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SELECTIVE POLICIES UNDER A STRUCTURAL FOREIGN EXCHANGE SHORTAGE*

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Standard adjustment programs emphasize excessively demand-reducing adjustment mechanisms in economies facing a binding external constraint. The main policy instrument used to induce expenditure-switching and supply effects is the exchange rate. Despite its evident relevance, this instrument by itself cannot deal with the diversity of elasticities and transmission mechanisms. In the first section of this paper we provide evidence to show a clear non-first-best economic situation in Latin America during the eighties. The region exhibits significant maladjustments in the size and composition of output and demand, with a concomitant underutilization of installed capacity and a strong reduction in investment. In the second section we provide some theoretical examples on how changes in the size and composition of fiscal revenues and expenditures may help in reducing the undesired effects of external adjustment processes. We also argue that an active exchange rate policy may generate adverse fiscal effects if not accompanied by an adequate change in taxes and/or expenditures. These examples consider a model where output of non-tradable goods is sensitive to the size and composition of domestic demand while output of tradable goods is sensitive solely to relative prices. The difference in transmission mechanisms is the basis to argue for a greater diversity of policy instruments involved in adjustment programs – or selective policies.

1. Introduction

Latin American economies have experienced substantial macroeconomic changes associated to the external sector. One of the outstanding features in the 1970s was the plentiful supply of funding offered by international commercial banks. In the 1980s it has been the opposite: an intensive shortage of foreign funds.

Under the stimulus of the international financial community – both private and official – and the encouragement of low short-run real interest rates, Latin American countries (LACs) borrowed heavily from bank creditors in the 1970s. As a consequence, debtor nations could expand their expenditure

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faster than output, accommodating the composition of demand to a heavier share of tradables, especially importables. The composition of output also became more intensive in imported inputs. Pari passu with the increasing annual flows of funds, the debt stock accumulated.

The behavior of LACs was heterogeneous, however. Almost all received net transfers. But the volume of borrowing and the effects upon the domestic market were affected by the approach adopted in each country with respect to direct government regulations on capital flows, exchange-rate policy, and regulations on the use of loans. The degree and quality of selectivity of these policies explain, at least, part of the diversity among countries, both of the size of the accumulated debt burden and the behavior of productive capacity until the crisis emerged in the early 1980s.[1]

In the 1980s, LACs were forced to reverse abruptly the trend of borrowing. After the crisis, there tends to be a broad agreement that an adjustment was necessary, in order to cut the existing gap between aggregate domestic demand and output. However, there are divergent views with respect to the nature of debtor–creditor relations, creditors conditionality, and adjustment policies.

Here we concentrate on the latter issue. In section 2 we try to discern whether the combination of demand-reducing and demand/supply-switching policies has been efficient or not, crucial indicators being the responses of output and investment. In section 3 we discuss theoretical examples of selective policies dealing with the demand side, geared to improve the efficiency of adjustment. We also deal with some side-effects of real devaluation which are not caught by aggregate frameworks, and which need the implementation of concomitant selective policies.

2. The performance of LACs in the eighties: Demand-reducing and switching policies, and output-reducing effects

The problem at hand in the early 1980s was an excess domestic demand. Ideally, eliminating the excess should not have brought along a significant output loss. However, if output actually falls, then demand should be reduced even further in order to reach the targeted external equilibrium.

In fully flexible static economies and with inelastic factor supplies, domestic output should not decrease. Full employment should continue to prevail and output remain unchanged.[2] Naturally, disposable real income (or disposable budget more precisely) would decrease if net capital inflows

[1] See a comparative analysis in Bacha (1986), and country case studies in Ffrench-Davis (1983) and Griffith-Jones (1988).

[2] Actually the composition of output changes; thus output (GDP) at constant prices may change. For instance, at relative prices of year 0, full employment real GDP would tend to decrease in year 1.

are reduced, or interest rates rise. With a terms of trade worsening, disposable income would also fall, since it implies a drop in the purchasing power of GDP.

In economies with some price inflexibility and 'structural heterogeneity', during the transition to the new equilibrium, some factors become idle, and some human and physical capital may be destroyed in the process. Thus, during the process of adjustment, the rate of resource utilization diminishes; the adjustment path in output is traced below and not along the optimal transformation path. This is an undesirable 'output-reducing effect'.

Moreover, the adjustment performed below the full employment optimal path, also has negative implications for growth. The most obvious one is the bias against investment. There is a series of sources of negative effects that are usually observed. Capacity underutilization and a recessive framework tend to discourage investment. Additionally, direct curtailment of public investment, as a means to balance the budget and to reduce aggregate demand, may intensify the crowding-out of private investment, together with rising interest rates and the increased cost of imported capital goods in response to exchange-rate devaluations (in countries where investment is import intensive). Devaluations also may worsen the financial position of public and private debtors in foreign currency. In short, the adjustment path may imply a case of underemployment and under-investment hysteresis.

2.1. An overview of aggregate and disaggregated approaches

A foreign-exchange constraint may present different forms, all of which finally limit the capacity to import. In the recent Latin American case, this constraint appeared as an 'exogenization' of financial flows, which became dependent on agreements with multilateral institutions, debt rescheduling with bank creditors, official loans and other forms of credit rationing. The liquidity constraint faced in international financial markets has meant that, for a given target in foreign-exchange reserves, the balance of trade had a lower bound – given by the (exogenous) financing capacity.[3]

But the trade balance, in turn, depends on the exchange rate, output, expenditures, terms of trade, foreign demand, etc. The standard approach states that – all other things equal – for each level of the exchange rate there is a maximum level of output which ensures external equilibrium. When a foreign-exchange constraint is binding – i.e. when output is thus determined – it seems as if there is no policy variable determining it in the short run other than the exchange rate, while only the direct standard effects of devaluation on the trade balance are taken into account.

[3]It is likely that the shortage could have been reduced with a consistently tougher approach by debtors. However, the most that debtors could have achieved would be close to a zero negative transfer, with which an adjustment would have remained necessary.

Standard operative macroeconomic approaches coincide in that the most that fiscal and monetary policies can do in this context is to play a consistency role by matching the actual level of aggregate expenditure with the one consistent with external equilibrium. In this sense, there are no strong differences between the standard Keynesian and monetarist open economy approaches. In the former the recommendation is to limit expenditures (absorption) to ensure the required outcome in the trade balance; the latter recommends to limit the growth of domestic credit to ensure a manageable pressure on reserves. In spite of the important differences with regard to the transmission mechanisms, there is no room for an active fiscal or monetary policy in either approach, and trade policy is assumed away. The actual outcome tends to be an output below full employment during the adjustment process and a lower rate of capital formation. Clearly a non-first-best world.

