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Fiscal policy and economic adjustment in emerging economies:
what happens after the economic reforms?

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SUMMARY

Fiscal reform in developing countries has succeeded in increasing tax revenue from indirect taxes. Here it is assumed that those taxes will be transferred backwards to wages rather than forward to prices. This implies a certain degree of flexibility of nominal wages, which, however is not so unrealistic in informal sectors. Under these assumptions it is shown how some simple fiscal policies, such as a balanced budget expansion or an adjustment to a shock to the current account, work. The adjustment to a shock to the current account under the rule of balanced budget appears particularly painful under these assumptions.

Introduction

The aim of this work is to discuss how fiscal policy works after economic reforms in developing countries. The economic reforms that have been carried out in many fields in developing countries have changed the environment within which economic policy works. In particular there has been a tendency to lower wages particularly for the low paid jobs. The setting of fiscal policy on the other hand has been affected by the advice of international financial institutions to maintain a sound fiscal policy stance which means avoiding excessive deficits and trying to lower the debt by achieving primary surpluses. These policies notwithstanding many countries have now a higher debt to output ratio than in the preceding decade and also the weight of interest payments on gdp is increasing. This increase in the expenditure for interest payment may have an jtaxes, for the direct taxes are almost insignificant as to contribution to total tax revenue. These taxes in turn are supposed to be mostly paid by the lower income receivers.

The paper is structured as follows. In the first section the main characteristics of the conduct of fiscal policy in developing countries particularly in Latin America are highlighted. The situation of tax revenues and the stance of fiscal policy are exposed. In the following sections instead the effects of particular policy interventions are investigated under particular assumptions on the way the increase in tax revenues works. If the increase in indirect taxes is supposed not to be transferred on prices or only partially to be transferred on prices then the other item on which it may weigh are wages. In fact if indirect taxes increase what usually is assumed is that prices increase . In the last decade however there has been a tendency for inflation to fall so another hypothesis may be plausible: that the increase in indirect taxes is transferred backwards rather than forward on wages. Of course this requires that wages are to some extent

flexible in nominal terms while the usual assumption on that is that nominal wages are not flexible downwards. The empirical evidence relative to the trend in the remunerations of less qualified workers however shows that wages and salaries in those sectors have actually decreased. Thus the assumption that wages may be flexible at least in some sectors may be justified. In particular it has been decided to model the economy as composed of two sectors, the one producing the traded goods and the other one producing the non traded goods. The increase in tax revenues, namely indirect taxes, is supposed to cause a fall to the same extent in the wages which are considered to be more flexible, those of the non traded goods sector. The reason is that in the last sector it is supposed to be located the highest share of informal work. Under these peculiar assumptions the effects of a balanced budget expansion are shown. Moreover it will be dealt with the effects of a fiscal manoeuvre when a shock to the current account occurs which causes an increase in the interest payments on debt. Under the assumption that the country must adjust, that it cannot finance the new expenditure by raising new debt, the resources to meet this shock must be found by increasing tax revenue. This means in turn raising more indirect taxes with the usual negative effect on the wages of the informal sector. In this case the adjustment policy would cause redistribution from low wage workers to foreign investors. Last but not least this may also explain the increase in the wage differential, though only in the short-medium term, I believe.

The plan of the work is as follows. The first section is a short note on the methods to evaluate the effects of reforms on macroeconomic variables such as growth and distribution. The second section draws on some stylized facts on fiscal reform and fiscal policy after reforms using data from Latin America. The third and the fourth sections

show how fiscal policy works under the conditions which reforms have changed; they deal respectively with the effects of a balanced budget expansion and of an adjustment to a shock to the current account under the constraint of a balanced budget.

1 The link between reforms and the effectiveness of economic policy.

Some economists agree that structural reforms may have bad effects on growth and distribution. They often add, however, that these effects are transitory and empirically small if compared with other major causes of   slow growth and unequal distribution. Morley (2001) argues that, though some of the structural reforms, have had bad effects on growth and distribution, their effects are very tiny as to quantity and negligible if compared with other major causes of   inequality. The ways the empirical effects of structural reforms are calculated depend on some indexes of reform which have been built and some indicators of growth and inequality in the distribution of income (see Cornia and Kiiski 2001 , Morley Machado and Pettinato 1999). The factors, which matters more than reforms, according to Morley (2001), are the macroeconomic performance, the structure of labour markets, the inequality in the distribution of land and   inflation.

The empirical scarce relevance of the effects of reforms on inequality may depend on they way they are calculated. The effects of structural policies may not be calculated by simply regressing an index of reform on the rate of growth of output or some inequality index; the reason is that they change the structure of the economy and thus interact with the working of macroeconomic policies. Thus, for instance, the macroeconomic performance may not just be considered as a factor, which is independent from the results of structural reforms. The macroeconomic performance in turn depends heavily

on the way reforms have shaped the economy . To give an example I refer to Badhuri (1998), who writes about the effects of trade liberalization on output. Trade liberalization may destroy that part of the manufacturing sector, which must compete with foreign products that replace domestic goods. This effect may not be simply calculated as a one-shot fall in output, for the fall in output, through the income multiplier, may be much bigger than that. Actually the fall in output must be calculated as the sum of many rounds of repeated decrease in output rather than only the first one (see Badhuri 1998).

