Discussion Paper No. 583

UNLUCKY OR BAD?
ECONOMIC POLICY AND ECONOMIC GROWTH

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May 2003

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Abstract

Cross-country growth regressions have in recent years become a major growth industry. The most common purpose of this work has been to investigate the determinants of economic growth. But it is also possible to use the existing growth data to determine the extent to which policy choices help or hinder growth. This paper generates estimates of the net contribution of policy to growth for a wide variety of countries. It also provides the ability to "see" in an almost photographic way what substantial economic reform looks like, to test whether countries have meaningfully reformed. The findings also provide grist for speculation on the virtues of gradual versus dramatic, total economic reform.

Key words: growth, growth regression, development, economic reform.

Journal of Economic Literature classification numbers: O11, O47, O57.

The problem of economic growth is perhaps one of the most fundamental in all of economics. Thinking about why nations become (and, more compellingly, do not become) wealthy has occupied many of the greatest minds in the field at least since the days of Hume, Smith and Ricardo. In much of the twentieth century, with the advent of modern neoclassical techniques, the thinking about development was dominated by the need to spur adequate investment. The basic description of the problem took several forms technically, but whether seen as mobilizing adequate savings to achieve a target investment rate (Domar, 1946[1]), of moving through a sequence of stages, the most critical of which is an investment "takeoff" (Rostow 1960), of adding enough capital stock to draw away surplus labor (Lewis, 1954; Fei and Ranis, 1964), or of convergence via capital accumulation to a steady-state equilibrium (Solow, 1956), the key task was always explicitly or implicitly to accumulate physical capital. This is an idea that is pregnant with implications, because it is not much of a leap from this characterization of the problem to a belief that a command authority, e.g. a government ministry or a multilateral aid organization, ought to be in charge of that mobilization.

More recently, owing to the increase in the amount and quality of the available data, a substantial and rapidly growing empirical literature has emphasized human capital (Lucas, 1988, Romer, 1986). The presence of both specific and general human capital is according to this literature critical although not necessarily sufficient to achieving economic growth. In addition, the role of policy has in recent years commanded attention.

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1. Easterly (1999) argues that Harrod-Domar models became extraordinarily influential in policy circles despite the fact that Domar (1957) later argued that he did not intend his work to be used in development.

Policy has always been important, even in the models revolving around physical and human capital, but the focus of work such as Barro (1991) has been on the potential of policy to do harm. In particular, he finds that government distortions, failure to maintain openness to foreign trade and investment, and excessive government spending (and, he speculates, the taxes needed to fund it) destroy growth.

But Barro's work and the literature it has spawned focuses mostly on standard, ceteris paribus analysis. Without question, this has been important, in that it has established what Yusuf and Stiglitz (2001) term a consensus up to a point about what sorts of policies promote growth. But there has been little attempt to quantify the effects of policy in explaining the wealth and poverty of nations. Countries that manage economic policy well (poorly) can promote (squelch) growth, but how much? This paper attempts to answer that question. Using standard growth regressions, it is able to make (necessarily speculative) estimates of how much countries have in the last several decades suffered and benefited from their government policies. The results are not only of theoretical interest, in that they suggest the magnitude of the income created or destroyed by policy, but raise issues of importance in terms of promoting economic reform. There is controversy over the virtues of radical versus gradual reform in dysfunctional economies. The findings allow some inferences about the virtues of the two approaches. In addition, if political constraints are assumed to rule out radical, "shock therapy" reform, the results are of interest in suggesting which reforms can provide the most immediate benefit for struggling nations. Section 1 lays out the extent of development failure, Section 2 presents the basic empirical approach, Section 3

extends the analysis by controlling for different effects at different levels of development, and Section 4 lays out some implications for improved economic policy.

1. The nature of the problem

The best place to begin the discussion is perhaps to note how difficult the struggle to modernize has been for a disappointingly large fraction of the world's poorest countries. Table 1 depicts two measures of the absence of progress over the last thirty-five years. The first list consists of those countries whose per capita incomes were in the bottom half of the by-country distribution in 1960 but had by 1995 moved past the global median in 1985 – US$2463.[2] The right-hand portion lists the 32 nations that have achieved at least two-percent average annual growth in per capita income between 1960 and 1995. Note that this latter standard is none too exacting – it means that the standard of living roughly doubles in 35 years. In light of the prevalence poverty throughout much of the world, the brevity of these lists has to be counted as a substantial failure. Whether it is a failure of the advice rendered to poor countries or their failure to heed it is an open question, but the widespread criticism in recent years in development organizations such as the World Bank of decades of mistakes, combined with references to lost years and even lost decades in countries throughout the developing world, suggests the former. A compelling question naturally arises: what does it take to get economic policy right?

The stylized facts of the most prosperous economies are an extremely complex division of labor, the use of substantial amounts of machinery that enhances the marginal productivity of work, and a high endowment of human capital. The latter variable is

2. All dollar figures in the paper are expressed in 1985 prices.

greater both in absolute quantity and, by at least one measure, in quality as well in wealthier nations. Table 2 lists the average capital stock per worker, the population's average years of schooling and the student-teacher ratio in primary school for each third of the distribution of national per capita gross domestic product. Workers in the richest countries have the most capital to work with and have the most and the highest-quality schooling. While there is some controversy over whether high educational levels are an effect or a cause of prosperity (Bils and Klenow, 2000), it seems hard to imagine that a poorly educated society has brighter prospects than a well-educated one, other things equal. As noted in the introduction, in the case of both types of capital, the theoretical basis for growth arising from accumulation of these factors is high.

Indeed, another implication of the Romer (1986) school of thought is that the convergence prediction of the neoclassical model – that, due to a common production technology, nations should as they accumulate capital see their standards of living converge roughly to the production frontier – is false. Wealthy nations with significant stocks of human capital and flows of research activity can generate ever-greater prosperity that allows them to further distance themselves from the vast bulk of nations not so characterized. To make the leap from stagnation to modern, technologically sophisticated growth in this view may in fact be quite difficult. Exhibit A in this argument is generally held to be the failure of the bulk of the world' countries to converge as predicted. Of the countries that were not developed at the end of World War II, only a handful – concentrated in East Asia and Europe with a few other bright spots in places like Mauritius and Chile – have managed to escape the poverty trap.

But it is possible that ordinary policy mistakes have been of such a magnitude that they explain a significant portion of the failure to converge. Why would we expect a nation plagued by macroeconomic chaos, crippling rent-seeking and other problems of what I will call malgovernance to be converging toward anything but abject misery? Given that the advice handed out by economists differs from what it once was with respect to the balance between markets and planning, and that governments may be subject to incentives far removed from maximizing the growth of per capita income, there is no reason to suppose that countries are immune to long periods of bad economic policy. The extent of such activities is of course, an empirical question.

2. The Basic Empirical Model

The analysis begins by noting that the standard approach in growth regressions has been to treat all countries the same regardless of their current standard of living. The effect of a marginal increase in human capital or inflation is assumed to be the same for a country with a per capita of $1000 as $10,000. This is done by specifying growth as the dependent variable and the various state variables of the economy as independent variables. But there may be diminishing returns to physical or human capital, and policy or the other state variables may affect countries differently depending on where they are in the global income distribution. To capture the full effect for countries at different levels of income it will be necessary later to test for these effects.

The data for the regressions are the updated appendix to the widely used Barro-Lee (1994) cross-country data sets. The data contain national-level observations over five-year intervals dating from 1960 to 1995. Empirically, the first task is to establish the

overall relation between economic growth and its theoretical determinants. The approach is somewhat similar to that of Barro (2000), who takes the neoclassical growth model as his starting point and argues that at any moment in time an economy has potential as well as actual output. While the similarity in terminology to traditional Keynesian analysis of the business cycle is obvious, the words mean something different here. Potential output is defined by the available production technology as well as the choices that governments have made, for both good and ill, in economic policy and the country's ability to engage in exchange with other countries. A government that provides the most productive pure public goods, enforces property rights and controls externalities while avoiding distortions and avoiding the costly disincentives of excessive or inappropriate taxation will have a higher level of potential output, as will a country that can trade with other countries on favorable terms. All of these things determine the economy's steady-state output once the neoclassical capital-accumulation process has ended. Actual output, on the other hand, is a function of the amount of physical and human capital an economy possesses relative to the Solow steady-state equilibrium. Countries should over time converge to their potential output, and the speed at which they do so will depend on the rate of growth of capital.

With that framework in mind, the following equation is first estimated for the entire Barro-Lee sample:

$$GROWTH = a_0 + a_1\, PCGDP + a_2\, INVGDP + a_3\, PREMIUM + a_4\, GCGDP + a_5\, TRADESHOCK + a_6\, OPENNESS + a_7\, HUMCAP + a_8\, INSTABILITY + a_9\, INFLATION + a_{10}\, DEMOCRACY \qquad \textbf{(1)}$$

GROWTH is the five-year average growth rate of per capita gross domestic product. *INVGDP* is the five-year average of investment as a percentage of GDP, and is a direct measure of the addition of capital stock. The variables determining potential output are *PREMIUM*, *GCGDP*, *TRADESHOCK*, *OPENNESS*, *INSTABILITY* and *INFLATION*. *PREMIUM* is a measure of the black-market premium charged to the country's official exchange rate. It is log(Black-market rate/official rate). Barro (1991) argues that it is a proxy for the level of governmental distortions, e.g. subsidies, taxes, monopoly privileges, foreign-exchange and import restrictions, in the economy. A greater number of such distortions is assumed to lower the economy's potential output. *GCGDP* is government consumption spending other than on defense and education. *TRADESHOCK* is the growth rate of the country's export prices minus that of its import prices. *OPENNESS* is the measure of openness to foreign trade and investment used by Sachs and Warner (1995).

Political choices, structures and events can also affect growth. *INSTABILITY* is the Barro/Lee formulation of political instability during the period, defined as one-half times the combined number of assassinations and revolutions during the five-year interval. *DEMOCRACY* is the Barro (2000) index of democracy, which ranges from 0 to 1. The effects of greater electoral competition on economic growth are not clear. Wittman (1989) argues that greater democracy amounts to more competitive political markets which, like more competitive product markets, ought to yield greater efficiency. But Cheung (1998) believes that democracy in poor countries is a recipe for disaster, in that it allows pressure groups to more easily mobilize to engage in predatory activities.

INFLATION is the average inflation rate during the five-year period. Inflation might harm a country's growth potential for all sorts of reasons: the noise it introduces into the price system, hindering its ability to effectively coordinate economic activity; the introduction of a distortionary tax on holding currency; the increased difficulty of long-range forecasting and hence the introduction of a bias against long-term contracting; the transaction costs of inflation management; and a host of others. A summary of these theoretical arguments can be found in Heymann and Leijonhufvud (1995).

The final variable is *HUMCAP*, a measure of the country's human capital. It is the country's average schooling divided by its primary student-teacher ratio, with this figure then multiplied by life expectancy. There is a significant modeling issue with respect to how to incorporate human capital into the analysis. On the one hand, it can be seen as just another production factor, like physical capital and labor. If so, the appropriate measure is the rate of change of human capital, analogous to investment as the rate of change of physical capital, either in the current period or lagged. The alternative is more appropriate to the analysis of the literature descended from Romer (1986), in which human capital generates knowledge, which then becomes a public good raising productivity of other inputs throughout the economy. In that case a higher *level* of human capital should generate more knowledge and hence faster growth. Both estimation methods were tried. With respect to the growth of human capital, both one-period and two-period growth rates were used in an attempt to proxy for the rate of growth of the productive factor. In none of the cases was this variable significant. On the other hand, using the contemporaneous stock of human capital is sometimes

significant in ways detailed below. Thus throughout the stock instead of the growth rate of *HUMCAP* is used.

The results using OLS are presented in Table 2.[3] All of the variables are statistically significant in the expected direction. The negative sign on *PREMIUM* indicates that a greater level of distortions retards growth. Interestingly, the sign on *OPENNESS* is independently significant. If the static distortionary effects of trade restrictions are incorporated in *PREMIUM*, then some other effect is being captured by the significance of *OPENNESS*. Some candidates, many of which have been emphasized in recent years in the international-trade literature, include economies of scale from exporting to wealthier and larger markets, learning by doing through foreign economic interaction, and the ability to tap foreign capital markets and advanced technology through foreign investment. The simple measure of openness used here does not allow discrimination among these (not necessarily exclusive) hypotheses. But in any case open economies seem to grow faster even for a given level of other distortions. *DEMOCRACY* is not a significant predictor of growth.

In addition, the change in a country's relative export prices positively influences growth, as expected. Both the addition to physical capital and the level of human capital positively influence it. Political instability, which might disrupt the stability of property rights, negatively affects growth. Government consumption, which has ambiguous effects on growth in theory, appears to negatively affect it in practice. And consistent

3. The data are in cross-sectional time-series form. A generalized random-effects regression was conducted, and the results were almost indiscernible from those reported here.

with years of macroeconomic thinking, inflation is toxic to growth. Finally, the neoclassical growth model finds support, as in the past, with the negative sign of *PCGDP*. After standardizing for other considerations, poorer countries grow faster. Convergence begins with a period of rapid growth (other things equal), which slows down as the production frontier is approached, a result consistent with intuition about the once rapidly growing economies of northeast Asia.