Aggregate approaches highlight the loss of degrees of freedom for macroeconomic policy design under a dominant foreign-exchange shortage. Aggregate analyses, in fact, hide the remaining degrees of freedom; i.e., the ones left to perform active selective policies that affect the composition of output and/or demand. The distinction between real and nominal effects and between the short and long runs, as well as the relevance of the structure of prices, finance, output and demand are usually neglected in aggregate models. For instance, a demand shift towards goods and services less intensive in imported inputs may allow a higher level of expenditure for a given outcome in the trade balance. Likewise, a shift in the composition of aggregate expenditures from tradable to non-tradable goods may stimulate recovery without deteriorating external accounts [Dornbusch (1980), Ffrench-Davis (1979, 1986), Ocampo (1984)].

Some of these issues may be better understood through a simple accounting exercise. In section A of table 1 we present the basic accounting of the relation between the trade balance and domestic real variables. The first row shows the trade balance (B) as the difference between domestic output of tradable goods (Q_T) and domestic demand of tradable goods (D_T). Ex-post equilibrium in the non-tradable goods market (second row) is autarchyc by definition; i.e., domestic supply (Q_N) and demand (D_N) should always match. The third row presents the standard aggregate identity of the balance of trade as the difference between total output (Y) and total domestic demand (D).

Sections B, C and D of table 1 present the ex-post 'accounting' of three standard ways of improving the trade balance. One conventional mechanism is an across-the-board reduction in domestic demand, as depicted in section B of table 1. Such a reduction would certainly improve the trade balance (since D_T falls), but a recession could hardly be avoided (since D_N also falls). A second standard way of adjusting is by means of a shift in the composition

Table 1

The accounting of external adjustment (prices omitted).

Policy scheme	Productive sector	Domestic output	Domestic demand	Excess supply
A. Accounting identities	Traded g.	Q_T	D_T	$B=Q_T-D_T$
	Non-traded g.	Q_N	D_N	0
	Total	$Y=Q_T+Q_N$	$D=D_T+D_N$	$B=Y-D$
B. Expenditure reducing policies	Traded g.	Q_T	$D_T(1-\delta)$	$B'=B+\delta D_T$
	Non-traded g.	$Q_N(1-\delta)$	$D_N(1-\delta)$	0
	Total	$Y'=Y-\delta Q_N$	$D'=D(1-\delta)$	$B'=B+\delta D_T$
C. Expenditure switching policies	Traded g.	Q_T	D_T-A	$B'=B+A$
	Non-traded g.	Q_N+A	D_N+A	0
	Total	$Y'=Y+A$	D	$B'=B+A$
D. Supply policies	Traded g.	Q_T+A	D_T	$B'=B+A$
	Non-traded g.	Q_N	D_N	0
	Total	$Y'=Y+A$	D	$B'=B+A$

of demand towards non-traded goods (section C). The drop in D_T improves the trade balance while the increase in D_N allows a recovery in non-traded goods output. Third, in an economy with factor unemployment, a simple way of improving the external balance is through a rise in Q_T (output of export and import competing goods).[4] Such an adjustment – see section D – would allow an output increase and a balance of trade improvement. In a full-employment economy, focusing investment in the production of tradable goods would achieve the same result in the mid term.

This description is obviously not enough to understand the adjustment process. There are obvious constraints and interdependencies between the variables involved which are not considered in the simple accounting description. Changes in the output level have a feedback effect on demand; intermediate inputs affect the relation between outputs in different sectors. The financial counterparts of changes in real variables have not been considered, neither have price effects been involved so far, etc. Nevertheless, the accounting exercise – incomplete and all – is useful to identify the type of effects sought when trying to improve the performance of trade variables.

Normally, the three types of 'pure' adjustment in the real side of the economy operate simultaneously. A devaluation, for instance, would involve a simultaneous incentive on traded goods output and a change in the level and structure of demand. In fig. 1 we have depicted the adjustment process in a standard general equilibrium diagram. Points A and C reflect the initial situation with a trade deficit; points B and D represent the final outcome

[4]As a consequence of heavy borrowing and the debt-led revaluation of exchange rates, in several countries the rate of utilization of the productive capacity of both exportables and importables had decreased in the late seventies and early eighties.

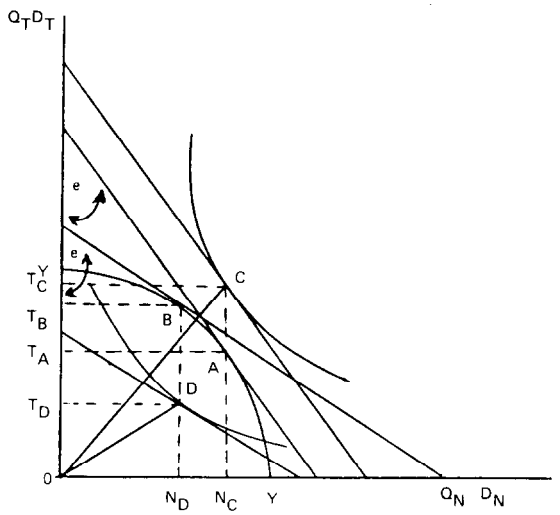


Fig. 1

with a trade surplus. Adjustment in output along the transformation curve (a shift from A to B along YY) implies an increase in the production of tradable goods. With full utilization of domestic resources, this increase should be accompanied by a drop in output of non-tradable goods. In the demand side, expenditure on both goods should fall (a shift from C to D), and, under standard assumptions, the demand for tradable goods should fall relatively more (line OD is flatter than OC).

In the absence of intermediate inputs, the terms Y and D in table 1 would correspond to GDP and absorption; Q_T and Q_N would represent value added in the tradable and non-tradable goods sectors respectively, and D_T and D_N would be the sum of public and private final demand (absorption). The presence of intermediate goods or inputs entangles the accounting of the adjustment process, although it does not change the main conclusions regarding the three types of adjustment [Arellano and Marfán (1986)].[5]

2.2. *The overall performance of Latin America*

The performance of LACs in the 1980s suggests that the policy mix actually used has been deficient, with a large output-reducing outcome. This would be the consequence of an excessive weight of demand-reducing policies, or of negative side-effects of massive exchange-rate devaluations with decreasing direct marginal benefits, or of inconsistent selective – or discrimi-

[5]Here we do not consider explicitly the case of intermediate goods. However, their existence reinforces the argument for selective policies but may complicate their administration.

Table 2

Production, consumption, investment and external shocks per capita in Latin America: 1980–87 (percentages of 1980–81 GDP per capita).

