



## **Initiative for Policy Dialogue Working Paper Series**

**January 2009**

### **Macroeconomic Policy Choices**

*José Antonio Ocampo, Codrina Rada and Lance Taylor*

### **Macroeconomic Policy**

*No part of this working paper may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, or by information storage or retrieval system, without permission from the Initiative for Policy Dialogue.*

## Chapter Seven

### Macroeconomic Policy Choices

What options do the economic authorities in developing economies have for policy formation, at the macro and sectoral levels? Limits on policy maneuverability vary greatly across economies. In this chapter, we try to sort out the possibilities regarding macroeconomic regulation and then take up growth and sectoral policy in Chapter 8.

We start by looking at how private and government net borrowing flows and current account balances interact in the short to medium run. Some algebraic back-up is provided in Appendix 7.1, which deals with gap models, relationships between flow and stock variables, and theories of the exchange rate.

Macroeconomic policy packages appropriate to combinations of financial stages and binding gaps are reviewed. The discussion then turns to capital management techniques, including controlling international flows and regulating domestic financial markets, and central issues of financial development. The chapter closes with considerations regarding foreign aid.

#### ***Pro-Cyclical Macroeconomic Adjustment and the Three Gaps***

Patterns of net borrowing as presented in Chapter 5 are a useful starting point for analyzing macroeconomic developments. As detailed in Appendix 7.1, these flows cumulate into changes in balance sheets of the sort appearing in

Table 6.1, weaving a tight web between the real and financial sides of the economy.

If a sector has positive net borrowing, it is adding to effective demand because its expenditure exceeds its income. On the other hand, the sum of all sectors' net borrowings must be zero as a condition for macroeconomic equilibrium, i.e.,:

$$\text{Net Private Borrowing} + \text{Government Borrowing} + \text{Current Account Balance} = 0$$

(The current account is, of course, also “foreign net borrowing” – that is, net borrowing by the rest of the world from the country whose accounts we are looking at).

It is also helpful to consider how net borrowing flows might behave out of equilibrium. For example, would an increase in private income induce private spending to rise by more or less than the income increase itself? A greater increase in spending than income means that the private sector behaves “pro-cyclically”; a lesser increase is “counter-cyclical.” A moment's thought suggests that if out-of-equilibrium *total* net borrowing behaves pro-cyclically, then the macro system is bound for trouble. A small income increase will kick up spending by a greater amount, which will presumably bid up output and income still more, and so on. This sort of instability is never observed, so it is safe to conclude that total net borrowing is in fact counter-cyclical.

Figure 7.1 illustrates a situation in which all three sectoral net borrowing flows are counter-cyclical – i.e. when income goes up private expenditure rises by a lesser amount (or investment increases by less than saving), exports grow

less than imports (so that the current account balance deteriorates), and taxes rise more than government spending. The curve for total net borrowing is just the vertical sum of the three sectoral curves. The point at which it crosses the horizontal axis is the equilibrium level of output.

### **Figure 7.1**

The private sector in Figure 7.1 has a surplus (negative net borrowing) and lends to the government and to the rest of the world. If the private net borrowing curve shifts upward (the private surplus falls due to an investment increase, for example) then so would the total. The economy would arrive at a new equilibrium with a *higher* output level (a point to the right of the initial equilibrium) associated with a *lower* fiscal deficit and current account balance.

In practice, not all observed sectoral levels of net borrowing are counter-cyclical. For example, in data for the US with the private sector separated into households and business, only the government behaves counter-cyclically, the two private sub-sectors are pro-cyclical, and the current account is basically a-cyclical (Barbosa-Filho, et. al., 2008). Several of the regions illustrated in Chapter 5 face a similar phenomenon: private net borrowing tends to increase during upswings.

The macroeconomic implications are sketched in Figure 7.2, in which the private sector behaves pro-cyclically with the other two counter-cyclical. The total net borrowing curve still has a negative slope, but it is very shallow. An increase in private borrowing will again shift the total curve upward, leading to higher output. Because the slope of the total curve is so shallow, the output increase

would be very large and could hit resource limits, kicking off inflation or an external crisis, due in the latter case to a sharp deterioration in the current account. In short, pro-cyclical spending by the private sector generates strong business cycle swings, and creates additional risks of inflation and/or balance of payments crises.

### **Figure 7.2**

The dire situation in Figure 7.2 would be even more likely if the government itself behaves pro-cyclically, as discussed in Chapter 1. Offsetting policies are possible but difficult, as discussed below.

Stemming from the work of Hollis Chenery (e.g. Chenery and Bruno, 1962), there is a long tradition in development economics devoted to the analysis of net borrowing functions in the form of “gaps.”<sup>1</sup> The terminology is meant to suggest that an excessively large positive level of net borrowing by the private sector (the “resource or savings gap”) or the government (the “fiscal gap”), or a large current account deficit (the “external gap”) is likely to lead the economy into trouble. Empirical gap analysis of net borrowing flows as discussed in Chapter 5 follows directly from Chenery’s perspective.

For example, we can consider the *circa* 1980 interest rate shock discussed in Chapter 2, accompanied by a virtual cut-off of new foreign lending. A country such as Brazil, which previously had a big current account deficit and

---

<sup>1</sup> See Taylor (1994) for a brief history and an interpretation somewhat different from the one herein.

was taking on more debt, even to finance its debt service obligations,<sup>2</sup> had to transfer the hard currency service obligations abroad out of its own resources. Moreover, in the aftermath of the shock, most countries effectively nationalized the debt that had been taken out by the private (or public enterprise) sector and shifted the burden to the government.

The repercussions were rather complicated but a typical set can be traced through in Figure 7.3. Initial conditions include highly pro-cyclical private sector net borrowing and large external and fiscal gaps. The schedule for the current account shifts upward because net new external borrowing becomes impossible (aside from “informal” loans in the form of increased payment arrears).

Superficially, this looks like an improvement in external balance that should lead to an increase in effective demand but appearances are deceiving in this case. Net exports are not going up; rather what is required is a greater transfer of resources abroad. Basically that has to be accomplished by cutting imports to satisfy the (now) binding foreign exchange constraint, although real devaluation and directed policy can also reduce import demand for a given level of output and increase export supply.

### **Figure 7.3**

The most effective way to reduce imports is through contraction of aggregate demand. The question at hand is how the reduction will be allocated between the fiscal and the private resource gaps. A complicating factor is that imports of capital goods are likely to be an important component of total

---

<sup>2</sup> In Minsky’s terminology introduced in Chapters 1 and 6, the economy was engaging in Ponzi finance which was abruptly cut off.

investment, so that reducing the resource gap by curtailing new capital formation may be an effective means to satisfy the external constraint. Of course, with investment slashed, future growth prospects will be hurt.

As Figure 7.3 is drawn, government net borrowing declines modestly because it has assumed the private sector's debt service. The rest of the adjustment burden is carried by the private sector, which may take place through reductions in consumption imposed by the inflation tax. An inflation-induced cut in real wages (generating "forced savings") can also play a central role in reducing real private consumption. In the diagram as drawn, the private sector shifts from being a net borrower to a net lender. The fiscal gap declines but remains positive. Because the total net borrowing schedule has a shallow negative slope, there is a substantial output reduction.

Run in reverse, Figure 7.3 shows one possible response to a foreign exchange bonanza which allows a much bigger external deficit. The real question is, how long can favorable conditions be maintained?

