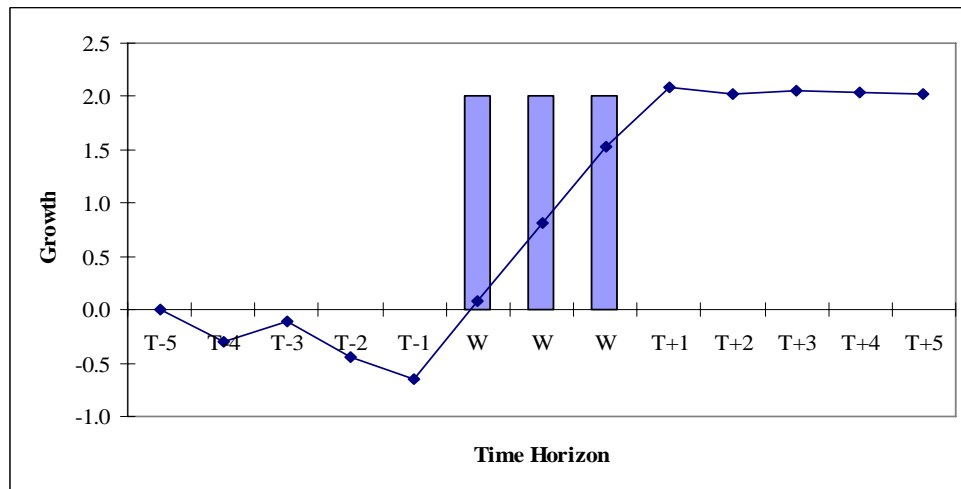


Pro-poor growth

How important is macroeconomic stability?



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I. Introduction

There are three main reasons behind why growth is not pro-poor in a particular country or regional context. Growth may not be pro-poor because to start with there is no growth at all or it is extremely low for it to have a dent on poverty (Kraay, 2003). A second reason is because inequality is high. Even with moderate growth, high inequality will prevent growth from having a significant impact on poverty because of the negative impact that inequality levels have on the growth elasticity of poverty (Ravallion, 2004). The final reason one may consider is because the distribution of income has deteriorated significantly in parallel to the growth process (Bourguignon, 2004).

Against this background there are two main channels through which macroeconomic policies¹ and the associated macroeconomic stability or instability created by those policies² can have an impact on the outcomes of a pro-poor growth strategy. First, macroeconomic policies can affect the first pillar of pro-poor growth mentioned above (i.e. growth).³ Even if macroeconomic stability may not suffice to achieve high rates of economic growth and even if it may not explain the substantial differences in the growth rates experienced by different countries, macroeconomic instability is likely to destroy any chance of growth. For example, between 1982 and 1985, when Bolivia's annual inflation rate was never below 100 percent,⁴ per capita growth averaged -4.3 percent per year. Similarly, when between 1990 and 1995 Zambia's inflation averaged 110, per capita growth declined by 3.5 percent per year on average. These examples suggest that economic chaos will have substantial welfare costs. More formally, Loayza et al. (2002) find that other things equal, both output volatility and inflation –two of the standard variables used to capture the degree of macro stability of an economy- would lead to lower growth.

Second, in addition to having an impact on growth, macroeconomic policies are also likely to have an impact on the distribution of income. Although the empirical literature is not very extensive yet, a number of papers have recently focused on the impact that economic policies have on inequality.⁵ Among others, Easterly and Fisher (2001), Li and Zou (2002), Lundberg and Squire (2003) and Lopez (2004a) find that inflation negatively affects the distribution of income.⁶ Lopez (2004a) also finds that other things being equal, output volatility will increase inequality. One implication that emerges from this discussion is that for a given growth rate, a situation characterized by sustained growth

¹ For a discussion of the different policy alternatives available in the context of a poverty reduction strategy see chapter 12 in “A Sourcebook for Poverty Reduction Strategies” by B. Ames, W. Brown, S. Devarajan, and A. Izquierdo. The whole Source Book can be obtained in:
<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTPRS/0,,contentMDK:20177473~pagePK:148956~piPK:216618~theSitePK:384201,00.html>

² Fatas (2002) presents empirical evidence indicating that macroeconomic policies, especially exchange rate management and monetary policy, have a significant impact on economic stability.

³ See Durlauf and Quah (1999) for a survey of the literature linking macroeconomic policies to growth.

⁴ Bolivia's inflation rate reached 10,000 percent in 1985.

⁵ See Lopez (2004b) for a review of the results emerging from the empirical cross country literature relating economic policies to inequality.

⁶ We have to note here that inflation is one of the few variables where there seems to be more or less consensus on its negative impact on income inequality.

will be preferred over the long-run to a situation characterized by frequent stop-and-go episodes.

Admittedly, most of the empirical evidence cited above to support the relevance of appropriate macroeconomic policies in a pro-poor growth strategy is based on cross-country regression literature, a line of research that has some limitations in this context and that has been the subject of (admittedly sometimes undeserved) intense criticism.⁷ In addition to standard concerns regarding the solutions proposed by this literature to deal with problems like data comparability issues, uncontrolled country heterogeneity, or likely endogeneity of the explanatory variables, there are a number of new issues that have recently been raised.

For example, a recent World Bank report, *The Growth Experience: What have learnt from the 1990s* notes that empirical growth models linking growth to policy reforms seem to have oversold the payoff of macroeconomic stability. In fact, actual growth has been much slower both in the 1980s and 1990s than predicted by cross-country empirical models. Even though macroeconomic policies have been improving in a majority of countries, the growth benefits expected from the adoption of better policies have failed to materialize (or at least to the extent expected by many observers). One possible reason mentioned for this failure is the low share of growth variance explained by the policy variables included in the empirical models (i.e. policies would capture a very small part of the story). In contrast, unexplained time dummies would be sometimes way too relevant.

A second issue emerges from recent work by Easterly (2003) who notes the dramatic impact that extreme observations have on the results produced by cross-country empirical models. Easterly finds that when one excludes a few of these observations it is difficult to find any relationship between macroeconomic policies and growth that is statistically significant. Thus in line with the findings of the *The Growth Experience* report, standard models would have the tendency to exaggerate the gains that one can expect from policy adjustment. We would like to note here that taking Easterly's result (which admittedly is also based on a cross-country regression) at face value would lead one to conclude that countries that are not implementing extreme policies should not expect substantial growth effects from moderate policy changes.

An additional issue is that to a large extent, cross-country empirical growth models do not take into account the possibility of policy complementarity and interaction between different variables (see Gallego and Loayza, 2002, for empirical evidence suggesting the importance of policy complementarity). In practice, policies do tend to come in packages and ignoring these interactions will likely produce misleading results at the country level. In other words, cross-country growth models fail to take into account that it is not only the "quantity" of the policy implemented but also the policy mix what it matters for the final outcome. For example, a country that liberalizes the trade regime but maintains high levels of macroeconomic instability is not likely to experience major gains on the growth

⁷ Although these limitations refer to empirical cross-country growth models, they would also apply to cross-country regression based inequality models.

front. Similarly, one should be modest with respect to the expected gains of macroeconomic stability if the political situation is highly instable and investors cannot anticipate the business environment in which they will operate over the medium and long-run.

Against this background this paper tries to add to the debate linking macroeconomic stability to poverty reduction in five different ways:

First the paper aims at reviewing the empirical evidence emerging from the 14 country case studies undertaken in the context of the Operationalizing Pro-poor Growth (OPPG) program on the linkages between the implementation of macroeconomic policies and macroeconomic stability and between macroeconomic stability and growth. Clearly, exploring at the country level the impact of a given reform⁸ on any variable of interest presents many challenges because there are too many things going on in any economy at a given period of time that may prevent singling out a cause and an effect. For example, an analyst tracking the growth impact that a specific macro policy has on a particular country will observe a complete different outcome depending on say, the state of the international economy or the evolution of country's the terms of trade. Admittedly one could always build a computable general equilibrium (CGE) model for the economy in question and try to filter out the impact of as many shocks as the analyst can identify. However, CGE models are not only costly but also subject to no less criticism than cross country regressions (black box issues, etc).

To address this issue in this paper we adopt a more simple approach. For each country we first identify the dates when the different countries implemented a macroeconomic stabilization package. As noted below, for better or for worse this is hardly an unnoticed event (although admittedly in some countries it is a bit of a challenge to trace down to a single date the country's stabilization efforts). Then we record the changes that take place in a number of economic variables, and exploit the information of the 14 countries using a systematic cross national approach which to a large extent allows us to filter out many of the potential shocks taken place at the country level.

Second the paper tries to assess the magnitude and dynamics in growth resulting from the stabilization processes of the countries under analysis. Also as noted above even though macroeconomic policies have been generally improving at a global level, the growth benefits have been somewhat disappointing (i.e. it is not clear what a policy maker should expect from stabilizing its economy). Also, most of the analyses of the impact of economic reforms on growth focus on long run impacts. However, when one takes into account that the long-run can be indeed very "long",⁹ then the transitional dynamics of the stabilization efforts become a critical element of the analysis. This is especially important in this context because if mismatches between the growth and the inequality dynamics may imply that policy interventions that may lead to a poverty decline in the

⁸ It must be understood that this reference does not apply uniquely to macroeconomic reforms but rather to the whole set of reforms that one may consider at a country level.

⁹ The empirical estimates of the half-life of growth convergence range from 20 to 40 years.

long run have the undesired effect of increasing it in the short run (see Lopez 2004a for cross-country based empirical evidence in this regard).

Third, the paper explores whether there are elements, factors or initial conditions that may help understanding country heterogeneity. In particular, it pays attention to the different outcomes in the 14 country cases following the implementation of a stabilization package. In principle, this is likely to be key if one aims at improving policy making at the country level.

Fourth, given that macroeconomic stabilization may contribute to a temporary contraction of economic activity, it is worth exploring whether the potential costs of stabilizing the economy are distributed equally among everybody or instead concentrate in some groups more than in others. This is especially relevant for low income countries in order to assess the costs and benefits of stabilization, especially if there is an absence of effective safety nets and those hit are the poorer groups in society.

Finally, the paper moves beyond the standard aggregate growth analysis and explores how the three main sectors of the economy (agriculture, industry, and services) react to economic reforms. The main reason is that if the growth benefits of a particular intervention are not distributed homogenously among the different sectors and there is limited sectoral mobility (either because of physical or skill constraints) then some groups may result excluded from the growth process. Thus, this is a key and often overlooked element needed to have an understanding of the impact of economic reforms on the poor.

To anticipate some of the results below, the main findings of the paper are the following.

- Macroeconomic policies seem to have had a significant effect on macroeconomic stability as measured by the inflation rate and output volatility. Following the implementation of a policy package, the full adjustment (at least on the growth front) would take place in the short period of 2 to 3 years. During this transition, however, output volatility increases in a majority of countries.
- Macroeconomic stability appears as a key determinant of growth. Although not surprisingly there is substantial country variation, we estimate that for a typical country, macroeconomic instability may result in a growth rate that is 2 percentage points lower than it would be with a stable macroeconomic framework.
- There is a strong negative relationship between the gains from stabilization efforts and the deviations of each country's initial growth rate with respect to its regional peers. In other words, the countries that have gained the most from stabilizing the economy are those that were initially underperforming their regional peers dramatically. In countries that were not initially underperforming with respect to their regional peers, we basically estimate no gain. To some extent this result would be in line with Earterly (2003) who argues that there is an asymmetry

between the process of destroying and creating growth. When countries pursue policies leading to high inflation, chronically high budget deficits, etc they are likely to have very low growth outcomes. Fixing those destructive policies (i.e. macroeconomic adjustment) will likely result in significant growth gains. However, once these gains have taken place moving beyond that point (i.e. achieving a higher steady state growth) may require additional elements on which unfortunately this paper does not offer many new insights.¹⁰

- On the inequality front, we find that over the short-run economic stabilization would left inequality unchanged or contribute to its decline. This finding would be somewhat at odds with the popular view that stabilization contributes to increases in inequality. In this regard, although we have to admit that we do not have very hard evidence to back one hypothesis over another, our conjecture is that the sharp declines in the inflation rate following the implementation of a stabilization package are likely to balance and in some cases overwhelm those components in the reform program that may potentially contribute to increases in inequality. Over the long-run, both lower inflation and lower output volatility (estimated to decline by one-third) would contribute to lower inequality.
- Finally, we also find that different economic sectors (agriculture, industry and services) react differently to the stabilization efforts. In particular, while there is a positive reaction from the nonagricultural sector, the agricultural sector seems to be non-responsive. This finding¹¹ when considered in a context of limited sectoral mobility among the population appears as a key element to understand the evolution of income inequality.

The rest of the paper is organized as follows. Section II introduces the 14 countries used in the analysis. Section III explores the dates when the different countries in the 14-country undertook a stabilization effort and analyzes the impact of the reforms on macro stability. Section IV presents the results of the episodic analysis for the impact of the reforms on growth. In Section V we check the robustness of the results in the previous section to departures from the basic specification. Specifically we assess four things: (i) whether there are common factors affecting the results; (ii) whether changes in the considered time horizon affect the results; (iii) whether the sub sample of low income countries behaves in a similar fashion or instead there are important differences; (iv) whether other factors beyond macro stabilization, such as trade, may have played a significant role explaining the growth transition; and (v) whether the dates selected for the episodic analysis coincide with a structural break (in a statistical sense). Section VI pays attention to inequality in two different ways. First, by exploring the short run evolution of the available gini coefficients. Second by analyzing the response to the reforms of the different sectors (agriculture, industry and services). Finally, Section VII closes with some concluding remarks.

¹⁰ See Rodrik (2004) for an excellent coverage of growth strategies.

¹¹ See Lopez (2004c) for an analysis of the impact that sectoral growth rates inequality may have on income inequality.

II. Country cases and the global context¹²

One typical concern that is usually mentioned in the context of country case studies based exercises is that unless the selected countries are broadly representative of the global economy the lessons emerging from the analysis may be too country specific and therefore have limited transferability. In this section we introduce the 14 countries used in the empirical sections below and explore whether the growth and inequality trends (i.e. the trends of the basic pro-poor growth pillars) observed in the selected sample are broadly aligned with those observed at a global level.