	1980	1981	1982	1983	1984	1985	1986	1987	Average 80–81	Average 83–87
1. GDP	100.8	99.2	95.8	91.3	92.7	93.9	95.3	95.8	100.0	93.8
2. Domestic expenditure	102.2	100.1	93.4	84.8	85.5	86.8	89.2	90.1	101.2	87.3
3. Consumption	78.4	77.1	74.3	70.9	70.8	71.8	74.2	75.1	77.8	72.6
4. Investment	23.9	23.0	19.1	13.9	14.7	15.0	15.0	15.0	23.4	14.7
5. Domestic savings	22.5	22.0	21.5	20.4	21.8	22.0	21.1	20.8	22.2	21.2
6. Non-financial cur. acc. deficit	1.5	1.0	−2.4	−6.5	−7.2	−6.9	−5.8	−5.8	1.2	−6.4
7. Net financial transfers	1.5	1.7	0.2	−3.8	−4.8	−4.1	−2.0	−2.6	1.6	−3.5
(a) Capital flows	4.1	5.4	5.3	0.9	−0.0	0.4	2.0	1.1	4.7	0.9
(b) Net interests and profits	−2.6	−3.6	−5.1	−4.6	−4.8	−4.6	−4.0	−3.7	−3.1	−4.3
8. Terms of trade effect	0.0	−0.8	−2.6	−2.8	−2.4	−2.8	−3.7	−3.2	−0.4	−3.0

Source: Elaborations based on CEPAL (1988); figures in 1980 US$. Includes 19 countries. Figures for 1987 are provisional estimates.

natory – policies. Medium-term growth prospects also worsened, since investment ratios experienced a sizable drop.

Table 2 provides basic aggregate data for Latin America. It obviously hides the broad heterogeneity of performance among countries of the region.

In the seventies, GDP, consumption and investment grew at annual rates of 5.6%, 6.1% and 7.3%, respectively. Expenditure grew faster than output because of increased transfers of foreign funding and improved terms of trade. Since population increased 2.5% per year, per capita growth was substantial.

An abrupt reversal took place in the early eighties. There was a stopover in economic growth in 1981 and a drop in 1982–83. Investment fell sharply since 1983. However, it probably was sufficient to sustain at least an output growth equivalent to roughly the 2.3% yearly increase in population during the eighties. Using this assumption, table 2 presents the basic data in per capita terms in order to provide a view of the approximate magnitude of the overshot fall in aggregate demand, and the drop in the rate of use of resources, with the corresponding negative impact on the creation of new output capacity. We will compare the averages of 1980–81 as a base and 1983–87 as the adjustment period. All figures are measured as percentages of 1980–81 GDP.

On the basis of table 2, it can be estimated that the external shocks – fall in net capital inflows, rise in capital services and worsening of terms of trade – were equivalent to a loss of 8% of the base GDP. Aggregate demand, in average, experienced a much sharper drop, decreasing 14%. This was associated to an average output loss per year (the output-reducing effect) that can be estimated at 6% of GDP. This appears to be the short-run consequence of either an overkill of demand, or an extremely inflexible relation between aggregate and effective demand, or weak and inefficient switching-policies.

The fact then is that the output-reducing effect was notably large, as reflected by the underutilization of productive capacity.

Another component of the output-reducing effect was a large investment drop. The average drop was almost nine percentage points of 1980–81 GDP. That is, investment per capita in 1983–87 was 37% below 1980–81. This can be contrasted with the rising trend in the seventies.

Since the positive net transfers received until 1981 were partly used to enlarge investment, and those transfers were unsustainable in the long run, we can adopt the gross assumption that 'normal' domestic investment would be the one financed by domestic savings (self-financed investment).[6] Then the fall, in this 'normalized' investment rate, should have been only one point on a per capita basis (22.2% in 1980–81 as compared to 21.2% in 1983–87). What part of the much larger drop in actual investment can be assigned to the lack of financing because of negative transfers, or to the negative domestic macroeconomic framework and discouraging price signals (rising interest rates, increased import cost of capital goods)?

Low investment has obviously contributed to make more difficult the structural adjustment of output, and thus it has limited the utilization of resources. The issue that emerges is: how can investment be fostered more effectively and efficiently.[7]

The way in which adjustment has taken place has meant, then, a double inefficiency. On the one hand, the contractionary adjustment reflects a misuse of domestic resources in the short run. On the other hand, the drop in investment reflects that there is an inefficient long-term adjustment. A first-

[6]In the standard debt-cycle, there is an intermediate natural stage, where debt keeps rising but debtors experience negative transfers. It has been asserted by some observers that the present situation of LACs corresponds to that stage. However, the entrance to this stage was not a natural timely outcome of the debt-cycle, but a premature unexpected outcome, that forced debtors to enter prematurely the stage of outward net transfers. (By the way, the adverse effects of such unexpected event provide a theoretical room for active policies.) Self-financing of domestic investment is then not inconsistent with the normal debt cycle, and is feasible because within the area of negative transfers debtors hold a potentially strong bargaining position in a drive to reduce the size of transfers.

[7]The common recipe today of privatization of public enterprises, encourages within the private sector a trade off: purchases of public firms crowd out new investment.

best framework is clearly not the proper theoretical approach for the design of adjustment policies, and may be seriously misleading.

2.3. *The outcome on a country basis*

Disaggregated data, on a country basis, may allow a better comparison of the analytical outcomes with the adjustments made by the main Latin American economies. Here we make a gross approximation of the evolution of some of these variables for 12 countries for which homogeneous information was available. From National Accounts data at constant 1980 prices published by ECLAC [CEPAL (1988)], we proxy domestic output of tradable goods by an index of value added in agriculture, mining and manufacturing industry, and output and expenditure of non-tradable goods by an index of value added in other sectors.[8] The sum of the value added of both sectors corresponds to GDP. Also, we consider a measure of total domestic expenditure by an index of absorption (total consumption plus investment). In fig. 2 we have depicted the evolution of some of these indices for the 12 countries which have adjusted within the period considered.[9]

In spite of the grossness of our proxies, some interesting features appear from the data. Adjustment on the expenditure side seems to be homogeneous across countries. The twelve of them initiated their adjustment with a clear reduction in expenditures. Such a reduction was accompanied by a change in composition (switching), since expenditures in non-tradable goods fell proportionally less (and in a few cases did not fall at all) than total expenditures (the lines with dots are under the lines with crosses in fig. 2).

