The latter notes that “a currency board fitted a conservative ideology: by eliminating any discretionary monetary policy, it moved us back toward a pre-Keynesian world. That’s why Forbes and the WSJ editorial page sang Argentina’s praises; and Wall Street economists swallowed the whole thing”.

This issue is also discussed in terms of the pluses and minuses of *exchange-rate based stabilisation* – i.e., pegging a national currency to a stable currency and using the peg as the nominal anchor – versus *money based stabilisation*, the policy of setting targets for monetary aggregates (gradually lowering these targets) while keeping the nominal rate flexible. The advantage of former is that it is usually believed to be credible, even though there are many cases of spectacular failures, from Russia in 1998 to Argentina in 2002. *Money based stabilisation* allows more flexibility for monetary policy – the ‘one size does not fit all’ argument. For example, if prices are sticky, such that inflation of 10% is needed in order to avoid a depressing effect on output, then a 10% annual devaluation – provided there is zero inflation elsewhere – can ensure the stability of the real exchange rate. The disadvantage of this policy is that there is no automatic mechanism to bring down inflation – everything depends on how strictly the central bank will observe the targets.

With regards to the medium- short-term, there is another argument: asymmetric shocks. These occur, for example, when commodity prices increase. Consider the case of two countries, one an oil exporter and the other an oil importer. The increase in oil prices will create a positive trade shock for the exporter and a negative shock for the importer. If both countries have fixed nominal exchange rates, in the former country foreign exchange reserves would increase and in the latter they would decrease. At the end of the day, if the trade shock was significant enough then the oil importing country would not be able to sterilise the decline in foreign exchange reserves, the money supply would decrease, prices would fall, and the real exchange rate would fall as well. Even if prices were perfectly flexible, there would be a need to move resources – labour and capital – from the oil sector to other sectors of the economy. And if oil prices were to grow again, there would be a need to move resources in the opposite direction, from other sectors to oil. Because oil prices fluctuate a lot, it would be unreasonable to move resources back and forth every time a trade shock occurs. With fixed exchange rates, the room for manoeuvre in adjustment to these temporary shocks is limited.

With fixed exchange rates – or with currency board arrangements even more so – effectively forcing countries to abandon independent monetary policy, countries are doomed to adjust to trade shocks and inflows and outflows of capital through real indicators: When the exchange rate is pegged and prices are not completely flexible, changes in the money supply – caused by the fluctuation of reserves – may affect output rather than prices. And as the recent experience of East Asian and transition economies has shown, this kind of real sector

adjustment is quite costly. To put this in simpler terms, under a fixed exchange rate regime, neither changes in foreign exchange reserves nor domestic price changes in response to money supply fluctuations provide enough room for manoeuvre in order to handle terms-of-trade shocks and inflows and outflows of international capital.

Most developing and transition economies, with the exception of the smallest ones, like Hong Kong, Singapore, and perhaps the Baltic states, are large enough to not be completely exposed to global market competition and thereby to retain some inflexibility for domestic prices with respect to world market prices. Nevertheless, they are not large enough to create an appropriate cushion of foreign exchange reserves, which would reduce their vulnerability to international capital flows to reasonable levels. In most emerging markets – with the possible exception of China – foreign exchange reserves are normally enough to withstand only several weeks, if not days of attack on the currency. Furthermore, because major international banks, investors, and hedge funds operate with pools of money comparable to or even exceeding the value of reserves of most countries, exchange rate fluctuations remain the only reliable and efficient safety valve providing protection against external shocks.

The consensus today, if any, could probably be summarised as follows: Whereas exchange-rate-based stabilisation may work to fight inflation at initial stages of transition, there is growing evidence that at later stages, it becomes an obstacle to economic growth and creates the potential for currency crisis by allowing the real exchange rate to appreciate.