In summary, two crucial stabilization problems that developing countries may confront are a binding external gap (which can arise either due to adverse developments such as plummeting terms of trade on the current account or – more common in recent years – destabilizing capital movements) and pro-cyclical behavior on the part of the private and/or public sector. There is also the possibility of pro-cyclical financial destabilization as discussed in Chapter 6. What sorts of policies can be deployed to stabilize the macro system under combinations of these circumstances?

To answer the latter question, we look first at macroeconomic policy, and then at capital management (capital account and prudential regulations). A third form of intervention, focused on financial sector development, was analyzed in Chapter 6.

## ***Macroeconomic Policies***

### *Counter-Cyclical Fiscal Policy*

As we have seen, pro-cyclical private and government behavior can easily destabilize the economy. A first rule of macroeconomic policy is, therefore, that the government should avoid pro-cyclical fiscal policy and rather run it in the opposite fashion to counter pro-cyclical private sector behavior. As we will see below, in economies that have opened their capital account, counter-cyclical monetary policy faces severe constraints and, therefore, the need for a fiscal policy that tries to smooth the business cycle is even more acute. However, putting in place counter-cyclical fiscal policies is not an easy task

One possibility is the use of fiscal stabilization funds to “store” temporary revenue upswings from taxes on raw material exports with surging prices. Well designed tax systems, which capture in taxes a significant part of the upswings in incomes (for example, progressive income tax schemes) are an essential ingredient for such counter-cyclical management – obviously, if they are not spent. The funds could then be accumulated as foreign exchange reserves, or in sovereign wealth funds, which, as we will see below, also provide “self-insurance” against sudden stops in external financing as well as export price



collapses. More aggressive counter-cyclical policies could take the form of taxes on exports and capital inflows (the unremunerated reserve requirements on capital inflows imposed by central banks, which we will discuss later, have an equivalent effect).

There is also the possibility of adjusting government outlays counter-cyclically, but long debates over “fine tuning” suggest that discretionary changes in public spending may be difficult to use effectively, as they involve significant lags in the approval and implementation process. *Automatic* stabilizers are much better. A well-designed safety net to protect vulnerable groups during crises (preferably as part of a permanent social protection system) is an automatic stabilizer that can play beneficial macroeconomic and social roles. This is a major mechanism in industrial countries, for example in the form of unemployment insurance.

Although they are difficult to design and apply in practice, setting up rules for balancing the government deficit over the cycle is also a desirable policy goal. The most appropriate rule in this regard is one establishing that the government would aim at a sustainable “structural” deficit – i.e., a deficit adjusted to pro-cyclical swings in tax revenues and the costs of safety nets used as automatic stabilizers. If a rule such as this is followed, spending, excluding that associated with safety nets, would follow a long-term steady pace, and current fiscal deficits would fall during booms and increase during crisis. In the graphical representation of Figures 7.1 to 7.3, the government net borrowing requirements would have a steeper negative slope.

