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Coping with External – Capital and Current Account – Shocks

Consider a resource exporting country that faces positive terms of trade shock (say increased prices of exported resources) and/or simultaneous inflows of capital. Or, imagine the shock is negative – e.g., deterioration of the current account and outflows of capital. There are several options to cope with these shocks which are discussed below and summarized in Table 1 of the Appendix:

1. Cut government borrowing abroad and/or pay back external public debt, and/or issue credits to foreign countries. Or, in the case of a sudden deterioration of the balance of payments, the government could try to borrow more from other countries and international financial institutions.

Private international capital flows are volatile and do not fully mitigate fluctuations in the terms of trade. Generally, they seem to be procyclical, rather than countercyclical; thus when the terms of trade deteriorate, capital flows out of the country instead of coming in. Empirical evidence suggests that this is true for most countries. So, in fact, private capital flows reinforce terms of trade shocks. Official capital flows, however, tend to be counter-cyclical with respect to terms of trade shocks – international financial institutions (IFIs), such as the IMF and the World Bank, and national governments provide additional credits to countries affected by negative trade shocks, but the amounts are

too small, if not negligible, to fully counter the negative impact of the deterioration of the balance of payments caused by the fall in export prices and/or the outflow of private capital.

Suffice it to recall the role of IFIs in recent currency crises in the world – East Asia in 1997, Russia in 1998, Brazil in 1999, Argentina in 2002: in all these cases the official capital flows were not nearly enough to counter the effects of private capital flight. So long as the international financial architecture remains as it is, countries are basically left to manage shocks that affect their current and capital accounts by themselves.

2. Use various capital flow management tools

Management of capital flows may be quite efficient in preventing financial and non-financial institutions from borrowing abroad, i.e., in managing capital *inflows*, but much less efficient in preventing the *outflow* of capital, especially during panics. The system of capital flows management has to be designed, implemented and tested, which takes time, so it is better to have it in place before shocks occur. See Epstein (2011); Frenkel, (2011); Ostry, et al., (2011a); Ostry, et al., (2011b).^{12 3 4}

3. Subsidize exports and tax imports to encourage exports and to discourage imports.

Usually it takes time to impose new taxes, so the only method that would work promptly is an automatic one. For instance, in many oil exporting countries, export taxes on oil depend on the world oil price – the higher it is, the higher the export tax.

However, these taxes have an impact on the real economy, as the restoration of the equilibrium in the balance of payments comes via changes in the real sector. It may well be that these real changes are desirable anyway; so the government could, as the saying goes, kill two birds with one stone, but in most cases, it is good to choose instruments that do not have side effects.

It is also important to specify how the tax proceeds are being used. If they are diverted to a stabilization fund (SF) that is invested abroad (like foreign exchange reserves), the money supply does not increase, so there is no increase in demand and no inflationary consequences (see below about stabilization funds). However, if the increase in export and/or import taxes leads to the increase in government revenues and expenditure, total demand would increase, so the impact of the positive balance of payment shock on domestic economy would not be neutralized.

4. Allow adjustment via changes in foreign exchange reserves (FOREX) with appropriate sterilization and without changing the nominal exchange rate (see Scheme 1 in the Appendix).

Accumulation of reserves as a reaction to a positive shock to the balance of payments is considered, however, to be a self-defeating policy, if accompanied by sterilization: sales of government bonds in the open market lead to an increase in interest rates, which attracts even more capital from abroad, leading to even

greater accumulation of reserves and the need to sterilize these increases via more open market operations, etc. Successful accumulation of FOREX with sterilization thus requires capital controls (as in China).

And if the shock is negative, most countries' reserves are usually barely enough to withstand several months of deterioration of the terms of trade and several weeks of the outflow of capital. Among major resource exporters only Norway (oil exporter) and Botswana (diamond exporter) may have enough money in FOREX and Stabilization Funds (more than their annual GDPs) to fully counter the impact of volatile prices for resources and capital movements.