3. Differences by Per Capita Income

To test whether the effects of changes in the state variables are the same for poorer and richer countries, interaction variables are used, where the interaction is with dummy variables representing, respectively, the top and bottom fifths of the total distribution over the 35-year sample of per capita GDP. The geographic and temporal distribution of observations included in the regression is presented in Table 5. The poorest fifth is unsurprisingly dominated by sub-Saharan African nations, while the richest fifth is dominated by nations in Europe. The interaction variables *INTER1PREM*, *INTER1GC*, *INTER1INFL*, *INTER1INST*, *INTER1INV*, *INTER1HC*, and *INTER1OPEN* represent the interaction of being in the top fifth of per capita income with *LOGPREMIUM*, *GCGDP*, *INFLATION*, *INSTABILITY*, *INVGDP*, *HUMCAP* and *OPENNESS* respectively. The *INTER2* variables represent interaction with a presence in the bottom fifth of the distribution. The results were also tested with dummy-variable interactions for the top and bottom third, respectively, and the results are similar.

The results for the various models are broadly similar, with none of the interaction terms significant, with two exceptions. For the poorest countries, *INTER2PREM* is

significant with a positive sign, suggesting that governmental distortions are less damaging to the poorest countries. And *INTER1INV* has a negative sign, suggesting that the richest countries get less of a GDP payoff for a given level of physical capital and the other independent variables, which suggests diminishing returns to capital. Other than that, the basic model is quite resilient in explaining the sources of economic growth. The two significant interaction terms will be incorporated in the calculation of policy-related losses below. Table 6 lists the re-estimation of (1) incorporating these two interaction terms.

4. Evaluating economic policy

The regression results provide an opportunity to measure the effect of economic mismanagement, as well as economic misfortune. Several of the variables – *PREMIUM*, *GCGDP*, and *OPENNESS* – are unequivocally results of conscious policy choices, and one more, *INFLATION*, is certainly arguably such a result. One other, *TOFTSHOCK*, is a variable that is largely out of the hands of government officials, except insofar as the government can encourage a change in the country's trade patterns. It will be useful to contrast the effects of this relatively independent variable with those of the policy variables.

The value in expectation of the loss imposed by a particular form of inefficiency is simply the regression coefficient times the value of that variable for that country. Table 6 lists the ten worst performers with respect to each of the policy variables over the period 1990-1995, expressed as annual growth in gross domestic product foregone. The

final column lists the total sums of the losses incurred from mistaken policy. The losses are expressed as deviations from the mean.

The first thing to note is that the losses from bad government policy are hardly negligible for the poorest-performing countries, in excess of five percentage points per year for Zambia, which is the worst-governed country for the period 1990-1995. The costs of bad government policy are substantial. It is worth noting that the figures are defined for a given level of human capital and investment. Those variables, particularly the latter, are subject to government policy choices as well, and the data do not lend themselves to analyzing why countries choose to build more or less human capital, or to court or punish investment. But presumably malgovernance with respect to these factor-accumulation variables would make the problem worse.

The second finding of interest is that there does not seem to be one component that dominates in terms of contributing to poor growth performance. Figure 1 contains the depiction of the components of losses from poor economic policy contained in Table 7. Inspection reveals that there is no overall dominant component; each of the components in some cases does significant damage. In addition, no particular component of bad governance necessitates the others. Table 8 is the correlation matrix for the four components of the four components listed in Table 7. The top portion of the table is for the entire sample, and the bottom portion is for the subset containing all observations in which nations had negative per capita growth during a five-year period. In neither case is the correlation overwhelming, with the possible exception of *OPENNESS* and *PREMIUM*. Many nations are not overwhelmed by many policy problems simultaneously. This result can perhaps be interpreted as making the transition to more sound policy somewhat easier.

Another interesting exercise is to talk about the unluckiest countries, in the sense of having suffered because of adverse developments in their terms of trade. The losses from terms of trade shocks during 1990-95 are contained in Table 9. There is of course no reason why a country cannot be both unlucky and badly governed, and so Nigeria is on the lists both of countries that suffered from poor governance and from adverse international economic developments from 1990 to 1995. Two other countries, Syria and Gabon, suffered unusually poor terms of trade shocks during this period as well as one component of bad governance.

These experiments can also be carried out for the entire sample period. Table 10 depicts the same figures as in Table 7, only for the full 1960-1995 period. It again reveals the extraordinary costs of malgovernance for many of the countries that have suffered from it. Even a loss of one percentage point a year amounts, over thirty-five years, to a per capita gross domestic product that is forty percent lower. Those pondering the mystery of why seemingly promising countries like Argentina (itself once one of the wealthiest countries in the world) and India have struggled so mightily in the postwar period have a promising explanation in poor government policies.

To again assess who which countries have benefited from terms-of-trade adjustments presumably out of their control, Table 11 depicts the average annual gains or penalties to growth from adverse terms-of-trade developments from 1960-1995. The most noteworthy finding is how small the losses other relative to those from bad policy. Each of the individual components of the costs of malgovernance has had more dramatic effects than terms of trade shocks, and there is not a single country that has lost more than three tenths of a percentage point of average annual per capita growth between 1960 and

1995. This is a significant finding in light of the argument that one still frequently hears that developing countries are systematically handicapped by their dependence on commodities, which allegedly are subject to systematically adverse developments in relative prices. In fact, the list of countries that have benefited most from changes in international relative prices over the full sample period is dominated by developing countries.

As before, the correlation matrix for events associated with policy (i.e., between *PREMIUM*, *INFLATION*, *GCGP* and *OPENNESS*) is calculated, and presented in Table 12. Other than the relation between *PREMIUM* and *INFLATION*, there is no overwhelming sense in the full sample of coincidence among the various components.

The lesson that emerges is compelling: bad policy is costly. In that sense, the increasing emphasis, at least in their public statements, that multilateral organizations and OECD countries are placing on sound policy as a condition for substantially enhanced development assistance is undoubtedly a step forward form past practices. Some evidence (Alesina and Weder, 2002) indicates that not only was sound policy not a condition in the past for substantial development assistance, there was even a negative correlation between corruption and aid, and conditioning aid on policy may be effective more as a payoff than as a further contribution to development, in that development assistance may contribute negatively to growth (Osborne, 2003).

5. Lessons for economic reform

The last ten to fifteen years have demonstrated that the process of economic reform is surprisingly complex. It is true that the Washington Consensus, substantial

market reform as a condition for IMF and other multilateral assistance, has been substantially accepted among the most influential development economists, as well as many government officials in developing countries. From Carlos Salinas in Mexico to the nominally Peronist Carlos Menem in Argentina to Yoweri Museveni in Uganda, the list of leaders who embraced market-based reforms, whether out of original conviction or conversion, is lengthy and until recently was growing. However, acceptance by the public of such measures, particularly in Latin America, is another matter. Recent election results in Venezuela, Ecuador and Brazil suggest public impatience with the inability of reform, or at least the appearance of reform, to quickly deliver increased prosperity. In Argentina the timeline is somewhat different, in that there were several years of rapid growth followed by a spectacular collapse, but the public sentiment for expanding or even maintaining economic reform is quite possibly fading.

If good policy pays off (as the above evidence suggests), but not quickly enough given political constraints, this is a significant problem for those in charge of making policy. Indeed, if one assumes that a government *wants* to enact the reform program that will be most effective, this amounts to maximizing economic growth over the long term against the constraint of political resistance. But as we have seen different components of reform contribute to reform in different amounts. Each component – inflation, distortions, openness, government spending – can be thought of as generating marginal benefits in the form of higher growth as well as marginal costs in the form of both political resistance and the political transaction costs of implementation. To conquer hyperinflation will harm some constituencies, but probably not many – those who benefit from inflation management, perhaps, but few others. Untangling the web of government

distortions, each of which benefits one or more constituencies in obvious ways while imposing costs on other disparate, poorly organized groups that may well be unknown to them, is arguably a far more difficult task. The same logic holds for lower government spending. Increasing openness is a more complex case, as each trade or investment barrier benefits some domestic constituency, but if most or all such barriers can be eliminated at a stroke the benefits may flow immediately and obviously to many groups as well. The optimal path of reform clearly must take these considerations into account.

Theory has a fair amount to say about which steps should be taken when. There are two independent issues. First, should reform even be gradual, or instead of the "big bang" type? Only if gradual reform is recommended does sequencing even become an issue. With respect to the first question, Fernandez and Rodrik (1991) specifically model political resistance by sectors of the population, and find that one-shot reform is preferred when losers are substantial and who the winners and losers are is difficult to predict. Gradualism in such an environment invites mobilization by the losers and hence potential failure. Dewatripont and Roland (1995) find that gradual reforms are generally more likely to survive politically, particularly if winners can be generated and politically cultivated in the early stages.

But such work is of course only helpful if the existence or absence of those conditions can be established *before* reform begins. Given the difficulty of identifying such conditions, and then identifying the constituencies likely to support reform, the empirical relevance of such work is somewhat muted. But other work specifically tackles the proper ordering of reform steps. In general, it finds that macroeconomic stabilization, by which is meant control of budget deficits and inflation and the establishment of a more

realistic exchange rate, ought to come first along with trade liberalization. Financial-market liberalization should come later. This literature is surveyed in (World Development, 1997) and Krueger (2000, "Second stage"). In any event, political opposition may compel a partial liberalization in the early stages, and when that is combined with the theoretical arguments in favor of gradualism the question arises, what first?

This amounts to asking, of the four measured components of malgovernance tackled here, which one would contribute the most good? The analysis above suggests that there is no ironclad recipe for choosing among tackling inflation, government distortions, the closed nature of the economy and excessive government spending. In different countries different problems do different amounts of damage. Thus, each country must examine its own costs from malgovernance to see which policies exact the greatest costs in terms of foregone growth. For example Zambia, the country with the greatest total losses during the 1990-1995 period in Table 7, lost .014896 points of growth (relative to the mean) to excessive spending, .016545 points to inflation, 0071508 points to closure of the economy to foreign trade and investment, and .0142833 points to government distortions. If one reform must be chosen, and assuming (perhaps heroically) no feedback effects to other costs, control of inflation would seem to be the most urgent task from the point of view of benefits. (The political costs of implementing various types of reform are another matter.)

Some interesting results come from investigating the path of those countries that have actually engaged in the greatest amount of reform. One way to do that is to examine the countries whose total losses from malgovernance have decreased by the greatest

amount between the 1960-1965 and 1990-1995 periods. Table 13 lists the values for *LOSSTOTAL* for each five-year period between 1960 and 1995 for the ten nations with the greatest positive change in that variable between 1960-65 and 1990-95. Among the nations listed are several exemplars for either dramatic economic reform or successful policy, which is an indication that the measurements of distortion and reform used in this paper are consistent with the general understanding of these concepts. In particular, Indonesia can be seen to have begin dramatic reform after 1970, Korea in roughly 1965 or 1970, Chile in the 1975-1980 period, Israel after 1985, Ireland after 1970, New Zealand after 1985 and Uganda after 1990. In addition two countries, the Central African Republic and Tunisia, have reform patterns that are less sudden and will be discussed in more detail below.

The details of reform are somewhat different in various countries. Figs. 2-11 depict the contribution, positive or negative, of each policy component to growth relative to the mean. In Indonesia, where the net contribution of policy changed by the greatest amount between 1960 and 1995, the most significant contributions were made by conquering inflation after 1970 and opening up to the world economy after 1975. Korea made modest cuts in government distortions after 1965 and opening up the economy after 1970. Inflation was never a significant contributor to poor policy there. After 1985, government consumption actually went from being a modest boost to growth to a modest negative. This might be because as it became wealthier Korea underwent the well-known tendency of wealthier countries to expand the reach of government (Peltzman, 1980).

In Chile, interestingly, the obviously radical reforms after 1975 in fact at first simply returned the country to the status quo before the Allende government took power

in 1970. But the reform was broad-based, with inflation, distortions and openness contributing far more substantially to growth after 1975 than before. Only government consumption worsened its negative impact on growth. In Israel, it was inflation and openness that were doing the most damage by 1985, and whose repair was the most dramatic change in policy. As in Korea and Chile, government consumption rose after the dramatic reform period, and it is possible that this involved extending the social-spending safety net to make reform more palatable, a possibility that has been suggested for Chile in particular (Valdés, 1995).

Ireland made dramatic improvements in openness after 1970, and steady but modest improvements in government consumption. New Zealand's post-1985 reform, so obvious in Fig. 9, again revolved mostly around opening the economy. Openness is also important in Uganda after 1990, with *OPENNESS* changing from a small drain to a major boost to the economy. Inflation is also a big part of the story there, changing from a major to a tiny drag on economic performance. In the Philippines openness is again a major part of the reform after 1985, with a significant improvement in each subsequent five-year period. There was major improvement in the cost of government distortions between 1985 and 1990, followed by a slight retrenchment in the next period.