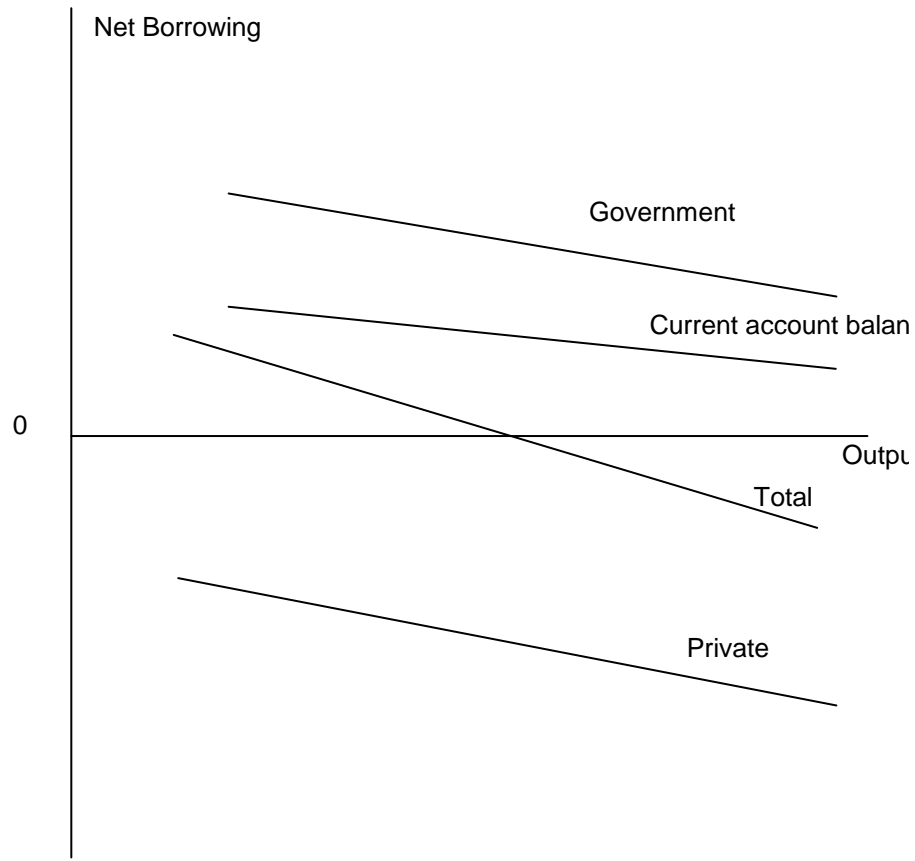


Figure 7.1: Counter-cyclical net borrowing

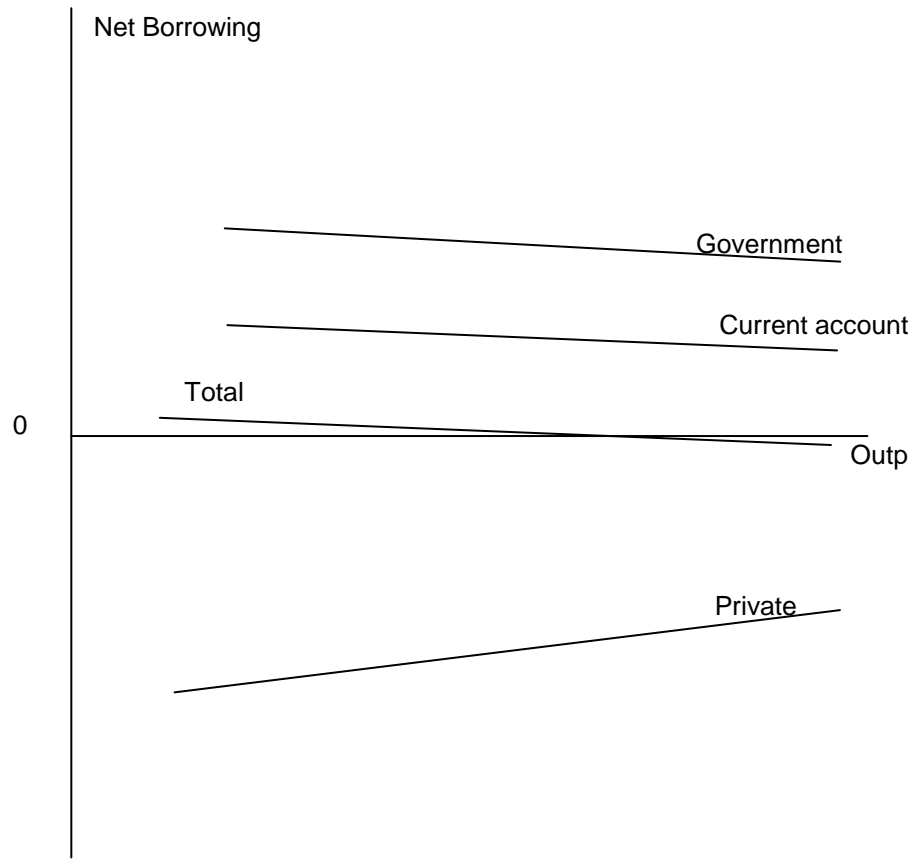


Figure 7.2: Pro-cyclical near instability

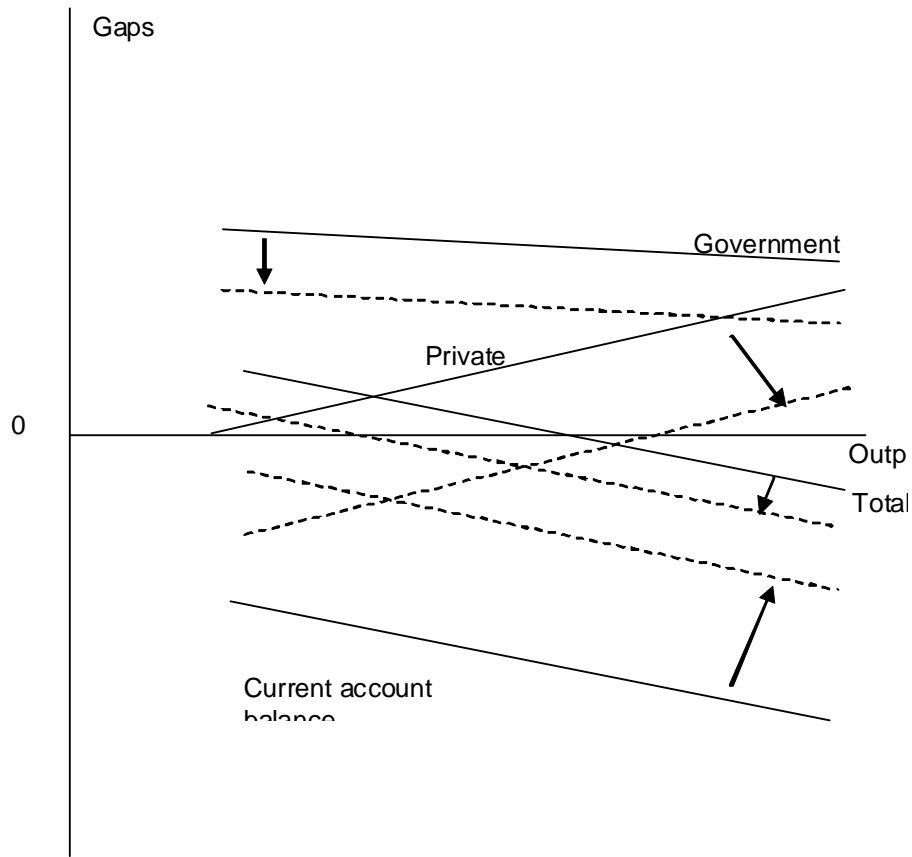


Figure 7.3: Reactions to an adverse external shock

This rule could be mixed with another one, which would target a deficit equivalent to public sector investment requirements. This would make the rule equivalent to what the British came to call the fiscal “golden rule” – essentially, the government only borrows in the long term to invest.

In any case, neither the golden nor the structural rule should avoid the use of fiscal policy as a strong stabilization device when needed. Discretionary public sector spending policies would be called to support an economic recovery when

private demand is very weak, and cuts in spending to moderate aggregate demand when private spending is exuberant. Tax cuts and hikes can also play those roles through the cycles. However, changes in public sector spending have a direct effect on aggregate demand, whereas variations in taxes only have an indirect effect.

### *Interest Rates*

As argued in Chapter 1, low and stable real interest rates can support investment in productive capacity and growth. However, a major challenge of monetary policy is that open capital markets in effect put a floor under local rates and generate pro-cyclical behavior.

The reasons why rest upon straightforward financial arbitrage. Consider an investor comparing borrowing costs within the country and in foreign markets. In local currency terms, his or her real cost of funds for loans from abroad will be the base foreign borrowing rate (such as dollar LIBOR at a “normal” pre-crisis level of about 3% per year in mid-2008) *plus* the market risk premium for the country concerned (about 2%) *plus* the *expected* nominal rate of depreciation which increases the local cost of paying off the loan in dollars.<sup>3</sup>

For a “typical” country, the sum of these three items prior to the 2007-08 crisis might have been 8-10% but in the not-so-distant past or after the

---

<sup>3</sup> In algebraic form, let  $i$  be the local lending rate,  $i^*$  the foreign borrowing rate,  $\rho$  the risk premium, and  $\hat{e}^E$  the expected rate of depreciation (the "hat" notation denotes a growth rate,  $\hat{e} = (de/dt)/e$ ). Then interest rate arbitrage (usually called “interest rate parity” in the literature) as described in the text will give rise to the equation  $i = i^* + \rho + \hat{e}^E$

September 2008 financial meltdown, it could easily have exceeded 20%, because both risk premia and expected depreciation were higher. This borrowing cost acts as a floor for interest rates in local currency, which we can refer to as the “parity” interest rate. Imperfect competition in the banking sector and high reserve requirements on deposits could work together to raise lending rates above the floor and drive deposit rates below it.

The major complication is that risk premia for developing countries tend to increase during crisis, at the same time that the scarcity of foreign exchange generates exchange rate depreciation. The result is that the floor for domestic interest rates tends to increase at the time when the economy enters into a recession, tending to worsen it. In turn, when external financing is abundant, risk premia tend to fall and exchange rate depreciation pressures moderate or are replaced by appreciation. So, parity interest rates tend to fall when the economy expands rapidly. If such a trend is transmitted domestically, it would further fuel the boom. These pro-cyclical swings in parity interest rates<sup>4</sup> are a major reason why the curve for the private sector gap tends to have the positive slope depicted in Figures 7.2 and 7.3 rather than the negative slope of Figure 7.1. The result, as we have seen, is that economic activity fluctuates more through the business cycle.

### *Inflation Targeting*

---

<sup>4</sup> Note that we emphasize the *effect* of these swings in interest rates, which is pro-cyclical, even if according to traditional descriptions interest rates are counter-cyclical, in the sense that they move in the opposite direction to the business cycle (fall during booms, increase during crises).

Pro-cyclical swings in interest rates are just the opposite of the standard counter-cyclical prescription for monetary management. It says that rates should be reduced during crises and increased during booms. In an economy with Stage II (or higher) finance, open market operations by the central bank are the instrument of choice.

Current orthodoxy has abandoned simple monetarist inflation models in favor of “inflation targeting.” The theory first appeared in industrialized economies. It amounts to a *bossa nova* riff on Say’s Law.<sup>5</sup> Full employment of labor is now called a NAIKU (non-accelerating inflation rate of unemployment), an acronym only an economist could love. Estimating the NAIKU econometrically turns out to be difficult, if only because it is an intercept term in a regression equation for the inflation rate. The first thing one learns in elementary econometrics is that intercept terms jump around a lot!