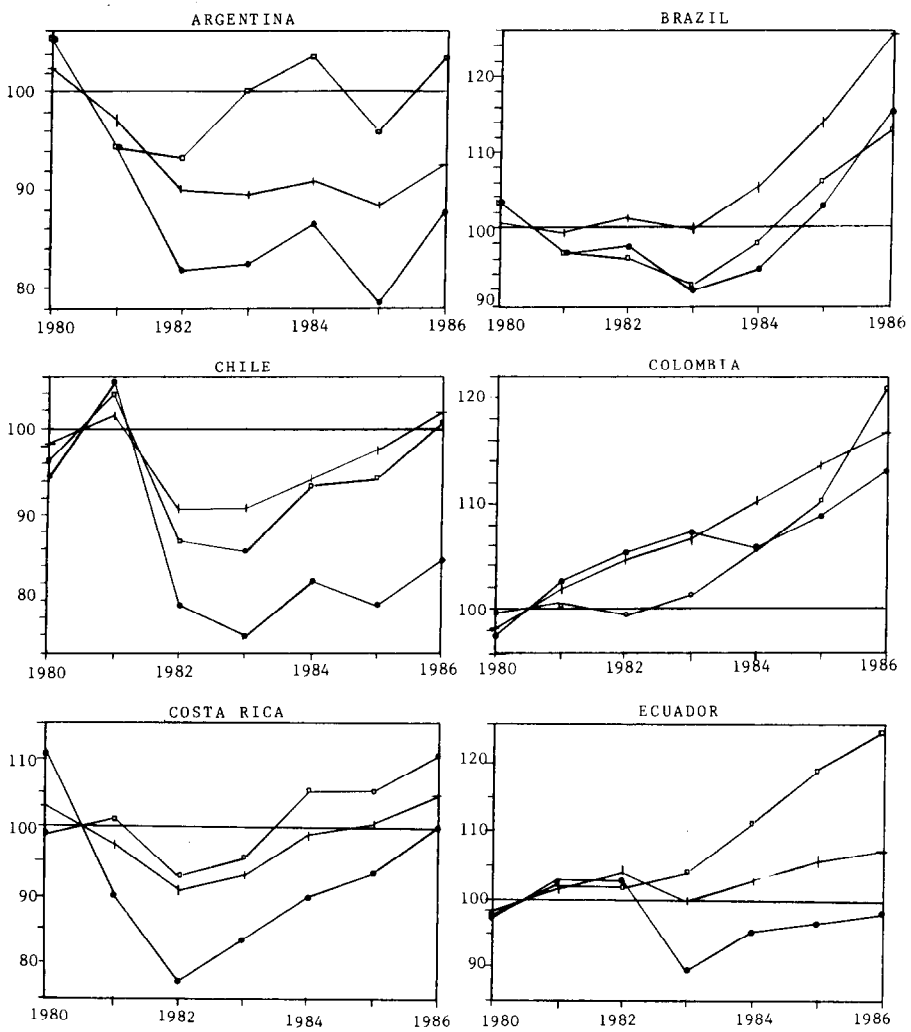
Output, on the other hand, behaved according to the standard theory only in Colombia and Ecuador, where the tradable goods sector continued to grow at a faster pace than the non-tradable goods sector. However, these two countries seem to be the exceptions rather than the rule. In other countries, domestic output of tradable goods fell during the adjustment process. Moreover, value added in non-tradable goods increased its *share* in output in Brazil, Chile, Dominican Republic, Mexico (except for 1985), Uruguay and Venezuela.[10]

An obvious explanation for the fall in 'tradable' goods output in most countries is that our proxy (agriculture, mining and manufacturing industry)

[8]Obviously, not all goods produced by agriculture, mining and manufacturing industry are traded goods, nor are construction and services purely non-traded output. This, however, is the best proxy allowed by the data available for all LACs.

[9]The countries excluded from the original sample of 19 cases are Bolivia, El Salvador, Haiti, Honduras, Nicaragua, Panama and Paraguay. Neither of these countries has increased its trade surplus at constant prices (National Accounts definition) during the period considered.

[10]While the *share* of non-traded goods increased, in some of these countries absolute output decreased, as discussed below.



□ Value added in agriculture, mining and manufacturing industry; + Value added in other sectors; • Consumption plus investment (public and private).

Source: CEPAL (1988).

Fig. 2. Adjustment in output and expenditure in selected countries of Latin America 1980–86 (average 1980–81 = 100).

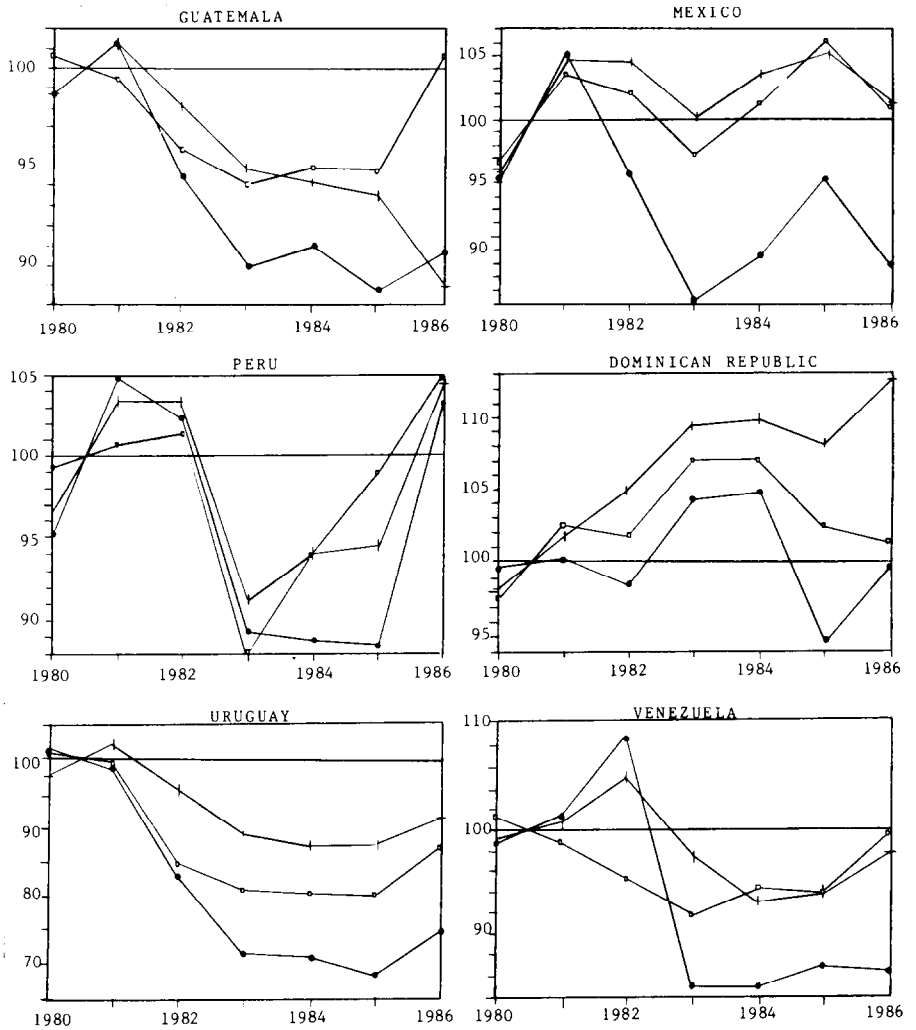


Fig. 2 (continued)