Several implications emerge from this pattern. First, openness is a part of each of the successful reform efforts. While the imprecision of the measurement of *OPENNESS* merits caution as to the exact size of the effects from opening up in each case, it is clear, that if a reform is substantial it generally includes this step. In most cases, opening up is in fact one of the first things that is done. The same is true of inflation – if it is a significant problem, tackling it seems to be a necessary first step. In each case where

reform took hold and inflation was a problem, its elimination occurred early in the process. In one case, Indonesia, major reforms in openness occurred after inflation was conquered.

The importance of inflation conquest in successful reform is not surprising. Inflation is costly in a very visible way – all segments of the population are affected by it, it is not invisible to the average citizen in the way that government distortions or trade barriers might be, and many people are largely defenseless against it. To slay the inflation dragon is to chalk up a substantial success in economic reform, which may give governments that achieve it the credibility to engage in further reforms.

The tackling of government distortions also reveals interesting problems. In several countries (Indonesia and Israel) distortions appear to have been addressed after other problems – a sequential approach. In the Central African Republic and Korea, it appears that distortions were never seriously addressed. In one – Tunisia – they were addressed before other problems, but even in 1995 distortions were in that country relative to the global mean a drag on economic growth. By the measure used, two countries – New Zealand and Ireland – had no distortions to tackle. In only two countries – Chile and the Philippines – was a simultaneous solution to distortions and inflation and/or openness successfully achieved.

That inflation-fighting is such a big part of successful reform is unsurprising. In addition to the aforementioned immediate political benefits, there are a number of relatively simple remedies available on the shelf for purging inflation, especially hyperinflation. Adopting significantly tighter monetary policies, more exotic hard-currency systems such as the currency board, and in several Latin American countries

outright dollarization have all had significant success in curbing hyperinflation. Admittedly, in at least on case – Argentina – the currency-board option has been blamed for exacerbating if not outright causing the economic collapse in that country in late 2001 and early 2002. On the other hand, such systems have been argued to be successful in Lithuania, Estonia and Hong Kong, among other places. The verdict on dollarization is still out – the preliminary evidence from Latin America is that they are overwhelmingly successful in slaying hyperinflation, but their long-term effects are unknown.

The relatively low transaction costs of inflation fighting, combined with the payoffs in higher growth and the immediate political approval from same, surely explain why gradualist nations emphasize it in the early stages. In addition, the relative rareness of distortion removal in the early stages of gradual reform provide some support for the framework sketched here of the growth and political benefits versus political- and transaction-costs framework. This is buttressed by the relative unimportance in early stages of reform of lower government consumption spending. In Indonesia, government spending declined in the period after other reforms, before rising again after 1985. In Chile it actually expanded during the first five-year period, but eventually declined after 1985. Similar initial deteriorations occurred in Israel and Uganda, if reform is dated as beginning after 1985 and 1990 respectively in those countries. In the Philippines government consumption does not appear to have been a part of the reform process at all, while in Tunisia, Ireland and New Zealand it was not a big part of the problem. Only in the Central African Republic was government consumption tackled early in the reform process, and there the reform was quite gradual. That government consumption is such a small part of these reforms is of interest in light of the emphasis it often receives in IMF

reform programs. Of course, to be fair often the demands to slash government spending are not because spending per se is high but because deficits are huge. However, absent chronic deficits of that sort, substantial cuts in spending may rank relatively low in terms of immediate importance in economic reform.

Gradual vs. total

Is radical reform practical? The feasibility of empirical analysis suffers from an inability to differentiate it from gradual reform in the data. The analysis here does allow at least an attempt. Reform must be defined by a change from policies that are hostile to those that are friendly to growth. The calculated policy loss *LOSSTOTAL* can serve as a proxy for that variable. I will define the scope of reform as any change in *LOSSTOTAL* from one five-year period to the next of at least 0.01, i.e. a change of at least one percentage point in the growth-friendliness of policies. The list of countries who have engaged in it by that measure is found in Table 14. There are three such changes between 1965 and 1970 (Venezuela, Brazil and Taiwan), four between 1970 and 1975 (Indonesia, Egypt, Senegal and Korea) and between 1975 and 1980 (Chile, Cameroon, Indonesia and Sri Lanka), two between 1980 and 1985 (Chile and Mauritania), five between 1985 and 1990 (Bolivia, Israel, Ghana, Costa Rica and the Central African Republic) and 14 between 1990 and 1995 (Argentina, Poland, Uganda, Mexico, Venezuela, Paraguay, Bolivia, Israel, Turkey, Ghana, Uruguay, Tunisia, Gambia and the Philippines). That the measure is a useful proxy for the phenomenon is supported by the huge increase in such reforms in the 1990s, which is generally judged to be the time when the pressures of

globalization, the desires of multilateral agencies and ODA donor countries and the desires of the body politic (particularly in the former Soviet bloc) are generally held to have created a great deal of momentum for market-friendly policies.

It is possible to (roughly) distinguish between gradual reform and shock therapy by looking at the changes in the components of *LOSSTOTAL*. In so doing, two questions present themselves: is each type of reform sustained, and does it generate higher economic growth? Nine of the 17 reforms involved only two of the four components, while eight involved three or four. First, it was worth noting that ten years out, in all 17 cases the growth penalty was less than before reforms began, suggesting that in either case reform can hold. But the average growth penalty in the modest-reform countries had improved by 1.29980 percentage points during this period, while in the more dramatically reformed economies it had improved by 3.25151 points. Of course, the proof of the pudding is in growth, not the estimated growth penalty. During the five-year period beginning ten years after the onset of reform, the gradual-reform countries by the above criteria grew an average of 3.00 percent per year, versus 2.42 percent in the five-year period prior to reform while the shock-therapy countries grew an average of 3.68 percent, versus prior growth of 2.86 percent. Of course, the small number of observations in this respect make firm conclusions hazardous, but both methods do seem to provide some payouts down the road, with a modest edge to radical reform.

6. Conclusion

If the findings are to be believed, policy matters – a lot. The notion that a select group of nations might, because of their knowledge and technological infrastructure, leap

irretrievably beyond the ability of poorer nations to catch up at least to a first approximation is an appealing one in light of the results of fifty years or more of surprisingly difficult efforts to develop. But the notion of an impassable barrier between rich nations growing ever more prosperous and a large group nations mired in hopeless poverty would, if true, argue against *any* nations ever advancing from poverty to prosperity. That significant numbers of nations have made some progress, and that a few have completely made the transition from underdeveloped to developed is a sign that all is not lost. The prime implication of the findings here is that good policy, however it is to be achieved, is effective in making substantial improvements to growth rates. This appears to be true whether reform is gradual or sudden, although there does seem to be slight room in the data for preferring sudden reform. In any case, the importance of sound policy ought to be elevated to a dominant level in the discussion of improving the lot of the world's poor.

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Table 1

Growth in the developing world, 1960-1995

Below-median climbers

Per capita Y	*1960*	*1995*
Seychelles	1253	4260
Swaziland	1240	2629
Tunisia	1095	3160
Indonesia	641	2499
Jordan	1158	3197
S. Korea	898	9145
Sri Lanka	1253	2536
Thailand	940	4869

Most rapid growth

	Annual per capita growth rate
S. Korea	6.86
Singapore	6.72
Taiwan	6.29
Hong Kong	6.15
Malta	5.36
Thailand	4.81
Malaysia	4.64
Botswana	4.48
Portugal	4.31
Indonesia	3.96
Lesotho	3.76
China	3.75
Seychelles	3.56
Greece	3.51
Syria	3.19
Tunisia	3.07
Jordan	2.94
Barbados	2.80
Morocco	2.71
Turkey	2.60
Egypt	2.60
Cape Verde	2.57
Brazil	2.56
Mauritius	2.54
Pakistan	2.40
Colombia	2.32
Panama	2.30
Gabon	2.20
Swaziland	2.17
Mexico	2.13
Sri Lanka	2.03
Dom. Rep.	2.03

Table 2

Physical and human capital, by national per capita income

	Bottom third	*Middle third*	*Top third*
Non-residential capital stock, 1990	1627.80 (*n* = 10)	8408.68 (*n* = 19)	30,289.23 (*n* = 31)
Average years of schooling, 1995	3.05 (*n* = 30)	5.73 (*n* = 33)	7.89 (*n* = 48)
Primary student-teacher ratio, 1995	44.03 (*n* = 30)	28.55 (*n* = 33)	21.41 (*n* = 48)

Sources: Penn World Tables 5.6 (physical capital), Barro and Lee (1994) (human capital)

Table 3

OLS results, entire sample

Variable	*Coefficient*	*Standard Error*
CONSTANT	.0241222	.0067432
*PCGDP***	-6.48e-06	1.10e-06
*INVGDP****	.1110481	.0240248
*PREMIUM**	-.0018652	.0010576
*GCGDP****	-.1143939	.0252939
*TRADESHOCK****	.0832733	.0257677
*OPENNESS****	.0138895	.0040703
*HUMCAP***	1.98e-06	6.75e-07
*INSTABILITY**	-.0141174	.007702
*INFLATION****	-.0281259	.0071934
DEMOCRACY	-.0004643	.0052111

F: 17.98***

R^2: 0.3493

N: 346

Note: * denotes statistical significance at the ten-percent level.

** denotes statistical significance at the one-percent level.

*** denotes statistical significance at the 0.1-percent level.

Table 4

Geographical and temporal distribution of per capita income

Poorest fifth (below $816.60)

	S. Asia	Middle East	Sub-Saharan Africa	East Asia	Latin Amer.	Eur./N. Amer.	Total
1960	1	0	4	1	1	0	7
1965	1	0	8	1	0	0	10
1970	1	0	7	1	0	0	9
1975	0	0	8	0	0	0	8
1980	0	0	8	0	0	0	8
1985	0	0	13	0	0	0	13
1990	0	0	7	0	0	0	7
Total	3	0	55	3	1	0	62

Top fifth (above 6807.2)

	S. Asia	Middle East	Sub-Saharan Africa	East Asia	Latin Amer.	Europe	Total
1960	0	0	0	0	3	3	3
1965	0	2	0	0	2	4	4
1970	0	3	0	0	3	7	7
1975	0	4	0	1	5	12	12
1980	0	4	1	2	6	16	16
1985	0	2	1	3	4	16	16
1990	0	2	1	2	5	15	15
Total	0	17	3	8	28	0	73

Table 5

Regression Results

Top fifth

Variable	*Coefficients*							
PREMIUM	-.0013522*	-.0013636*	-.0012824*	-.0012493*	-.0015188*	-.0013196*	-.0012861*	-.0012591*
GCGDP	-.1095196***	-.1052964***	-.1119875***	-.1116001***	-.1047702***	-.1075777***	-.1102927***	-.1119689***
INFLATION	-.0299949***	-.0304655***	-.0292873***	-.0299961***	-.0302654***	-.0308095***	-.030057***	-.029743***
INSTABILITY	-.0140906*	-.0138494*	-.0143462*	-.0138278*	-.0142824*	-.01408*	-.0141127*	-.0142784*
INVGDP	.0930784***	.0924124***	.0933907***	.0927042***	.0981478***	.0899006***	.0926308***	.0933675***
HUMCAP	.00000139**	.00000148**	.00000154**	.00000143**	.00000139**	.00000175**	.00000142**	.00000140**
OPENNESS	.015067***	.0149436***	.0147649***	.0151598***	.0144974***	.0148969***	.0153538***	.0149408***
TOFTSHOCK	.0691863***	.069556***	.0699264***	.0692126***	.0609432***	.0695487***	.0689953***	.074587***
PCGDP	-.00000459***	-.00000445***	-.00000483***	-.00000483	-.00000400***	-.00000456***	-.00000470***	-.00000484***
CONSTANT	.0237669***	.0229764***	.0243904***	.0246634***	..0212466***	.0233844***	.0241665***	.024788***
INTER1PRE	.0004215	-	-	-	-	-	-	-
INTER1GC	-	-.0705123	-	-	-	-	-	-
INTER1INFL	-	-	-.0178962	-	-	-	-	-
INTER1INST	-	-	-	-.0084581	-	-	-	-
INTER1INV	-	-	-	-	-.0392014*	-	-	-

Table 5 (continued)

Top fifth

Variable	Coefficients							
INTER1HC	-	-	-	-	-	-.00000551	-	-
INTER1OPEN	-	-	-	-	-		-.0018991	-
INTER1TT	-	-	-	-	-		-	-.0700875
N	487	487	487	487	487	487	487	487
R^2	.3577	.3591	.3583	.3575	.3626	.3584	.3575	.3449
F	26.51***	26.67***	26.58	26.48	27.08***	26.59***	26.49***	26.59***

Bottom fifth

PREMIUM	-.0018659**	-.0013168*	-.0012426*	-.0012801*	-.0012559*	-.0012423*	-.0012323*	-.0012224*
GCGDP	-.1022232***	-.1057736***	-.1119918***	-.1111923***	-.1110792***	-.1096271***	-.1114181***	-.1121667***
INFLATION	-.0296984***	-.0296478***	-.0300588***	-.0290463***	-.0298885***	-.0295879***	-.0297585***	-.0300572***
INSTABILITY	-.0150719*	-.0146726***	-.01414*	-.0131193*	-.0142314*	-.0147174*	-.0143447*	-.0142904*
INVGGDP	.0877031***	.0913523***	.0933768***	.0903788***	.0931822***	.0911466***	.0923011***	.093261***
HUMCAP	.00000141**	.00000140**	.00000142**	.00000138**	.00000141**	.00000141**	.00000141**	.00000144**
OPENNESS	.013868***	.0150124***	.0151217***	.0151371***	.0150959***	.0152334***	.0154135***	.0152491***
TOFTSHOCK	.0684828***	.0690617***	.0693247***	.0680788**	.069182***	.0697726***	.0696151***	.0782199***