Be that as it may, under the now widely accepted “Taylor rule”, the central bank is supposed to reduce the short-term interest rate when inflation falls below an unstated or pre-announced target and, in the opposite case, to increase the rate when inflation is above the target.<sup>6</sup> If inflation is determined exclusively by demand, this turns out to be a counter-cyclical rule. In a simplistic model, inflation would rise when unemployment falls below its NAIKU level and increase when it is above it. The rule would therefore tend to stabilize unemployment around the

---

<sup>5</sup> In Brazilian 1950s slang “bossa” was more or less equivalent to the contemporary American “smooth.” So inflation targeting is the newer smoother Say’s Law.

<sup>6</sup> See Taylor (1993). For all practical purposes, in the 1890s Wicksell proposed the same rule based on a “natural” interest rate.

NAIRU level. An “independent” central bank (basically meaning that the bank does not report directly to the Ministry of Finance) is supposed to lend credibility to the inflation target.

The counter-cyclical effect may be absent if the source of rising inflation is not domestic demand but a supply shock, such as the sharp oil and food price hikes of the first half of 2008. A simple rule would be that the central bank should simply ignore these shocks as temporary. But if it fears that they will generate additional increases in wages and prices (the so called “second round effects”), which risk transforming the price shock into permanent acceleration in inflation, it would try to counteract the price hikes by increasing the interest rate. The result is that the central bank would transform the supply shock into a reduction of economic activity.

In developing countries, not much attention is paid to the NAIRU and any monetary analysis must bring the exchange rate and capital flows into the picture. These generate two major complications. First of all, and as noted above, *counter*-cyclical interest rate policy goes against the logic of *pro*-cyclical swings in parity interest rates. By trying to increase domestic interest rates during booms, when parity rates tend to fall, the central bank would generate a great inducement to additional capital inflows, which would in turn reinforce the tendency of the exchange rate to appreciate. The opposite is true during crises, when reductions in domestic interest rates could encourage capital flight, as parity rates increase.



The second complication is that the exchange rate enters into the formation of domestic prices, directly through imported and exported consumer goods, and indirectly through the cost structure of firms that import inputs for their production. This linkage belongs to the category of supply shocks on the price level discussed above, which are favorable during booms. The stronger currency leads to slower inflation and helps the central bank meet its target. Joint appreciation and capital inflows can lead to a boom with low inflation, but only at the cost of growing external deficits that create vulnerability to a sudden stop in external financing.

The other way round, during downswings attempts to reduce the interest rate would tend to reinforce depreciation pressures and induce additional capital outflows. The effects of exchange rate depreciation on domestic prices now operate as an adverse supply shock, and may lead monetary authorities following inflation targeting to increase rather than reduce interest rates, thus reinforcing the recession.

Therefore, so long as the logic of parity interest rates is pro-cyclical, the capacity of central banks to manage rates in a counter-cyclical fashion is limited and may actually reinforce the pro-cyclicality of capital flows – and, therefore, of private sector net borrowing and associated spending — and generate exchange rate volatility. Due to the effects of the exchange rate on the domestic price level, the monetary authorities may in practice (as in Brazil and Mexico, for example<sup>7</sup>) fight depreciation during crisis but tolerate appreciation during booms. This would

---

<sup>7</sup> See Barbosa-Filho (2008) and Galindo and Ros (2008).

tend to generate high average interest rates and a strong exchange rate over the business cycle, to the detriment of real economic activity.

In sum, pro-cyclical swings in parity interest rates reduce the room of maneuver of monetary authorities to undertake truly counter-cyclical policy. The other side of the same coin is that authorities may simply shift the problem to the exchange rate. In the current account, appreciation during booms tends to generate large deficits that make the economy extremely vulnerable to sharp reversals in the availability and/or cost of external financing. As noted above, a positive slope of the private sector net borrowing schedule may be the result, which results in turn in large swings in economic activity.

The only way to break the deadlock involves a mix of two complementary policies. The first is to smooth out exchange rate swings, through heavy intervention in foreign exchange markets. The second is to delink, at least partially, the association between domestic and parity interest rates through capital account regulations. We now turn our attention to these issues.

### *Foreign exchange reserve management*

From a stabilization perspective, the basic rationale for heavy intervention in foreign exchange markets comes clearly from the previous discussion: it helps smooth out the effects of strong external shocks generated by swings in external financing (that, persistent shocks on the current account curve in Figures 7.1 to 7.3), and helps in particular to avoid the strong swings in parity interest rates, as

the exchange rate is one of its determinants. In addition, there are additional justifications for such interventions from a developmental perspective.

Reserve accumulation during booms should therefore help smooth out the effects of pro-cyclical capital flows on exchange rates. If adequately sterilized, such policy would make it possible to target *both* the exchange rate and the interest rate, thus avoiding the “trilemma” of open economies.<sup>8</sup> A similar logic applies to primary commodity exporting countries facing terms of trade shocks. Indeed, saving some of the exceptional export revenues and associated fiscal revenues is a good practice, as noted above. More generally, it can be argued that cyclical swings in export revenues should be managed through cyclical swings in foreign exchange reserves (or sovereign wealth funds) that would accumulate the excess supply of foreign exchange during booms to be used during the succeeding crises.

The very strong crises of the late 1990s led developing countries to use this policy instrument in an active and in some cases aggressive way. The Asian countries led the way, but the trend was much broader and massive.<sup>9</sup> This was also a response to the fact that the Asian and Russian crises of 1997 and 1998 revealed the lack of adequate institutions to manage crises that originated in

---

<sup>8</sup> The trilemma refers to the view that it is impossible to target simultaneously the interest and the exchange rate when the capital account is open. The standard references are Mundell (1963), Fleming (1962), and any textbook on open economy macro. Frenkel and Taylor (2007), Frenkel (2007) and Taylor (2008b) elaborate on the points summarized here.

<sup>9</sup> In 2007, for example, foreign exchange reserve accumulation by developing countries was equivalent to 8% of GDP, out of which close to 6% of GDP originated in the capital account.

sudden stops in external financing, as well as the excessive conditionalities associated to those that were available, mostly emergency IMF financing. In other words, in the absence of collective insurance provided by an international institution (the type of insurance that governments and central banks provide to financial systems domestically), “self insurance” became the only available option to manage sharp swings in external financing.

Self-insurance against financial crises requires that countries should keep foreign exchange reserves at least equivalent to short-term external liabilities, which can easily fly away during crises (this is called the Guidotti-Greenspan rule). But it should certainly go beyond it, because long-term capital flows can also be sharply cut during crises. The precautionary demand for international reserves should therefore be proportional to *total* external liabilities, a proportion which furthermore should be larger the more open the capital account is.<sup>10</sup>

Exchange rate intervention also has developmental objectives that go beyond smoothing the effects of capital account fluctuations (and, no doubt, include some “mercantilist” motives). As we will see in Chapter 8 and 9, a competitive exchange rate may have positive effects on growth. Avoiding sharp fluctuations in real exchange rates is also crucial to give stable incentives to

---

<sup>10</sup> An additional reason for heavy interventions in foreign exchange markets is the “financial stability” motive (Obstfeld, Shambaugh and Taylor, 2008). The major argument is that financially open economies must hold reserves against capital flight, particularly the desire to convert domestic money balances (defined in a broad sense) into foreign exchange during crises. However, it is difficult to separate this from the “self-insurance” motive.

exporters and producers of goods and services that compete with imports – that is to producers of tradable goods and services. These two motivations are, of course, interrelated, as reduced price volatility for tradables encourages investment in those sectors. Avoiding, in particular, natural resource and capital account booms from generating a strong appreciation of the exchange rate that destroys non-natural resource sector production and export sectors (the Dutch disease again) is crucial.