Putting aside part of the GDP into FOREX and an SF is costly, even more so that this money should be invested in short-term low risk, and hence low-yield, securities abroad. This is exactly the reason why the policy of building up FOREX and SFs faces heavy criticism: why not use this money for the improvement of health care and education, for helping the poor and for investment in ailing infrastructure, ask the critics. The counter-argument, however, is no less powerful: if there is no bolster in the form of FOREX and SFs, the alternative way to cope with a negative trade shock and the associated outflow of capital would be to devalue the real exchange rate (either through nominal devaluation or through so-called internal devaluation – relative decrease in domestic prices and wages). When resource prices fall and capital flows outward, the deteriorating balance of payments could be remedied only by nominal exchange rate depreciation (in the case of floating exchange rates) or (in the case of fixed exchange rates) by the slow-down of growth of money supply (due to a reduction of FOREX that is not sterilized; if it is sterilized, the balance of payments will

not regain the equilibrium, so FOREX would eventually be depleted) – see Popov, 2011b.⁶

5. Increase contributions to a Stabilization Fund (SF) in the case of a positive balance of payments shock, and draw on resources of the Fund in the case of a negative shock.

An SF invests its resources like the central bank invests foreign exchange reserves, but unlike the central bank which creates new money automatically when the foreign exchange is purchased, an SF gets the money from tax revenues (like the government budget). So there is an automatic so-called “fiscal sterilization” taking place when an SF expands and money supply does not increase in the process.

The advantage of the contributions to and expenses from an SF is that shocks to the balance of payments are absorbed partially or completely by the fluctuations of the size of the Fund without any impact on the real economy (money is invested abroad in foreign currency).

In many countries, however, SFs that were initially designed to cope with temporary shocks accumulated a fair proportion of resources of permanent, or at least long-term, nature. So, after the Funds absorbed fluctuations in foreign exchange revenues and expenditure, and thus fulfilled their role in buffering and eliminating external shocks, another problem emerged, namely how to use the Funds’ resources for the purposes of national development. Some countries created two funds – one for longer term objectives and another for medium term objectives – that are invested in financial instruments with different risks and returns (e.g. Russia). Other countries specified the rules that require repayment of the national debt after export prices and accumulated resources of the Funds reach a

certain threshold (e.g. Chile). But in coping with their primary goal – the mitigation of the external shocks to the balance of payments – SFs are quite successful around the world.

6. Internal de-/revaluation: the central bank allows adjustment via changes in foreign exchange reserves without sterilization. Money supply changes lead to changes in the price level and interest rates, which bring the balance of payments into equilibrium.

The previous two options (change in SFs and/or FOREX with full sterilization) are not associated with the adjustment in real trade flows, and hence, do not entail adjustments in the real sector of the economy because the real exchange rate (RER) remains stable. But if there is no sterilization of the change in FOREX under a fixed exchange rate system, there is an automatic mechanism at work to correct the disequilibrium in the balance of payments. The reduction of foreign exchange reserves leads to the reduction of money supply: this drives domestic prices down and stimulates exports, raises interest rates and stimulates the inflow of capital, and finally corrects the balance of payments.

Because national prices are less flexible than exchange rates, this type of adjustment (as compared to the nominal exchange rate change) is associated with a greater reduction of output. Empirical evidence from East European countries and other transition economies for the 1998 to 1999 period (outflow of capital after the 1997 Asian and 1998 Russian currency crises and slowdown of output growth rates) suggests that the second type of policy response (devaluation) was associated with a smaller loss of output than the first type (monetary contraction). The 2008 to 2009 developments

provide additional evidence for this hypothesis (see Popov, 2011a).⁵

In a sense, the weaknesses of this type of adjustment are the same as the disadvantages of fixed exchange rates. With a fixed exchange rate system, a country loses control over the monetary policy (impossible trinity - Scheme 2). On the other hand, when accepting a monetary policy that is “made abroad”, a country runs into a “one size does not fit all” type of problem. In the long term, it cannot maintain inflation rates different from that of its major trading partners. In the short term, it does not have appropriate instruments to react to the asymmetrical shocks (e.g. if an oil exporting country’s currency is attached to the dollar, the increase in oil prices will cause a devaluation of the currency – because the US is a net importer of oil and the dollar will lose value vis-à-vis other currencies, which would add insult to injury – and a devaluation of the national currency with respect to other currencies as a response to the improvement of the terms of trade).