Table 5 (continued)

Variable	Coefficients							
PCGDP	-.00000508***	-.00000487***	-.00000485***	-.00000485***	-.00000486***	-.00000487***	-.00000486***	-.00000486***
CONSTANT	.0249556***	.024754***	.0247058***	.0251914***	.0247206***	.0252052***	.0248409***	.0247126***
INTER2PRE	.0026683*	-	-	-	-	-	-	-
INTER2GC	-	-.0146201	-	-	-	-	-	-
INTER2INFL	-	-	.0007989	-	-	-	-	-
INTER2INST	-	-	-	-.0239171	-	-	-	-
INTER2INV	-	-	-	-	-.0046387	-	-	-
INTER2HC	-	-	-	-	-	-.00000249	-	-
INTER2OPEN	-	-	-	-	-	-	-.0037755	-
INTER2TT	-	-	-	-	-	-	-	-.0450959
N	487	487	487	487	487	487	487	487
R^2	.3577	.3580	.3574	.3589	.3574	.3579	.3575	.3583
F	26.51***	26.55***	26.47***	26.65***	26.47***	26.53***	26.48***	26.58***

Table 6

Regression results, with interaction terms

Variable	*Coefficient*	*Standard Error*
*CONSTANT**	.0127393	.0050774
*PCGDP****	-3.35e-06	7.20e-07
*INVGDP****	.1279158	.0182063
*PREMIUM***	-0.0020454	0.0007124
*GCGDP****	-0.0552653	0.0162408
*TRADESHOCK****	0.075532	0.02177
*OPENNESS**** .	0.0122968	0.0032949
*HUMCAP**	1.10e-06	5.03e-07
*INSTABILITY**	-0.0135358	0.0065842
*INFLATION****	-0.0217672	0.0052823
*INTER1INV***	-0.0522926	0.0200165
*INTER2PREM**	0.0022576	0.011876

F: 23.74***

R^2: 0.3472

N: 503

Note: * denotes statistical significance at the ten-percent level.

** denotes statistical significance at the one-percent level.

*** denotes statistical significance at the 0.1-percent level.

Table 7
Policy losses, 1990-1995

PREMIUM		GOV. CONSUMPTION		INFLATION		TOTAL (including OPENNESS)	
1. Sudan	-.018012	Bangladesh	-.0288824	D.R. Congo	-.0881611	Zambia	-.0528751
2. Iraq	-.0157129	Congo	-.0264371	Brazil	-.0602273	Bangladesh	-.0412315
3. Zambia	-.014283	Seychelles	-.0153241	Nicaragua	-.0192669	Congo	-.0406117
4. Iran	-.0139607	Zambia	-.014896	Suriname	-.0176086	Nicaragua	-.0333811
5. Rwanda	-.0123634	Gambia	-.0145059	Zambia	-.016545	Malawi	-.0333646
6. Afghanistan	-.0116902	Malawi	-.0129835	Peru	-.0130841	Nigeria	-.0278548
7. Burundi	-.0101165	India	-.011956	Turkey	-.0127837	Algeria	-.0235717
8. Tanzania	-.0100075	Egypt	-.011014	Uruguay	-.0098094	Zimbabwe	-.023245
9. Syria	-.0097141	Cameroon	-.0090921	Mozambique	-.0076283	Egypt	-.0216799
10. Haiti	-.0094832	Guyana	-.008683	Congo	-.0075382	India	-.0206507

Countries with maximum losses from lack of openness (.0071508): Iraq, Congo, Senegal, Myanmar, Chad, Mauritania, Zimbabwe, Cote D'Ivoire, Papua New Guinea, Kenya, Trinidad and Tobago, Nigeria, Algeria, Cameroon, Gabon, Zambia, Haiti, Madagascar, Malawi, Burundi, D.R. Congo, Sierra Leone, Somalia, Mozambique, Bangladesh, Iran, India, Pakistan

Table 8

Correlation of components of malgovernance, 1990-95

Full sample

	PREMIUM	*INFLATION*	*OPENNESS*
INFLATION	0.3666		
OPENNESS	-0.5728	-0.1457	
GCGDP	0.2806	0.0586	-0.4522

Negative per capita growth

	PREMIUM	*INFLATION*	*OPENNESS*
INFLATION	0.6109		
OPENNESS	-0.5329	-0.2466	
GCGDP	0.2447	0.4819	-0.3147

Table 9

Losses from terms of trade shocks, 1990-1995

1.	Yemen	-.0128522
2.	Trinidad and Tobago	-.0089113
3.	Syria	-.0077276
4.	Comoros	-.00705
5.	Nigeria	-.0063427
6.	Mozambique	-.0063083
7.	Angola	-.0048
8.	Guinea-Bissau	-.0046544
9.	Guinea	-.0042862
10.	Gabon	-.0034569

Table 10

Policy losses, entire sample period

PREMIUM		GOV. CONSUMPTION		INFLATION		TOTAL (including OPENNESS)	
1. D.R. Congo	-.0122629	Bangladesh	-.0196369	Argentina	-.0198353	Zambia	-.031146
2. Tanzania	-.0106803	Zambia	-.0152793	D.R. Congo	-.0181369	Uganda	-.0259174
3. Ethiopia	-.00973	Guyana	-.0127932	Peru	-.0138244	Argentina	-.0245935
4. Poland	-.0092194	Cent. Afr. Rep.	-.0111499	Nicaragua	-.0103602	India	-.0223809
5. Sudan	-.0090739	India	-.0107055	Uruguay	-.0091125	Nigeria	-.0211238
6. Malawi	-.0088354	Panama	-.0083839	Bolivia	-.0082233	Ghana	-.0171532
7. Zambia	-.0084939	Malawi	-.0083092	Chile	-.0070161	Uruguay	-.0152309
8. Rwanda	-.0078205	Togo	-.007987	Uganda	-.0056179	Chile	-.0151685
9. Bangladesh	-.0075058	Nigeria	-.0064362	Indonesia	-.0055085	Algeria	-.0136571
10. Nepal	-.0074826	Cameroon	-.0055758	Israel	-.0052582	Cent. Afr. Rep.	-.0136571
11. Ghana	-.0074071	Sri Lanka	-.0045808	Turkey	-.004231	Sri Lanka	-.0123975
12. Hungary	-.0073461	Egypt	-.0044096	Ghana	-.0034466	Kenya	-.011222
13. Algeria	-.0072049	Kenya	-.0041309	Zambia	-.0031905	Bolivia	-.0105097
14. Nigeria	-.0069961	Costa Rica	-.0038931	Sierra Leone	-.0030815	Pakistan	-.0102893
15. Burundi	-.0067901	Uganda	-.0032936	Mexico	-.0023561	Burundi	-.010203
16. Iraq	-.006649	Chile	-.0030952	Iceland	-.0017781	Costa Rica	-.0095969
17. Iran	-.0061675	Bolivia	-.0028805	Mozambique	-.0014082	Togo	-.0091251
18. Pakistan	-.0056121	Burkina Faso	-.0027812	Ecuador	-.0011974	Paraguay	-.0089928
19. Sri Lanka	-.0054044	Ghana	-.0025502	Colombia	-.0010542	Dom. Republic	-.0088553
20. Zimbabwe	-.0051847	Philippines	-.0010618	Suriname	-.0010542	Cameroon	-.0082892
21. Syria	-.0051125	Algeria	-.0008865	Nigeria	-.0005407	Israel	-.0079563
22. Chile	-.0050871	Ecuador	-.000756	Tanzania	-.000205	Philippines	-.0071179
23. El Salvador	-.0050643	Sweden	-.0007465	Jamaica	-.0001461	Turkey	-.0066875
24. Dom. Rep.	-.0045662	Mauritius	-.0006513	Venezuela	.0001497	Tunisia	-.005536
25. Argentina	-.0043291	Nicaragua	-.000635	Costa Rica	.0004618	Indonesia	-.0051368
26. Yugoslavia	-.0042262	Honduras	-.0004637	Paraguay	.000541	Iran	-.0050051
27. Kenya	-.0041586	Denmark	-.0004298	Iran	.0005945	Colombia	-.0043421
28. Botswana	-.0041427	Madagascar	-.0003237	Malawi	.0006956	Burkina Faso	-.0038689
29. Brazil	-.0041158	Paraguay	-.0002802	Dom. Republic	.0007439	Ecuador	-.0028875
30. Paraguay	-.0039924	Tunisia	-.0001063	Portugal	.0008047	Honduras	-.0017107
31. Jamaica	-.0037313	Pakistan	.0005149	Greece	.0008985	Venezuela	-.0005113

Table 10 (continued)

Policy losses, entire sample period

PREMIUM		GOV. CONSUMPTION		INFLATION		TOTAL (including OPENNESS)	
32. Lesotho	-.0037192	Cyprus	.0008778	Philippines	.0010388	Jamaica	-.0001289
33. Ecuador	-.0034773	Jordan	.0011225	Madagascar	.0010563	Syria	.0002564
34. Turkey	-.0033647	Uruguay	.0013182	Korea	.0010737	Mexico	.0006368
35. Indonesia	-.0033255	Portugal	.0013263	Syria	.0011797	New Zealand	.0080982
36. Tunisia	-.0033255	Zimbabwe	.0013794	Kenya	.0011949	Korea	.0085963
37. Israel	-.0029391	U.K.	.0015656	Congo	.0011979	Cyprus	.0092031
38. Bolivia	-.0028373	Indonesia	.0017776	Myanmar	.001245	Jordan	.0094892
39. Costa Rica	-.0027941	Peru	.0018034	Zimbabwe	.0012955	Portugal	.0097122
40. Colombia	-.0024809	Burundi	.0018116	El Salvador	.0012966	Greece	.0116128
41. South Africa	-.002416	Thailand	.0019013	South Africa	.0013178	Malaysia	.0153013
42. Philippines	-.0022117	Austria	.002063	Egypt	.0013549	Sweden	.0153017
43. Korea	-.0019039	Dom. Rep.	.0021201	Bangladesh	.0013698	Denmark	.0156429
44. Afghanistan	-.0018385	Ireland	.0025293	Lesotho	.0014509	Thailand	.0158535
45. Morocco	-.001818	New Zealand	.0026407	Swaziland	.0015276	Ireland	.0159626
46. Uruguay	-.0015518	Finland	.0029071	Spain	.0015803	U.K.	.0173859
47. Cyprus	-.0006754	Colombia	.0029425	Algeria	.0015851	Austria	.0181553
48. Greece	-.0003031	Malaysia	.0031164	Nepal	.0016521	Spain	.0184582
49. Venezuela	-.0002153	France	.0036493	Gambia	.0016656	Finland	.0188725
50. Jordan	-.0001181	Jamaica	.0037186	Guatemala	.0016681	Italy	.0196585
51. Portugal	.0015044	Norway	.0037281	Haiti	.0017638	France	.0198412
52. Congo	.0017881	Israel	.0039904	Trin. & Tobago	.0017714	Norway	.0198748
53. Senegal	.0017881	Italy	.0041861	Italy	.0017944	Australia	.0198962
54. Cote D'Ivoire	.0017881	Spain	.0042052	Botswana	.0018046	Belgium	.0223842
55. Benin	.0017963	Venezuela	.0048155	Sri Lanka	.0018474	Canada	.022394
56. Mexico	.0019827	Greece	.0049405	Burundi	.0019263	Netherlands	.0233248
57. Cameroon	.0023342	Mexico	.0051376	India	.001957	U.S.	.0243614
58. Honduras	.0025404	Argentina	.0054557	Pakistan	.0019588	Switzerland	.0245606
59. Guatemala	.002625	Australia	.005684	Mauritius	.0019674		
60. Malaysia	.002854	Canada	.0059382	New Zealand	.0019838		
61. Haiti	.0030167	Trin. & Tobago	.00607	Honduras	.001984		
62. Niger	.0033434	Turkey	.0061693	Ireland	.002023		

Table 10 (continued)

Policy losses, entire sample period

	PREMIUM		GOV. CONSUMPTION		INFLATION		TOTAL (including OPENNESS)
63.	Cen. Afr. Rep.	.0033473	Belgium	.0064832	Mauritania	.0020695	
64.	Burkina Faso	.0033473	Netherlands	.0066627	Hungary	.0020851	
65.	Togo	.0033473	Korea	.006751	Cameroon	.0021032	
66.	Chad	.0040476	Iran	.0077188	U.K.	.0021423	
67.	Thailand	.0051632	Switzerland	.0077392	Barbados	.0022061	
68.	Oman	.0055031	U.S.	.0078275	Cote D'Ivoire	.002217	
69.	Spain	.006596	Singapore	.0085003	Mali	.0022776	
70.	Hong Kong	.006785	Syria	.0090726	Finland	.0022875	
71.	Belgium	.0069053			Gabon	.0022902	
72.	Japan	.0069903			Hong Kong	.002292	
73.	Austria	.0070068			Ethiopia	.0023104	
74.					Sweden	.0023703	
75.					Fiji	.0023898	
76.					Denmark	.0023948	
77.					Jordan	.002408	
78.					Australia	.0024239	
79.					Cent. Afr. Rep.	.0024316	
80.					Norway	.0024687	
81.					Senegal	.0024851	
82.					France	.0025139	
83.					Morocco	.002527	
84.					Kuwait	.0025408	
85.					Tunisia	.0026902	
86.					Papua N.G.	.0026171	
87.					Chad	.0026583	
88.					Togo	.0026656	
89.					Benin	.0026889	
90.					Taiwan	.0027102	
91.					Thailand	.0027121	
92.					China	.0027155	
93.					Burkina Faso	.0027159	

Table 10 (continued)

Policy losses, entire sample period

PREMIUM	GOV. CONSUMPTION	INFLATION		TOTAL (including OPENNESS)
94.		Niger	.0027542	
95.		Canada	.0027779	
96.		Japan	.0028114	
97.		U.S.	.002856	
98.		Belgium	.0029188	
99.		Cyprus	.0029239	
100.		Netherlands	.0029843	
101.		Austria	.0030086	
102.		Luxemburg	.0030094	
103.		Saudi Arabia	.003046	
104.		Switzerland	.0031435	
105.		W. Germany	.0032239	
106.		Malta	.0032274	
107.		Malaysia	.003254	
108.		Singapore	.0032775	
109.		Panama	.0033705	

Note: Australia, Canada, Denmark, Finland, France, Ireland, Italy, Netherlands, New Zealand, Norway, Switzerland, U.K., U.S. and W. Germany had equal estimated bonus from *PREMIUM*, .0076011.