To address the question of tax reforms one has to consider that macroeconomic linkages are important. Thus it is not sufficient to recognize, as everyone does, that tax reforms may slightly increase inequality since they increase taxes on consumption and those who consume a bigger part of their income are the poor. I am going to show that the introduction of tax reforms changes the working of fiscal policy if the multiplier depends on the distribution of income. The idea that the multiplier may depend on the distribution of income dates back to the work of Kalecki (see Kalecki 1954, 1971). Moreover the other reforms, which jointly with tax reform have been implemented, may interact with the tax reform is so far as they change some of the parameters in the calculation of multipliers. We consider the case of an open economy. In this case we must take into account that liberalization causes an increase in imports of intermediate goods which are used in the production of final goods. Thus most imports depend on the input-output coefficients of production rather than on aggregate demand and income. We simply assume that imports do not depend on income. In this case an increase in expenditure will be more able to increase output while a cut in expenditure will be more painful. Moreover the increased internationalization of production

increases the outflow of factor income payments abroad making the current account less dependent on income than it was before.

In the next section I will sketch the most important stylized facts of fiscal reform by using data from Latin America.

2 Fiscal policy after fiscal reform in developing countries.

In what follows we give an account of the change in the tools of fiscal policy after economic reforms and in particular on the differences between developed and developing countries as to sources of revenues tax incidence and compliance and cyclical fiscal policy. The data regard Latin American countries though some of these findings are the same in other developing countries too.

In almost all developing countries the main source of revenue are indirect rather direct taxes. There is an increasing trend in tax revenues as can be seen in the next figure.

INSERT FIGURE 1

In the next Graph 2 below we can see that the major item which is responsible for the increase in tax revenue are indirect taxes, the item 'general taxes on goods and services', with a slight reduction in the item 'taxes on international trade and transactions', due probably to trade liberalization measures (for a study on the revenue effects of trade liberalization in developing countries see Ebrill *et al.* 1999) .

INSERT FIGURE 2

The taxes on income consists almost exclusively for most countries of corporate income taxes while the share of taxes on individual income is really negligible. Since the rates on corporate income have been lowered because of the implementation of the fiscal reform it is obvious that their contribution to total tax revenue has not increased in the Nineties.

The increase in the share of tax revenue consisting of indirect tax has been due to the fiscal reform but also to the increase in the ability of the state to collect taxes. In the following table we see that both Vat rates and Vat compliance have increased.

INSERT   TABLE 1

While the major item on the revenue side has been the increase in tax collection stemming from indirect taxes, the major source of new expenditure on the expenditure side of the government balance sheet has been instead the increase in interest payments on debt, most of which is foreign. However even for countries like Brasil, which have increased the share of domestic debt, the indexation of that debt to the foreign interest rate has maintained the dependency on foreign international monetary conditions.

We can see in the next FIGURE 3 that the number of countries in which the ratio of interest payments over gdp is over 3% has increased in the Nineties with respect to the Eighties.

INSERT   FIGURE 3

Even the countries which have succeeded in achieving primary surplus in their accounts have seen their debt stock increase and that even for those countries the required level of primary surplus necessary to stop debt from increasing has indeed increased. Given that the required primary balance depends on the rate of interest on debt, on the rate of growth of the economy and on the previous year debt stock the tendency of the interest rate to rise and the falling rate of growth of output may explain why the required primary balance has increased (see Martner and Tromben (2004) for a calculation of required primary surpluses). On the other hand a policy which pursues the objective of a primary surplus by depressing domestic demand and thus lowering the rate of growth of output will obviously lead to that result (see Kregel 2004).

In the following sections we see how a policy tending to increase revenue at the expense of domestic demand may   affect the working of fiscal multipliers. Under these conditions fiscal expansions may lose their pump-priming function at least to some extent while a fiscal adjustment following a shock to the current account may be particularly painful and affect to a disproportionate measure the lowest incomes. In the next section the case of a balanced budget expansion is taken into consideration.

3 The balanced budget multiplier when the expenditure is financed by indirect taxes.

In most developing economies the share of income taxes is terribly low. The share of corporate taxes on income is higher. So the main effect will be that the tax reform by

lowering the rate will lower the revenue from that tax. In the framework we have depicted the fall in revenue from income tax will be replaced with the increase from the various indirect taxes. If we assume that an increase in indirect tax rates will not rise prices as some economists do (see Pagan *et al.* 2001) then we have to argue that firms will either get lower profit margins or will be able through various arrangements to lower wages. This appears the most probable of the two things. Moreover since firms in the non traded goods sector, being mostly owned by nationals, are supposed to use local inputs and services there will be a fall in the wages of the non traded or informal sector. Assuming a balanced budget expansion, the balanced budget multiplier should be one under normal conditions. If, however, the balanced budget expansion consists of an expenditure whose average propensity to consume is the average propensity to consume of the economy while the additional fiscal revenue comes from only one sector of the economy namely either profits or low wages. We can easily calculate that if the balanced budget expansion is financed by subtracting income to those who spend more, its effect may indeed be less than one. In order to do this we build a very simple model.

We define the variables in the following way:

T = indirect tax revenue

c_t = propensity to consume out of wages in the traded goods sector

c_{wnt} = propensity to consume out of wages in the non traded goods sector

c_p = propensity to consume out of profits.

Both c_{wnt} and c_t are supposed to be higher than c_p.

c_a = weighted average propensity to consume out of all incomes.

I = investment exogenous.

G = public expenditure exogenous.