Specifically the 14 countries on which we focus are: Bangladesh, Bolivia, Brazil, Burkina Faso, El Salvador, Ghana, India, Indonesia, Romania, Senegal, Tunisia, Uganda, Vietnam, and Zambia. This is a very heterogeneous group in terms of size, and levels of development. For example, this group of countries includes Zambia with a GDP per capita in 2003 of (PPP) US\$883 at one extreme and Brazil with US\$7,767 at the other; El Salvador with a population of about 6 million, and India with more than 1 billion; Bolivia with a density of less than 10 inhabitants per square kilometer, and Bangladesh with almost 1,000. In Tunisia the life expectancy is more than 70 years while in Zambia is well below 40. Primary schooling is almost universal in Tunisia and Brazil, but there is still a long way to go in Burkina where net enrollment is 35 percent and Senegal where it is below 60 percent.

Their economic structures and recent economic performance are also very different. Countries like Bolivia have experienced a decline in per capita GDP over the past five years, whereas countries like India and Vietnam have experienced per capita growth rates of 4 and 5.3 percent respectively. On these two countries, India's trade volume (30 percent of GDP) would be one of the lowest in the group whereas Vietnam's (115 percent of GDP) would be at the very top. There are countries like Brazil where the agricultural sector represents less than 6 percent of GDP and countries like Ghana where agriculture is close to 40 percent. In Romania there are about 200 telephone lines per 100 people while in Burkina there are about 5. Tunisia has almost 80 percent of its roads paved, and Uganda less than 10 percent.

We next review the main patterns of growth and inequality trends in these countries and in the global context.

Growth Trends. A dramatic recovery in the 1990s

Figure 1 plots median per capita growth rates for low- and middle-income countries since the early 1960s up to 2003.¹³ Inspection of this figure suggests three very different episodes in terms of growth outcomes over the last 40 years. First from the early 1960s to the late 1970s, global growth rates in low- and middle-income countries hovered around

¹² This section partly builds on Cord and Lopez (2004).

¹³ Figure 1 was constructed as follows. First, for each year we compute the median growth rate for all the countries for which the WDI reports data. Then we apply a three year backward moving average filter to smooth the series.

2.5 percent per year. This growth rate, when maintained on a sustained basis, would suffice to double per capita income levels every 30 years. Then the late 1970s and early 1980s witnessed a dramatic decline in growth and between the early 1980s and early 1990s (when growth start recovering again at a global level), per capita incomes increased by about .8 percent per year, a growth rate that would require about 90 years to double a country's per capita income.

The third episode would be characterized by an initial strong recovery in global growth rates during the first half of the 1990s: after being negative in both 1991 and 1992, per capita growth increased to about 2 percent in the second half of the 1990s and early 2000s. Although this growth rate is lower than the 2.5 percent achieved in the 1960s and 1970s it is still high by any standard and would suffice to double per capita income levels every 35 years, and for a typical country, to reduce poverty by around 75 percent over the same period.¹⁴ Moreover, not only growth has recovery to high levels (at least by historical standards) but also the country dispersion has been falling over the 1990s (i.e. more countries are clustered around the global level now than they were in the early 1990s). In fact the standard deviation of country growth rates in the early 1990s was between 8.5 and 9, and in the early 2000s is only 4.4, the lowest dispersion observed over the past 40 years.

Figure 2 focuses on the sample of 14 countries and plots the median per capita growth rates from the early 1970s to the 2000s. The figure indicates that there is a significant parallelism between the evolution of growth in the sample of countries under analysis and the global trends: the 1970s and 1980s are characterized by a decline in growth rates and the 1990s by a significant recovery to growth rates of between 2 and 2.5 percent. As for output volatility, our sample also displays a significant decline in the dispersion of growth rates. The cross country standard deviation of per capita growth rates in the early 1990s was slightly above 4 and in early 2000s is down to about 2.

Thus both the trends and the magnitudes of the changes would indicate that the 14 country sample is able to capture the essence of the global trends: a recovery in growth rates in the 1990s of a 2 percentage points, and a halving in the dispersion of growth rates around the mean over the decade.

Inequality Trends. Quo vadis inequality?

The second area of comparison between the selected sample and the global trends regards inequality. Here we focus both on the observed inequality levels (on a regional basis) and on the recent evolution of these levels. We would like to note, however, that given the differences in data sources used to compute inequality indices in different countries (i.e. whether the original data is income or expenditure based, whether income is net of transfers and taxes or gross income, whether the unit of analysis refers to an individual or household, etc), there are a number of difficulties that one has to face when making cross-country comparisons of inequality levels.

¹⁴ Cord and Lopez (2004) explore whether the recovery of the 1990s has taken place across income boundaries and conclude that there are no major differences between low and middle income countries.

For example, it is well known that expenditure based data tends to show less dispersion than income based data (i.e. standard inequality indices will be lower when computed on the basis of expenditure based data). Similarly, gross income data tends to show more dispersion than net income data. To somewhat mitigate these methodological differences we first adjusted the data¹⁵ used to capture the global picture.

Figure 3 presents "adjusted" regional gini coefficients for the 1980s and 1990s. Inspection of this figure suggests a number of issues. First, the region with the highest level of inequality is Sub-Saharan Africa (an average adjusted gini of 49.8). It would be followed very closely by Latin America (a regional adjusted gini of 49). These results are in contrast to those reported in the recent World Bank's Latin America and the Caribbean Region Flagship *Inequality in Latin America, Breaking with History*. In that report, on the basis of "unadjusted" gini coefficients, the Latin America and the Caribbean region appears as the one with the highest inequality.¹⁶ In any case, well behind Sub Saharan Africa and Latin America one can find East Asia, South Asia and the Middle East and North Africa (adjusted gini coefficients of around .37) and Eastern Europe with an adjusted gini of .32.¹⁷

Figure 3 can be also used to assess the evolution of inequality over the 1980s and 1990s. It shows that apart from the Middle East, inequality has increased in all the regions of the world. In some cases like in Africa, East Asia and especially in Eastern Europe the increases in inequality have been quite dramatic (in Eastern Europe the adjusted gini coefficient increased by 10 percentage points). Given that these figures are computed using an unbalanced panel, one could argue that they may be capturing more a country effect than a time effect. However even when one judges on the basis of within country changes a pattern of increased inequality appears over the 1980s and more dramatically over 1990s (figure 4).

Turning now the attention to our sample of countries, figure 5 tries to replicate the information in figure 3 for the 1990s. Two clarifications are in order. First the reported data refer to the last available observation and the data is reported unadjusted. Second, since the groups are very small (the Middle East and North Africa and the Eastern Europe groups only include one country) the comparison has to be done very carefully. But even with these caveats in mind, it is apparent that the regional characteristics of inequality are also embedded in our sample with the representatives for Africa and Latin America

¹⁵ The original data we use comes from Dollar and Kraay (2003) and the adjustment procedure is similar to the one done by those authors in their paper (see table 2 of Dollar and Kraay (2003)). We, however, restrict the sample used to estimate the adjustment coefficients to the 1990s. The reported figures would correspond to an after taxes and transfers income based gini coefficient.

¹⁶ The main reason for this contrast is that most of the African countries have expenditure based surveys, whereas in Latin America income based surveys are more popular.

¹⁷ Just to give an idea of the impact of inequality on poverty reduction, the results of Ravallion (2004) would suggest that if the regional inequality levels in the previous paragraph remained constant, in Eastern Europe a 1 percent growth rate would have an impact on poverty that is about 40 percent larger than in Sub-Saharan Africa. Thus in addition to being the region with the highest poverty levels, Sub-Saharan Africa is also the region with the lowest sensitivity of poverty to growth.

having the highest levels of inequality and the representative for Eastern Europe having the lowest.

This increase in inequality over the 1990s is also apparent when one looks at the experience in the 14 country cases. As it emerges from figure 6, the median gini coefficient in the early 1990s for our sample of countries was about .36 whereas in the late 1990s it increased to .42 (a substantial 16 percent increase). The median of the annualized within country changes in the gini coefficient would suggest a smaller increase in inequality (about .2 percent per year on average), but still this would imply that inequality has increased over the decade. Thus again the dynamics of inequality, at least those observed during the 1990s, seem to be well captured by the sample under analysis.

Growth vs. inequality. Is there a trade off?

A final issue we want to cover in this section regards the joint evolution of growth and inequality. In this area, a number of papers (among others Deininger and Squire (1996), Chen and Ravallion (1997), Easterly (1999) and Dollar and Kraay (2003)) have consistently found that changes in income and changes in inequality are unrelated. However, to a large extent these papers did not control for potential changes in this relationship over time. Figures 7 and 8 plot changes in (logged) gini coefficients against growth rates for the 1980s and 1990s. It is apparent from these figures that whereas in the 1980s the relationship between growth and inequality was negative (although not significant) during the 1990s this relationship seems to have turned positive (and significant). A rule of thumb would suggest that every one percent increase in GDP (i.e. growth) would be associated with a .55 percent increase in the gini coefficient. Even without entering into a discussion of whether growth causes (changes in) inequality or (changes in) inequality cause growth, one has to conclude there is evidence indicating that during the 1990s, growth has been accompanied by increasing inequality.

As for the sample under analysis, Figure 9 presents the scatter-plot of the changes in (logged) gini indices against growth for the 1990s suggesting also a clear and significant positive relationship between inequality and growth. The dates used in each data spell vary and determined by data availability. Table 1 reports the initial and final date for each spell together with the growth and inequality outcomes. At the extremes of the NE quadrant one can find Vietnam (the fastest growing country in our sample but also the one that has experienced the more marked increase in inequality) and Uganda (the third fastest growing country in our sample and the second in terms of increases in inequality). At the other extreme of the regression line (SW quadrant), one can find Zambia and Indonesia the two countries with the worse growth record but with the best performance in terms of inequality. Coincidentally the slope of the regression line is also .55. That is, the country cases not only are able to capture essence of the relationship in figure 9 but also they do it with the same slope.

Table 1. Growth and inequality in the 14 country cases.

	Initial Year	Final Year	Inequality 1/ 2/	Growth 2/
Bangladesh	1989	2000	0.89	2.98
Bolivia	1989	2002	-0.14	1.17
Brazil	1989	2001	-0.55	0.55
Burkina Faso	1994	2003	-0.48	2.25
El Salvador	1991	2000	0.22	2.54
Ghana	1992	1999	0.75	1.63
India	1993	2000	0.00	4.35
Indonesia	1996	2002	-1.45	-0.81
Romania	1996	2002	-1.11	0.20
Senegal	1995	2002	0.43	1.95
Tunisia	1990	2000	0.25	3.03
Uganda	1992	2002	1.78	3.34
Vietnam	1993	2002	2.35	5.70
Zambia	1991	1998	-2.65	-2.26

1/ Percent change. 2/ On an annual basis

It is clear that understanding the forces at work on this front has to be a priority in a study focusing on pro-poor growth. This not only because as a result one could potentially design interventions aimed at increasing the effectiveness of growth for poverty reduction but also because of prevailing high levels of inequality in some of regions would call for a significant decline in inequality in parallel to growth rather than for an additional deterioration.

III. Economic reforms and macroeconomic stability

Macroeconomic stability exists when key economic relationships are in balance: for example between fiscal revenues and expenditure, domestic demand and output, saving and investment, the balance of payments, etc. In principle, there is no unique threshold that can be used to distinguish between stability and instability for each macroeconomic variable, but rather a continuum of combinations that together can indicate whether there is macroeconomic stability or instability. This would suggest that in order to analyze the potential impact of macroeconomic stability on growth one has to address a number of issues including which variables to look at and how to assess improvements on the stability front. We address these issues as follows.

First, on how to assess the transition from instability to stability, it is worth noting that in most cases, addressing instability will require policy adjustment (i.e. a change in policy targets). Adjustment will be necessary if the source of instability is a permanent external shock or the result of previous inappropriate macroeconomic policies. In most circumstances where adjustment is necessary, both monetary (and/or exchange rate) and fiscal instruments will have to be used. For example, successful adjustment to a permanent unfavorable shock that worsens the external prospects will require a sustained tightening of the fiscal stance as this is the most immediate and effective way to reduce

domestic demand and hence increase domestic savings (two objectives at the center of stabilization programs). Similarly, the adjustment to a domestic disequilibrium created by having followed unsustainable fiscal policies in the past (which in practice can emerge as a high inflation episode if the deficit has been monetized) will also require consolidation on the revenue or public spending fronts (or both). In turn, countries in need of macroeconomic adjustment typically have little choice but to stabilize quickly because of binding financing constraints. All in all, the combinations of these factors (changes in policy targets together with need to act quickly) make macroeconomic stabilization an event that can be typically identified in a country context.

The second issue in this context is how one measures the degree of macroeconomic instability in a given period in time. As noted above this is a vast area, but practitioners have typically focused on two variables. The first one is the lack of price stability as measured by the inflation rate which in addition to capture the quality of fiscal and monetary policies in a country is correlated with other measures of poor macroeconomic policies, such as the fiscal deficit or the black market premium (in both cases the correlation is about .25). The second variable used in applied work is the volatility of output. This variable (which is also correlated with standard macroeconomic policies and especially with the fiscal stance and exchange rate management) would take into account that in countries with fix exchange rates and therefore with a limited role for an independent monetary policy, instability is likely to surface on the real rather than on the monetary side of the economy.

Against this background and in line with the discussion of the previous paragraphs this section explores two main issues for the 14 countries in the OPPG project. The first relates to whether we can identify a particular period where the different countries undertook and stabilization effort. The second assess the impact of such efforts on macroeconomic stability as measured by the inflation rate and output volatility. This second element is enriched by also paying attention to the evolution of two variables that are extremely sensitive to macroeconomic stability such as the investment rate and the foreign direct investment rate.