Note: *OPENNESS*

Table 11

Terms of trade losses, 1960-1995

(ttloss or losstt?)

1. Ghana	-.0027388
2. Sri Lanka	-.0021854
3. Nicaragua	-.0019535
4. Malawi	-.0018178
5. India	-.0017208
6. Mozambique	-.0016464
7. Uganda	-.0015207
8. D.R. Congo	-.0015109
9. Japan	-.0015015
10. Mauritania	-.0013217
11. Chile	-.0012711
12. Zambia	-.001258
13. Madagascar	-.0012034
14. Cote D'Ivoire	-.0011165
15. South Africa	-.0011071
16. Pakistan	-.0010054
17. Niger	-.0009912
18. Brazil	-.000983
19. Taiwan	-.0008842
20. Cameroon	-.0008494
21. Thailand	-.0008333
22. Sierra Leone	-.0008267
23. Peru	-.0008257
24. Egypt	-.0007956
25. Mauritius	-.0007643
26. Papua New Guinea	-.000747
27. Argentina	-.0006731
28. Bangladesh	-.0006689
29. Cent. Afr. Rep.	-.0006579
30. Italy	-.0005702
31. Togo	-.0005658
32. U.S.	-.0005317
33. Benin	-.0005181
34. Australia	-.0005132
35. Costa Rica	-.0004919
36. Philippines	-.0004432
37. Ethiopia	-.0003988
38. Jamaica	-.0003966
39. Dom. Republic	-.000368
40. Gambia	-.0003083
41. Trin. & Tobago	-.0002961
42. Canada	-.0002779
43. Guatemala	-.0002383
44. Ireland	-.000201
45. Belgium	-.0001941
46. Malaysia	-.0001529
47. Spain	-.0001515
48. Netherlands	-.0001025
49. Denmark	-.0000928
50. Sweden	-.0000881
51. Senegal	-.0000331
52. Austria	-.0000255

Table 11 (continued)

53.	Chad	.0000687
54.	Mali	.0000996
55.	Israel	.0000997
56.	Uruguay	.0001097
57.	El Salvador	.000115
58.	U.K.	.0001285
59.	Norway	.0001343
60.	Korea	.0001864
61.	Greece	.000215
62.	France	.000231
63.	Colombia	.0002367
64.	Finland	.0003122
65.	Jordan	.0003866
66.	Kenya	.000468
67.	Morocco	.0004759
68.	New Zealand	.0005161
69.	Indonesia	.0007275
70.	Paraguay	.0007363
71.	Switzerland	.0007987
72.	Algeria	.0008011
73.	Honduras	.0008217
74.	Panama	.0008687
75.	Mexico	.0008838
76.	Angola	.0009083
77.	Nigeria	.0009897
78.	Rwanda	.0010205
79.	Venezuela	.001264
80.	Iceland	.0013467
81.	Ecuador	.0014354
82.	Tunisia	.0016663
83.	Burkina Faso	.0017934
84.	Syria	.0018756
85.	Congo	.0020704
86.	Iran	.0022896
87.	Gabon	.0023834
88.	Bolivia	.0028734

Table 12

Correlation of components of malgovernance, 1960-1995 [redo 90-5 with components, not losses]

Full sample

	PREMIUM	*INFLATION*	*OPENNESS*
INFLATION	0.1677	-	
OPENNESS	-0.2268	-0.1651	
GCGDP	0.0790	0.0161	-0.3064

Negative per capita growth

	PREMIUM	*INFLATION*	*OPENNESS*
INFLATION	0.1779		
OPENNESS	-0.1327	-0.1115	
GCGDP	0.0106	-0.0686	-0.1844

Table 13

Successful reform: Value of *LOSSTOT* in each five-year interval

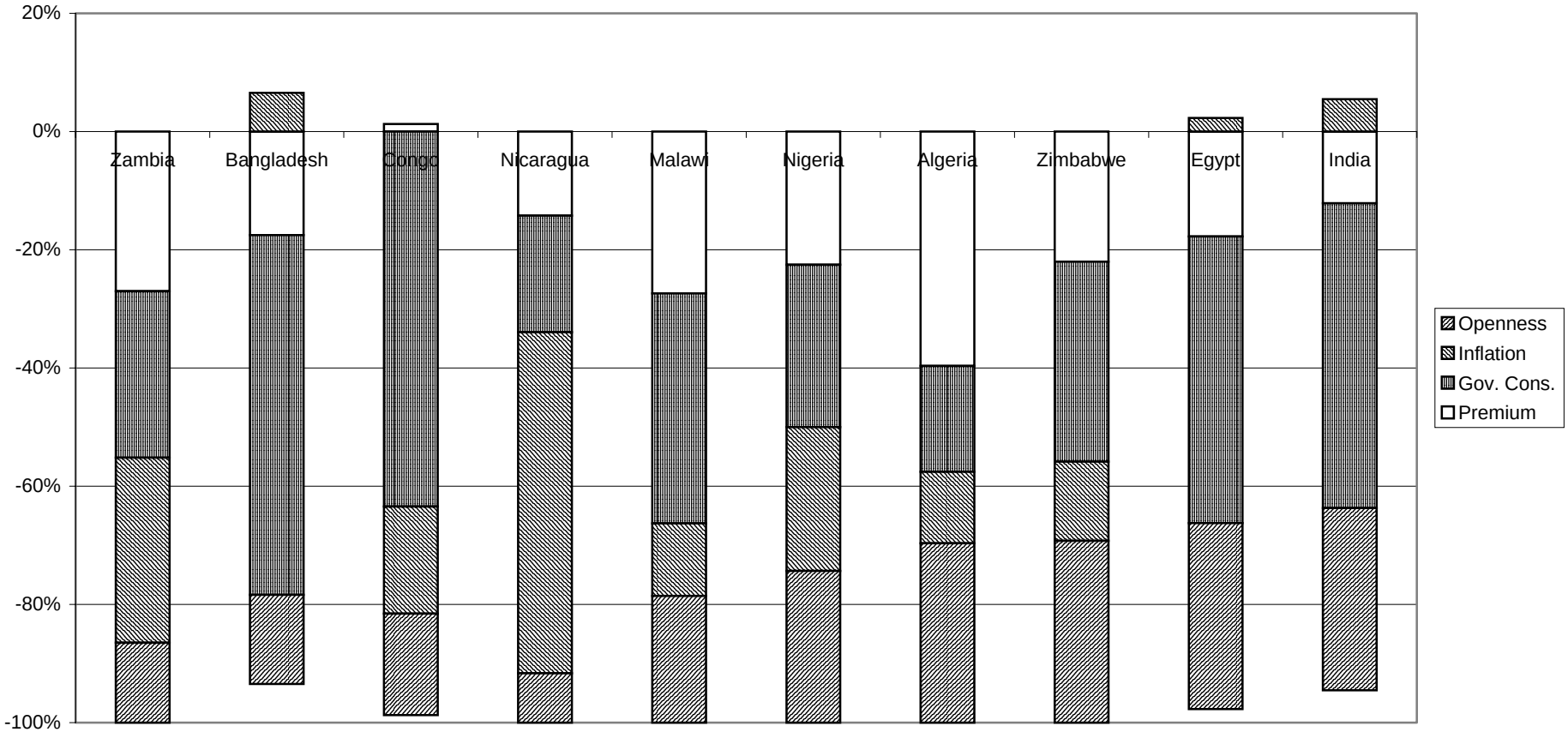
	1965-70	1970-75	1975-80	1980-85	1985-90	1990-95	1990-5	Change
1. Indonesia	-.030431	-.0309901	-.000881	.009903	.0092	.006098	.00601	.036441
2. Korea	-.007256	-.000848	.010531	.012981	.016904	.017369	.023761	.031017
3. Chile	-.018092	-.018434	-.049918	-.016838	.003626	-.000316	.007058	.02515
4. Israel	-.010399	-.002959	-.002688	-.011932	-.027665	-.00025	.013466	.023865
5. Cent. Afr. Rep.	-.032787	-.029149	-.034761	-.025594	-.021843	-.009438	-.011672	.021115
6. Tunisia	-.009538	-.009543	-.006078	-.003984	-.004327	-.001425	.00941	.018948
7. Ireland	.006428	.017759	.017748	.017691	.018437	.022174	.024768	.01834
8. New Zealand	.00741	.007028	.006858	.004588	.005584	.014794	.023693	.016283
9. Uganda	-.017973	-.01579	-.018534	-.029676	-.023176	-.025364	-.002997	.014976
10. Philippines	-.007432	-.004313	-.009758	-.008946	-.010773	-.002747	.007412	.014844