Y = output

C = consumption

W_t = wages in the traded goods sector

W_{nt} = wages in the nontraded goods sector

P = profits

Prices are supposed to be exogenous both in the traded goods sector and in the non traded goods sector. In the non traded goods sector it is assumed that workers have virtually no bargaining power over their wages given the absence of formal contracts and the widespread use of non registered workers. The entrepreneurs instead are supposed to be able to decide to pay lower wages maintaining their mark-up over costs and letting the prices of the products unchanged by charging backwards to the workers the increase in costs and the taxes. Low paid workers thus would not suffer from the increase in the prices of the goods they purchase but from the reduction in their wages. In fact often the basic goods consumed by the poor such as food are exempted by law from indirect taxes. This however does not help them if their nominal wages fall. It is a well-known fact that the lower wages are the ones which have fallen more with respect to the middle and high wages thus increasing wage differentials. This fact, however, is usually explained by using trade theory, as a by-product of the trade liberalization. So far no work has answered the question whether macroeconomic policies, in particular fiscal policy, matter for the increase in the wage differential .

We assume further that in the traded goods sector workers are mostly formal workers. So they are protected by national contracts and unions. It is thus unlikely that nominal

wages be flexible downwards. Further the firms operating in this sector are for great part either foreign owned or joint ventures between domestic and foreign firms and most of the them exports their products abroad. The increase in indirect taxes would not affect them because most of their intermediate products and services are imported and are purchased through internal subcontractor chains. I doubt whether indirect sales tax are applied to these internal transactions within a firm. Moreover taxes foresee exemptions for exporting firms. Moreover prices are subject to international competition. Thus even if the increase in indirect taxes would affect the costs of those firms the only variable to be adjusted would be the profit margin, which would fall. We just assume as first approximation that firms in the traded goods sector are not affected at all by the increase in indirect tax rates.

The model consists of the following equations:

$$(1) \quad Y = C + I + G$$

which is the usual equation equating output to the aggregate expenditure, consisting of consumption, investment and government expenditure.

The second one is the equation defining consumption as a function of income.

$$(2) \quad C = c(Y)$$

In the third equation the average propensity to consume out of all types of incomes is defined as a weighted average between different propensities to consume: out the wages

in the traded goods sector $c_{wt,}$ out of wages in the non traded goods sector c_{wnt}, out of

profits c_p.

$$(3) \qquad C_a = c_t \frac{W_t}{Y} + c_{wnt} \frac{W_{nt}}{Y} + c_p \frac{P}{Y}$$

The factor shares are defined as follows and are supposed to be constant.

$$\frac{W_t}{Y} = \alpha$$

is the share of wages in the traded goods sector.

$$\frac{W_{NT}}{Y} = \beta$$

is the share of wages in the nontraded goods sector.

$$\frac{P}{Y} = \delta$$

is the share of profits.

Then equation (3) can be rewritten as:

$$(4) \quad C_a = c_t \alpha + c_{wnt} \beta + c_p \delta$$

Equation 5 defines taxes just as indirect taxes, since in these economies the weight of direct taxes in tax revenue is negligible.

$$(5) \quad T = \bar{T}$$

Consumption can be defined as follows:

$$(6) \quad C = c_t W_t + c_{wnt}\left(W_{nt} - \bar{T}\right) + c_p P$$

We subtract taxes only from the wages paid to the non traded goods sector workers for we have assumed that indirect taxes weigh mainly on them.

By further considering that in our hypothetical economy direct taxes do not exist and indirect taxes affect only the wages of the non traded goods sector and are not transferred to prices, we get the following equation for output :

$$(7) \quad Y = c_t W_t + c_{wnt}\left(W_{nt} - \bar{T}\right) + c_p P + I + G$$

We can rewrite equation 7 by using the average propensity to consume out of all incomes defined in equation 3 and we get equation 8:

$$(8) \quad Y = c_a Y - c_{wnt}\bar{T} + I + G$$

By re-arrranging equation 8 we get equation 9:

$$(9) \qquad Y(1 - c_a) = - c_{wnt}\bar{T} + I + G$$

In the following equations 10 and 11 we calculate from equation (9) respectively the effect of a change in state expenditure G on output Y and the effect of a change in the amount of indirect taxes collected on output Y.

$$(10) \qquad \frac{\partial Y}{\partial G} = \frac{1}{1 - c_a}$$

$$(11) \qquad \frac{\partial Y}{\partial \bar{T}} = \frac{- c_{wnt}}{1 - c_a}$$

Assuming that the expenditure will contribute to output growth by $1/1-c_a$ which is the average propensity to consume and that the additional fiscal revenue comes from a tax on the part of incomes which has the highest propensity to consume, then the value of the balanced budget multiplier may fall below 1. In fact, usually, the sum of the income generating effect 1/1-c and of the income subtraction through tax revenue c/1-c gives a value for the multiplier equal to 1. We assumed that the income is split into three sources: traded sector wages, non traded sector wages and profits. Further the expenditure contributes to the growth of income with the average propensity to consume out of total income while the additional tax revenue comes from only one source, the wages in the non traded goods sector. In this case the value of the balanced budget multiplier may be well below 1.

The value of the balanced budget multiplier in this case is:

$$(12) \qquad \frac{1 - c_{wnt}}{1 - c_a}$$

which may be less than 1 for both c_a and c_{wnt} less than 1 and c_a less than c_{wnt} .

