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FINANCIAL DEVELOPMENT, THE TRADE REGIME, AND ECONOMIC GROWTH

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ABSTRACT

We survey the literatures that study the relation between the trade regime and growth and financial development, financial repression, and growth.

We analyze the relation between the trade regime, the degree of financial development and the growth performance of a large cross section of countries. The systematic finding is that there is a negative relation between trade distortions and growth. We also present some variables that capture the degree to which the financial sector is distorted. We find that financial repression has negative consequences for growth. We also find that inflation is negatively related to growth. We interpret this relation, however, as symptomatic rather than causal.

We show that once we hold constant measures of the trade regime and financial repression, the regional dummies for Latin America are no longer significant. Thus, the poor performance of the Latin American countries over the last few decades is related to the trade and financial policies pursued by their governments.

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Introduction.

The objective of this paper is to analyze the effects of economic distortions on the rate of economic growth. In particular, we will study the role of trade policy distortions and the role of financial repression. Do tariff and other restrictive trade policies negatively affect economic growth? Is the growth performance of outward-oriented countries better than the one of inward-oriented countries ? What is the role of financial development in the process of economic growth ? Is financial repression harmful to growth ?

Our interest in these issues was originally stimulated by the observation that the growth experience of Latin American countries has been different from the rest of the countries of the world. It is by now a well known fact that the cross sectional empirical studies by Barro (1991) and others do not explain the Latin America experience very well given that a zero/one dummy for this group of countries is significantly negative.

Among the many explanations given in the latin american literature we find that policies that systematically repress the financial sector and policies that restrict trade are among the most convincing. Along these lines, an additional goal of this paper is the investigation of the extent to which such repressive policies have had an impact in the economic growth performance of a large cross section of countries during the last quarter of a century. Our analysis, therefore, is not confined to the small sample of Latin American nations.

In order to link the empirical findings to some theory, in section 2 we survey the theoretical literature on the relation between growth and openness. We find that there are arguments both in favor and against the introduction of

trade restrictions. Therefore, from a theoretical point of view it is not clear whether tariffs and other trade restrictions negatively affect the rate of economic growth.

In section 3 we first survey the literature on the relation between financial development and economic growth and then present the main results and implications of the simple model of growth, financial development and seigniorage presented in Roubini and Sala-i-Martin (1991). We think that the model captures some of the most important elements of the problem: governments may choose not to allow full financial development (ie, choose to repress the financial sector) in order to collect easy revenue. We model this revenue in the form of inflation tax, but it is clear that measures of financial repression imply various other forms of implicit subsidization of the public sector (such as cheaper credit to the government and public enterprises). Furthermore, we find that such repressive policies hurt economic growth given that financial intermediation is an important component of the aggregate production function (that is given that financial development increases the the aggregate marginal product of capital of an economy). A number of arguments of why this may be the case are also exposed in section 3. For instance, financially developed economies can allocate their inputs better than less developed ones so for any stock of inputs the aggregate output is larger the more financially developed the economy.

In section 4 we explore the empirical relation between economic growth and a variety of measures of openness and financial repression. We systematically find that the trade regime is important for growth: countries that are inward oriented, closed to foreign trade or that impose other kinds of trade restrictions tend to grow less than countries that don't, even after we control for the other determinants of growth used by Barro (1991) such as

initial income, initial investment in education, government consumption, price distortions for investment goods, or measures of social unrest such number of assassinations and military coups.

The results for the relation between financial repression and growth are also encouraging. As the theoretical arguments presented suggest, we find a systematic inverse relation between growth and several measures of financial repression as well as a negative relation between growth and inflation rates.

Furthermore we find that a combination of trade distortions and financial repression explain the different behavior of Latin American countries: that is, a regional dummy for these countries is no longer significant after we control for the the effects of these policy variables.

In the final section we present some concluding remarks.

1. The relation between openness, the trade regime and economic growth.

The relation between the degree of openness, the orientation of the trade regime and the rate of economic growth has interested economists for a long time. What is the effect of tariffs and other restrictive trade policies on growth ? Do countries with outward-oriented trade regimes grow faster than inward-oriented ones? Can infant industry protection promote economic growth?

There is a growing empirical literature suggesting that trade restrictions lead not only to static level effects on output but also dynamic growth effects. This empirical evidence includes detailed multicountry studies of the trade regime (such as those of Balassa (1971), Krueger (1978), Bhagwati (1978) and the World Bank (1987)) and cross country studies of the effects of exports on productivity growth (such as those of Tyler (1981),

Feder (1983) and Balassa (1985))[2]. While it is true that many of these empirical studies might suffer of specific methodological or econometric shortcomings, the majority of them finds evidence that trade restrictions might have negative growth effects.