includes some non-traded goods as well. Actually, a large proportion of manufacturing is not traded, and is relatively isolated from external events. There are a gap between export and import prices, and significant tariff and non-tariff barriers, that isolate domestic output of otherwise tradable goods from swings in exchange rates and protection. Consequently, it may happen that their output is more strongly affected (negatively) by expenditure-reducing than (positively) by expenditure-switching policies.

Another complementary explanation is associated to product differentiation. Given a group of products that appear as tradables, the fall in demand for, say, textiles, will reduce imports. In the case of homogeneous products or perfect substitutes, output may experience a drop only if imports disappear totally. However, in face of product differentiation within the group, imports will also fall with expenditure-reduction, but will not disappear while output may decrease; together with expenditure-switching, for instance via devaluation, some goods will shift from importables to exportables, some will remain as importables with increased output, and others whose demand drops more than former imports would experience a fall in output as well as those that are non-tradables.

This diversity is hidden in the gross categories used above. Aggregate data, however, suggests that the output of exportables increased, given that the volume of exports rose 42% in 1987 over 1980.[11]

The main conclusion of this descriptive analysis is that output and the trade balance are sensitive to both the size and the structure of demand. The countries where the fall in the demand for traded goods was attained mainly by switching demand towards non-traded goods (Brazil, Colombia, Dominican Republic) are precisely those which had the mildest recessions. By contrast, those which emphasized relatively more expenditure-reducing effects – recognized by an important reduction in non-traded goods output – are the ones which faced relatively more severe recessions (Argentina, Chile, Costa Rica, Guatemala, Peru, Uruguay and Venezuela). A systematic pattern observed in those countries which have stepped back for a year or two in their adjustment process, is a relatively larger increase in their total demand than in expenditures on non-traded goods (Argentina in 1984 and 1986, Brazil in 1986, Chile in 1984, Costa Rica in 1985 and 1986, Dominican Republic in 1986, Ecuador in 1984, Mexico in 1985, Peru in 1986, Uruguay in 1986 and Venezuela in 1985). The increase of aggregate demand leaked to a large degree to demand for tradables.

The composition of demand is important to understand the relationship between output and trade in the short run. To the extent that conventional macroeconomic policy influences not only the level but also the composition

[11] Export proceeds in current US$ did not rise. However, given large real devaluations, exporters could experience enhanced profitability notwithstanding worsened international prices.

of expenditures, it may play a more active role in the adjustment process. Notice, then, that once policy effects on the composition of demand become relevant, economic policy would be more efficient as long as it explicitly considers these effects. In other words, as long as there are demand structures that allow a higher level of output or employment for a similar trade balance, the policy design should consider these effects and discriminate in accordance. This approach may contribute to diminish the output-reducing effect, and to move the economy closer to the production frontier; that is, closer to a first-best outcome.

What are feasible and optimal combinations of instruments is influenced by the administrative capacity to implement selective policies, both in the sense of political viability and operational tractability.

3. Theoretical examples of selective demand effects

3.1. Basic identities

In order to illustrate some of the possibilities opened by more disaggregated analyses, we show a few intuitive arguments obtained from a simple model which has been developed extensively elsewhere [Marfán (1986a, 1987)]. The model is incomplete, in the sense that it is valid for a short-run analysis only, which is some sort of partial equilibrium. The main question addressed is: how to improve resource utilization in the short run, in an economy facing a recession (so full-employment analysis is precluded) and a binding foreign-exchange constraint.

Consider an economy where flows follow the identities implicit in the following T-tables, and where all prices are expressed in terms of the non-traded good (numeraire):

Private sector

I	O
$(1-t)(Q_N+eQ_T+wG_L)$	C_N+eC_T
T	ef_P
	$(M-M_0)/P$

Public sector

I	O
$t(Q_N+eQ_T+wG_L)$	$G_N+eG_T+wG_L$
D_G	T
	ef_G

Financial sector

I	O
$(M-M_0)/P$	D_G
	eR

Foreign sector

I	O
$e(f_P+f_G)$	$e(Q_T-C_T-G_T)$
eR	

Inflows of the private sector are given by the after-tax factor payments, including the government payroll wG_L, and government transfers T.[12] Prices e and w represent the real exchange rate and the real wage rate in terms of the N-good. Outflows, on the other hand, are given by private consumption of non-traded and traded goods (C_N and C_T) plus private foreign debt flows (ef_P, where f_P summarizes interest payments and debt changes), and the change in money balances ($(M-M_0)/P$). P represents the money price of the N-good.

Government outflows are the sum of government expenditures on non-traded and traded goods (G_N and G_T, respectively), public employment (G_L) and transfers (T), all valued at market prices, plus public foreign debt flows (ef_G). Government inflows are given by tax revenues and domestic financing of the deficit (D_G).[13] Variations in money supply (financial sector) are explained by the sum of the domestic financing of the fiscal deficit and changes in foreign exchange reserves (eR). Finally, the T-table for the foreign sector corresponds to the balance of payments which, in this simplified case, is given by the difference between output and domestic demand of traded goods ($Q_T-C_T-G_T$), financial flows (f_P+f_G) and changes in reserves (R). The consolidation of the four T-tables implies that the non-traded goods market is in equilibrium ($Q_N=C_N+G_N$).

The behavioral assumptions introduced try to represent an economy which is below the transformation curve (idle resources) and, thus, the model is designed to answer short-run questions only. For this reason, Walrasian equilibrium prices are ruled away. The main behavioral assumptions con-

[12] This analysis considers the case where there are no intermediate inputs involved. For the more general case with intermediate transactions, see Marfán (1986a).

[13] Since f_G considers changes in the government foreign debt, D_G corresponds to fiscal pressures on the domestic financial market only.

sidered are: (i) Q_T is determined by relative prices (Q_T adjusts in the conventional neoclassical way); (ii) Q_N is determined by domestic demand (Q_N adjusts in the standard Keynesian way); (iii) the demand for money follows a quantity theory rule;[14] (iv) households display homothetic preferences;[15] and (v) international financial flows are exogenous (liquidity constraint).