Then the multiplier of public expenditure is $1/1 - c_a$ where c_a is the weighted average propensity to consume out of all incomes. If the tax revenue comes only from lower informal wages or self-employment income in the non traded goods sector the subtraction from income, due to this tax, must carry a higher propensity to consume; lower incomes indeed save less than the average of all incomes. In this case the subtraction of income, due to the tax, is higher, because it is calculated at the propensity to consume of lower wages. The result is that the sum of the two items, the income generating effect and the loss in consumption due to the tax, does not equal 1 as in standard textbook presentation of the balanced budget multiplier. It must be clear, however, that this multiplier depends on the distribution of income through the parameter c_a and can only be calculated under the assumption of a given distribution of income (see equation 4 below).

This result   depends on the example chosen, which fits well with what happens in developing countries. Pagan et al. (2001) find that innovations in the Vat rate do not cause higher inflation though they cause an increase in tax revenue. They argue that the increase in tax revenue comes from higher expenditure on the taxed items, which, at

first sight, seems quite strange. They add, however, that the exemptions from taxes for basic goods and services such as food could justify this.

4 The adjustment to a negative shock to the current account.

In this section   we will deal with the case of   the adjustment to a shock to the current account, namely an increase in the item income payments abroad which is supposed to depend on the increase in interest payments on debt abroad. It is further assumed that the country either can't or does not want, in order to pursue a sound fiscal policy and follow the advice of international institutions, raise new debt to finance the new expenditure. Then a shock to the foreign interest rate or an external shock on the cost of external debt (like financial crises in neighbour countries) must   be tackled by increasing revenues if a certain target, either a balanced budget or a small deficit (something like 1% of GDP) must be met.

The alternative is either to cut expenditure or to raise tax. Many studies have pointed out that the most obvious way of cutting expenditure in response to external shocks has been to cut public investment (see Khattry, 2004, Vera 2005). This is true, as confirmed by the data. However, once that public investment has disappeared it cannot be cut any more. The next step will be to increase tax revenues and since income taxes are not easy to collect the item which will be considered is indirect taxes. To maintain the budget at the previous level the taxes must be increased.

Since we have assumed that the major burden of this increase will be borne by the self-employed workers or by the workers in the non traded goods sector an increase in indirect taxes means a corresponding decrease in W_{nt} .   The effect on aggregate demand will be the more relevant the higher is the share of those workers on the total

of wages. We have seen that after liberalization there is an increase in the mixed income share of national product with respect to the pre-liberalization period. The decrease in output that follows depends on the propensity to consume out of this income, which is very high, given the low type of income. The depressive effect on output will depend on the weight of this type of income over the whole national product. In most developing countries mixed income amounts often to something like 60% of output and most of it are wages rather than profits. In particular in Latin America this share is increasing as well as the share of informal workers (see Cimoli, Primi and Pugno 2006). The effect on output should then be relevant.

In order to show this we modify the simple model presented in the last section (section 3) to consider the case of an open economy. We define output in an open economy as the sum of consumption, investment, government expenditure and the current account of the balance of payments:

(13)
$$Y = C + I + G + Ca$$

The current account   Ca is defined as the difference between exports and imports minus the net factor income payments abroad called J .

(14)
$$Ca = Ex - \mathrm{Im} - J$$

In the following equation 15 we define the current account by specifying the variables on which exports and imports depend. Exports are considered as a function of the price of exports while imports are not competitive and depend on technical requirement of

the production of traded goods. They consist mainly of intermediate imports and capital goods. A shock to the current account may consist in an increase either in interest or in other factors income payments abroad. Since imports do not depend upon consumption demand in this equation the derivative of a change in the current account with respect to output is higher than in standard macroeconomic formulations.[1]

$$(15) \qquad Ca = Ex(p_x) + \mathrm{Im}(I) - J$$

P_X = export price exogenous.

J = factor income payments abroad , exogenous.

I = investment, exogenous.

The equation for the current account in macroeconomic models usually consists of exports , imports and other items. Exports are a function of relative prices, which are exogenous, and imports usually depend on income. In the well-known formula for the multiplier in an open economy, imports are considered, in the same way as savings are, as a leakage from the flow of expenditure. In middle income countries, just after trade liberalization has been carried out, the imports of consumer goods sharply increase. However after a while things change a lot. The traded goods sector, after the restructuring required by the trade liberalization, depends more on foreign imports. Thus the imports do not exclusively depend on aggregate demand Y. For Latin America as a whole the imports, which are not linked to consumption demand, now strongly prevail (see Vera 2005 and Eclac 2003). To simplify things we consider both imports and exports as exogenous. The current account will thus be determined by the inflows

and outflows of payments relative to income, such as profits and interest paid abroad or received by domestic residents. The contribution of current account to output is not positive unless exports soar. In conclusion the current account is a function of the foreign interest rate or of the cost of external debt.

If a shock to the current account occurs the increase in state expenditure for interests, must be met by increasing state revenues under the constraint of a balanced budget. The usual way to do this is to increase either the coverage or the rates concerning indirect taxes. The increase in payments abroad has a contractionary effect of the amount $1/1-c_a$. The increase in indirect taxes has a contractionary effect too under the assumption we have made so far.