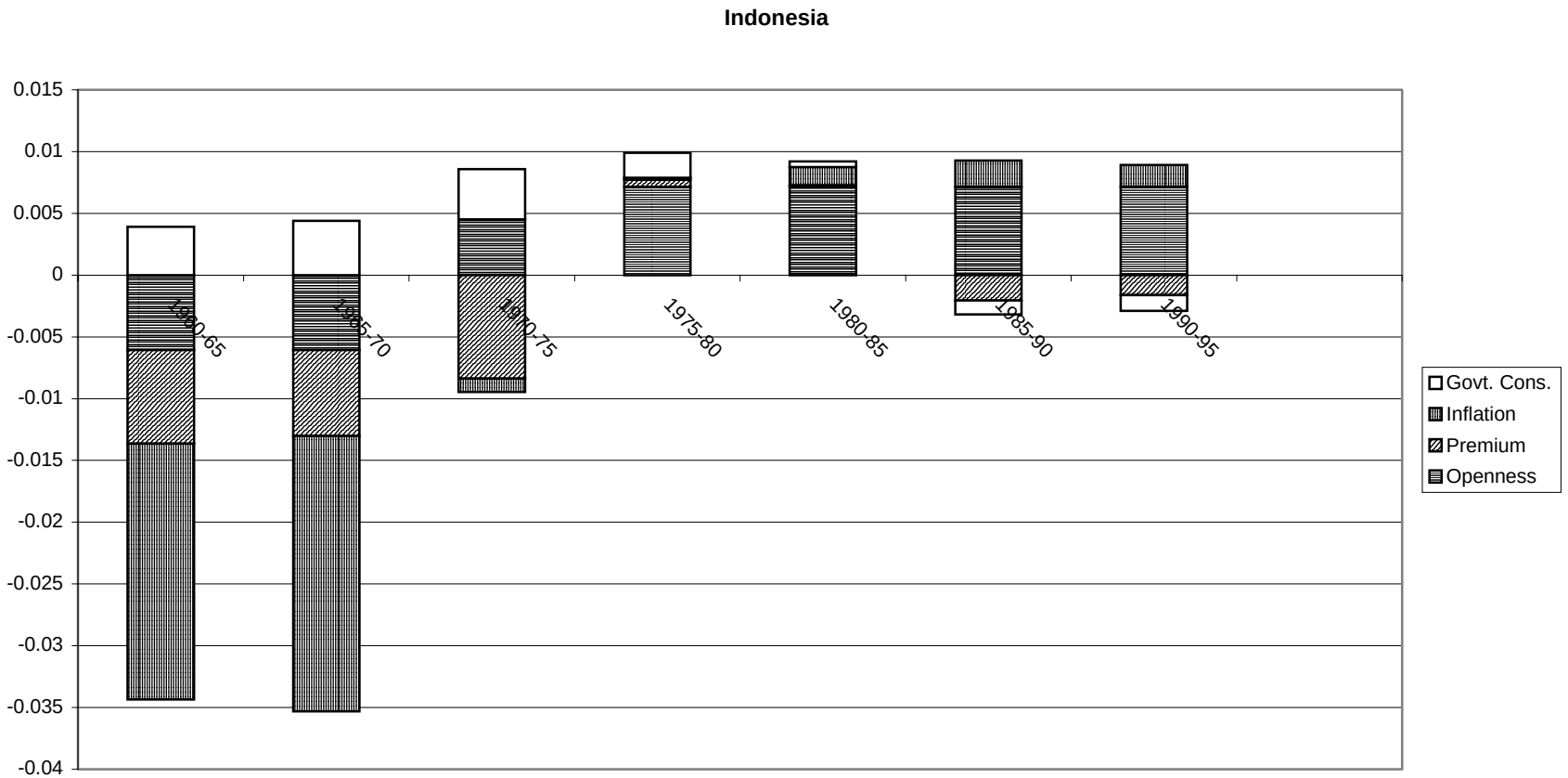
Table 14

Gradual and radical reform

1965		
	Taiwan	Government, Premium
	Brazil	Government, Inflation
	Venezuela	Government, Premium, Openness
1970		
	Indonesia	Premium, Inflation, Openness
	Egypt	Government, Premium
	Senegal	Government, Premium
	Korea	Government, Premium, Openness
1975		
	Chile	Premium, Inflation, Openness
	Cameroon	Premium
	Indonesia	Premium, Inflation, Openness
	Sri Lanka	Government, Premium, Openness
1980		
	Chile	Government, Openness
	Mauritania	Government, Premium
1985		
	Bolivia	Government, Premium, Inflation, Openness
	Israel	Premium, Inflation, Openness
	Ghana	Government, Premium, Inflation, Openness
	Costa Rica	Government, Inflation, Openness
	Cent. Afr. Rep.	Government, Inflation
1990		
	Argentina	Government, Premium, Inflation, Openness
	Poland	Government, Premium, Inflation, Openness
	Uganda	Inflation, Openness
	Mexico	Government, Premium, Inflation, Openness
	Venezuela	Premium, Openness
	Paraguay	Premium, Inflation, Openness
	Bulgaria	Government, Premium, Inflation
	Israel	Government, Premium, Inflation, Openness
	Turkey	Government, Premium, Openness
	Ghana	Government, Premium, Inflation, Openness
	Uruguay	Government, Inflation, Openness
	Tunisia	Premium, Inflation, Openness
	Gambia	Government, Premium, Inflation, Openness
	Philippines	Government, Premium, Openness

Fig. 1 - Components of lost growth

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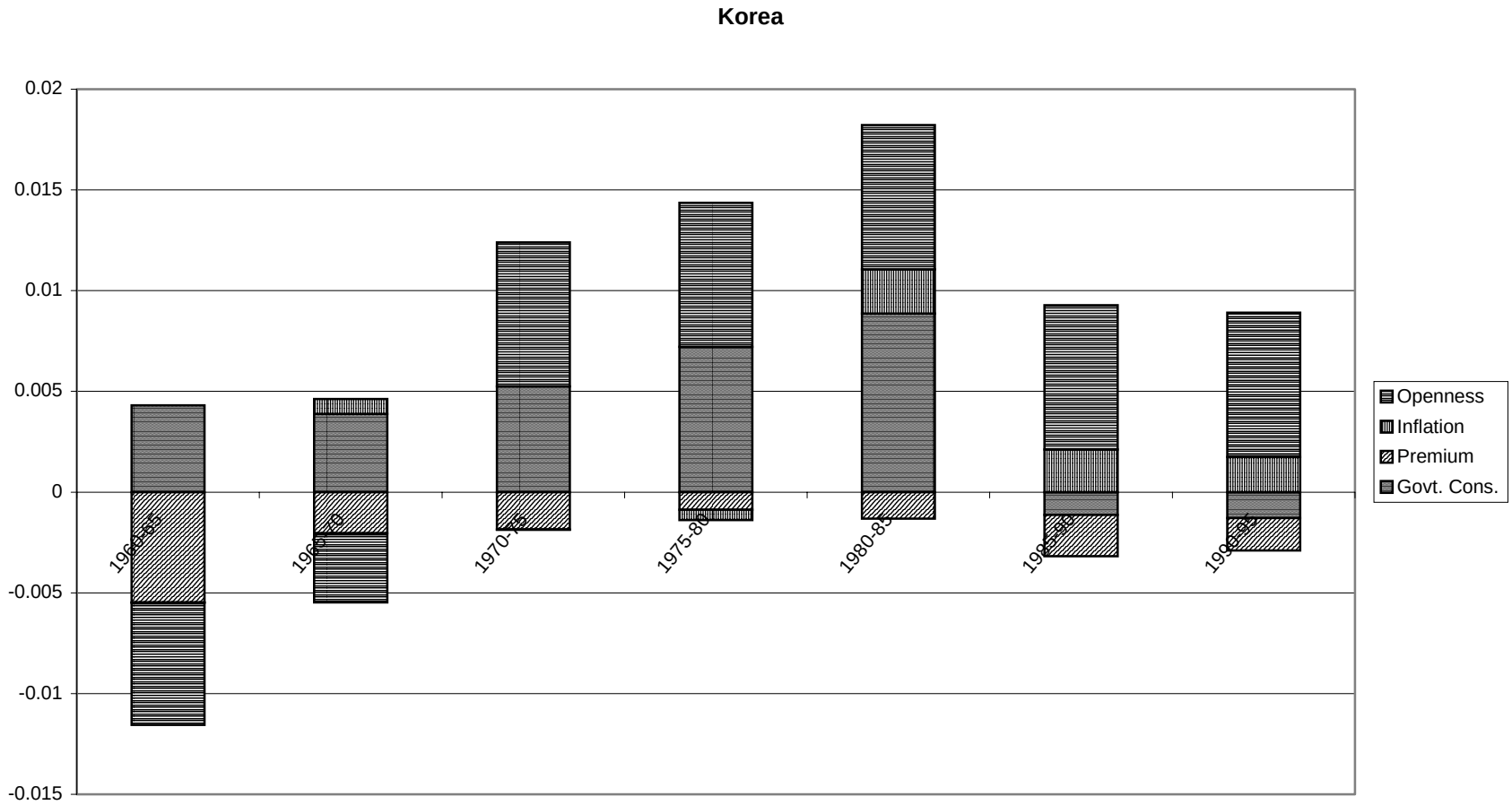
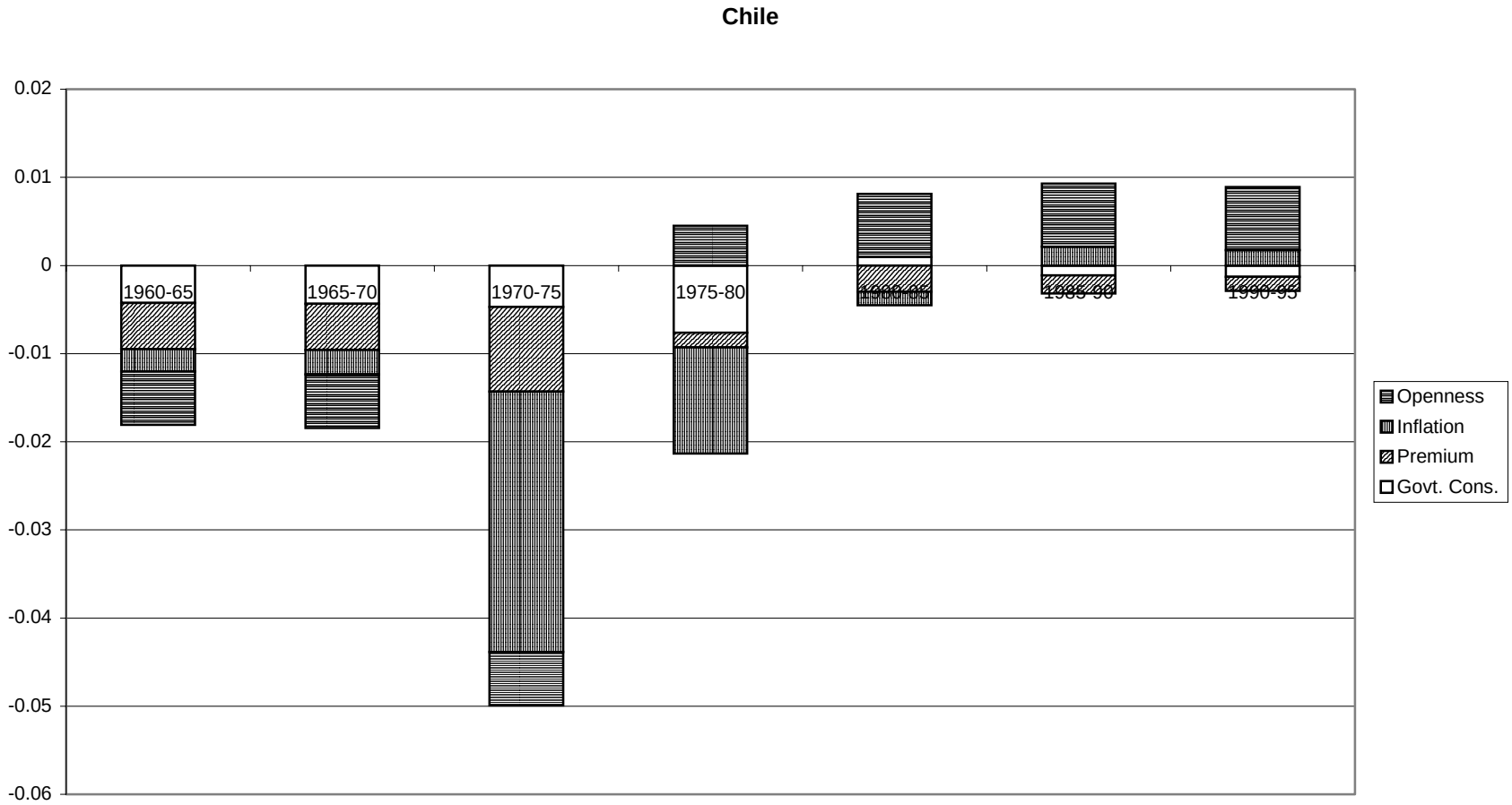
0.01
0.005
0
-0.005
-0.01
-0.015
-0.02
-0.025
-0.03
-0.035
-0.04
1960-65
1965-70
1970-75
1975-80
1980-85
1985-90
1990-95
Govt. Cons.
Inflation
Premium
Openness