III. 1. Macroeconomic stabilization and dates of reform

Despite the heterogeneity presented by the group of 14 countries in our sample, there is an element that they have in common. Over the past 20 years they have all implemented a significant economic reform package aimed at stabilizing their economies. Clearly, it might be possible to argue that the different packages are too heterogeneous to be comparable. We would like to make two comments in this regard. First, given the different circumstances of the different countries, that heterogeneity should not be a problem provided that the common objective of the different packages is the achievement of macroeconomic stability. For example, a country like India that in 1991 was facing a balance of payments crisis but had inflation at levels below 10 percent per year will require a different set of interventions than a country like Bolivia where the monetization of unsustainable fiscal imbalances had pushed inflation to above 4000 percent per year in 1988.

The second comment we have to make regards the fact that even if there are a number of differences in the nature and extent of the reforms implemented by the different countries (specially on the liberalization, regulatory changes, and privatization fronts) in all the cases the reform packages included two components: a set of policy interventions aimed at achieving macroeconomic stability and another set aimed at increasing the outward orientation of the economies.¹⁸

Table 2. Dates of economic reform

Country	Year	Event
Bangladesh	1987	Structural Adjustment Facility Agreement
Bolivia	1988	Enhanced Structural Adjustment Facility Agreement
Brazil	1994	Real Plan
Burkina Faso	1993	Enhanced Structural Adjustment Facility Agreement
El Salvador	1991	Peace Agreements and subsequent adjustment.
Ghana	1983	Launching of the Economic Recovery Program
India	1991	Launching of Stabilization Plan and Stand By Agreement
Indonesia	1998	Economic and Financial Reform and Restructuring Program
Romania	1994	Stand-By Agreement
Senegal	1985	Second stabilization Plan
Tunisia	1986	Stand By Agreement
Uganda	1987	Launching of the Economic Recovery Program
Vietnam	1986	Doi Moi reforms
Zambia	1991	Fourth Structural Adjustment Program

On these grounds Table 2 reports -for each country under analysis- the dates identified as critical in the implementation of an economic reform package. The table also indicates an event that can be used to put the different dates in the respective country historical context. In most of the cases, the historical review of the country cases suggest a clear date for the reform. For example, in the cases of Ghana and Uganda, 1983 and 1987 respectively seem critical dates. These years coincide with the launching of each country's respective Economic Recovery Programs. Similarly, in the case of Vietnam, the Doi Moi process (1986) that recognized the essential roles of macroeconomic management and outward orientation in the development process appears as a clear candidate (see Box 1); or in the case of India the launching of the stabilization plan in 1991 (when the country faced a severe balance of payments crisis that brought India to brink of an international default). In addition to the mentioned countries this would also

¹⁸ It would be possible to argue that one limitation of this analysis is that we cannot disentangle the impact of macro stabilization from the impact of the trade reforms. However, there is a certain amount of inference that can be done through a careful analysis of the transitional dynamics of some standard economic indicators.

apply to Bangladesh (SAF Agreement in 1987), Bolivia (ESAF Agreement with the IMF in 1988), El Salvador (Peace Agreements in 1991), Indonesia (the adoption of the Economic and Financial Reform and Restructuring Program in 1998), Romania (Stand by Agreement of 1994), Senegal (Second Stabilization Plan in 1985), and Tunisia (Stand by Agreement in 1986).

Box 1. Vietnam's doi moi reforms.

After having experienced an inflation rate of more than 700 percent in 1986, and fluctuations in rice production in the mid 90s led to a situation of near famine making rice imports necessary despite the lack of foreign exchange reserves Vietnam acknowledge the necessity of comprehensive macroeconomic reforms. The Sixth Congress of the Communist Party approved a comprehensive reform agenda under the name of doi moi (renovation). Doi moi recognized the essential role of a multi-ownership structure and brought discipline to macroeconomic management. The rationing system for many commodities was eliminated in 1987 and many prices adjusted to free market pricing.

The reform program adopted also included the devaluation of the currency, a fiscal package comprising a tighter fiscal balance achieved in part through lower subsidies and a restructuring of the tax base, and an encouragement of the private sector. The package showed immediate results with the inflation rate dropping to 35 percent and the growth rate climbing to 8 percent in 1989. Vietnam's control of inflation was one of the most important pro-poor achievements. The failure during most of the 1980s to establish macroeconomic stability coincided with declining GDP growth when inflation rates were highest. Real incomes of workers in industry and of government employees fell significantly, and even in the agricultural sector farm families experienced pressure on their net income since official price adjustments lagged behind inflation and compulsory deliveries rose to a level of 80 percent of output. Moreover, prices for basic food like rice, which have a particular influence of the real income of the poor, came under pressure.

Source: Bonschab and Klump (2004)

Admittedly, the selection of a date is not so clear-cut for all countries and in three cases the choice was a bit more complex: Brazil, Burkina Faso and Zambia. In Brazil the problem we faced was that there are differences in the timing of implementation of the various reforms. For example, Brazil undertook the Collor plan in 1991 which despite being considered a failed attempt at achieving macroeconomic stabilization have some successes especially on the external and privatization fronts. In 1994, the country witnessed the introduction of the Real plan with managed to stabilize the economy. Thus there are two potential dates that one could use in this context. In this particular case we have sided towards the date where the macro stabilization took place.

In Burkina Faso instead the problem appeared because the formal and the actual start of the reform process do not coincide. For example, even though Burkina formally embarked on a reform program in particular date (1991) the reform program was brought to a complete halt as a result of the first presidential and legislative elections in late 1991 and early 1992. In this case we have sided with the date indicating when the reform was actually implemented.

However, the most significant challenge was to select a single date in a country like Zambia where multiple (failed) attempts have been made at stabilizing the economy, and where even the most successful attempts may not have been fully successful (see Box 2).

In this case we have chosen the date that in our view most accurately reflects the start of credible economic reform program.

Box 2. Zambia's experience with reforms.

The fast growth that Zambia has enjoyed in the late 1960s ended when world copper prices fell sharply in the early 1970s. The government interpret this decline as being of temporary nature and borrowed heavily to smooth the situation. As problems mounted the government chose to adopt regulatory policies. Subsidies and fixed consumer prices protected urban consumption, while the mining sector and state-owned manufacturing were favored through import-licensing and foreign exchange allocation. By 1980 subsidies comprised 20 percent of the fiscal budget, while price controls made many state enterprises unprofitable and in need of cross-subsidization. In 1983 the government attempted to introduce a program aimed at correcting price distortions by deregulating interest rates and consumer prices, reducing tariffs, and undertaking privatization and public sector reforms. Agricultural producer prices were also raised to encourage agricultural growth. However, the relaxation of exchange controls led to a substantial depreciation, an increase in inflation, and growing opposition to the reform process. Although the reforms recognized the need for diversification they were conditioned on the support of the ruling elite. Food riots in 1986 threatened mining revenues and undermined political support. The government responded by backtracking on reforms.

In 1987 the government announced a new set of interventions, thereby signaling the abandonment of market-based reform and a partial return to a command-style economy. Both the exchange and interest rates were fixed, price controls were reintroduced for selected commodities, and a ceiling was placed on debt servicing. While the latter initially lowered the budget deficit, the combination of agricultural price controls and a better-than-expected crop in 1988 led to a severe shortfall on the government account. Food coupons were issued in 1989 in an attempt to lessen the burden of subsidies. However, the accumulation of external debt quickened and many donors withdrew during this interventionist period.

1989 witnessed another attempt at liberalizing the economy . The previously abandoned exchange and trade liberalization was re-introduced, and fiscal and monetary policies were tightened. Furthermore, the government again proposed privatization and public sector reform. The program, however, failed to achieve its objectives when, in the run-up to the 1991 elections, the government back-tracked in order to win political support. Maize and fertilizer reforms were halted, and the government increased the money supply to cover civil service wage-increases. Many donors withdrew support due to the government's lack of commitment to the reform process.

In 1991 the Kaunda government lost the elections to Frederick Chiluba's who run on a platform of liberal economic reforms and the promise of more transparent and accountable governance. Immediately the new administration embarked in a reform program covering macroeconomic stabilization, public sector reform, external liberalization, market-based agricultural reforms, and the privatization of state assets. Although GDP growth remained low at 0.2 percent throughout the 1990s, recent sustained growth suggests that the economy might have shifted to a higher growth path.

Source: Thurlow and Wobst (2004)

Given the key role played by the selected dates in our analysis, below we explore in more detail their adequacy. But to gain some comfort regarding the potential impact that small differences between the actual implementation date and those identified above may have in our analysis we allow for a 3 year implementation window (with starting year the one in table 2). This choice is likely to facilitate the cross-country comparison between the pre- and the post-reform periods, each consisting of 5 years. The selected time horizons have, however, the undesired result of eliminating two countries from the sample. One is Vietnam, a country for which our data start in 1986 and therefore for which we do not have a "before" reference. The other is Indonesia, where we would have data for only

three years "after" the 3 year window and could create some problems in the dynamic analysis. In what follows we drop these two countries and base our analysis on the remaining 12.

III. 2 Stabilization episodes and macroeconomic stability

Once we have identified dates of economic reform, the first question to address is whether the reforms in question had a positive impact on the economic outlook of the different countries. In this regard, table 3 reports the values of inflation and output volatility (as measured by the standard deviation of the current and previous 2 years output growth rates) before the reforms, during the 3 year window, and after the reforms for the 12 country sample. Judging from the median of the group, table 3 suggests that annual inflation declines dramatically between the pre and post reform periods (from about 37 percent to about 10 percent). These gains, however, hide substantial country differences. Among the countries where the initial inflation rate is low (say below 10 percent per year on average), the gains are quite limited and in some cases inflation even increases slightly. For example, in Burkina Faso and Senegal (both CFA countries) inflation before the reforms is about 1 percent and after the reforms it increases to approximately 6 and 2 percent respectively. Similarly, India's inflation rate in the 5-year period before 1991 and in the 5 years period after 1993 was about the same (around 8 percent). On the other hand, among the countries where initial inflation is high one can observe substantial gains associated to the reform process. In some cases, like in Brazil and Bolivia the gains are very significant. In some other cases, like in Romania the gains are more modest but still in the 15 percentage range. The only exception to the above categories is Zambia, a country that posts an inflation rate of 60 percent both in the before and in the after period.

Table 3. Inflation and output volatility

	Inflation			Volatility			Stability
	Before 1/	During 2/	After 3/	Before 1/	During 2/	After 3/	Index
Bangladesh	10.99	9.28	5.11	1.38	0.8	1.27	-0.05
Bolivia	2864.23	39.38	12.36	1.94	1.9	1.25	-1.66
Brazil	1212.13	1316.84	12.84	3.16	2.43	1.5	-1.54
Burkina	1.13	3.82	5.78	4.81	3.85	2.48	-0.59
El Salvador	19.32	14.28	8.57	1.39	1.81	1.61	0.02
Ghana	55.26	65.76	33.82	5.67	4.2	2.08	-1.01
India	8.13	10.90	8.43	1.73	2.61	1.44	-0.07
Romania	83.62	131.92	67.15	3.32	4.87	4.03	0.14
Senegal	0.90	10.26	1.89	2.35	2.56	0.67	-0.44
Tunisia	10.23	5.60	6.05	2.7	3.92	2.95	0.05
Uganda	79.08	159.25	55.63	2.35	2.92	1.53	-0.28
Zambia	60.28	116.26	60.23	2	2.13	6.14	1.08
Median	37.29	26.83	10.47	2.35	2.59	1.57	-.18

1/ Average during the 5 years before. 2/ Average during the 3-year window. 3/ Average during the 5 years after.

Figure 10 plots the dynamic evolution of inflation¹⁹ starting five years before the reforms are implemented and ending 5 years after implementation. Consistently with the discussion above figure 10 reveals a decline in inflation that now is even more dramatic because of the upward tendency before the implementation of the reforms. In fact, inflation now falls from close to 50 percent per year in the immediate pre reform period to slightly above 10 percent per year in the post reform period. Moreover, the adjustment takes place extremely fast with most of the declines taking place in one single year. In the aftermath of the reforms, inflation seems to continue falling but now much more modestly to about 7-10 percent.

Box 3. Inflation inequality and poverty

Changes in prices are usually assumed to affect all people in the same way. But differences in spending patterns across households and differences in the price changes of particular goods will result in different effective levels of inflation for individuals. For example, according to a recent paper Hobijn and Lagakos (2003) the cost of living increases affecting the elderly in the United States over the period 1987-2001 were generally different than the cost of living increase captured in the consumer price index. The issue seems to have gone beyond an academic debate and a current proposal in the U.S. House of Representatives (H.R.2035, 2001) would require the Bureau of Labor Statistics to produce a different consumer price index for the elderly. Among our 14 country sample there are two cases where the issue of inflation inequality appears very clearly: Burkina Faso and El Salvador.

In Burkina (see Grim and Gunther, 2004) the problem is apparent when one compares the evolution of the price indices of two of the principal food items consumed by the poor, millet and sorghum. Between 1994 and 2003 these two items increased by about 80 and 90 percent respectively. Over the same period in the cpi increased by a comparatively low 30 percent. Thus the inflation differential with respect to the cpi was about 50 percent (playing against the poor).

Instead over the 1995-02 period inflation inequality seems to have played in favor of the Salvadoran poor. (see Marques, 2004). While the inflation rate affecting the basket of goods (mainly food items) underlying the poverty line was about 12 percent, the cpi based inflation rate was 28 percent. Thus the inflation differential with respect to the cpi was 16 percent (playing in favor of the poor).

It is not difficult to prove that a 1 percent inflation differential paying against (in favor) the poor affect the poverty headcount in the same way that a decline (increase) in the growth rate by 1 percent. Put in other words the impact that inflation inequality may have on poverty can be as large, if not larger, than the impact of growth.

As noted above an alternative and complementary way to look at the impact of the reform process on macroeconomic stability is by focusing on the evolution of output volatility.²⁰ Table 3 indicates that also on this front, the reform programs seem to have had positive effect, with output volatility falling in all but 4 of countries between the before and the after reforms periods. The countries where volatility does not fall are El Salvador, Romania, Tunisia and Zambia. Zambia is the more dramatic case, with the standard deviation of output increasing from 2 to more than 6. Among the countries where it falls,

¹⁹ The plotted series is the median value of the respective variable for the 12 country sample. The data are shown in transition time so that W corresponds to the 3 year window, T-1, is the first year before the reform, T+1 is the first year after the window, and so on.