So output and employment are determined by relative prices in the tradable goods sector.

$$Q_T = Q_T(w/e), \qquad L_T = L_T(w/e), \tag{1}$$

and by demand in the non-tradable sector,

$$Q_N = C_N + G_N, \qquad L_N = L_N(Q_N). \tag{2}$$

Total employment is determined by the sum of labor demands in the private and public sectors:

$$L = L_T(w/e) + L_N(Q_N) + G_L. \tag{3}$$

Households, on the other hand, display homothetic preferences. Thus, private consumption of either good is proportional to the private disposable budget $[Y_d = (1-t)\ (Q_N + eQ_T + wG_L) + T + M_0/P - ef_P]$. The structure of consumption, in turn, depends on relative prices:

$$C_N = N(e)\,Y_d, \qquad C_T = T(e)\,Y_d, \qquad M/P = mY_d. \tag{4}$$

Equations implicit in the T-tables complete the model.[16]

3.2. *Active selective fiscal policy*

The main feature of this model is that while all the typical identities of standard aggregate models hold, it also allows a simple disaggregation of output and demand between those goods which intervene directly in foreign trade and those which are not directly involved.

Consider the diagram depicted in fig. 3. The line LL represents the combinations of changes in government expenditures in non-tradable goods

[14] Explained by a linear 'cash in advance' constraint, which is the simplest way of introducing a transactions demand for money in comparative statics models.

[15] Thus, changes in income distribution do not have aggregate effects.

[16] The stock-flow matching and the proof that behavioral equations are consistent with optimizing agents in the short run are discussed in Marfán (1986a, 1987), along with other formal equations.

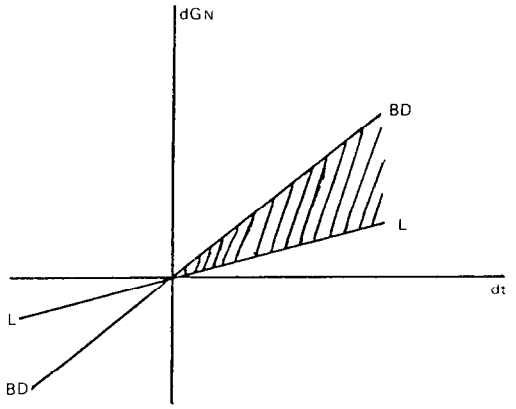


Fig. 3

(G_N) and taxes (t) which would maintain employment unchanged. Any combination located south-east (SE) of *LL* would imply a reduction in employment; any policy combination NW of *LL* would increase employment. Analogously, lines *BB* and *DD* – which overlap in fig. 3 – represent the combinations of changes in the same two policy instruments which would not affect the balance of payments and the fiscal deficit, respectively. Both lines coincide due to the usual conventional explanation.[17] A policy mix located SE of lines *BB* and *DD* in fig. 3 allows an improvement of the balance of payments and a fall in the fiscal deficit.

The shaded area in fig. 3 represents all the combinations which may increase employment (NW of *LL*), and improve the balance of payments (SE of *BB*) and the fiscal deficit (SE of *DD*). The intuition behind this case is the same as the one exhibited by the pure accounting model. A tax increase reduces private demand for the T-good and the N-good without discriminating between them. An increase in G_N on the other hand increases the demand for the N-good relatively by more than what it increases the demand for the T-good. A combination of both policies allows a simultaneous fall in the demand for the T-good and a larger demand for the N-good, as was shown in section C of table 1.

Obviously, the same type of outcome may be achieved by a shift of government expenditures from tradable goods (G_T) to non-tradable goods, or from transfers (T) to non-tradable goods. The combination of taxes and transfers does not generate this type of effects since by assumption neither of

[17] Along the *BB* curve there are no changes in the demand for money. Otherwise there would be a change in private expenditures which would affect the balance of payments. But, if the balance of payments does not change along *BB* nor the demand for money, there cannot be a change in the supply of money, which requires a constant fiscal deficit. Obviously, if the fiscal deficit and the balance of payments remain unchanged with the same policy combination, the curves *BB* and *DD* coincide.

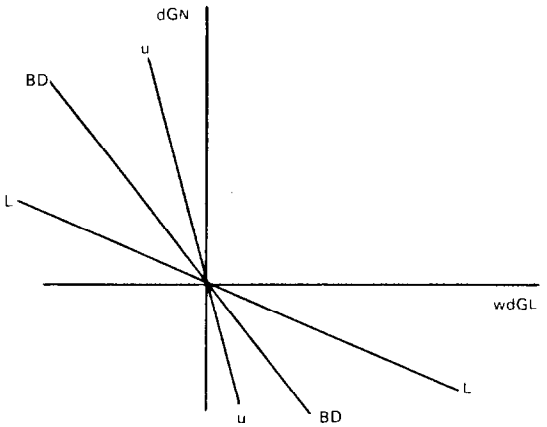


Fig. 4

them has effects on the composition of demand in this model. When combining public employment with other instruments, there are additional effects since a discrimination against employment in the private sector is introduced.

Fig. 4 depicts the effects of combining changes in G_N with changes in public employment (G_L valued at the market wage rate w). Lines *BB* and *DD* have the same interpretation as before;[18] line *LL* represents those combinations which would maintain employment in the private sector unchanged; the *uu* curve represents the points where total employment – private and public – does not change. As long as there are changes in G_L, the *uu* and the *LL* curves do not coincide. A combination in fig. 4 located NE of *uu* and *LL*, and SW of *BB* and *DD* would improve all the target variables. Such a combination, however, does not exist. The problem is that we have two independent instruments (G_N and G_L) to deal with three independent targets (private employment, total employment and fiscal–external deficits). Thus, one target variable should be sacrificed to improve the others or a third policy tool should be added.

Consider the case where figs. 3 and 4 are combined (i.e., we are including a third instrument: t). In fig. 5 a tax increase of s is shown. With such a change in taxes, curves in the (dG_N, wdG_L) space shift as shown in the right-hand side graph of fig. 5. The shaded area represents all those policy combinations allowed by the tax rise which would improve the performance of all the target variables.[19] The rationale is the same as before. The fall in aggregate demand induced by the tax rise – representing all the policy instruments affecting the size but not the composition of expenditures – provides degrees of freedom to set other policy instruments which discriminate in favor of

[18] *BB* and *DD* represent the loci of policy mixes which would not affect *B* or *D*, respectively.
[19] For algebraic details, see Marfán (1986a, 1987).