If we take again the same simple model of the last section and include the current account in the equation for output we get the following equation:

$$(16) \quad Y(1-c_a) = C + I + G - c_{wnt}\overline{T} + Ex(p_x) + \text{Im}(I) - J$$

The effect of a change in the tax revenue on output taken from the same simple model of the last section with the inclusion of the current account is:

$$(17) \qquad \frac{\partial Y}{\partial \overline{T}} = \frac{-c_{wnt}}{1-c_a}$$

The derivative of a change in the variable factor income payments abroad with respect to output is :

$$(18) \qquad \frac{\partial Y}{\partial J} = \frac{-1}{1 - c_a} \quad .$$

The total contractionary effect will be :

$$(19) \qquad \frac{-1 - c_{wnt}}{1 - c_a}$$

This value will presumably be negative if it is assumed that the weighted average of the propensity to consume out of all incomes is less than 1 . This calculation however considers the balanced budget taken *ex ante*, at the initial value of the output. For the shock to the current account actually depresses output, the increase in taxes required to balance the budget may be higher if the ex post output is considered. This means that to abide to the rule of a balanced budget whenever a shock to the current account occurs may be more costly in terms of lost output than the expression above shows (see Bosi 1981).

Many studies (see Khattry 2003, Grunberg 1998, Vera 2005) have argued that the most common type of fiscal adjustment consists of a cut in public investment to face unexpected increases in other items of expenditure. Another type of fiscal adjustment can be carried out. Governments may increase tax revenue to face an unexpected

increase in expenditure deriving by external shocks and thus still maintain the target of a balanced budget. Now we see that the states in emerging economies have successfully increased their revenues by using indirect taxes. On the other hand the very unstable financial climate in the Nineties, with frequent financial crises in other countries, and the rise in international interest rates has made the weight of interest payment over gdp increase. According to the simple model sketched in this section, the most depressive effect from this type of adjustment will be felt in those countries which have both a high level of informal wages and a high level of initial debt . The amount of which it is necessary to increase tax revenue depends on the amount of the increase in interest rate and on the initial level of debt. The depressive effect on output is greater the greater the number of workers in the non traded goods sector.

This analysis could provide an alternative explanation of the negative correlation between international interest rates and either wages or wage inequality, which has been found in some empirical papers (see Behrman *et al*. 2000, Galbraith and Kum 2003). I do not think however that this may be the only cause. I think that macroeconomic policies may matter in explaining recent trends in the wage share and the wage differential as well as other factors such as liberalization policies and technology changes. Unlike other factors they have not yet been considered in academic discussions.

The policies pursued after the fiscal reform may have contributed to the problem of debt sustainability. The sustainability of debt has become problematic because of both falling output growth and rising interest rates abroad. So far we could not deal with the effects of such tax induced wage reductions on growth for we used a simple static model. Now we sketch some possible growth scenario to be derived from the same

assumptions on which the previous model is built upon though we do not develop it analytically.

If the wage earners of the non-traded goods sectors, who are assumed to be informal workers, consume above all the products of their own sector, the demand for those products should fall. If the expansion of the production and sale abroad of traded goods does not compensate for the fall in internal demand the result will be a fall in output growth. Even the expansion of the exports of traded industrial goods will not give such a big impulse to growth for the input-output linkages among sectors have weakened. In this case the only way to increase output would be to increase the exports of primary commodities, whose price is set in international markets and whose demand in turn depends on world's demand conditions.

A high rate of growth of the export oriented traded goods sector appears unlikely after trade liberalization for various reasons (see Ocampo and Taylor,1998). Apart from the possibility of the domestic traded goods sector to compete technologically in world markets there are other problems for this sector. The exchange rate policy carried out as part of the reform package in order to fight inflation often does not help exports. The exchange rate is often overvalued or linked to a strong currency at a very high value. This policy helps also to maintain capital flows going in the country but does not foster growth (see Frenkel and Taylor, 2006).

The prospects of growth in both sectors are thus not very promising. The traded goods industrial sector will be hit by both the international competition and the high exchange rate; the non traded goods sector, though initially in a better condition for is not exposed to international competition, will be hit by domestic restrictive policies such as fiscal policy. A model of how distortionary indirect taxes may affect

investment and growth of the non traded goods sector and cause sudden stops in emerging economies can be found in Calvo (2003).

The low rate of growth will worsen the problem of debt sustainability. The debt to gdp ratio will increase since the denominator of the ratio will fall. As a matter of fact, the high variability of output and the low growth rates have increased the safety margin for public finance. Even if most countries have already managed to have primary surpluses in their budgets, these surpluses are still insufficient to achieve the aim of the reduction of the debt to output ratio. The primary surpluses, needed to ensure debt sustainability, for the average value of output growth registered in the past decades and for current interest rates, are much higher than those achieved so far (see Martner and Tromben 2004). At the same time the ratio of interest expenditure over tax revenue has increased, the primary budget surplus notwithstanding. Thus the balanced budget expansion has not contributed a lot to the growth of output while the rise in interest has become a bigger share of expenditure and the debt to gdp ratio has tended to rise.

Conclusions

This paper has dealt with the conduct of fiscal policy after the economic reforms in developing economies. In particular it argues that the link between reforms, output growth and income distribution may be different from what simple correlations between indexes show. Reforms may affect growth and income distribution by changing the parameters on which policy effectiveness is measured. An example is given by showing how the change in the source of fiscal revenue with a shift from direct to indirect taxes may affect the simple multiplier by changing the distribution of

income. Two cases have been considered: the case of an expansionary fiscal policy at balanced budget, and the adjustment to a foreign interest rate shock under a balanced budget constraint.