The drawback of interventions in foreign exchange markets is, of course, that reserve accumulation is expensive because the riskless hard currency securities in which developing countries invest their reserves pay very low real interest rates, and are subject to the volatility of exchange rates among major currencies. Furthermore, reserve increases must often be sterilized to avoid sharp swings in domestic money supply and lending (see Chapter 6). If central bank or government bonds are used as the sterilization instrument, the associated interest rates are commonly higher than the returns from investing the reserves abroad, and thus generate losses for central banks (usually called “quasi-fiscal” deficits).

### ***Capital Management Techniques***

Liquidity transformations, as discussed in Chapter 6, have been a prime source of instability in developing economies. Together with liquid assets such as international reserves, countries' liability structures play a crucial role when there are external constraints. Particularly, if there is a sudden stop in external

financing, short-term capital is likely to fly away rapidly. They also affect the behavior of private sector net borrowing requirements, tending to make them procyclical. Foreign exchange reserves can serve as a protection mechanism to manage these swings, but it is an expensive one, as indicated above. Capital account regulation then becomes an essential policy tool to manage these destabilizing effects

### *Capital Account Regulations*

Viewed as a debt management instrument, capital controls build on the fact that the market penalizes unsound external debt profiles. During booms, regulations should therefore be aimed at improving the debt maturity profiles of external liabilities of both the public and private sectors. As a liability (not figuring explicitly in Table 6.1), foreign direct investment (FDI) has also proven to be less volatile than portfolio and debt flows and creates risk-sharing between domestic and foreign investors. On the other hand, FDI generally carries higher costs than other forms of external financing.

Viewed as a macroeconomic policy instrument, capital account regulation aims at reducing unstable international financial flows, often the root cause of boom-bust cycles, and at increasing the room to maneuver for monetary authorities. It can help them “lean against the wind” in an upswing by permitting contractionary monetary policy and reducing pressure for appreciation. Costly reserve accumulation and sterilization can also be held down. In a crisis, capital controls can create room for expansionary monetary policy. In either direction,

regulation can help the authorities combine counter-cyclical monetary policy with active exchange rate targeting for developmental purposes.

In practice, capital market regulations *segment* domestic and international markets, but this reflects the fact that markets are themselves segmented. The strong pro-cyclical flows towards developing countries are indeed a consequence of segmentation, in which developing countries are perceived as “risky” borrowers and thus receive large flows when during periods in which financial market agents have “appetite for risk” but are then subject to sudden stops when there is “flight to quality” (see Chapter 1).

Traditional “quantity” controls of the type used in China and India (but being gradually dismantled in these countries, as in others before) openly differentiate between residents and non-residents, and between corporate and non-corporate agents among the former. Prohibitions or ceilings may be imposed on foreign borrowing by domestic residents, and/or on foreign investors taking positions in domestic securities. There may be limitations on various forms of lending and borrowing in foreign currency by banks.

“Market-based” controls, practiced in recent decades in Latin America and Malaysia, include taxes or an unremunerated reserve requirement (URR) on inflows, and/or exit taxes on outflows. Market-based instruments tend to be more non-discretionary than direct methods.

Following Ocampo (2008), a large literature on these experiences leads to five main conclusions:

Controls on both inflows and outflows can work, but the authorities must be able to administer regulation while closing loopholes and (especially) avoiding corruption. *Permanent* regulatory regimes that can be tightened or loosened in response to market conditions, including the cycle, are probably preferable to repeated retractions and reinstatements of the rules.

Exchange controls and quantitative restrictions may be the best means to hold down domestic sensitivity to international capital flows (witness China's and India's avoidance of the Asian crisis in the late 1990s<sup>11</sup>). In contrast, URRs and similar measures may only have temporary effects on capital inflows (especially if they are not ratcheted up during a surge), but they do influence interest rate spreads and, in this sense, are a useful complement to counter-cyclical macroeconomic policies.

URRs and other reserve requirements help hold down short-term debt, which is highly volatile and thus a significant source of vulnerability.

To guarantee that capital market regulations can be effective, some intervention in current account transactions may be required as well. Export surrender obligations or requirements to channel trade transactions through approved intermediaries are examples in point.

Finally, and perhaps most importantly, controls are a complement to other macro policies, for both stabilization and maintenance of sound macro prices, not a substitute for them.

---

<sup>11</sup> India's prior crisis in 1991 was caused by an unsustainable current account position under strict capital controls.



Capital controls obviously have costs. They increase the cost of financing during surges, but that is precisely what they are supposed to do. In the longer term, they can inhibit the development of derivatives markets and discourage operations by foreign institutional investors who may act as domestic market makers. The trade-offs between short-term effectiveness of capital controls and their possibly unfavorable long-term repercussions are not simple but do have to be borne in mind.

### *Prudential Regulation*

The distinction between capital account and prudential regulations affecting cross-border flows is not clear-cut. Both instruments are aimed at making the financial system more stable and effective.

One area of concern is foreign currency borrowing by non-financial firms and households which have no revenues in foreign currency – that is, that produce non-tradable goods and services.<sup>12</sup> Various restrictions can be imagined but perhaps the simplest is prohibiting firms and households without foreign currency revenues from borrowing abroad or domestically in foreign currency. Alternatively, prudential regulation on such borrowing can be imposed, such as requirements on financial institutions that provide the lending to hold more capital to back these operations or to make larger provisions for loan losses.

---

<sup>12</sup> A similar case is borrowing by financial firms to acquire bonds issued in domestic currency by firms producing non-traded goods.

The macroeconomic risks we have analyzed should also be a central concern of prudential regulation, as they affect the health of the financial system. Traditionally, microeconomic risk management has been directed toward reducing the risks that depends on the characteristics of individual borrowers. But there are additional sources of risk, which are associated with economic policy changes (e.g., changes in interest and exchange rates), with volatility in external financing and with pro-cyclical private sector behavior, particularly during boom periods.

The situation is made worse by the pro-cyclicality of traditional regulatory tools, including the international standards issued by the Basle Committee on Banking Supervision. To add to the discussion of pro-cyclical leverage in Chapter 6, it is helpful to work through an example involving loan-loss provisions (or reserves), which tend to be tied to current delinquencies or short-term expectations about them. In an upswing delinquencies are low; this fact and the consequent need to make limited provisions can encourage risk-taking. In a crisis, a jump in delinquencies rapidly exhausts existing provisions. Financial institutions will have to use their capital to cover losses, but then, given regulatory requirements, their capacity to lend, which is a multiple of their capital,<sup>13</sup> is limited. As losses of several financial institutions mount and capital is reduced, this can easily lead to an economy wide credit squeeze. They could also sell some of their assets, but this is hardly a solution when many financial institutions want to do it at the same time. The fire sale of the assets under these

---

<sup>13</sup> Strictly speaking, regulations establish risk weights for different assets, with institutions being required to hold larger capital for riskier assets.

conditions generates considerable losses and thus a credit squeeze is not spared. Needless to say, such problems can be especially severe in developing countries just entering into Stage IV and V finance.