Korea
0.02
0.015
0.01
0.005
0
-0.005
-0.01
-0.015
1960-65
1965-70
1970-75
1975-80
1980-85
1985-90
1990-95
Openness
Inflation
Premium
Govt. Cons.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0
-0.01
-0.02
-0.03
-0.04
-0.05
-0.06
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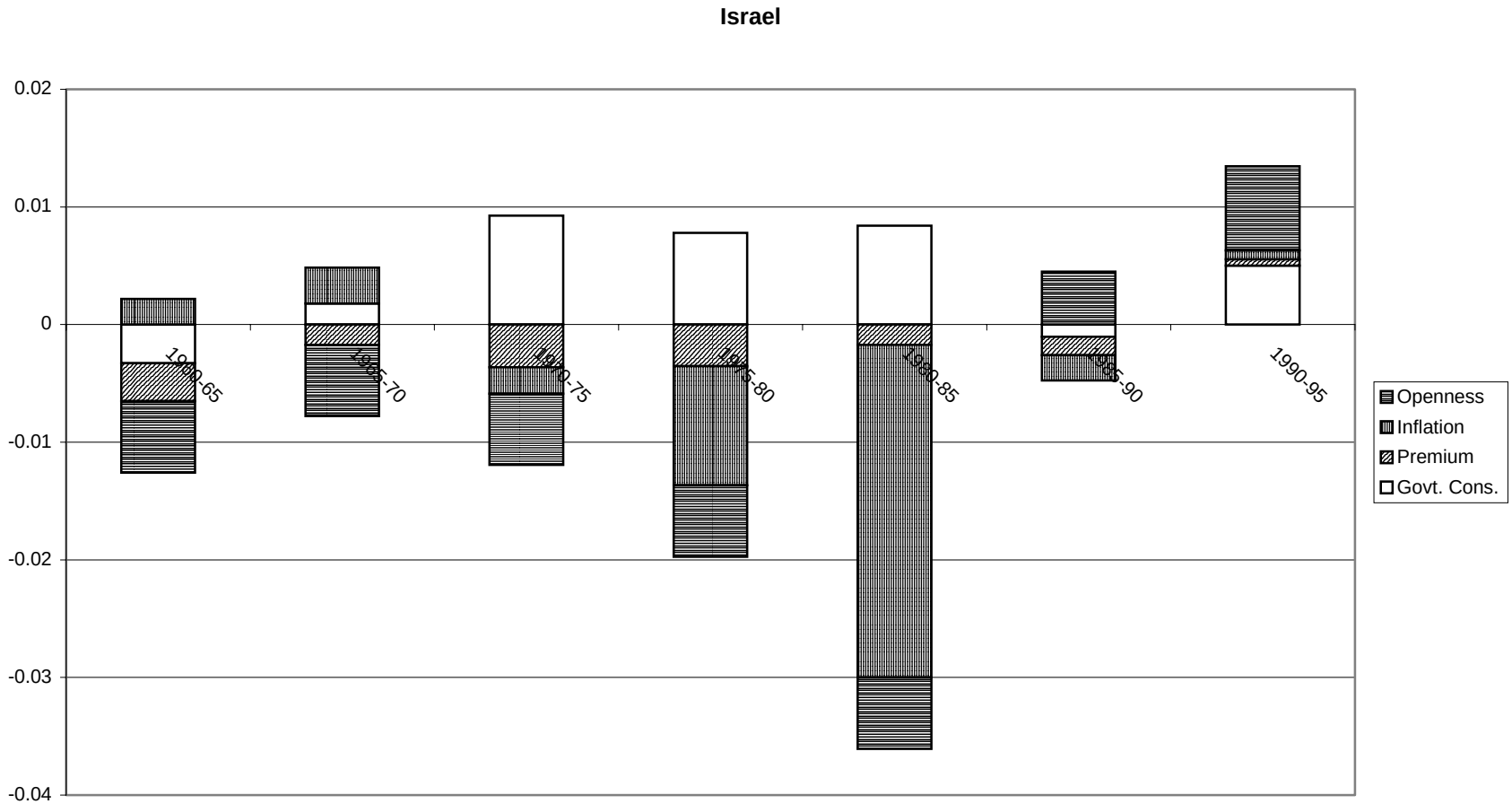
1965-70
1970-75
1975-80
1980-85
1985-90
1990-95
Openness
Inflation
Premium
Govt. Cons.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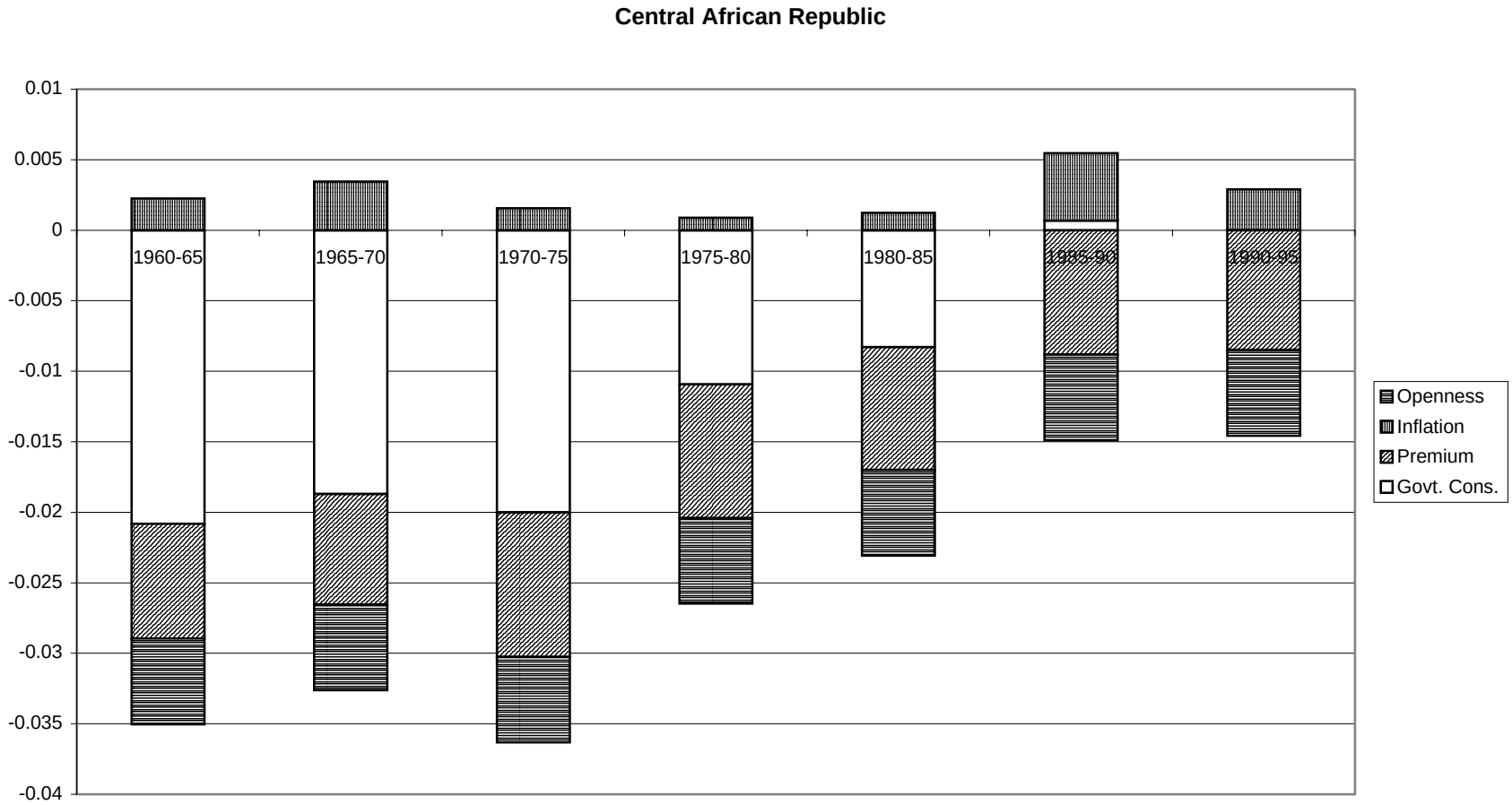
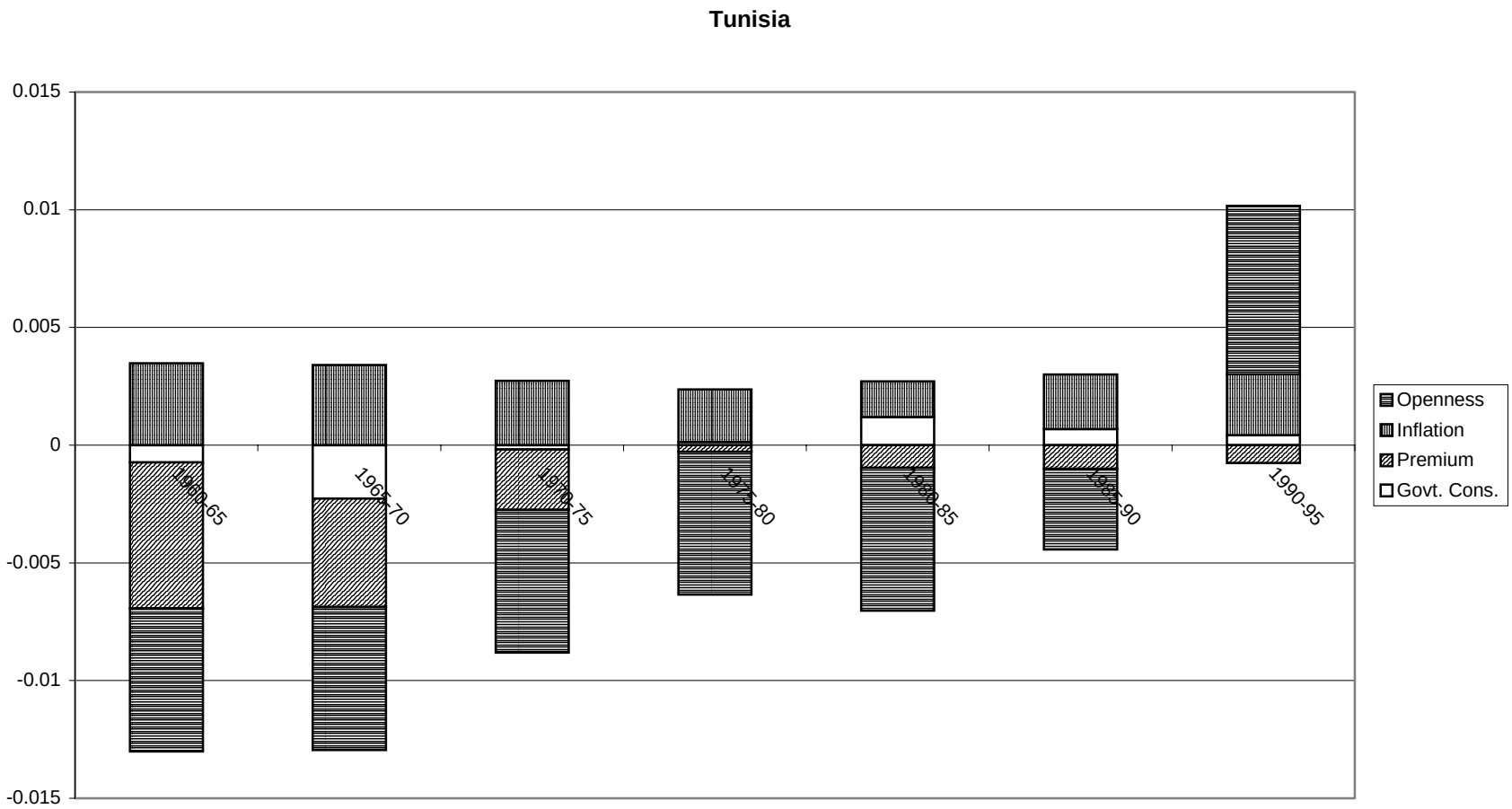
0
-0.01
-0.02
-0.03
-0.04
1960-65
1965-70
1970-75
1975-80
1980-85
1985-90
1990-95
Openness
Inflation
Premium
Govt. Cons.


Central African Republic
0.01
0.005
0
-0.005
-0.01
-0.015
-0.02
-0.025
-0.03
-0.035
-0.04
1960-65
1965-70
1970-75
1975-80
1980-85
1985-90
1990-95
Openness
Inflation
Premium
Govt. Cons.


Tunisia
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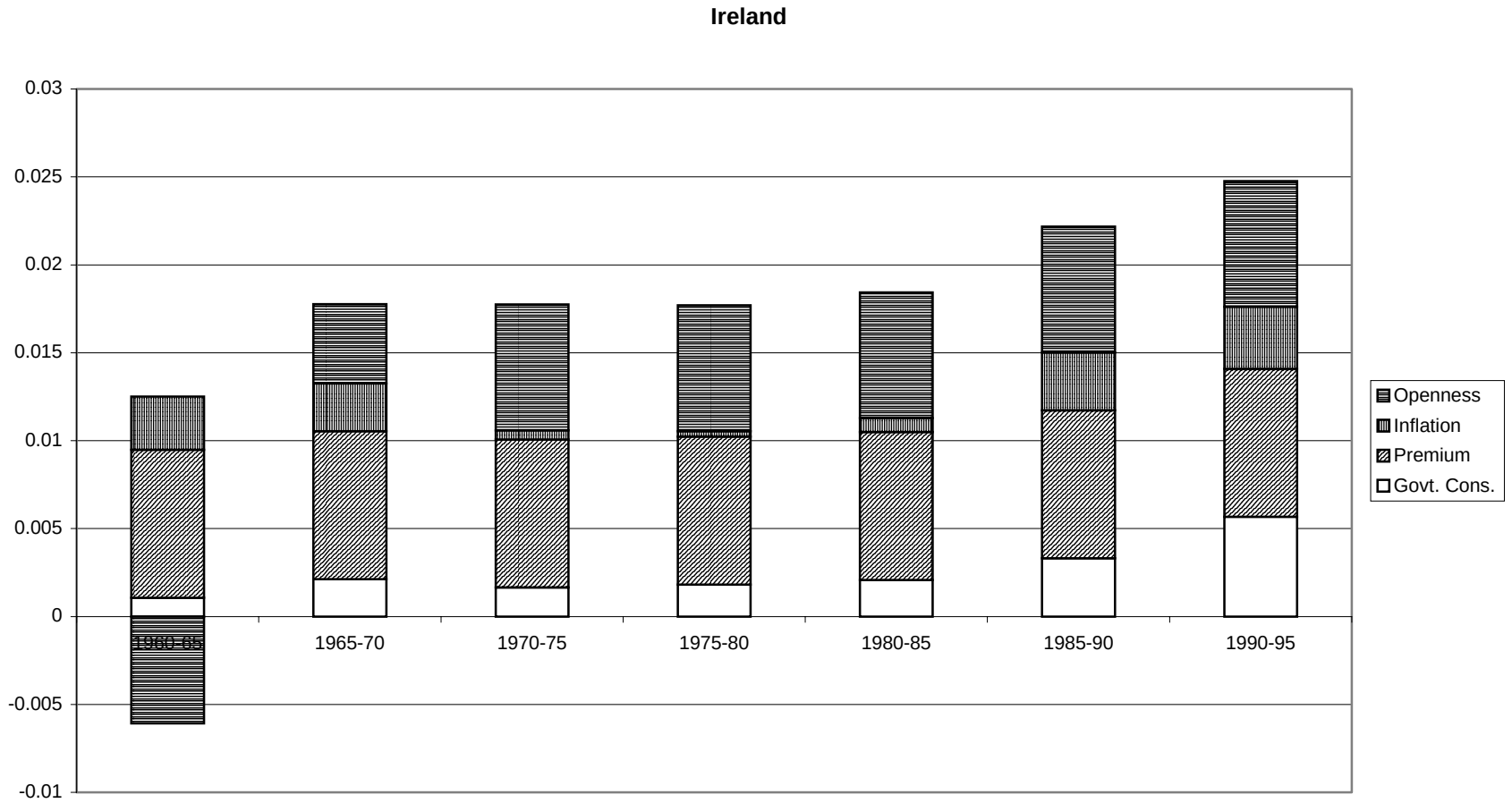
0.01
0.005
0
-0.005
-0.01
-0.015
1960-65
1965-70
1970-75
1975-80
1980-85
1985-90
1990-95
Openness
Inflation
Premium
Govt. Cons.