²⁰ For example, countries with rigid exchange rate regimes may have lower inflation rates but in some cases at the cost of higher output volatility.

the cases of Ghana and Senegal are noteworthy with the standard deviation of output declining by about two-thirds. Taking now a cross national perspective and judging from the median, we would estimate that in parallel to the reform process output volatility is cut by about one-third (from about 2.3 in the pre-reform period to 1.6 in the after reform period). Figure 11 plots the transitional dynamics revealing a small increase in output volatility in the second year of the reform and then a steady decline to levels well below those in the pre reform period.

Table 3 also reports an index that combines the gains on the inflation and on the output volatility fronts.²¹ Negative values of this index would indicate progress on the stability front and positive numbers a deterioration. The index would suggest that the countries that made the most progress on the stability front between the after and the before reform period are Bolivia, Brazil, Burkina, and Senegal. Tunisia, and El Salvador would basically report no progress (even if the countries experience gains on the inflation front, they also experience an increase a comparable increase in the volatility of output). On a less positive vein, Zambia would have record an increase in economic instability. But overall, with a median value of -0.18 it would indicate significant progress. Just to put this number in context, the index capturing the progress made by Uganda (one of the model countries on this front) would be very similar (-0.28).

A second approach to explore whether the reform process was associated to improvements on the macro stability front is by tracking the evolution of variables, like investment or foreign direct investment, that although do not measure macroeconomic stability per se are extremely sensitive to it. Figure 12 shows that investment (as a share of GDP) also tends to react positively to the economic reforms. The comparison of the 5 years before the stabilization with the 5 years after the 3 year window suggests that investment rates increased by almost 2 percentage points. Romania is an exception here posting a decline in investment from about 30 percent of GDP to about 20 percent of GDP. A second exception is Zambia, that also experiences a decline in investment but starting from a level (15 percent of GDP) that is about half the Romanian. In figure 13 we explore the evolution of foreign direct investment (FDI), which for many countries - especially the poorer- is one of the few means to have access to technology. Inspection of this figure suggests a dramatic increase in FDI in the "after" period. In fact, while median FDI is basically non existent before the macroeconomic stabilization (about .25 percent of GDP), it increases to almost 1.5 percent of GDP at the end of the after period. It is worth noting that FDI increases but with some lags with respect to the implementation of the stabilization package, something that could suggest that foreigners take some time to assess the sustainability of the reforms before getting involved through FDI.

²¹ The index has been constructed as follows. First, for each country it computes the gains on the inflation front as $\log(1+\text{inflation/after}) - \log(1+\text{inflation/before})$, and then normalizes the term by the cross country standard deviation. Second, it computes the gains on the output volatility front as the difference in volatility between the after and the before period normalized by the cross country standard deviation of volatility. Then the index is constructed by averaging these two elements.

Table 4. Investment and FDI (% of GDP)

	Investment			FDI		
	Before 1/	During 2/	After 3/	Before 1/	During 2/	After 3/
Bangladesh	16.74	16.35	17.19	0.02	0.01	0.02
Bolivia	16.34	13.14	15.15	1.10	0.28	1.68
Brazil	21.37	21.40	21.12	0.38	0.63	3.62
Burkina	18.51	19.12	24.35	0.10	0.33	0.52
El Salvador	12.89	16.10	17.96	0.41	0.29	0.80
Ghana	6.41	5.10	10.68	0.22	0.18	0.13
India	23.16	22.94	23.19	0.05	0.08	0.50
Romania	29.69	26.45	20.06	0.15	0.84	2.98
Senegal	12.99	16.56	18.91	0.37	0.83	2.08
Tunisia	32.29	24.35	29.87	2.42	0.84	1.83
Uganda	7.81	9.72	13.98	0.00	0.00	0.40
Zambia	15.08	13.03	13.24	2.80	3.55	4.00
Median	16.54	16.45	18.44	0.30	0.31	1.24

1/ Average during the 5 years before. 2/ Average during the 3-year window. 3/ Average during the 5 years after.

Moving to examine investment and FDI at the country level, table 4 reports the investment and FDI rates before, during and after the stabilization for each of the countries under analysis. It is interesting to note that apart from Zambia (where as noted above the stabilization process did not have much of an impact and if any was associated with more macroeconomic stability) in all the countries where the initial investment rate was below 15 percent of GDP the stabilization process resulted in higher investment. This is the case of El Salvador where investment raised from 13 to 18 percent of GDP, Ghana (6 to 11 percent), Senegal (13 to 19 percent), and Uganda (8 to 14 percent). Instead, countries that started with extremely high rates of investment like Romania (30 percent of GDP) or Tunisia (33 percent of GDP), experienced slight declines in investment. In between these two groups, with the exception of Burkina (where investment raised from about 18 percent of GDP to about 25 percent), investment remains constant.

As for the evolution of FDI, table 4 indicates that apart from Tunisia and Ghana, FDI increased in all the countries under analysis and in some cases dramatically. For example, In Brazil and Romania (two of the richer countries in the sample) FDI increased by about 3 percentage points to 3.6 percent of GDP in Brazil and to almost 3 percentage in Romania. In Senegal, the increase is smaller (1.6 percentage points) but FDI would be 4 times larger in the after period than in the before period. It must be noted that despite the lack of a successful stabilization, FDI also increased in Zambia from 2.8 percent to 4 percent over the period under analysis.

All in all, the results of the preceding analysis would indicate that overall the stabilization packages implemented by our 12-country sample had a positive impact on macroeconomic stability. This conclusion is reached regardless of whether one looks at

variables that try to directly capture the degree of macro stability, like inflation or output volatility, or to variables that seem to crucially depend on that stability, like investment and FDI. The only exception in the group is Zambia, a country where the reform program of 1991 seem to have had no impact at all on macroeconomic instability (although admittedly FDI increased).

IV. Stability and growth

Once we have establish the association between the dates of reform in table 2 and improvements on the macroeconomic stability front, we now explore the evolution of per capita growth. Table 5 reports for each of the countries under analysis the average per capita growth rate before, during, and after the respective 3-year window. Table 3 also presents the difference between the after and the before period.

Table 5. Growth

	Before 1/	During 2/	After 3/	Diff 4/
Bangladesh	1.02	0.72	2.14	1.12
Bolivia	-3.75	0.38	1.59	5.34
Brazil	-1.13	2.74	0.84	1.97
Burkina	0.37	0.90	1.87	1.50
El Salvador	0.33	2.94	2.92	2.58
Ghana	-1.93	-4.50	1.98	3.91
India	3.86	2.00	4.61	0.75
Romania	-5.94	3.05	-0.76	5.17
Senegal	-1.06	-0.26	2.44	3.50
Tunisia	1.23	0.20	2.61	1.38
Uganda	-1.75	0.93	2.86	4.60
Zambia	-1.04	-2.74	-2.16	-1.12
Median	-1.09	0.81	2.06	2.28
s.d.	2.51	2.26	1.78	

1/ Average during the 5 years before stabilization. 2/ Average during the 3 years of stabilization. 3/ Average during the 5 years after stabilization. 4/ Difference in growth rates: After-Before

Inspection of table 5 indicates that the growth rate in the "after" reform period is higher²² than in the "before" period in all but one country –Zambia- (see Box 4). Moreover, in the after period there are only 2 countries that report a negative per capita growth rate Romania, and Zambia (against 7 in the before period). The comparison of the median increase in growth for the 12 country sample between the before and after periods reveals

²² It must be noted however that if we compare the 3 year window with the before reform period growth decelerates in almost half of the countries under consideration (5) and in some cases significantly. The most dramatic cases are those of Ghana and Zambia where per capita growth averaged -4.5 and -2.7 percent respectively over the 3 year reform window. In Bangladesh, India and Tunisia, there is also a deceleration (from 1 percent to .7, 3.9 percent to 2 percent, and 1.2 percent to .2 percent) but per capita growth remains positive overall. Thus in a number of cases, the adjustment process seems to have brought some additional pain.

that stabilization programs have been relatively successful and that for a typical country it could have contributed about 2.3 percentage points to per capita growth rates. It is also noteworthy that the standard deviation of the growth rates in table 4 also falls significantly. In other words, not only the level of growth increases but also the dispersion of the individual countries around the mean decline.

Figure 14 presents the same results but paying attention to the dynamics of the process. It suggests that the recovery in growth rates start in the first year of the reform process with most of the adjustment taking place in about 2 years.

Box 4. Reforms and outcomes in Zambia

Immediately after the 1991 elections won by the Movement for Democratic Change, the Chiluba administration embarked in an economic reform program aimed at correcting both external and internal imbalances. Some of the main achievements of that reform program are the following:

Macroeconomic stability. Between 1990-1993 inflation averaged 127 percent. The exchange rate was depreciating rapidly, and real interest rates were negative. The government attempts to establish macroeconomic stability were finally rewarded in 1995 when inflation leveled at around 25 percent, a rate that would be maintained into the next decade.

Public sector reform. In 1993 the government introduced a cash budget system as part of the public sector reform which limited the financing of current expenditures to existing revenues. Although the compliance with the new system has been mixed, this had the effect of countering past tendencies towards deficit financing and inflationary monetary expansion. Also, while in 1990 over three-quarter of formal GDP was generated by state-owned enterprises (SOE) by 1997 80 percent of SOE have been sold or dissolved.

External liberalization. In the early 1990s Zambia undertook an extensive rationalization of the external sector in parallel to a reduction of trade protection. By 1996, the government removed all quantitative restrictions and licenses and reduced the number of applied tariff rates, making Zambia one of the most open economies in Africa.

Liberalization of agriculture. One key component of the economic reform package was the liberalization of agricultural markets. Prior to 1991 maize production had been favored through pan territorial pricing, input and marketing assistance, and food subsidies in urban areas. Even though the severe draughts of the early 1990 halted temporarily the reform process, by 1995 the reforms were completed.

However, despite a more stable macroeconomic environment, increased private sector participation in the economy, a more liberal environment, and a relatively open trade regime, growth failed to pick up for most of the decade. Some reasons can be put forward to explain this outcome. Among them the fact that sustained investment growth failed to materialize until after 1998, which in part was due to political uncertainty. For example, the Chiluba administration banned Kaunda from running for office in 1995 and in 1997 there was an attempted coup d'état. Another possible (and likely complementary) explanation is offered by Winters (2000) who analyses the negative impact of agricultural reforms. Pan territorial pricing had the effect of subsidizing remote farmers by those close to the line of rail. In addition the whole agricultural sector was subsidized by mining. These reforms together with a parallel sharp deterioration in public infrastructure have a dramatic effect on remote farmers for whom functioning markets have largely disappeared. As for the impact on farmers close to the line of rail it was also probably negative as the subsidies from mining probably exceeded the tax in favor of remote areas.

Source: Thurlow and Wobst (2004)

Clearly, there is the possibility that the results of the previous analysis are driven by a common factor unrelated to the reforms. Although in principle, the fact that different countries start the reform process in different years does not make this possibility very likely, this is an issue that requires some attention. Figure 15 replicates the previous analysis but now expressing each country growth rates in deviations from its respective regional peers.²³ Basically, the idea is that by removing from the growth rates the regional trends, the potential for common factors will be eliminated. Inspection of this figure suggests that the basic message emerging from the previous analysis is still valid: starting well below the respective comparison group, the median growth recovers to achieve levels above the respective regional comparators. In this case, however, there is a second country for which the after performance is worse than the before performance – Burkina Faso (Box 5).

Box 5. Economic reform and external shocks in Burkina

Burkina Faso approached the international community searching for support for a reform program shortly after the new government was formed in 1987. Following a lengthy dialogue, the Government formally embarked on a reform program in 1991. However, this coincided with the political transition to a representative democracy, bringing the reform program to a complete halt during the first presidential and legislative elections in late 1991 and early 1992. Given that Burkina is a member of the CFA zone, initial reforms centered around internal measures, like the establishment of the VAT, a labor code reform and the implementation of substantial trade reforms that consolidated tariff rates into three categories. Price controls on locally produced goods, with the exception of rice, were eliminated and regulations on profit margins for imported goods were removed.

However, Burkina has been subjected to a number of external shocks that may have affected the performance of the economy. Among those it is worth mentioning the following. In January 1994, the member countries of the CFA zone jointly decided to change the parity of the CFA franc to the French franc from 50 to 100. The resulting effect on aggregate growth was without doubt significantly positive. In particular, exports of cotton increased after the devaluation given the gain in competitiveness. However, the impact of the devaluation on other export products was rather small. Investments picked up after the devaluation in parallel with decreasing maximum lending rates on commercial bank credits. Inflation increased thirty-fold in the aftermath of the devaluation but it was again very quickly under control and remains until today at relatively moderate levels.

World market price for cotton. After a favorable development following the devaluation, the world market price for cotton fell in 1998 and 1999 by 16 and 15 percent respectively. In 2000 the price recovered, before falling again in 2001 and 2002 by 16 and 9 percent respectively. Retrospectively seen, the Burkinabè economy tackled this unfavorable trend of world cotton prices relatively well, but world cotton prices significantly affected the country's economic performance.

Given that almost 40 percent of total value added is generated in the primary sector, climatic conditions are crucial for economic performance. As a Saharan, landlocked country, with very limited rainfall, the country suffers from recurrent droughts. During the last ten years, the most important ones occurred in 1997 and 2000 when agricultural value added declined by 4 and 6 percent respectively.

Source: Grim and Gunther (2004)

²³ Strictly speaking for each country and time period we subtract from the per capita growth rate the median per capita growth rate of the region where the country is located.

Can one conclude from this analysis that the achievement of fast sustained growth is not that much difficult? Unfortunately, the answer to this question is somewhat mixed. On the one hand the evidence reported here suggests that macro stability is key to achieve economic growth and that progress on that front may have significantly contributed to the recovery of the 1990s. Moreover, countries that made the most progress on the stabilization front (like for example Bolivia) have typically enjoyed significant gains from stabilization, whereas countries that had made the least progress (for example Zambia) have benefited the least.