Most banks and other financial institutions tend to make provisions close in time to when loans are supposed to come due and are not expected to be paid. The insurance industry, however, makes provisions when an insurance policy is issued. The analog for banks would be to build up provisions when loans are *disbursed* rather than when repayments (or, rather the lack of repayments) are *expected*. This sort of action counters the financial cycle, because it amounts to an increase in the banks' own-funds ( $\Omega_{\text{own}}$  in Table 6.1) during boom, which will give them more room of maneuver to manage losses during crises.

Under this system, provisions build up during an upswing and can be accumulated in a fund (along with special back-up for non-performing assets or borrowers under stress). The fund can be drawn down in a slump to cover loan and other asset losses. This system would be only cycle-neutral, as it essentially follows the pro-cyclicality of lending, but that is a still a considerable advance over current practices. This is a practice introduced by Spain in 2000. An alternative, which some analysts have suggested recently, is to directly increase capital requirements during booms, i.e., to force financial institutions to increase  $\Omega_{\text{own}}$  through explicit capital injections and not through provisions.<sup>14</sup>

More directly counter-cyclical rules regarding changes in the credit exposure of financial institutions would also be desirable. In particular, general or

---

<sup>14</sup> See, for example, Goodhart and Persaud (2008).

sector-specific increases in provisions could be forced onto financial agents when there is an excessive growth of credit relative to a benchmark, a bias in lending toward sectors subject to strong cyclical swings, and (again) growth in foreign currency loans to sectors producing non-tradable goods and services. Indeed, all currency mismatches on balance sheets as well as in expected income and payment flows are hazardous and should be subject to provisions.<sup>15</sup>

A final and crucial issue for counter-cyclical management is mark-to-market pricing of assets. This practice is good from the point of view of transparency of the balance sheets of financial agents, but has strong pro-cyclical effects, as asset prices (for stocks and real estate) are strongly pro-cyclical. A similar effect is associated to the prices of assets that serve as loan collateral. If no relevant market happened to be at hand (as was the case for complex instruments such as collateralized debt obligations), regulations usually require that prices be constructed using models, with the consequences described in Chapter 6. During booms, both practices feed into a credit boom based on capital gains that have a high cyclical component. During crises, the associated capital losses forces financial institutions to sell some assets, but the fire sale of such assets worsens the problem, as previously indicated.

Thus, even if mark-to-market pricing continues to be preferred for transparency reasons, some mechanism has to be introduced to avoid cyclical price booms from feeding into leverage, such as limits on the values of assets

---

<sup>15</sup> There are other regulatory provisions that can be used to discourage certain types of lending, for example, regulations on down payments for mortgages or the proportion of credit card lending that must be paid monthly.

that can be used as a backing for credit or bond issues. For institutions in trouble during crises, “regulatory forbearance” in the sense of not imposing mark-to-market in a downswing might be appropriate, though it also has its downsides.<sup>16</sup> In any case, regulations which act counter-cyclically in a downswing (such as regulatory forbearance) and do nothing in an upswing do not encourage prudential private sector behavior. Hence, the regulatory design has to be symmetrical.

### ***Foreign Aid***

To close out this discussion and lay the ground for the analysis in Chapter 6, it makes sense to take a look at foreign aid. Aid largely flows to economies with Stage I (or at highest Stage II) financial structures. In Table 6.1 it allows the government to take on more foreign loans  $sL_g^*$  and reduce its borrowing  $B_{comm}$  and  $B_{cont}$  from the banks, presumably with stabilizing monetary consequences.

Its immediate macroeconomic impacts can be visualized in terms of Figures 7.1 and 7.2. The extra resources allow the government net borrowing schedule to shift upward via greater spending or tax cuts. The latter would also stimulate private net borrowing directly. The two upward shifts would lead to

---

<sup>16</sup> One famous example involved major US banks at the outset of the Latin American debt crisis. Many were technically bankrupt because the market value of their Latin American assets was very low. Regulators turned a blind eye, allowing the banks to carry the assets on their balance sheets at their value at maturity. This was good for the banks, as it avoided an open financial crisis, but it implied that the “solution” to the debt crisis was continuous debt renegotiations. The costs for Latin America were terrible: a lost decade for development. In a sense, Latin America paid dearly for the lack of transparency in the accounting of US banks and the regulatory forbearance that was associated with it.

higher imports and the current account curve would shift down to hold the total equal to zero. The new schedule for total borrowing would shift upward, leading to a higher level of output to the right of the initial equilibrium.

In effect, the economy is reconfigured to absorb a continuing financial inflow. Risks such as an outburst of Dutch disease generated by the exchange rate appreciation induced by the additional foreign exchange are, of course, a potential outcome. Even if they can be avoided, what would be the implications of increased donor contributions for per capita economic growth? We have already gone over much of the ground, but it makes sense to revisit it from the angle of aid, which has many contradictory aspects.

A well-known adage from Lao Tzu provides a concise description of two of them: “Give a man a fish and you feed him for a day” means that external assistance can be a dole. But its true purpose is presumably to “teach a man (or a national economy) to fish and ... feed him for a lifetime.” As pointed out in Chapter 1, a rule of thumb for successful “fishing” is that the economy sustains at least 2% annual per capita output growth. Employment creation should keep pace with rising population.

Beyond Lao Tzu’s distinction, foreign aid has other complications. It certainly has helped launch 2% or faster per capita growth performances in diverse policy environments. As has been stressed repeatedly, limited availability of hard currency is often the crucial bottleneck in a developing economy, holding down both supply and demand. If, as in the discussion above, effective demand can increase because foreign exchange is available to pay for the associated

imports, it can stimulate private sector investment and innovation. At the same time, the imports can bring in essential goods and technologies to raise productive capacity. Here are examples:

The first, most successful aid efforts were the post-Second World War Marshall Plan in Europe and the parallel reconstruction program in Japan. They emphasized breaking forex bottlenecks (the “dollar shortage”) via coordinated public and private interventions as opposed to the more recent obsession with market liberalization. It is worth recalling that the Americans who helped implement reconstruction were New Dealers at ease with an interventionist state.

In the 1960s and 1970s illiberal and bureaucratically planned South Korea utilized capital inflows and American-guaranteed market access to create a formidable industrial base, beginning with textiles and going on to the world’s biggest integrated steel plant and beyond into chip manufacture, automobiles, and broadband internet coverage for over 90% of the country. Korea’s international economic situation was a consequence of Cold War politics, but its planners took full advantage of the opportunities they had available.

In the “lost decade” of the 1980s, Chile performed better than the rest of Latin America’s because it received ample foreign assistance from international financial institutions favoring its neo-liberal policy stance. Increasingly sophisticated natural resourced-based exports supported economic expansion.

Several economies in sub-Saharan Africa now have respectable growth rates with support from Nordic and other donors who provided steady aid flows over decades for their own geopolitical reasons.

In all these countries, big shifts in economic structure were created by a combination of technocratic top-down policy and spontaneous innovation from the bottom up. Even in neo-liberal Chile the government consistently supported expansion of mineral and agro-exports. Nowadays, of course, mainstream opinion opposes state intervention, a viewpoint virtually ignored at the time of the Marshall Plan or South Korea's growth spurt.