Ireland
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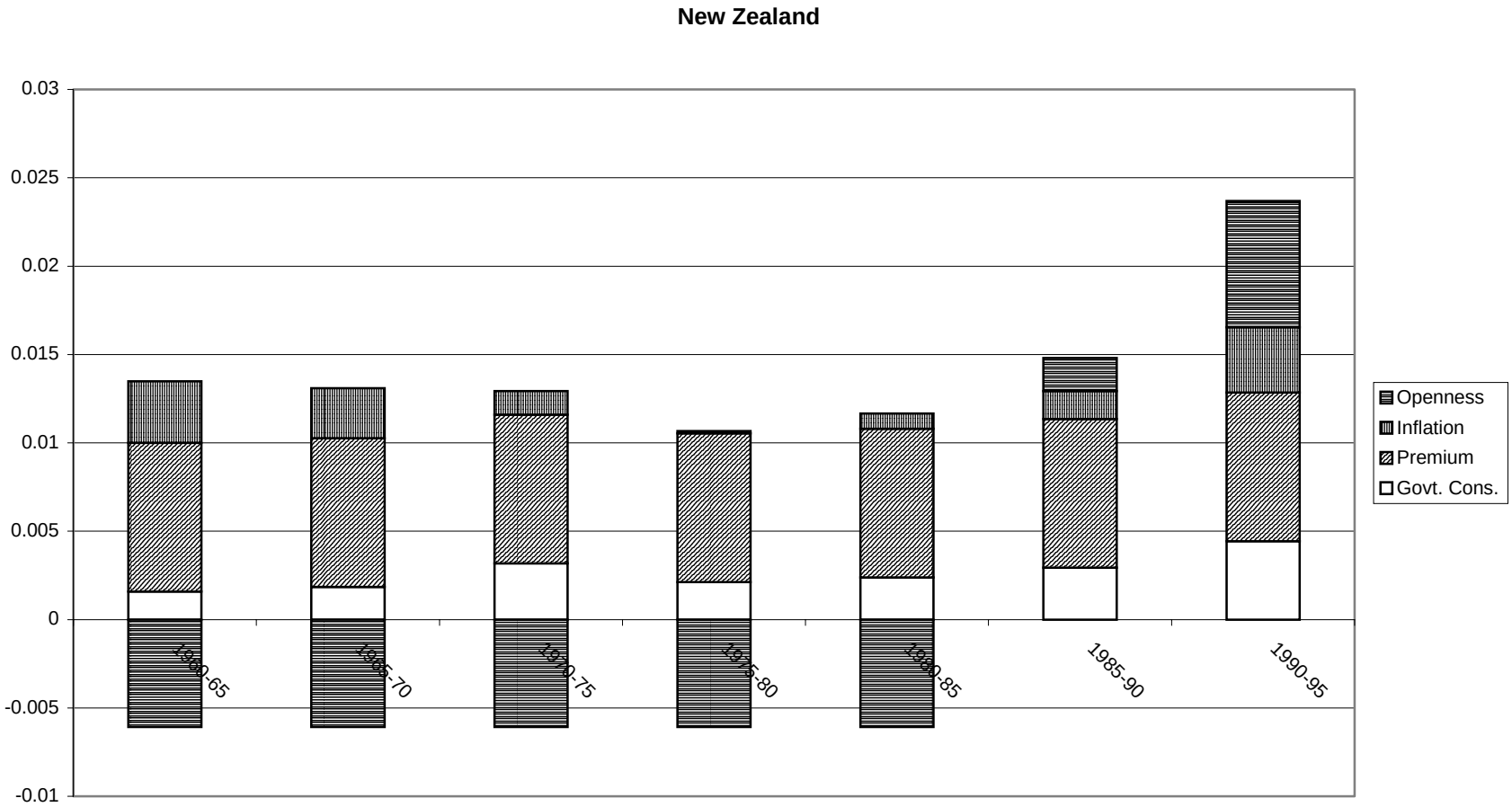
0.025
0.02
0.015
0.01
0.005
0
-0.005
-0.01
1960-65
1965-70
1970-75
1975-80
1980-85
1985-90
1990-95
Openness
Inflation
Premium
Govt. Cons.


New Zealand
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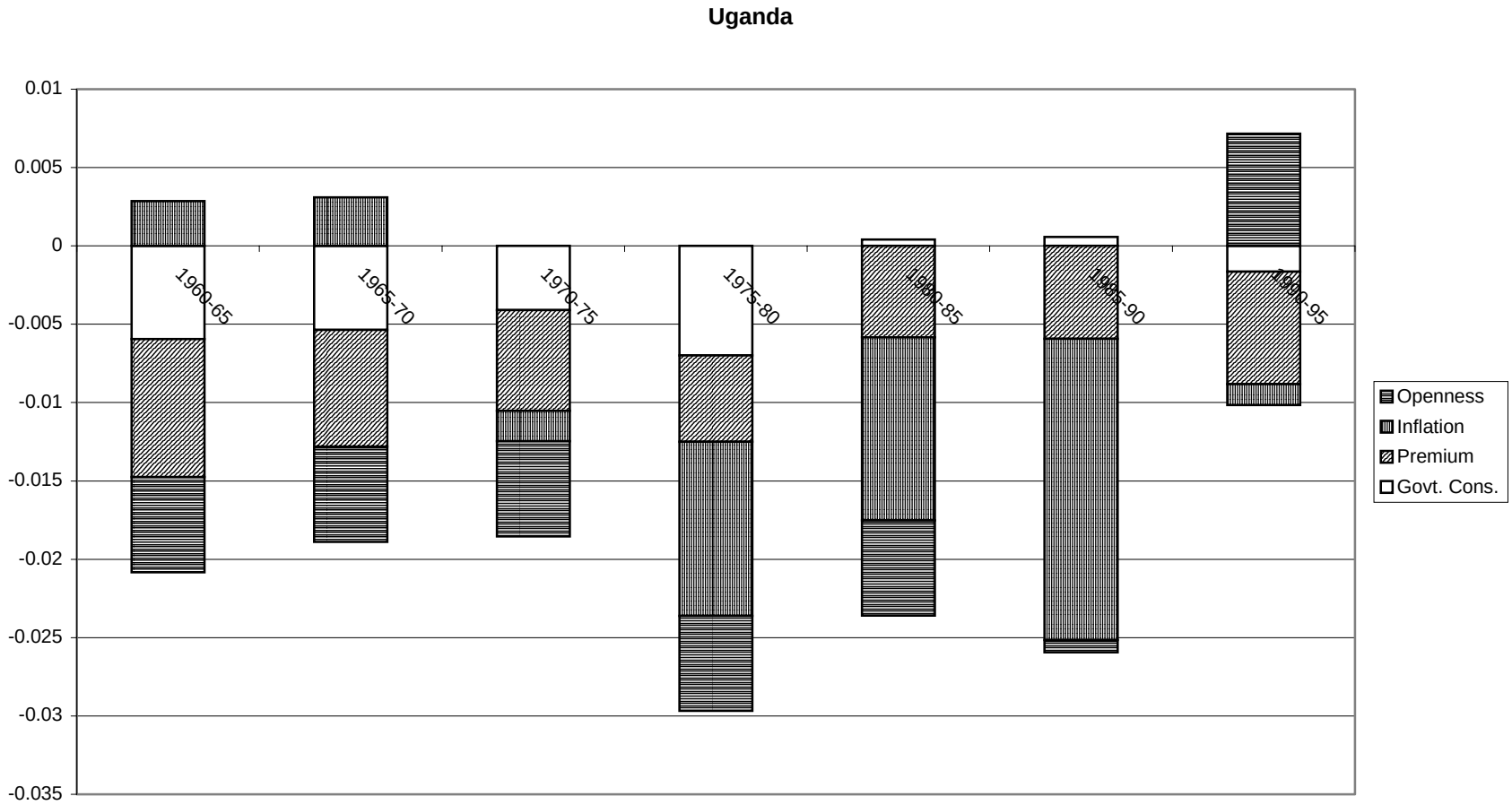
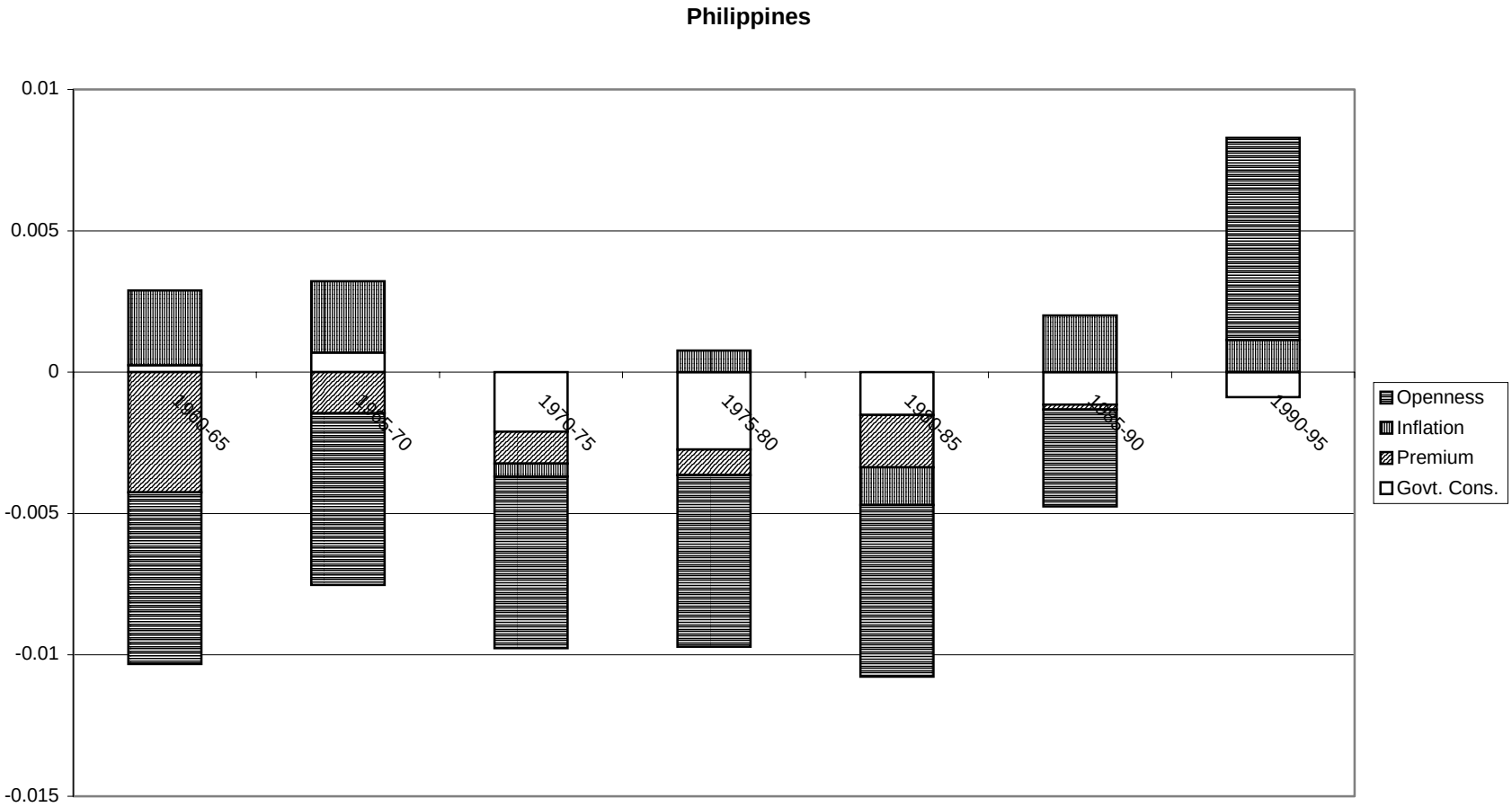
0.025
0.02
0.015
0.01
0.005
0
-0.005
-0.01
1960-65
1965-70
1970-75
1975-80
1980-85
1985-90
1990-95
Openness
Inflation
Premium
Govt. Cons.


Uganda
0.01
0.005
0
-0.005
-0.01
-0.015
-0.02
-0.025
-0.03
-0.035
1960-65
1965-70
1970-75
1975-80
1980-85
1985-90
1990-95
Openness
Inflation
Premium
Govt. Cons.


Philippines
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0.005
0
-0.005
-0.01
-0.015
1960-65
1965-70
1970-75
1975-80
1980-85
1985-90
1990-95
Openness
Inflation
Premium
Govt. Cons.