But on the hand it is important to have the following two elements in mind. First, the observed recovery in growth rates in our sample of countries has taken place in a situation characterized by initial underperformance. In fact, figure 15 suggest that the 12 country sample was initially below regional trends. Although admittedly they seem to have achieved growth rates slightly above their regional peers in the after period, the observed gains are just enough to close the negative initial gap with respect the regional trends. Thus rather than macroeconomic reforms contributing to growth it seems that initial macro mismanagement was having significant costs for these countries.

The second element to have in mind is that the observed gains are not distributed homogenously across the countries. Figure 16 plots the scatter of the gains between the after and before period against the growth rate in the before period for the data in deviations from regional trends. There is one striking features in this figure: a clear negative relationship between the gains derived from the economic reforms and growth rate before the start of the reforms. In other words, countries that gained much from the reforms are the countries that were performing the worse initially.²⁴

For example, the difference in the Ugandan growth rate before and after the reforms of 1987 is about 8 percentage points, but one has to take into account that Uganda was at the start of the reform process 5 points below the regional trend. Similarly, Bolivia's growth rate accelerated by more than 3.5 percentage points between the period before the reforms of 1988 and the period after those reforms. But Bolivia was also below the regional trend before 1988 by about 3.6 percentage points. On the other extreme, Tunisia and India are two countries that were performing above its respective regional trend before they started implementing their reform packages of 1986 and 1991 (by about 1 and 1.25 percentage points respectively). In fact, for these two countries, the differences in the growth rate between the after and the before period were .09 and .29 percentage points.

How do we interpret these results? Easterly (2003) notes that it may be worth distinguishing between destroying growth as a different process to creating it. For example, if we take the normal state of the world as one characterized by growth, then countries implementing destructive macro policies will likely experience growth rates well below their potential. Thus in those cases, improving the macroeconomic framework

²⁴ We have also explored whether in addition to the initial growth rate, there are other variables like education levels, institutional arrangements, etc that are correlated with the observed growth rate changes between the before reform and the after reform period without any success.

will enhance growth and revert it to potential. But once that a country reaches potential, further accelerating growth rates is likely to require interventions that go beyond standard macro policies. Unfortunately, our analysis does not allow us to uncover which these policies are.

IV. Robustness checks

The results of the previous section suggests that the cost of macro instability can be significant. Just to put it in a poverty context, a deceleration in growth rates of 2 percentage points for a typical country could imply that after 10 years a country would end with a poverty rate that is about 25 percent higher than what it would have been in a context of macroeconomic stability.²⁵ However, there are several aspects of the previous analysis that may affect the results we obtain and therefore that require additional attention. In this regard, this section explores how 4 deviations from the basic specification affect the main conclusions reached so far.

The first robustness check we perform is a variation of the analysis in figure 14 where rather than expressing growth rates in deviations from regional trends we use a single global trend. Thus this exercise further tests the possible existence of a common factor driving the results. The second robustness check explores whether extending the "after" period to cover 10 rather than 5 years has any impact on the results. This would check that what we are observing is not the result of honeymoon effect lasting about 5 years. The third check regards the sample. Given the level of heterogeneity in the 12 countries we are analyzing we explore whether by focusing in a 7 country sub-sample (the IDA block) affects our conclusions. The fourth check explores whether other factors, like increasing outward orientation, may be the driving force behind the observed results. The final check we perform addresses the selected dates for the analysis and assesses whether our ad-hoc choice of reform dates is coherent with the data on a country by country basis.

Global trends.

The first deviation with respect to the basic previous specification is a change in the variable used to capture global trends. Figure 17 presents the results of an exercise where we have de-trended the growth rates in our 12 country sample using a single common global trend. The results would still confirm our findings above that the economic reforms have had a dramatic positive impact on growth. However, whereas the results in figure 15 do not suggest a gain above regional trends in the after reform period the results in figure 17 suggest some gains with respect to the global trend (about 1 percent).

Extended horizon.

The second deviation to the basic specification is computing the results for a 10 horizon after the 3 year window. A word of caution has to be put here because the 10 year sample is not balanced. This could imply that the reported results capture a country effect rather

²⁵ This would be the median poverty increase in our sample when we use the empirical gross growth elasticities of poverty.

than a time effect. More specifically, the results for T+10 are based on only 7 countries. With these caveats in mind, figure 18 plots the growth transitions (in deviation from the respective regional trends) for the extended period. Inspection of this figure would not suggest any reversion after the 5 year.

One could argue that on close examination this does not hold for all countries in the sample and that in some cases (for example Bolivia) the evolution over the long run is not so positive. In fact, inspection of figure 19 which plots the Bolivian growth experience (in deviations from regional trends would support this view). Although there is a dramatic recovery to the regional trend during the reform period and the Bolivia's growth rate hovers around that level for about 9 years, eventually the country starts falling behind once again. However, as it emerges from Box 6, rather than weaken the case made above it reinforces the need for an appropriate macroeconomic management specially when facing negative external shocks.

Box 6. Bolivia's ups and downs.

As many other countries in the region, Bolivia pursued a state-led import-substitution regime until the 1980s, which was largely financed through the export of raw materials. The first democratic government under Siles-Zuazo (1982-85) faced a very difficult internal (drought, social unrest) and external environment (debt crisis, global recession and collapse in tin prices in 1985) and was unable to stabilize the country but instead allowed a hyperinflation to develop which led to a collapse of the government in 1985. Victor Paz Estenssoro took over and first undertook a strict stabilization plan, which ended hyperinflation and brought back internal and external stability. In addition, to macroeconomic adjustment the Paz Estenssoro government designed and began implementation of a Nueva Política Económica, which included a wide range of structural reforms.

In several dimensions, Bolivia's reforms produced positive outcomes. Macroeconomic stability was achieved and maintained with low inflation, low fiscal deficits, and a relatively stable exchange rate. The fiscal reforms, combined with the reform of the state sector, ensured that the fiscal situation improved dramatically over the 1990s. On the external front, exports, including non-traditional exports, improved significantly. Economic growth also improved and Bolivia grew at around 4 percent per year from 1990-1998. This relatively positive performance was aided by a favorable external environment, with high growth of Bolivia's main trading partners, the expansion of natural resource exports, and a surge in foreign direct investment that accompanied the capitalization process.

Since 1998, however, economic growth has decelerated to an average of only about 1.5 percent per year and has become negative in per capita terms. The main causes for this slowdown are a series of external economic shocks that have affected the economy, including particularly the strong devaluations and recessions in Brazil and Argentina in 1999 and 2002, respectively, while the Boliviano appreciated significantly alongside the US\$. This led to a sharply overvalued currency and the (independent) monetary authorities did little to combat this due to the risks of devaluations in a dollarized economy. The authorities instead stuck to their policy of allowing only very small devaluations against the dollar. As a result, the economy slowed down considerably, credit contracted sharply as the financial sector experienced build-up of non-performing loans; as a result of the recession and costly amendments to a pension reform, budget deficits have soared to unsustainable levels, adding economic uncertainty to the already existing explosive political and social situation. The financing of the large budget deficit through domestic and international borrowing has placed Bolivia in an increasingly vulnerable situation where rising shares of government spending must be allocated to debt service payments, thereby partially wiping out some of the gains realized by the HIPC debt relief.

Source: Klasen (2004)

Sample.

The third check we perform explores whether different groupings react in a different fashion. Figure 20 explores this issue and plots the evolution of growth rates (in deviation from regional trends) for the sub-sample of low income²⁶ countries (Bangladesh, Bolivia, Burkina Faso, Ghana, Senegal, Uganda, and Zambia). Again, despite small numerical differences (the recovery is more marked now), the basic conclusion that one would reach with this sample is that the reform process had a dramatic positive impact on economic performance.

Role for other factors

In the preceding analysis we have examined the dynamics of per capita growth rates, and macroeconomic stability as measured by inflation and the volatility of output growth. However, we have not established any formal relationship between these variables and growth. In fact, it would be possible that the growth trends are driven by some other economic development beyond macroeconomic stability, such as increasing outward orientation. This observation is even more relevant when one takes into account that as noted above, the implemented reform programs typically had, in addition to a pure stabilization package, a trade liberalization component. Figure 21 plots the evolution of trade volumes in our 12 country sample. Table 6 reports the trade volumes before, during and after the reforms. Inspection of Figure 12 and Table 6 reveals that trade was higher after the reforms than before the report. Interestingly, a part from Zambia Trade was higher in all the countries under analysis.

Table 6. Trade Volumes (% of GDP)

	Before 1/	During 2/	After 3/
Bangladesh	18.91	18.20	20.89
Bolivia	46.88	44.75	48.72
Brazil	16.77	17.40	21.46
Burkina	33.64	36.57	36.75
El Salvador	44.72	49.91	58.11
Ghana	14.89	18.20	41.72
India	14.04	18.67	22.60
Romania	49.26	59.14	65.06
Senegal	54.04	72.13	68.24
Tunisia	75.29	82.11	89.40
Uganda	26.40	25.90	29.03
Zambia	75.10	76.73	70.03
Median	39.18	40.66	45.22

1/ Average values.

²⁶ For the purpose of this paper we define low income countries as International Development Association (IDA) borrowers.

The standard procedure to examining these issues is to use some type of Granger Causality test. Table 7 reports the results of implementing the tests pooling the transition data for the 12 country sample. Inspection of this table suggests that, even though we can reject the null hypothesis that macroeconomic instability does not Granger cause growth, we cannot reject the null of trade non causing growth. .

Table 7. Granger causality tests on growth. 1/

	Inflation	Volatility	Trade
Param. 1/	-0.085	-0.217	0.916
s.e.	0.026*	0.112*	0.737

1/ Null hypothesis is no causality. (*) significant at the 5%.

While this last finding seems to confirm that the recovery in growth rates has been due to a large extent to the gains on the stability front it also rises some questions regarding the growth trade relationship. In fact most of the empirical evidence available suggests that trade is beneficial for growth (Box 7).

To further analyze this issue figure 22 plots the evolution of trade volumes in our 12 country sample but now in deviation with respect to global trends. This figure now reveals a different picture with respect to figure 21. Not only our countries trade much less than the median developing country (around 25 percentage points of GDP) but also most of the gains in figure 21 between the before and the after reform periods are likely to be spurious and be the result of an increasing globalization pattern. In other words, for this sample and the period of analysis we do not find evidence suggesting that as a result of the implemented reforms trade has increased. Against this background we think that it is unlikely that trade can explain the observed growth transition.

Box 7. Trade and Growth

Openness and trade liberalization have been major components of economic policy advice over the past decades. In part this is motivate because a large strand of the empirical growth literature indicates that the relationship between economic growth and international openness is indeed positive and that it reflects a virtuous cycle by which higher openness leads to faster growth and this in turn generates larger trade. There are several reasons of why trade liberalization may lead to faster growth: i) better allocation of productive resources in the economy towards more efficient sectors; ii) access to technology and capital goods; iii) benefits of scale; iv) constraints on government corruption.

The study on the relationship between openness and growth that has received the most attention is the one by Sachs and Warner (1995). In their study, Sachs and Warner present an index of trade openness that is based on five important aspects: (i) import duties; (ii) existing quotas; (iii) black market premium; (iv) existence of state monopolies; and (v) socialist regime. Combining all these different aspects into a single index, Sachs and Warner find a very strong association between openness and growth both within the group of developing and the group of developed countries.

Edwards (1998) notes that devising an index that captures satisfactorily the extent of trade openness is difficult and presents research that studies the sensitivity of the growth openness relationship to different indexes, finding that the relationship by which openness leads to faster growth is quite robust.

Recently, however, Rodrik (1999) and Rodriguez and Rodrik (2000) have been arguing that the literature that shows a positive link between openness and trade rests on weak empirical foundations in part because many of the indexes used as potential explanatory variables are endogenous variables themselves, in part because some of these indexes may have little to do with trade policy and instead may be more related to areas such as macroeconomic stability that are likely to have an impact on growth. Admittedly, they also argue that there is no "credible evidence...that trade restrictions are systematically associated with higher growth".

Dates of reform.

One element that is key to this type of analysis is the dates of reform. Although the selected dates are based on a careful historical review of the different countries, it is clear that the selection process is subject to some degree of arbitrariness. In order to check whether the observed data are coherent with our choice of dates we have performed a simple exercise. For each of the countries under analysis we have fitted a simple autoregressive model²⁷ to the per capita GDP growth series, and then on the basis of that model we have then tested for the existence of outlier observations.²⁸ In principle, one would expect that if the reforms have led to a structural change (as implied by our analysis above) this would be reflected in the data.

Table 8. Macroeconomic stabilization dates and outliers

Country	Reform Year	AR		
		Parameter	t-stat.	Outlier
Bangladesh	1987	.92	9.4	1988
Bolivia	1988	.83	8.5	1989
Brazil	1994	.60	3.3	
Burkina	1993	.27	1.3	1993
El Salvador	1991	.66	9.1	
Ghana	1983	.83	8.4	1985
India	1991	.48	3.1	1991
Indonesia	1998	.81	6.3	1998
Romania	1994	.83	5.7	1991
Senegal	1985	.29	1.4	1985
Tunisia	1986	.52	2.7	
Uganda	1987	.70	8.4	1988
Vietnam	1986	.89	9.0	1986
Zambia	1991	.51	2.4	1993

Table 8 reports the estimated autoregressive parameter (and associated t-statistics) for the set of 14 countries and the dates where we identify an outlier. Inspection of table 8 indicates that the autoregressive parameter is significantly different from zero at standard levels in all but 2 cases (Burkina and Senegal), and that in some countries the growth

²⁷ The order of the autoregressive model is 1 in every case and the sample size is 1981-2003, except in the cases of Uganda and Vietnam where the sample size is 1985-2003.

²⁸ Defined as a residual being of magnitude larger than 1.69 its corresponding standard error.

series presents a high degree of persistence. For example in Vietnam and Bangladesh the estimated autoregressive parameter would imply a half-life²⁹ of adjustment to shocks of 6 and 8 years respectively.