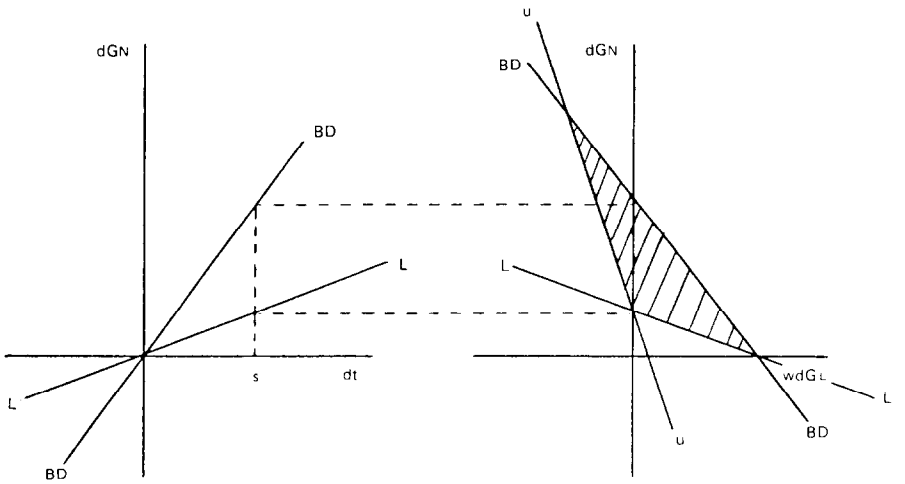


Fig. 5

different target variables. G_N discriminates in favor of domestic goods and G_L in favor of employment, so far.

When different sectors adjust in different ways, as in this model, policy-makers may take advantage of the possibility of distinguishing between policy effects on tradable and non-tradable goods or between effects on public and private employment. By having enough independent policy instruments, public authorities may shift demand towards those goods where output is more sensitive to domestic demand (the N-good in our model) and less intensive in tradable inputs (not considered here).[20]

These conclusions are obviously dependent on the analytical framework used. The main argument, however, goes beyond this specific model. As long as there are enough independent policy instruments, independent target variables displaying a tradeoff in aggregate models may be tackled simultaneously. Aggregate approaches fail to detect the relevant independent

[20] If non-tradable goods are constrained by the size of productive capacity, employment can be increased in the short run through changes in relative prices or shifts in public employment only. An increase in the demand for the N-good in this context may either aggravate the foreign-exchange shortage or induce a demand inflation problem. An increase in public employment would surely raise employment, but, if not accompanied by other policies, it will have undesirable effects on imports and prices. Adverse balance of payments effects may be eliminated if the increase in G_L is financed by a drop in other public expenditures or by a tax increase, rather than by deficit financing; or, alternatively, if there is a concomitant change in relative prices (devaluation or a wage drop). Inflationary (demand inflation only) effects, however, will depend on the policy mix. If the increase in public employment is financed by higher taxes or smaller transfers, inflationary effects may be prevented. If the concomitant policy is a drop in expenditures on tradable goods (G_T) or a devaluation, a higher inflation is inevitable. Finally, if financed by a wage drop or a fall in G_N, the inflationary effect is uncertain.

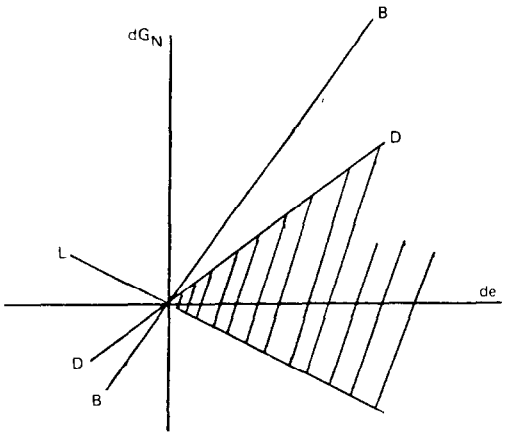


Fig. 6

instruments, since aggregation does not allow to discriminate between different transmission mechanisms.

3.3. *Transfer effects of exchange-rate adjustments*

Typical variables which discriminate between users and suppliers are prices. A real devaluation, for instance, would benefit net suppliers against net users of foreign exchange. Especially relevant should be the beneficial effect on competitiveness affecting output of tradable goods. In fig. 6 we show in terms of our policy diagrams the effects of a devaluation predicted by standard macroeconomic aggregate models. That is to say, a devaluation allows simultaneously a rise in employment, a fall in the fiscal deficit and an improvement in the balance of payments. Perhaps the only heterodox conclusion which can be obtained from fig. 6 is that the relation observed so far between the fiscal deficit and the balance of payments breaks down.[21] In general, any change in prices (wages, exchange rate and inflation in this model) clearly breaks this relation. Notice that this happens in a model where all the usual identities highlighted by aggregate monetary approaches are valid. However, as it is well known, the slope of the curves in fig. 6 depend on the value of price elasticities and on the initial state of the economy.

Changes in relative prices not only alter the marginal conditions for economic decisions, but also shift the level of economic variables. The change in the marginal conditions (allocative effects of price changes) are usually the only ones considered in most approaches. Theoretically, effects on the levels

[21] In spite of the monetary accounting used, when intermediate inputs are introduced into the analysis, the correspondence between the fiscal deficit and balance of payments performance breaks down even in the cases described in figs. 3, 4 and 5. For details, see Marfán (1986a).

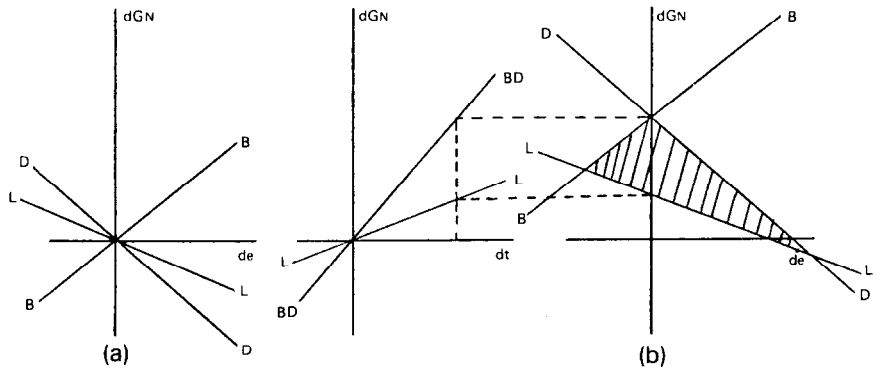


Fig. 7

of the variables (income effects of price changes) may always be overcome by lump-sum transfers. Lump-sum transfers do not exist in reality, however, and its absence may generate situations which are difficult to handle.[22] Consider, for instance, the case of an economy where all the standard assumptions about elasticities are valid, but where the government foreign debt amounts to a 50 percent of GDP, and pays a 10 percent of interest per year. In an economy as this one, a real devaluation of, say, 50 percent would imply a capital loss for the government of 25 percent of GDP of one year, and an instantaneous increase in the standard measure of the government deficit of two percent of GDP. Such an impact may not be balanced by other effects of devaluation.