Under the assumption that income taxes in practice do not exist and that trade taxes are not empirically very relevant after liberalizations, the only type of taxes which are left are indirect taxes. We assume that in practice they weigh heavily on the wages of the non traded sectors where most jobs are informal jobs. The usual disclaimer that indirect taxes increases do not apply to basic goods consumed by the poor loses its strength if the poor have a lower income to buy the same basic goods. Of course this requires some form of flexibility of nominal wages. Under these structural conditions we have shown that even an expansionary fiscal policy with balanced budget turns out to be not so expansionary. The value of the balanced budget multiplier would be less than 1 if taxes are taken from the lower incomes with the higher propensity to consume.

In the case of an increase in foreign interest rate, which calls for an increase in tax revenue due to the constraint of a balanced budget, the redistribution would happen from lower wages recipients to foreign investors. The fall in output, due to this type of adjustment policy, would be heavy because, to the fall in internal demand caused by the bigger tax revenue it must be added the fall in output caused by the worsening in the current account position; the current account worsens because of the increase in the item interest paid abroad.

Though the object of this paper is not inequality, another explanation of the rising wage differential and of the negative correlation between interest rates and wage shares or wage rates might be found in the working of fiscal policy in a changed environment. There would be no need for trade policy or technology stories; however I think this is

only part of the story, linked to medium term policy, rather than to long term trends. Fiscal policy, rather than contribute to a more equal income distribution, would do just the contrary, to worsen existing inequalities.

References

Badhuri Amit (1998), Implications of globalization for macroeconomic theory and policy in developing countries in Dean Baker Gerald Epstein and Robert Pollin eds. *Globalization and Progressive Economic Policy* pp.149-159. Cambridge, Cambridge University Press .

Behrman J., N. Birdsal and M. Szekely (2000), Economic Reform and Wage Differentials in Latin America, Working Paper Social Sciences Research Network, *mimeo.*

Bosi Paolo (1981), *Teoria della politica fiscale*, Il Mulino Bologna.

Calvo Guillermo (2002), Explaining sudden stops, growth collapse and bop crisis. The case of distortionary output taxes. Paper presented at the *International Monetary Fund Annual Conference 2002.*

Cimoli Mario, Annalisa Primi and Maurizio Pugno (2006), Un modelo de bajo crecimiento: la informalidad como restriccion estructural, *Cepal Review* n.88 pp. 89-107.

Cornia Giovanni Andrea and Sampsa Kiiski, (2001), Trends in income distribution in the post-World War II period: Evidence and interpretation, WIDER Discussion Paper 2001/89, UNU/WIDER: Helsinki.

Ebrill Liam, Janet Stotsky and Reint Gropp (1999), Revenue Implications of Trade Liberalization, *Imf Occasional Paper* n.180 Washington D.C.

ECLAC, 2003, *Panorama de la Insercion International de America Latina y el Caribe*, United Nations , Chile.

Frenkel Roberto and Lance Taylor (2006), Real exchange rate, monetary policy and employment, *UN/DESA Working Paper n.19*, United Nations New York.

Galbraith James and Hyunsub Kum, (2003), Inequality and economic growth: a global View based On Measures of Pay, *Cesifo Economic Papers* vol.49 n.4 pp.527-586.

Grunberg Isabelle, (1998), Double Jeopardy: Globalization, Liberalization and the Fiscal Squeeze, *World Development,* vol.26 n.4, pp.591-605.

Kalecki Michael (1954), *Theory of Economic Dynamics* , London, George Allen.

Kalecki Michael (1971), *Selected Essays on the Dynamics of a Capitalist Economy, 1933-70*, Cambridge, Cambridge University Press.

Khattry Barsha, (2003), "Trade liberalization and the Fiscal Squeeze: Implications for Public Investment", *Development and Change* 34(3) pp.401-424.

Kregel Jan, (2004), Can we create a stable financial environment that ensures net resource transfers to developing countries?, *Journal of Post Keynesian Economics* 26: 4, pp.573-590.

Martner Ricardo and Varinia Tromben (2004), *Tax reforms and fiscal stabilization in Latin America*, Latina American and Caribbean Institute for   Economic and social Planning Santiago de Chile.

Morley S.- R. Machado – S.Pettinato (1999), *Indexes of structural reform in Latin America*, Economic Commission for Latin America and the Caribbean ECLAC, Santiago del Cile.

Morley Samuel (2001), *The Income Distribution problem in Latin America and the Caribbean*, Cepal Eclac Santiago Chile.

Ocampo J.A. and L.Taylor, (1998), Trade liberalization in developing economies: Modest Benefits but Problems with Productivity Growth, Macro prices, and Income Distribution, *Economic Journal* 108 (450) pp. 1523-46.

Pagan Jose', Gokce Soydemir and Jose' Tijerina-Guajardo (2001), The evolution of Vat rates and government tax revenue in Mexico, *Contemporary Economic Policy*, vol.19 n.4 pp.424-433.

Vera Leonardo (2005),   Macroeconomic adjustment under an external and fiscal constraint: a fix/flex price approach, *Metroeconomica* 56:1 pp.126-156.