As for the presence of outliers, we find that most of the growth series tend to have an outlier around the selected reform dates. In some cases (Burkina, India, Indonesia, Senegal, and Vietnam) the outlier is in the very same year of the reform. In other cases (Bangladesh, Bolivia, Ghana, Uganda, and Zambia) is not on the same year but it falls in the allowed 3 year window. The only exceptions to this are Brazil, El Salvador, and Tunisia for which we do not find any outlier, and Romania where we find one but not related to the reform and rather to the fall of the communist regime. In any case, the results of this analysis suggest that the selected reforms are fully consistent with the statistical properties of the data.

V. Inequality

So far we have only focused on the impact that the reform process has on growth but in a pro-poor growth context this picture is likely to be incomplete unless we also gain knowledge of the impact of the economic reforms on inequality. In fact, it is now well known that the impact that growth has on poverty reduction crucially depends on the parallel evolution of inequality. To address this issue, table 9 reports gini coefficients immediately before and immediately after the identified reform dates.³⁰ Data considerations limit to 8 the number of countries for which we can perform the exercise. However, even with this limited sample the results in table 9 leave no doubt to the direction of the change. None of the 8 countries for which we have data experienced an increase in inequality in the short run as a result of the reforms.

Table 9. Evolution of inequality around the 3 year window.

Country	Gini	
	Before	After
Bangladesh	0.29	0.28
Bolivia	0.50	0.48
Brazil	0.61	0.60
Burkina	0.47	0.45
El Salvador	0.5	0.49
India	0.3	0.3
Tunisia	0.43	0.4
Zambia	0.59	0.50

Although admittedly it is difficult to disentangle the forces behind these changes, inspection of figures 10 to 13 above suggests that over the short run the variable most affected by the reforms is the inflation rate. The decline in inflation is even more marked

²⁹ The time needed for the impact of a shock on GDP to be cut in half.

³⁰ For inequality we look for the closest year (+/-1) to the start of the reform process and to the closest year after the reform for which we have data.

if one just focuses on the low income country sample (figure 23) where inflation declines from about 80 percent in the first year of the reforms to about 15 percent in the second year. On the other hand, investment seems to react but only after the 3 year window so that it is not likely that they may have had an impact over the short run.

An additional issue of interest is whether different sectors in the economy react in a similar fashion to stabilization. The reason is that typically the poor are not homogeneously distributed among economic sectors. For example, it is well known that the poor tend to be over represented in the agricultural sector and in rural areas. Thus unless we are considering an economy with substantial mobility (both sectoral and geographically), for growth to be pro poor it will be important that this takes place where the poor are. Otherwise, these will be completely disconnected.

In order to explore whether stabilization affects the different sectors of economic activity in a similar fashion, we now repeat the episodic analysis above. This is interesting because the results in Section III suggest that the recovery in growth rates observed in our sample during the 1990s (figure 2) would have been consistent with an improvement in macroeconomic policies. However, if this recovery was not homogeneously distributed among sectors then in absence of sectoral mobility it would have led to higher inequality. To explore this issue we repeat the analysis performed in Section III, but rather than tracking the evolution of aggregate growth we now track the evolution of sectoral growth rates. Figure 24 to 26 plot the corresponding transitions.

Unambiguously, there are substantial differences in the way that different sectors react to the economic reforms. In fact, figure 25 and figure 26 suggest that following the implementation of a stabilization package both industry and services pick up. The gain in the industrial sector is quite significant with the per capita growth rate increasing from about -1 percent in the years prior to the stabilization to between 3 and 4 percent in the years after the window. Growth recovery seems to take place starting in the second year of stabilization (i.e. very short reaction times) and continue increasing until the first year after the window. For the services sector, the transition is very similar. Figure 26 suggests a very fast recovery over the three year window and growth stability thereafter.

When however we look at figure 24 a very different message emerges. In fact, the agricultural sector shows very little reaction to: (i) the stabilization of the economy; and (ii) the developments in the other two sectors. Comparison of these figures with figure 14 would indicate that the growth recovery observed when the economy is stabilized is driven by industry and services and that the achievement of fast sustained growth in agriculture will require interventions that are beyond the macroeconomic domain.

VI. Conclusions

This paper has reviewed the role that macroeconomic policies can play in a pro-poor growth strategy. The main findings emerging from an analysis of 14 country case studies are the following: (i) Macroeconomic stability is a critical and necessary condition for

pro poor growth. For a typical country instability may depress the growth rate by 2 percentage points; (ii) Measures aimed at stabilizing the macroeconomic framework would have in general a positive impact on growth; (iii) There is a strong negative relationship between the gains from stabilization and the deviations of each country's initial growth rate from that of its regional peers. In other words, the observed gains seem to be associated more to the correction of destructive policies that depress growth than to a higher steady state growth; (iv) Over the short run there is no evidence pointing towards increases in inequality (if any it would point towards declines); and (v) there is evidence of significant differences in the way sectors react to the stabilization process (agriculture would be insensitive).

In addition to stressing the importance of adequate macroeconomic management in the context of a pro poor growth strategy, there is an additional message that emerges from this study. While good macro policies will help a country to hover around its long-run steady state, moving to a higher steady state will require different policy packages on which unfortunately this paper has very little to say.

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Figure 1. Growth in low and middle income countries.

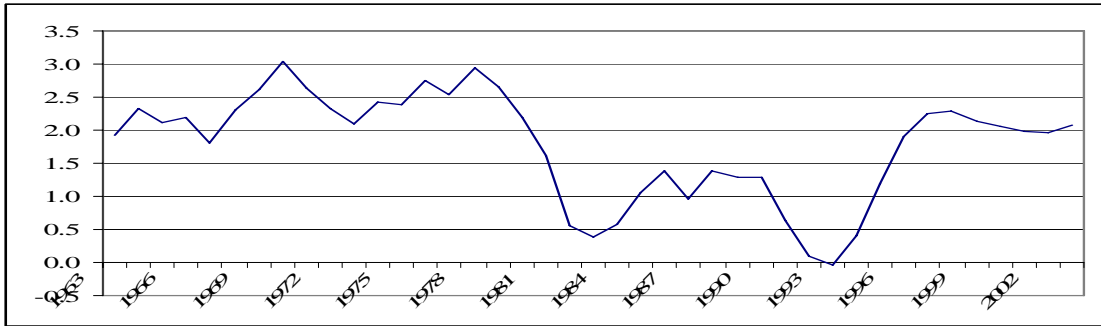


Figure 2. Growth in the country cases.

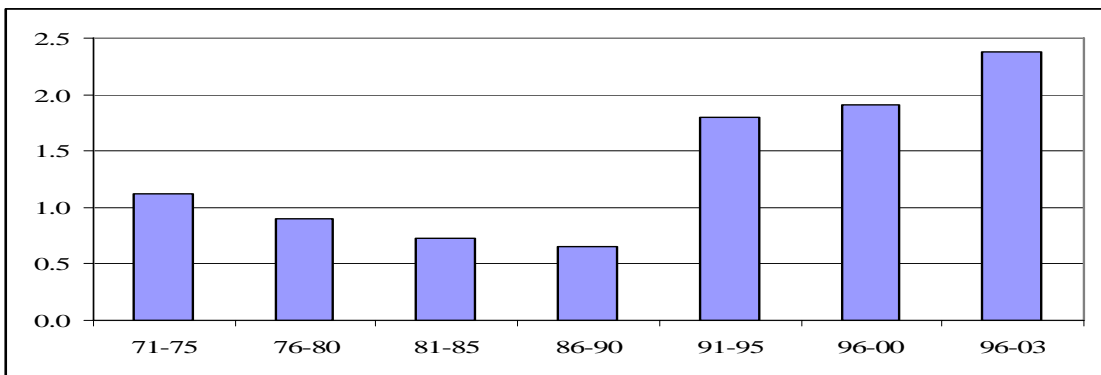


Figure 3. Adjusted regional gini coefficients. 1980s and 1990s

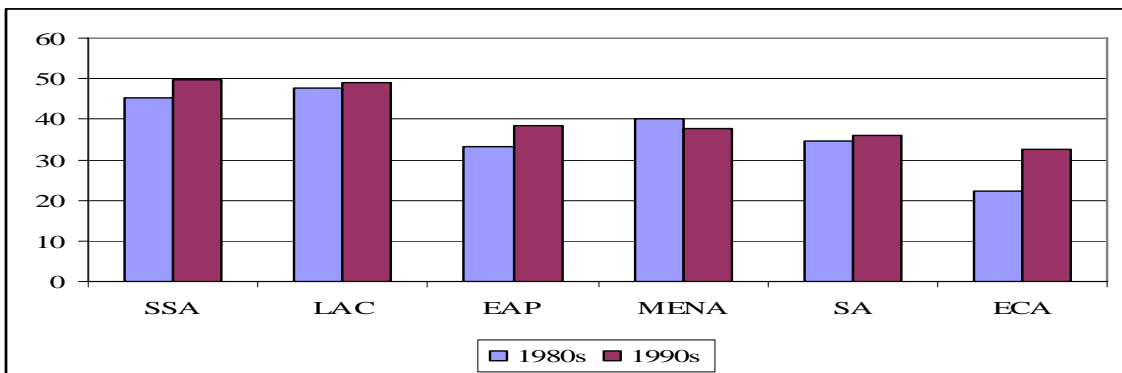


Figure 4. Adjusted regional gini coefficients. Within country change.

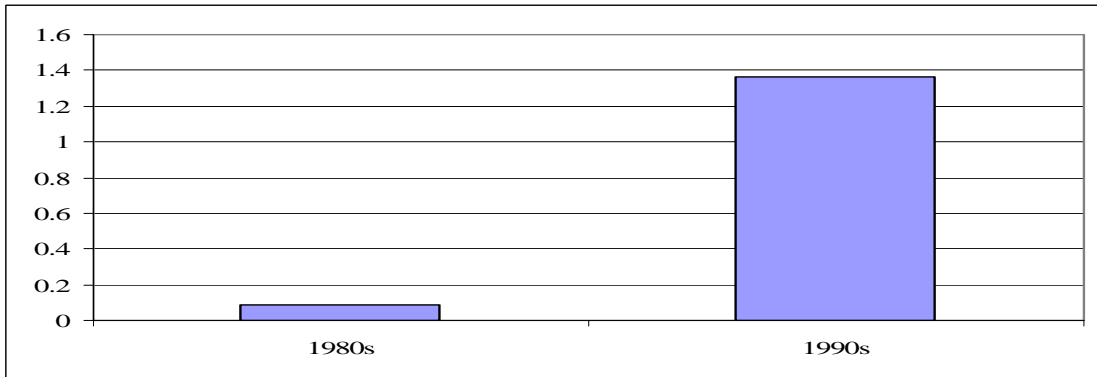


Figure 5. Regional gini coefficients 1990s. Country cases

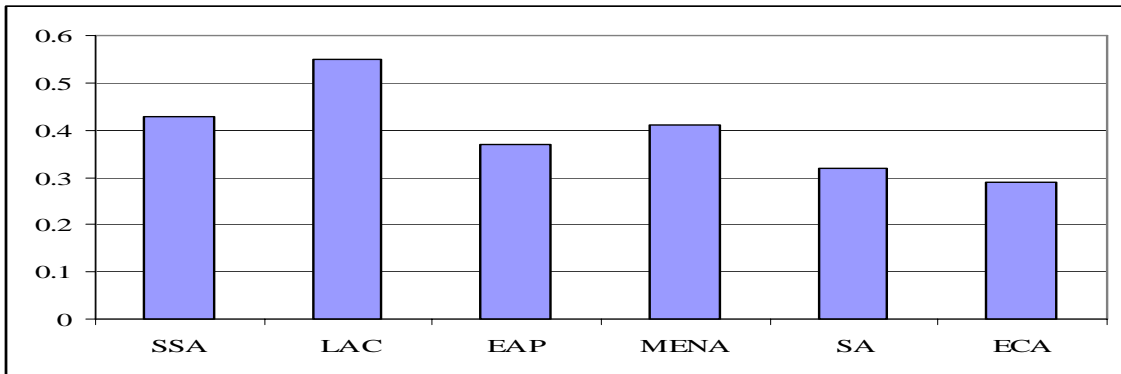


Figure 6. Trends in gini coefficients during the 1990s. Country Cases.