An important share of the fiscal problems observed in the region seems to have been induced by real devaluations with high fiscal debt denominated in foreign currency. A special case like this one is depicted in fig. 7a.[23] Curves *BB* and *LL* are the same as in the standard case, but *DD* exhibits a negative slope, showing the case where a devaluation worsens the fiscal deficit. As drawn, there is no way in which changes in G_N and e can be combined to improve the performance of all the target variables. If policy makers want to deal mainly with the balance of payments and employment, they would have to increase the domestic financing of the fiscal deficit.[24]

In fig. 7b we have combined this same case with a tax rise. It can be observed that in this case there is room to tackle the three targets simultaneously (shaded area in fig. 7b). The increase in taxes in this case acts

[22] Actual lump-sum transfers take subtle forms such as write-offs of debts, preferential exchange-rates for financial obligations, etc.

[23] In terms of the T-tables described above, fig. 7 represents the case where G_T and f_G are high enough.

[24] The case of the inflation tax is discussed in Marfán (1986a, 1987).

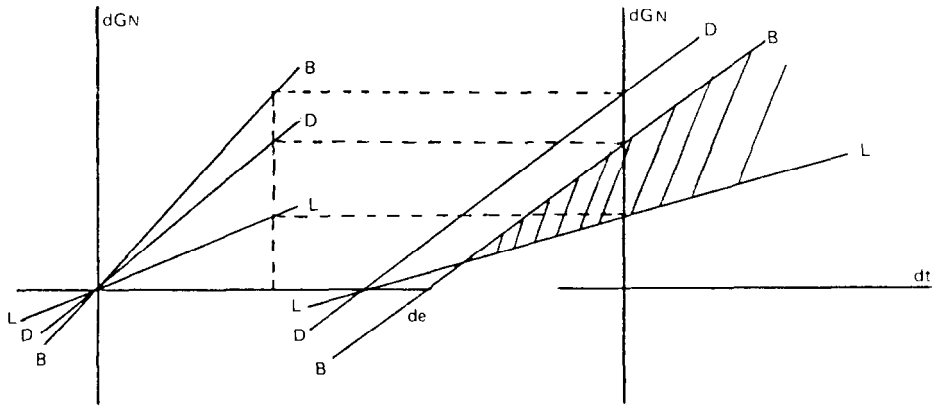


Fig. 8

as the mechanism which reverses the distributive effect of the devaluation. This role could not have been played by a reduction in G_N alone.

Another case is the one where a devaluation improves the fiscal deficit (e.g., when export firms are state-owned or severely taxed). Typically, this is the case of economies exporting non-renewable natural resources. But, it is also the case where the private sector typically displays a foreign exchange deficit and where a devaluation may thus be contractionary. The graph at the left-hand side in fig. 8 represents a special case, where the income effect of a real devaluation actually implies a transfer from the private sector (a net user of foreign exchange or a net buyer of tradable goods) to the public sector (a net supplier of foreign exchange). However, if such an implicit transfer is reversed by means of a tax reduction (especially attractive since the fiscal deficit is not binding after the devaluation process), the degrees of freedom left by the devaluation to handle the balance of payments and employment targets may vanish, as shown by the right-hand side graph in fig. 8.

An appealing feature of this type of reasoning is that it seems to fit with the facts. Actually, the first example seems to represent cases where an evident tradeoff between external and fiscal equilibrium prevails (e.g., Argentina, Brazil). The second case seems closer to those economies which do not exhibit serious fiscal deficit problems (Chile, Venezuela).[25] Notice, however, that the policy recommendation that emerges from aggregate

[25] Although in the Venezuelan case it is not clear that the private sector is a net user of foreign exchange, given the magnitude of the capital flight during the 1970s.

models, regarding the combination of exchange rate and fiscal policies, is the same for both types of countries.

4. Concluding remarks

Standard adjustment approaches emphasize excessively demand-reducing adjustment mechanisms in economies facing external constraints. Neutral policies – as opposed to selective policies – tend to reduce across-the-board aggregate demand components. The outcome tends to be a fall in resource utilization as well as in investment.

As long as the binding restriction is foreign financing, policies that reduce the demand for tradables and foster its supply, together with a non-overkilling reduction in the demand for non-tradables, would ensure a more efficient adjustment.

Exchange-rate policy is the most typical mechanism used to change the composition of expenditure and supply. However, it operates across-the-board within each category of tradable and non-tradable goods. If economies are flexible enough, so that the automatic adjustment of the monetary approach to the balance of payments works efficiently, or if exchange-rate devaluation is a self-sufficient expenditure-switching tool, then selective switching policies would be unnecessary or inconvenient.

The results achieved in Latin America in the eighties provides evidence that there are significant maladjustments in the composition of output and demand. The consequence has been a sizable underutilization of installed capacity and a strong discouragement of investment.

In order to improve the short-run efficiency of adjustment, there are policy proposals that emphasize selective effects, directed to take care of elasticity diversity and different transmission mechanisms. With more selectivity it becomes feasible to make the external balance consistent with a smaller demand reduction and a smaller output reduction.

On purely abstract grounds, the outcome can be improved the larger the space granted to selectivity. However, there are two obvious restrictions. One is a tractability problem in designing and implementing selective policies (too many instruments are more difficult to handle); the other is the long-run implications that short-run policies may have on the allocation of resources that are not fully mobile. Nonetheless, the actual performance of Latin America suggests that there was broad space for selective policies given that the rate of use of resources as well as investment fell substantially.

In this paper a selection has been made of some policy mixes that illustrate their effects on the space for closing maladjustments in the structures of demand and output. The emphasis has been in the short run, since the foreign-exchange shortage is more binding the shorter the term. However, there are three reasons for which care must be taken of the long

term too. First, the prospects are that negative transfers will tend to persist well into the nineties [IMF (1988)]. Second, a policy which is efficient to ease the foreign-exchange shortage in the short-run, may introduce long-run distortions in the allocation of resources. Third, since investment has been curtailed dramatically, consideration should be taken of the effects of relevant policies on investment. The three issues go beyond the scope of this paper.

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