Over the past two or three decades many aid packages and economic "reform" programs informed by the Washington consensus did not generate linkages among demand growth, productivity, and employment. Per capita income levels did not rise and workers displaced by trade liberalization vanished into informal and subsistence activities. Under these conditions, foreign aid become at best a dole and at worst a cesspool for corruption.

Certainly, aid can have positive impacts at the micro level. A hand-out from abroad may cure smallpox or alleviate childhood malnutrition, but it is a hand-out notwithstanding. As Chapter 3 shows, in recent decades many poor economies have seen marked improvements in primary education (and health care as well) but have not been able to grow. Even if commendable and successful on their own terms, people-oriented technical fixes at the household level (as advocated Sachs, 2005) may not directly stimulate economy-wide expansion and enduring poverty alleviation.

Looking toward the future, foreign assistance is bound to be available in limited quantities. Cost estimates for the Millennium Development Goals, which emphasize quick results, range upward from \$150 billion per year. Current aid



flows in principle now are on the order of \$100 billion including debt relief and technical cooperation, which do not transfer resources to the recipient country. The International Monetary Fund has not been allowing governments to channel forgiven debt toward increased spending on poverty reduction because of its phobic fear (not supported by evidence) that an increase in fiscal outlays will kick off uncontrollable inflation.

Even if aid mounts, the IMF relents, and humanitarian goals are realized, the MDG effort can only be successful if it puts economies on paths of sustained growth. In the past aid has sometimes set off growth, more often it hasn't. There are many challenges to overcome:

At the micro level, just by itself human capital augmentation will not support steady growth unless high productivity enterprises get started.

Entrepreneurship is essential to this end, and should be rewarded.

But that will not happen spontaneously in a liberalized market environment. The state has to play a strong supportive role. Its available policy space has to expand so that countries can use instruments like sensible protection levels, targeted credit, and production subsidies to direct their limited resources toward productive ends. Scale economies are potentially available in many lines of endeavor – the task is to identify and support them. Linking fetters on developmentalist policies to disbursements of aid – standard practice for the World Bank and IMF – is completely counterproductive.

Many sub-Saharan African found in recent years a new solution: Chinese aid. Based on its own record of strong growth, this donor has of course no

objections to a developmentalist state. It focuses on getting the economies to grow, based on exploiting the opportunities for raw material exports that China itself has generated. And it is not tied to the conditionality of the Bretton Woods institutions.

## **Appendix 7.1: Net Borrowing, Balance Sheets, and Open Economy Macro**

The first topic in this appendix is how private, government, and the current account balance interact. We then show how borrowing flows cumulate into asset stocks as illustrated in Table 6.1. Next we discuss the well-known Mundell-Fleming (or IS/LM/BP) and portfolio balance models from open economy macroeconomics, and how they underlie the (misleading) “trilemma” mentioned in Chapter 1. The appendix closes with a discussion of dynamic, expectational forces that can affect the exchange rate. We work with annual flows of output, net borrowing, and other variables from the national income and product accounts along with relevant stocks from balance sheets. The symbols can be interpreted as being in current market prices or else as “real” (market price estimates deflated by a price index), as the situation warrants.

Recall from Chapter 1 that in the national accounts national income is identified with national output. For present purposes, it makes sense to extend the accounting slightly to make total “supply”  $X$  equal to value-added  $Y$  (or GDP) generated within the economy, plus imports  $eM^*$  valued in home currency terms at the exchange rate  $e$  ( $M^*$  stands for imports “at world prices”),

$$X = Y + eM^* \tag{1}$$

The uses of supply are described by the equation

$$C + I + G + E - X = 0 \tag{2}$$

with  $C$  as private consumption,  $I$  as investment (gross fixed capital formation plus inventory accumulation),  $G$  as government spending on goods and services, and  $E$  as exports.

The private sector's income-expenditure statement can be written as

$$N_p = I + C + T + Z_p - Y \quad , \quad (3)$$

which says that the sector's net borrowing  $N_p$  is equal to its expenditure minus income. If outlays exceed inflows, the sector has to increase its net liabilities to the rest of the economy.<sup>17</sup>

The new entries are taxes  $T$  and a "transfer"  $Z_p$  to the rest of the world, in terms of domestic prices. Examples are profit remittances, interest payments on foreign debt, etc. If a transfer such as emigrant remittances is coming in, it adds to income and should be written as  $-eZ_p^*$  with  $Z_p^*$  as the foreign currency value of the inflow from abroad.

Private saving  $S_p$  is equal to income minus non-investment expenditures, i.e. consumption, taxes, and the transfer. Making the obvious substitution in (3) shows that net borrowing is equal to investment minus saving,

$$N_p = I - S_p \quad .$$

Government net borrowing  $N_g$  is

$$N_g = G + Z_g - T \quad (4)$$

with  $Z_g$  as a transfer to the rest of the world (a negative quantity  $-eZ_g^*$  could stand for foreign aid  $Z_g^*$  arriving as foreign exchange in the form of a pure donation as opposed to a loan).

---

<sup>17</sup> That is, as illustrated below sectoral asset holdings from Table 6.1 in the forms of money, bonds, or equity must be run down, and/or domestic or foreign loans must be run up.

The rest of the world's net borrowing  $N_R$  is equivalent to the home country's acquisition of foreign assets or reduction of its foreign liabilities. The transaction has to take place via a surplus on the current account of the balance of payments,

$$N_R = E - eM^* - Z \quad (5)$$

in which  $Z = Z_P + Z_G$  (plus terms representing inflows if needed).

Let  $N$  be total net borrowing. Assume by way of illustration that private and government net borrowing and the current account balance (rest-of-world net borrowing flows) all depend on the level of output  $Y$ . Then a key condition for macroeconomic balance is that

$$N(Y) = N_P(Y) + N_G(Y) + N_R(Y) = 0 \quad (6)$$

When (6) is satisfied, running through the income-expenditure accounting shows that the "material balance" condition (2) will also hold.

Suppose that  $Y$  initially satisfies (6) but then "blips" upward. If in response  $N(Y)$  decreases, then the economy's total spending will fall short of income (total net borrowing becomes negative) and one would expect  $Y$  to return to the level determined by (6). This sort of "counter-cyclical" response stabilizes the system. Of course, any one (or two) of  $N_P$ ,  $N_G$ , or  $N_R$  could respond positively ("pro-cyclically") to  $Y$  but so long as  $N(Y)$  goes down when  $Y$  goes up the economy will function.

When cumulated over time, net borrowing flows generate balance sheets like the one presented in Table 6.1. The time period relevant to the present discussion is the "short run," e.g. a month, a quarter, or at most a year.

To run through the accounting quickly, let a delta ( $\Delta$ ) in front of a variable denote its change over time. The growth rate of (say)  $X$  will then be  $\Delta X/X$ . Also note that the equity price index  $P_Y$  and the exchange rate  $e$  are “asset prices” which can either “jump” in an instant or move steadily over time. Their growth or inflation rates are  $\Delta P_Y/P_Y$  and  $\Delta e/e$ . Changes in wealth will depend on the corresponding capital gains or losses.