LATIN AMERICA, CENTRAL GOVERNMENT TAX REVENUES 1980–2001
(Percentage of GDP)
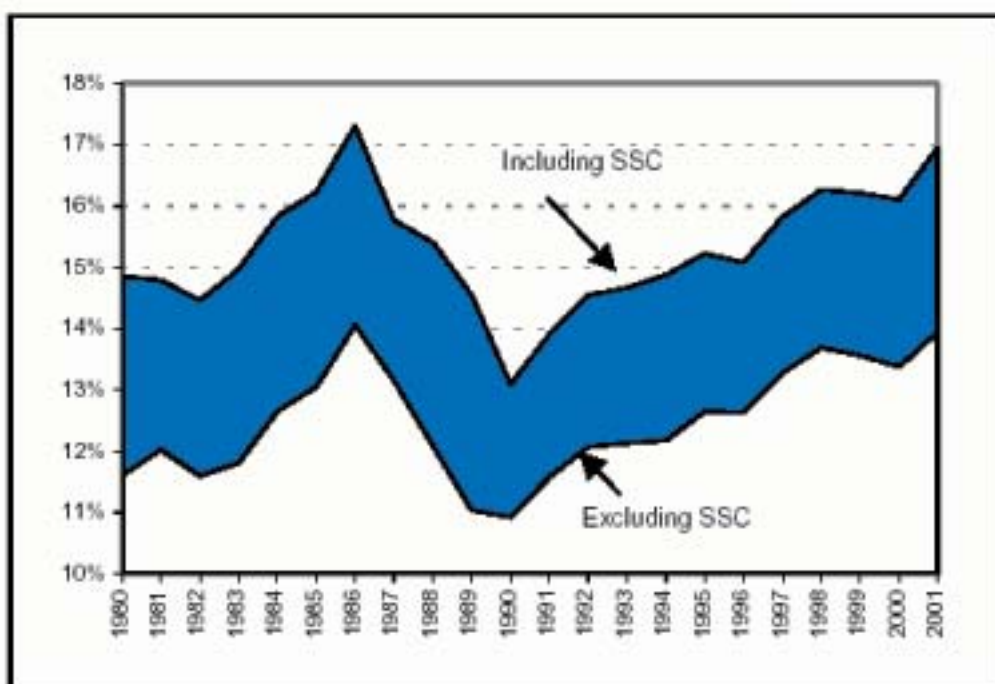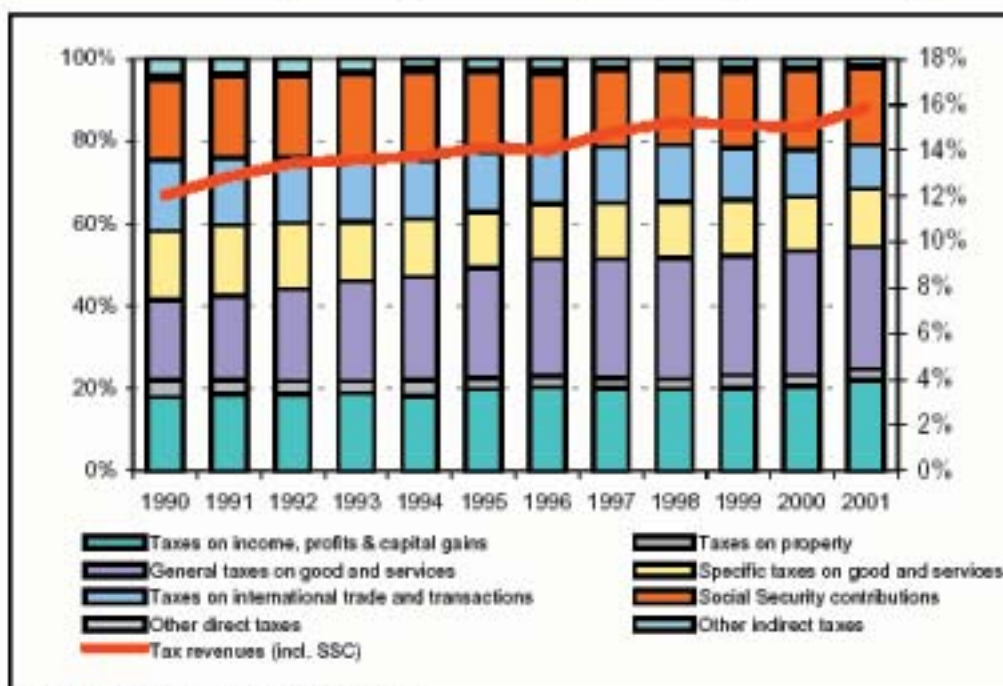
Source: ECLAC, based on official data.

Notes: For the period 1980-1989 there are no data available for Bolivia, Colombia, El Salvador and Nicaragua. Some data for Social Security Contributions (SSC) do not correspond to Central Government coverage.

FIGURE   1

SOURCE: Martner and Tromben (2004)

TAX BURDEN AND COMPOSITION OF TAX REVENUES IN LATIN AMERICA

Simple average, percent of total (left axis) and percent of GDP (right axis)