7. Nominal re-/devaluation: the central bank keeps reserves stable by allowing the exchange rate to adjust (clean float) and to bring the balance of payments back into equilibrium.

As in the previous case, the result is the real devaluation of the national currency, i.e., the decrease of the ratio of domestic prices (expressed in foreign currency) to foreign prices. This mechanism implies that the volumes of export and import change in response to changes in RER, hence the real sector of the economy also responds (output changes). And even though the impact on the real sector may be less pronounced than under the fixed exchange rate system and internal re-/devaluation, there is an impact – at least for

the output of particular industries, if not for the total level of output.

Suppose oil prices fall and the national currency of an oil exporting country is devalued to keep the balance of payments in equilibrium. For oil producers the positive impact of devaluation neutralizes the negative impact of falling oil prices, but for other producers of tradable goods (machinery, for instance) real devaluation means higher prices and profits, so there is a reallocation of resources (capital and labour) from the oil to the machinery sector. The problem is that this reallocation is *temporary* because after some time oil prices will rise and resources should then flow in the opposite direction. Inasmuch as oil prices fluctuate around this trend, it does not make sense to change the structure of the economy in response to their fluctuations – this is simply too costly. To word it differently, real exchange rates should be as stable as possible; if it fluctuates a lot, this is a definite sign of a bad policy that misleads economic agents. Real re-/devaluation as a response to the temporary shock is a bad policy because it inevitably causes adjustments in the real sector and these adjustments are by definition temporary.

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¹Epstein, Gerald (2011). Using Capital Management Techniques to Manage Disruptive Capital Flows. *NDS/MAC Policy Brief No. 5.*

²Frenkel, Roberto (2011). Managing Capital Flows in Emerging Markets. *NDS/MAC Policy Brief No. 4.*

³Ostry, Jonathan D, Atish R. Ghosh, Karl Habermeier, Luc Laeven, Marcos Chamon, Mahvash S. Qureshi and Annamaria Kokenyne (2011a). Managing Capital Inflows: What Tools to Use? *IMF Staff Discussion Note*, April 5, 2011, SDN/11/06.

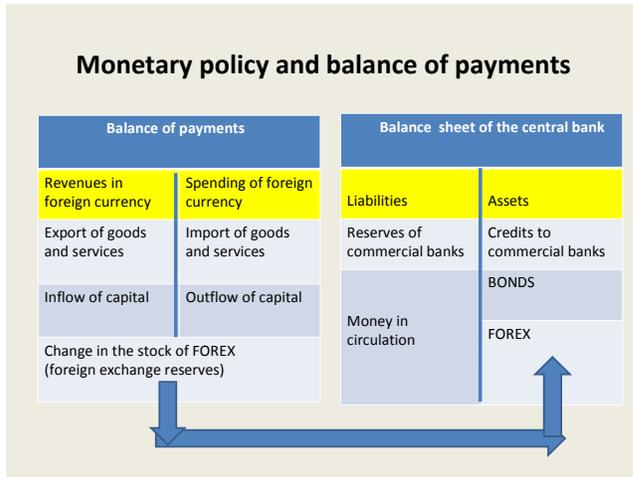
⁴Ostry, Jonathan D, Atish R. Ghosh, and Mahvash S. Qureshi (2011b). Capital Controls: When and Why? *IMF Economic Review*, 2011, Vol. 59, No. 3, pp. 562-580.