Investment (ignoring depreciation of existing capital and setting changes in inventories to zero) is equivalent to a change in the capital stock:

$$\Delta K = I$$

The change in private wealth is equal to saving less capital losses on outstanding foreign loans or equity when  $e$  or  $P_Y$  goes up,

$$\Delta \Omega_P = S_P - (\Delta e/e) e L_P^* - (\Delta P_Y/P_Y) P_Y V$$

The private sector’s flow of funds is

$$N_P = I - S_P = \Delta(L_P + e L_P^*) + P_Y \Delta V - \Delta(H + B_P)$$

Liabilities in the form of new loans and/or new issues of equity must go up or else holdings of money and government bonds decline when  $N_P > 0$ .

From the rest of the world’s balance sheet in Table 6.1 the home economy’s net foreign assets are  $-e \Omega_R^*$ . Using (4), the *flow* change in the home country’s foreign position can be written as

$$e(\Delta R^* - \Delta L^*) - P_Y \Delta V_R = N_R = E - e M^* - Z$$

Incorporating capital losses on loans and equity shows that

$$\Delta(-e \Omega_R^*) = N_R - (\Delta e/e) e L^* - (\Delta P_Y/P_Y) P_Y V_R \quad (7)$$

Equation (7) shows that on a *flow* basis a current account surplus is associated with growth in reserves and reductions in private and/or government external debt along with buying back home equity from abroad. As discussed in the text, if capital gains and losses are ignored then from (7) the rest of the world's net foreign assets  $\epsilon R^*$  in its T-account in Table 6.1 will change only gradually over time. A consequence is that a "jump" upward or downward of foreign loans  $L_p^*$  or  $L_g^*$  has to be met by a jump of (nearly) equal size in bank reserves  $R^*$ . The same observation applies to a foreign equity purchase which increases  $V_R$  at the going price  $P_V$  – in the first instance the incoming funds will go into international reserves.

Three other flows of funds equations are also implicit in Table 6.1. The simplest assumption for the banking sector is that its net borrowing  $N_B$  is equal to zero, which gives

$$N_B = \Delta H - \Delta(L + B_B + \epsilon R^*) = 0 \quad , \quad (8)$$

showing that the increase in the money supply (the banks' main liability) is equal to the sum of increases in loans to the private and financial sectors, holdings of government bonds, and international reserves. As with the foreign accounts, a jump in any item in the bank's T-account in Table 6.1 has to be met by an offsetting jump on the other side of the balance sheet. For example if reserves  $\epsilon R^*$  move upward, the money supply  $H$  has to do so as well (unless the banks sterilize the reserve increase by selling off government bonds  $B_B$ ).

The government's net borrowing takes the form of bond issues and higher foreign loans

$$N_G = \Delta(B + eL_G^*) \quad .$$

The financial sector borrows from banks or abroad to buy up equity,

$$P_F \Delta V_F - \Delta(L_F + eL_F^*) = 0 \quad .$$

Capital gains in the form of  $P_F > 0$  feed into an increase in financial wealth  $\Omega_F$ , which can be plowed back into buying more equity “next period”. Devaluation (an increase in the exchange rate  $e$ ) cuts into the financial sector’s net worth  $\Omega_F$ .

Finally, a quick look at determination of the exchange rate itself -- the Mundell-Fleming and portfolio balance models, the trilemma, and how the rate may be set via its static and dynamic linkages with the rest of the system.

Following Taylor (2004, 2008b), the main points are the following:

The Mundell-Fleming (or IS/LM/BP) model postulates that there are three independent open economy macroeconomic relationships: an IS curve to determine effective demand, an LM to describe the financial system, and a BP relationship to determine the current account. Output, the interest rate, and the exchange rate are supposed to adjust to equilibrate the three balances. But in fact equation (6) above shows that if the economy is in macro equilibrium the current account is already in equilibrium as well, for *any* value of the exchange rate.

An immediate corollary is that the trilemma does not hold. In a textbook world the macro story needs to focus only on the level of activity and the interest rate. In the IS segment of the IS/LM/BP model, domestic and foreign incomes adjust to assure the equality in (6). So there is an open capital market, monetary policy is setting the interest rate (perhaps along an LM curve), and the exchange



rate follows its own rules – the trilemma does not apply. The exchange rate (or some other variable such as the fiscal position) *would* have to become endogenous to allow (6) to balance if the current account were determined exogenously or by policy but that is not the way the trilemma is usually presented. The structural gap analysis in Chapter 5 is a case in point.

Turning to portfolio balance involving stock variables as in Table 6.1, three potential possibilities for closing a model are of interest. Each is counter-factual, illustrating the problems of applying simple models to functioning economies in real time.

In one possible closure, the monetary authorities in the home economy and the rest of the world intervene in markets to control their holdings of national and external bonds, and thus their money supplies at financial Stage II or higher. One can show that the interest rates in the two economies can adjust to clear their bond and money markets, independently of the exchange rate (there is no trilemma).<sup>18</sup>

A capital movement into the home economy represents a shift in foreign preferences away from foreign and toward home bonds. On standard liquidity preference grounds with constant money supplies the home interest rate should decline and the foreign rate increase to re-establish local financial market equilibria. In fact, in many developing economies the interest rate went up after an inflow, suggesting that the authorities pursued contractionary monetary policy

---

<sup>18</sup> This result is the open economy analog of the Stage II closed economy liquidity preference scenario in which a single interest rate adjusts to clear both bond and money markets.

or that there was a strong increase in economic activity which increased money demand.

In a second closure, the authorities fix interest rates as opposed to money supplies. This possibility is akin to inflation targeting as opposed to the first closure's traditional monetarist scenario. With fixed interest and exchange rates, asset demands as opposed to money supplies are now being held constant. After a capital inflow, money supplies must readjust to meet the constant demands – in other words there will be automatic 100% sterilization of capital movements. Although in practice the authorities did attempt to sterilize in many countries, they were not completely successful because money supplies tended to increase after capital inflows. Again, a simple model closure misses the mark.

Finally, still assuming that they are targeting the interest rate, the home country authorities might *also* choose to hold reserves constant and allow the exchange rate to float. In this set-up, one can show that through both wealth and substitution effects the rate would decrease or appreciate after a capital inflow.

To summarize for emerging markets, the first closure suggests that an interest rate increase after a capital inflow must be due to restrictive monetary policy or higher economic activity. The second asserts that with pegged interest rates, there should be a degree of automatic sterilization after the inflow. But the third says it can't be complete because appreciation was often observed.<sup>19</sup>

---

<sup>19</sup> Indeed, as noted above inflation targeting in emerging markets usually works by setting high interest rates to bring in capital inflows which lead to anti-inflationary exchange rate appreciation.

Insofar as simple short-run models apply, policy makers appeared to operate somewhere amongst the three closures.

In present circumstances in middle income economies, it makes sense to go beyond static Mundell-Fleming or portfolio balance analysis and assume that a more-or-less floating rate is determined in spot and future asset markets. In effect the spot rate floats against its “expected” future values. The quotation marks mean that we view expectations along Keynesian lines as emerging from diverse opinions on the part of market participants about how the rate may move.

A “speculative” view is that the exchange rate will *depreciate* when the local interest rate decreases. This view makes intuitive sense insofar as low interest rates should make national liabilities less attractive. It was perhaps first advanced macroeconomically by Minsky (1983). Recent macroeconomic history (Frenkel, 2004) suggests that over the medium term the speculative view is the more accurate description of exchange rate behavior in middle income economies. That is, a high interest rate and a strong currency tend to run together.