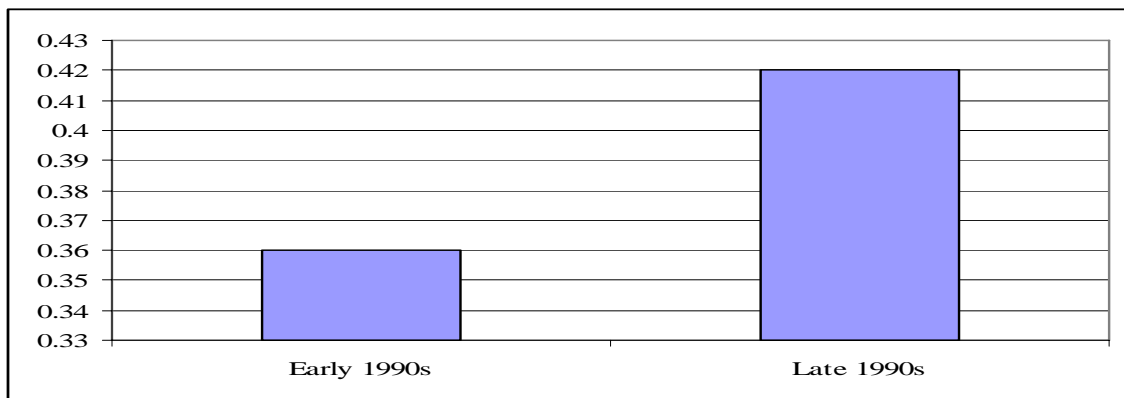


Figure 7. Growth and Changes in Inequality during the 1980s

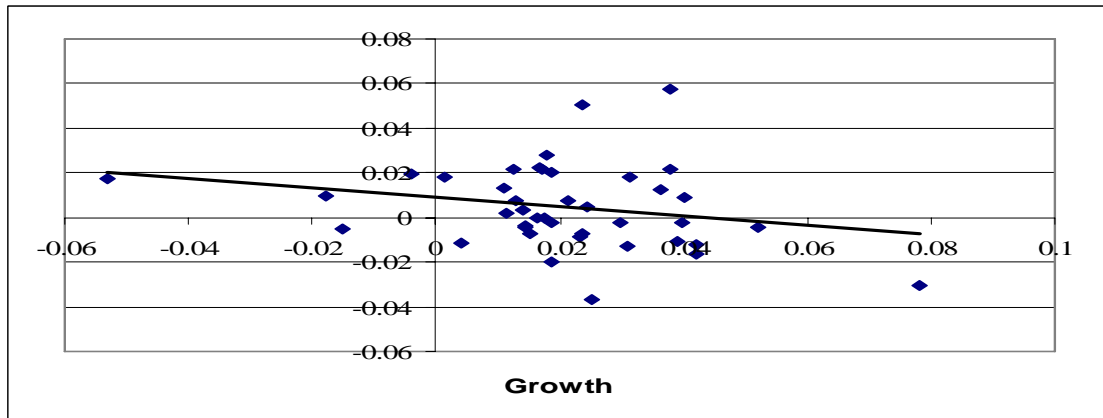


Figure 8. Growth and Changes in Inequality during the 1990s

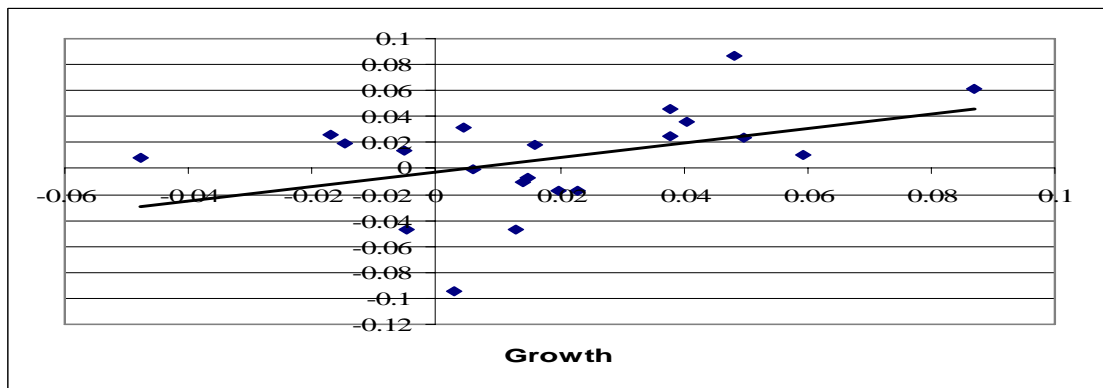


Figure 9. Growth and Changes in Inequality during the 1990s Country Cases

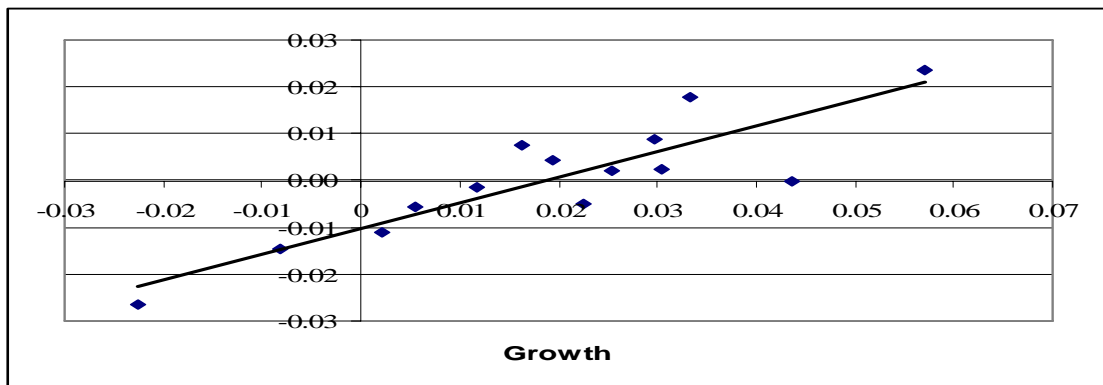


Figure 10. Economic Reforms and Macro Stability -Inflation

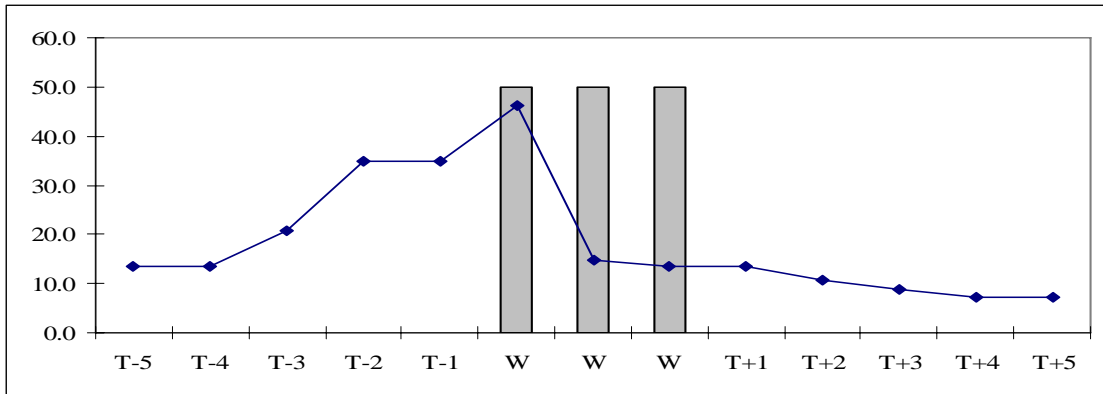


Figure 11. Economic Reforms and Macro Stability -Output Volatility

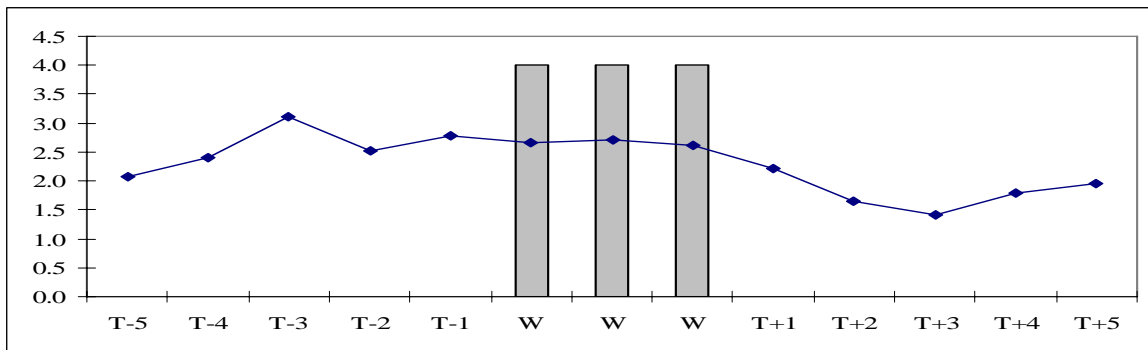


Figure 12. Economic Reforms and Investment

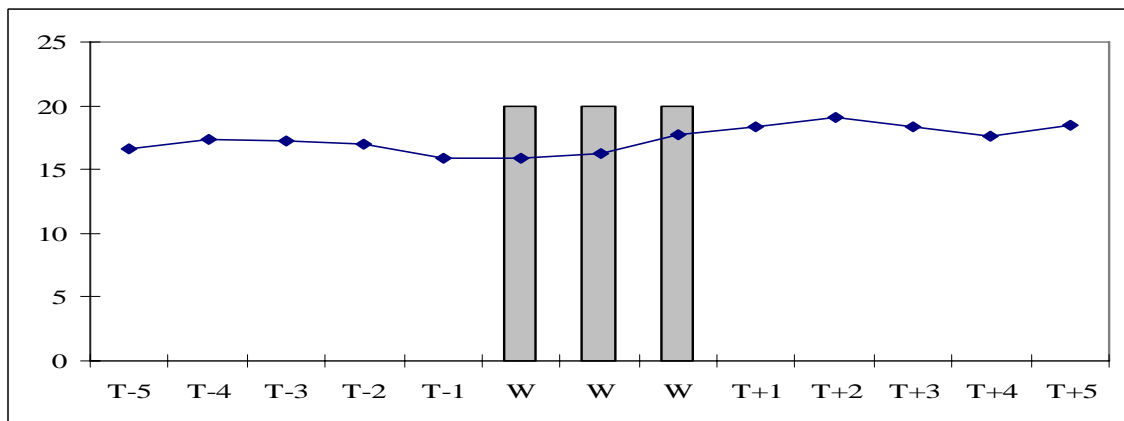


Figure 13. Economic Reforms and FDI

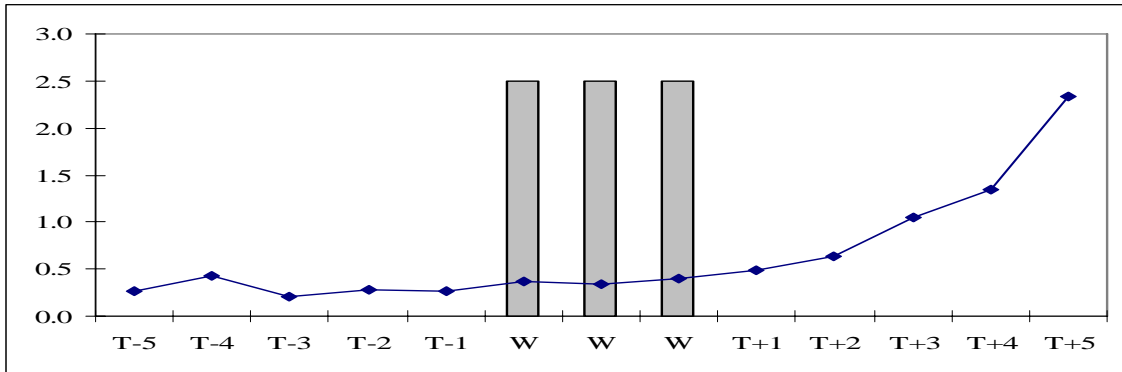


Figure 14. Economic Reforms and growth transitions

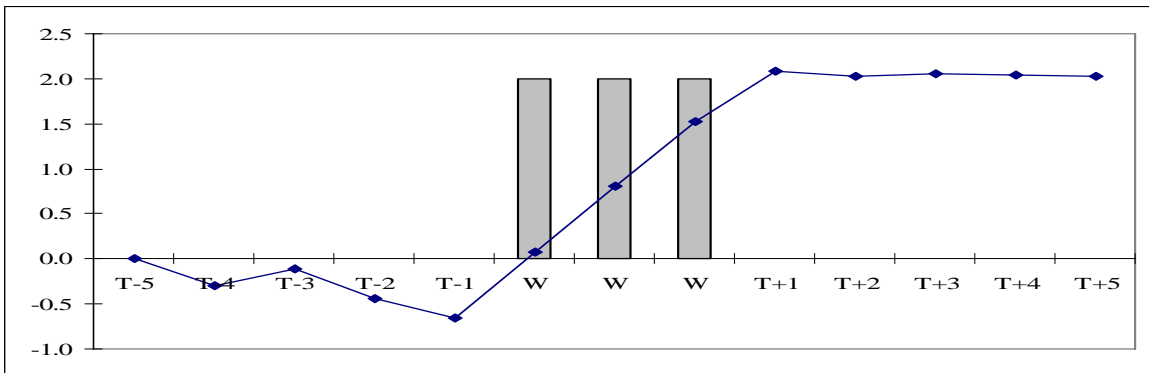


Figure 15. Economic Reforms and growth transitions (deviations from regional trends)

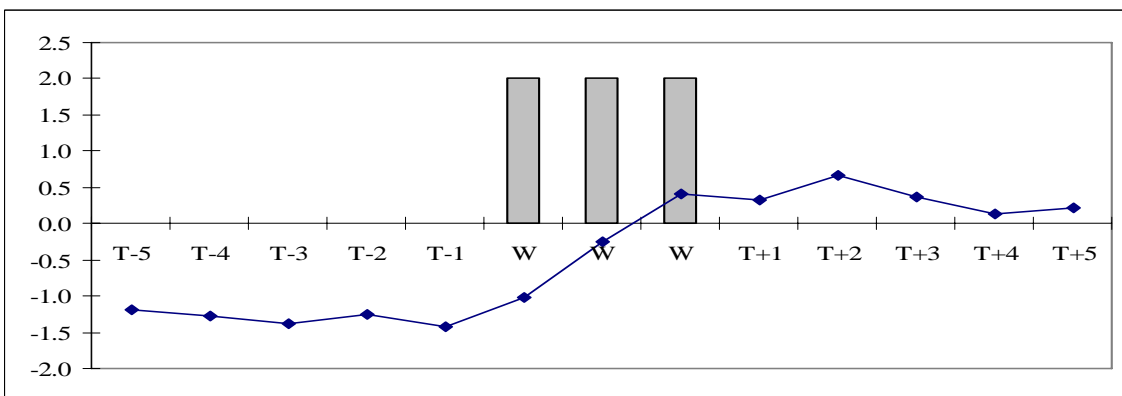


Figure 16. Gains from reform and initial performance.

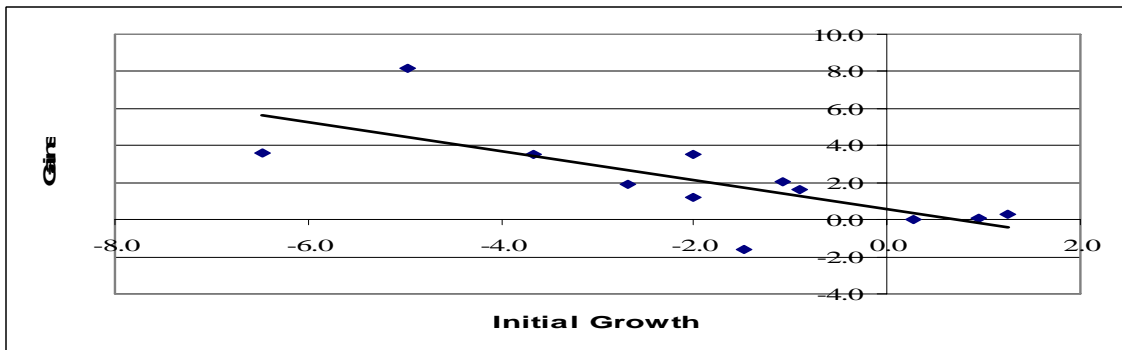


Figure 17. Economic reforms and growth transitions: deviation from global trends.