Source: ECLAC, based on official data.
Notes: In some cases data of social security contributions do not correspond to central government level.
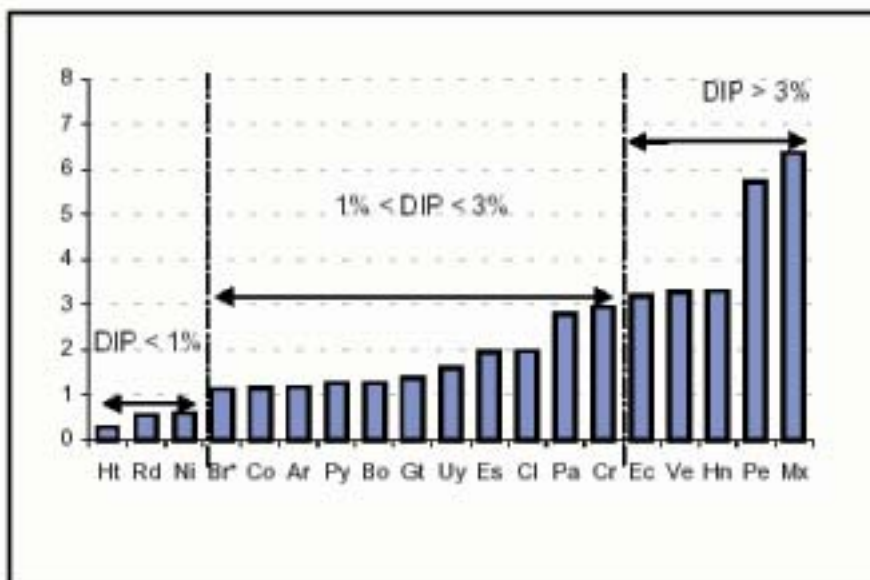
FIGURE 2

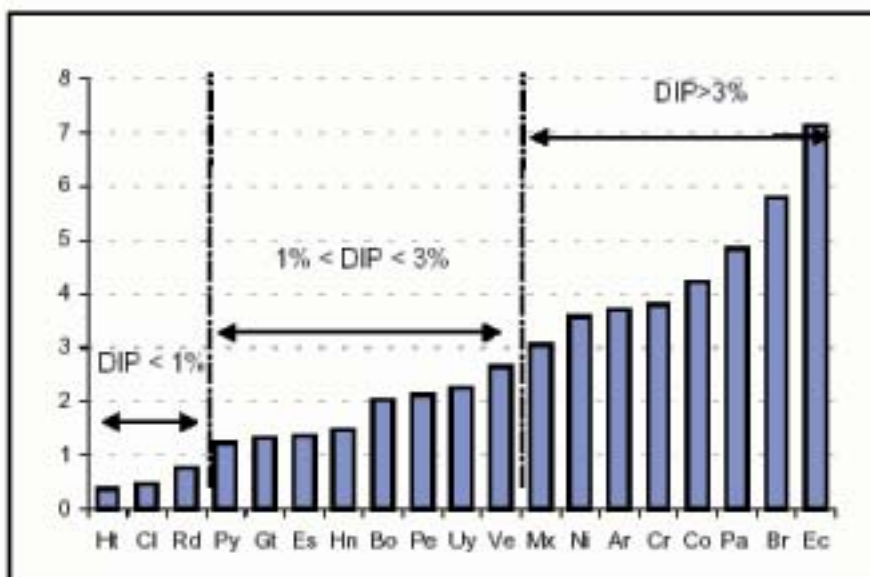Source: Martner and Tromben (2004)

LATIN AMERICA: DEBT INTEREST PAYMENTS

(Percentage of GDP)

A. 1990-1991 Average

B. 2000-2001 Average

Source: ECLAC.

Notes: Institutional coverage: Central Government. DIP means Debt Interest Payments. * 1991.

FIGURE 3

Source: Martner and Tromben (2004)

VAT RATES AND COMPLIANCE

(Percentage)

	Initial year	VAT Rates			VAT compliance				
		1992a/	1994b/	1997c/	2002d/	1992	1994	1997	2001
Argentina e/	1975	18	18	21	21		67.1	60.6	52.4
Bolivia	1973	14.92	14.92	14.92	13	31.5	40.6	50.2	49.3
Brazil e/	1967	20.48	20.48	20.48	20.48	43.3	63.8	57.8	71.0
Colombia	1975	12	14	16	16	46.0	44.4	46.1	39.8
Costa Rica	1975	8	8	15	13	77.5	69.4	47.1	55.6
Chile	1975	18	18	18	18	74.5	71.9	68.9	69.8
Ecuador	1970	10	10	10	12	44.5	49.3	58.6	86.5
El Salvador	1992	10	10	13	13	46.5	56.2	52.6	51.5
Guatemala	1983	7	7	10	12	44.6	43.0	48.2	50.1
Honduras	1976	7	7	7	12	62.6	69.9	83.4	61.9
Mexico	1980	10	10	15	15	37.7	37.9	31.9	34.3
Nicaragua	1975	10	10	15	15	24.7	33.3	26.4	32.3
Panama	1977	5	5	5	5	63.7	69.0	69.7	53.9
Paraguay	1993	10	10	10	10	23.2	45.0	53.7	51.7 f/
Peru	1976	18	18	18	16	27.1	46.4	51.8	50.6 f/
Dominican R.	1983	6	6	8	12	42.5	32.3	46.9	64.5
Uruguay	1972	...	...	...	23	...	...		42.7
Venezuela	1993	...	10	16.5	15.5	...	29.0	39.6	39.8
Average		**11.4**	**11.8**	**13.7**	**14.4**	**46.0**	**51.1**	**52.6**	**53.2**

Source: Tanzi (2000) for rate information of 1992 and 2000, CIAT for rate information of 2002.

Notes: VAT collection corresponds to central government level. VAT compliance is calculated as follows:

$$x = \frac{VATc}{PFC * VATr}$$

, where VATc represents VAT collection; VATr represents VAT rate; and PFC represents Private Final Consumption.

a/ July of 1992. b/ March of 1994. c/ June of 1997. d/ December of 2002. e/ VAT collection correspond to State Governments level. f/ 2000

TaBLE 1

Source : Martner and Tromben (2004)