⁵Popov, Vladimir (2011a). To devalue or not to devalue? How East European countries responded to the

outflow of capital in 1997-99 and in 2008-09. *Acta Oeconomica*, Vol. 61 (3) pp. 255–279.

⁶Popov, Vladimir (2011b). Exchange Rate in a Resource-Based Economy in the Short-Term: The Case of Russia. *The IUP Journal of Monetary Economics*, Vol. IX, No. 3.

Scheme 1



Scheme 2

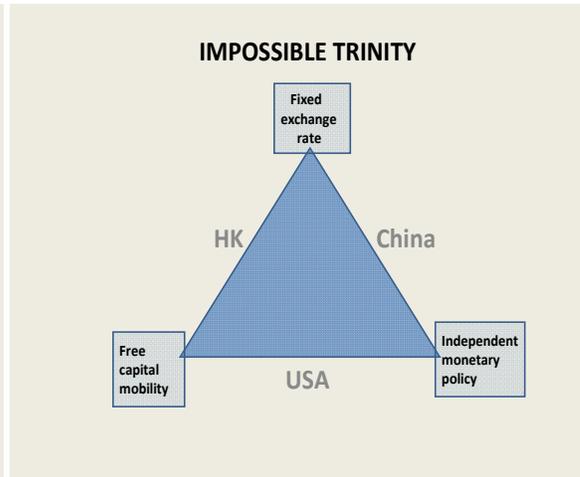


Table 1:
Advantages and Disadvantages of Possible Policy Responses to a Balance of Payments Shock
(Capital Inflow/Outflow and/or Change in the Current Account)

Policy Responses	Advantages	Disadvantages	Appropriate Conditions
Government borrowing abroad	Could help alleviate shocks without affecting trade flows and real sector.	The amount of new financing from other governments and from IFIs is usually very limited in comparison to the size of the shock.	Good to use it to the fullest extent possible, especially if external debt to GDP ratio is low; good to pay back existing debt, if positive external shocks.
Capital flows management or control	Could prevent financial and non-financial institutions and government bodies from accumulating excessive external debt.	Not efficient in controlling outflows of capital, especially during panic.	The mechanism should be in place before the shock (it takes time to establish and test it, and to make sure that it is working properly).
Import/export taxes	Taxes on resource exports (tax rate tied to the world price) could be an efficient instrument of channelling windfall revenues into government budget or SF.	Side effects – impact on real volumes of export and import. Impact depends on how the proceeds from export and import taxes are used.	If there is a need to influence import/export anyway; useful for managing resource rent, but not for non-resource goods. Useful as an instrument to adjust to permanent shocks.
Change in FOREX with sterilization	Effectively protects the real economy from external shocks.	Positive shock – self-defeating policy without capital control. Negative shock – constrained by the size of reserves.	Together with capital controls, otherwise – a self defeating policy; large reserves are needed to withstand a sizable negative shock.
Fiscal sterilization (stabilization funds/SFs)	Effectively protects the real economy from external shocks and does not have the impact on domestic money supply.	Positive permanent shock – freezes savings in reliable, but low return instruments; negative shock – constrained by the size of the fund.	Very useful for exporters of resources with volatile prices; should be used to manage temporary shocks, not permanent shocks.
Change in FOREX without sterilization	Positive shock – leads to the expansion of money supply; may be desirable for developing countries to stimulate output, maintain higher rates of inflation and to increase monetization.	Causes changes in real variables (reallocation of resources between industries) and could lead to a temporary change in total output if prices are sticky.	If there is a need to change monetary policy; for instance to maintain higher growth rates of money supply to allow for greater monetization (M/GDP ratio) and higher inflation than elsewhere.
Devaluation/revaluation	Good to adjust to a permanent shock, but not to a temporary shock.	Affects real economy and export and import flows; frequent changes in the exchange rate confuse economic agents.	Useful as an instrument to adjust to permanent shocks.