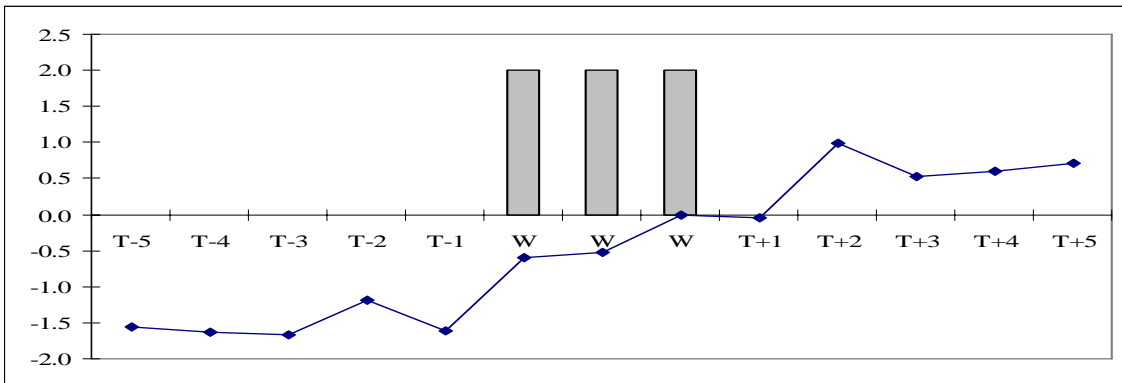


Figure 18. Economic reforms and growth transitions: extended horizon.

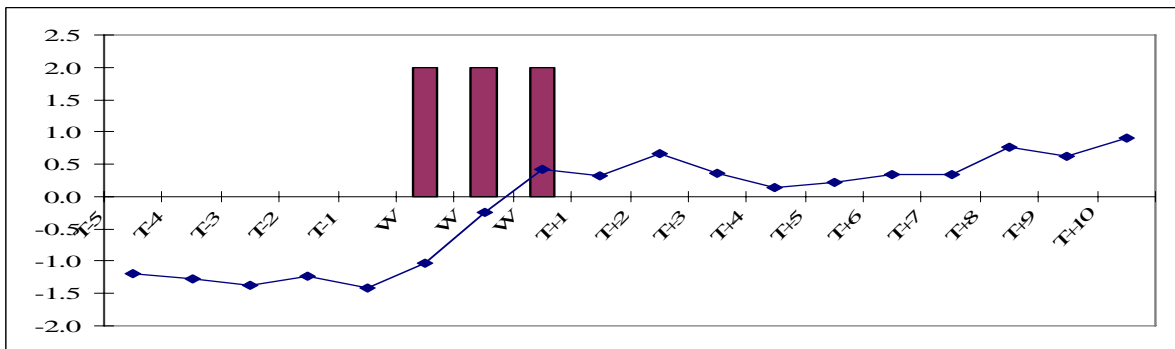


Figure 19. Economic reforms and growth transitions: Bolivia.

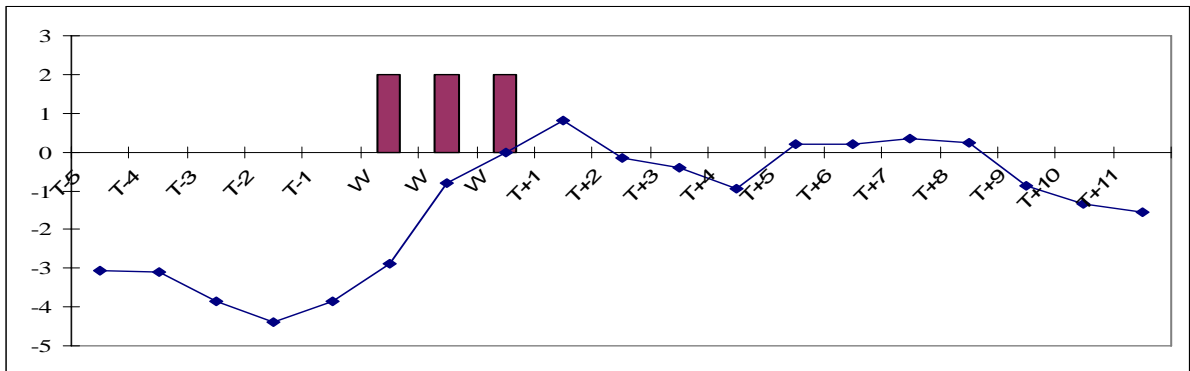


Figure 20. Economic reforms and growth Transitions: IDA sample.

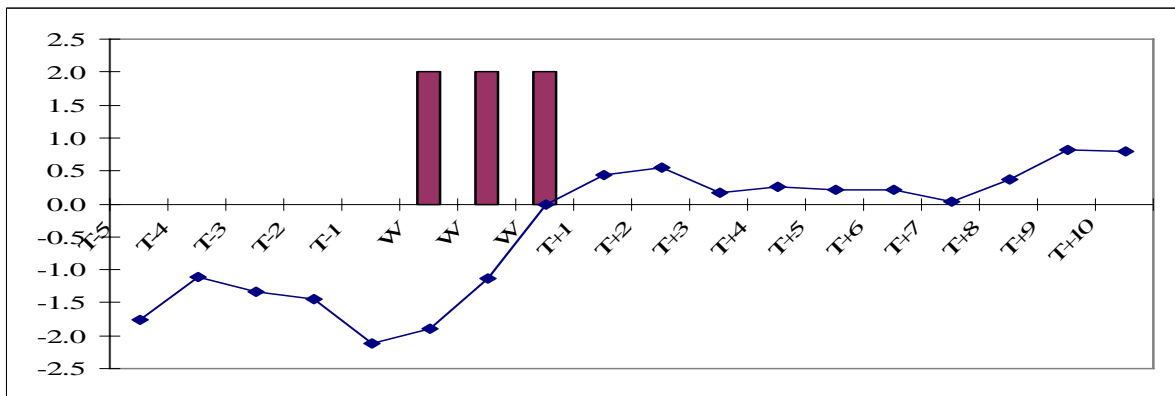


Figure 21. Economic Reforms and Trade Volumes

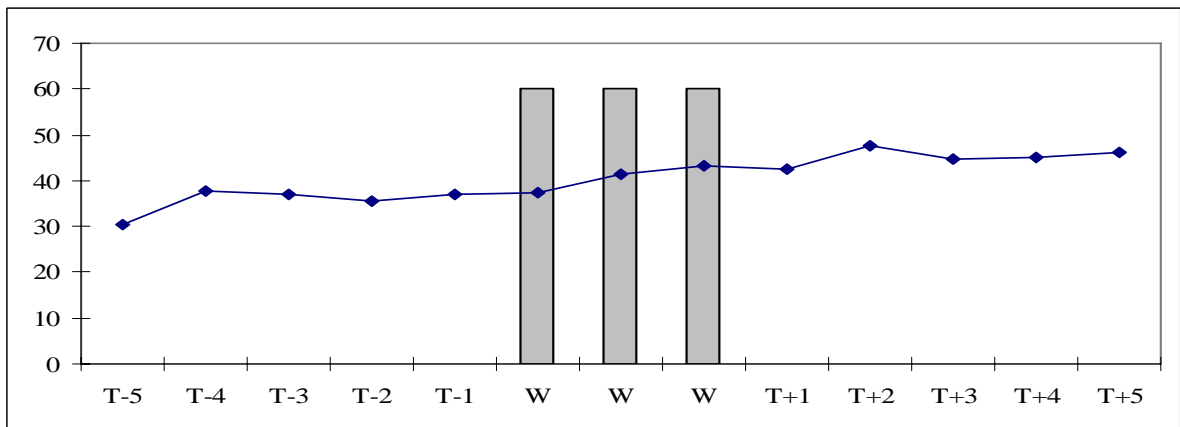


Figure 22. Economic reforms and trade (deviations)

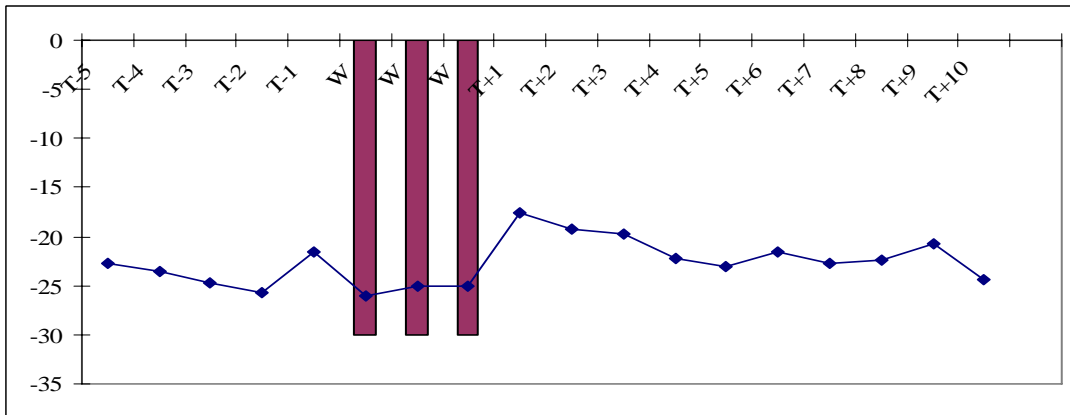


Figure 23. Economic Reforms and Inflation. IDA sample.

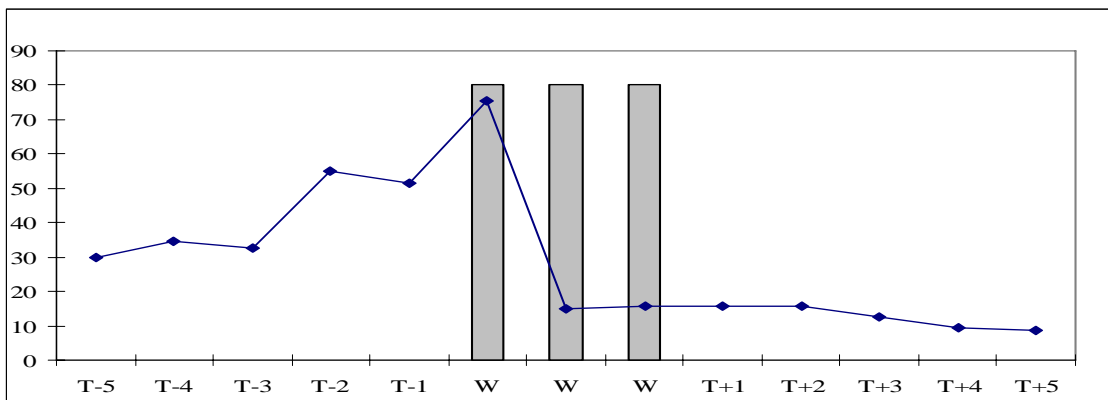


Figure 24. Economic Reforms and Agricultural Growth.

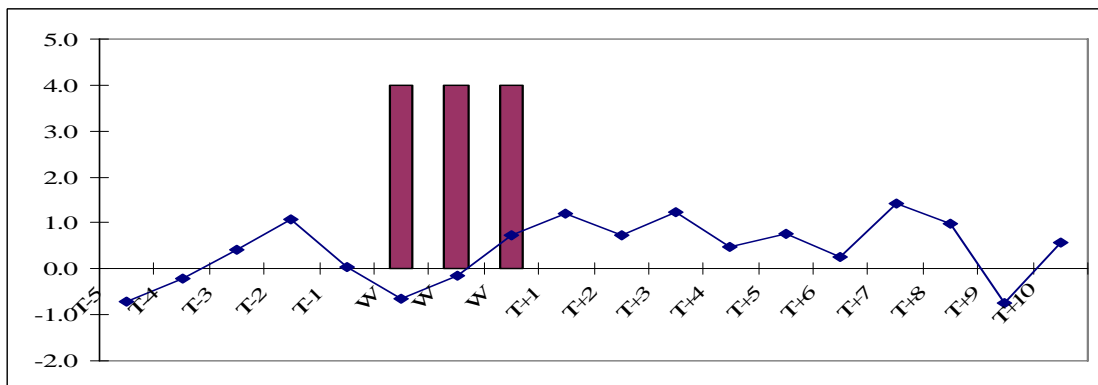


Figure 25. Economic Reforms and Industrial Growth.

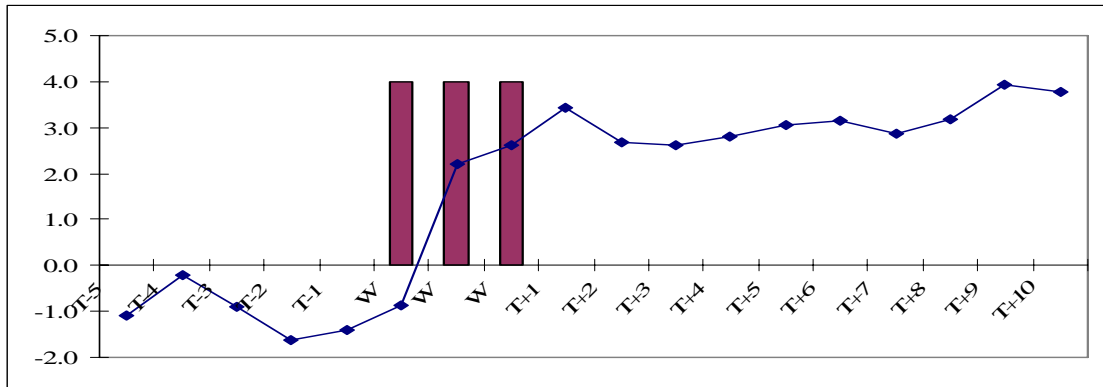


Figure 26. Economic Reforms and Services Growth.