The long-term level of the exchange rate and the accumulation of foreign exchange reserves. The undervaluation of the exchange rate through the long-term accumulation of foreign exchange reserves is, in fact, a growth policy stimulating export-oriented development. This used to be the policy of many fast-growing economies in East Asia and elsewhere.[\[14\]](#)

The undervaluation of the exchange rate through the accumulation of foreign exchange reserves is a macroeconomic policy, but also, in fact, an industrial policy aimed at promoting export-oriented growth which benefits exporters and the tradable producers at the expense of importers and producers of non-tradables. This policy is gaining support in the literature.[\[15\]](#) Where there are externalities from exports and the production of tradables, like industrialisation and the development of high-tech sectors, the undervaluation of the exchange rate resulting from the accumulation of reserves provides a subsidy to these activities and this subsidy is automatic; i.e., it does not require a bureaucrat to select possible beneficiaries. In short, this is a non-selective industrial policy promoting exports and the production of tradables, which seems quite efficient, especially in countries with high levels of corruption and poor quality institutions. Thus, the accumulation of reserves and the undervaluation of the exchange rate may be good for long-term growth.

The formal model demonstrating how the accumulation of reserves can spur growth, as well as empirical evidence, is presented by Polterovich and Popov.[\[16\]](#) It is also shown that an accumulation of reserves leads

to exchange-rate disequilibrium, which in turn causes increases in export-to-GDP and trade-to-GDP ratios, which stimulates growth.

If all countries use these policies, all will lose out. On top of that, for developed countries, this policy does not work. But for developing countries, it works and there are good reasons why these countries should have sufficient policy space to use this tool in order to promote catch-up development.

The policy of reserve accumulation is often considered self-defeating because in order to avoid inflation – which would eat up the impact of devaluation on the real exchange rate – it is necessary for monetary authorities to carry out a sterilisation policy, i.e., to sell government bonds in order to neutralise the impact of foreign currency purchases on the money supply. But sales of government bonds lead to higher interest rates, which in turn attract capital from abroad, contributing to an increase in foreign exchange reserves that, again, need to be sterilised. This creates a vicious circle. That is why economists talk about an ‘impossible trinity’ – a country cannot maintain an open capital account, fixed exchange rates, and an independent monetary policy at the same time. Many developing countries exercise control over capital flows – China and India are prime examples – but even without formal controls, capital mobility is never perfect, especially for large economies.

In practice, as statistics show, the accumulation of foreign exchange reserves is financed through a government budget surplus and debt accumulation, but not through the printing of money.[\[17\]](#) That is to

say, most countries that have accumulated reserves have rapidly exhibited low levels of inflation and small budget deficits (or budget surpluses), but a growth of government debt.[18]

In the post-Soviet space, since 2000 Uzbekistan has probably been the only country that has carried out predictable and gradual nominal devaluation of its currency. This was conducted a little more heavily than was needed to counter differences in inflation rates between Uzbekistan and its major trading partners, so the real effective exchange rate depreciated slowly. The real exchange rate of the Uzbekistani so‘m versus the US dollar has appreciated slightly, although not as much as currencies of other countries. However, the real *effective* exchange rate of the so‘m fell by over 50% in 2000-07, a sharp contrast with other countries of the region for which data are available.

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[18] Formally, the following identities hold:

$$\Delta M = \Delta \text{FOREX} + \Delta B_{\text{CB}}$$

$$BD = \Delta B_{\text{CB}} + \Delta B_{\text{P}}$$

$\Delta \text{FOREX} = \Delta M + BS + \Delta B_{\text{P}}$, where ΔFOREX – increase in foreign exchange reserves, ΔM – increase in money supply, BS – budget surplus (BD – budget deficit), ΔB_{P} – increase in bonds held by the public, ΔB_{CB} – increase in bonds held by the central bank. The last identity implies that the increase in foreign exchange reserves can be financed by the increase in money supply, i.e. inflation tax on everyone (ΔM), budget surplus (BS), accumulation of debt held by the public (ΔB_{P}).

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