Given the growing empirical evidence in favor of "outward-oriented" trade policies, many researchers have recently developed theoretical models where trade policy might affect the long run growth rate of the economy. The endogenous growth approach started by Romer (1986) has provided a fertile analytical ground on which to build models where tariffs and other trade policies affect long run growth. Theoretical analyses of the relation between trade and growth include work by Grossman and Helpman (1991), Lucas (1988), Stokey (1990), Young (1989), Edwards (1989), Easterly (1990), Quah and Rauch (1990), Boldrin and Scheinkman (1988), Romer (1990), Rivera-Batiz and Romer (1990, 1991), to name only a few.

While it might have been hoped that these theoretical approaches would provide unambiguous results on the relation between trade policy and growth, the reverse has occurred. In fact, this now ample literature suggests that no general conclusion can be drawn on the relation between these variables.

Grossman and Helpman (1991) develop two-country models with three sectors: a R&D sector, a sector that produces intermediate inputs and a final goods sector; resources invested in the R&D process contribute to the increased productivity in the production of final goods and to the stock of scientific knowledge which in turn reduces R&D costs. In these models the effects of trade policy (such as a tariff on the imports of final goods) on growth is ambiguous because of the different comparative advantage that

[2]See Edwards (1989) for a very systematic survey of these and other studies on the relation between openness and growth.

countries have in R&D activities versus the production of final manufactured goods. A trade policy that protects the final good produced by the country with comparative disadvantage (advantage) in R&D will cause a increase (decrease) in world growth rates. The growth effects are even more ambiguous when one considers that comparative advantage is acquired as well as natural. Grossman and Helpman (1991) also show that an increase in the growth rate is neither necessary nor sufficient for a trade policy to improve welfare. In fact, a trade policy that increases growth might reduce welfare if it causes a reduction in the production of intermediate goods that are under-supplied because of the oligopolistic structure of this industry.

Rivera-Batiz and Romer (1990, 1991) argue that the Grossman and Helpman results suggesting that trade protection might increase growth depend on the "allocative" effects of trade policy: given the differences in static comparative advantage, tariffs shift resources between sectors and might lead a country to invest too many or too little resources in the R&D sector. Rivera-Batiz and Romer suggest that trade restriction have two other effects that are unambiguously harmful to worldwide growth: an integration effect and a redundancy effect. Free trade leads to integration effects if a sector's production exhibits increasing returns. These sectoral increasing returns arise from "knowledge spillovers or with monopolistic competition between firms that supply a diverse set of specialized inputs... If they are present, worldwide output from this sector will be larger when the two national sectors are integrated". The redundancy effect derives from the redundancy of research efforts in the presence of trade restrictions; these restrictions lead to wasteful replication of research in both countries. In the trade between regions with similar endowments the allocative effects (that may enhance growth) are likely to be small while the integration and redundancy

effects will dominate; therefore, trade restrictions are likely to reduce world growth.

Krugman (1985), Lucas (1988), and Quah and Rauch (1990) use models with learning-by-doing externalities and essential intermediate inputs in production. Under autarky, a country will have to produce all of its intermediate inputs and the production bottlenecks deriving from slowly developing intermediate goods will negatively affect growth. Conversely, free trade allows to acquire from abroad part of these inputs and will lead to an increase in the steady state growth rate. Openness is therefore shown to positively affect growth.

In Young (1989), endogenous growth derives from learning by doing that exhibits spillovers across goods. He shows that, if the developed country has a higher initial level of knowledge relative to the developing one, under free trade the rate of technical progress and growth of the developing country will be lower than under autarky. In fact, the developing country will get stuck in the production of goods that have already exhausted learning by doing, while the developed one will specialize in the production of goods with rapid learning by doing. Stokey (1990) presents a model where the engine of growth is the existence of externalities in the human capital sector; it is shown that, for a small economy, the rate of investment in human capital is lower under free trade than under autarky if the economy is very advanced or very backward relative to the rest of the world. It follows that openness might be harmful to economic growth.

An additional link between trade policy and growth is given by the existence of rent-seeking activities associated with restrictive trade policies. The literature on rent-seeking activities, starting with the work of Krueger (1974), suggests that the negative effects of trade restrictions on

the level of output are increased by the wasteful use of resources in the pursuit of the rents associated with quotas and other trade restrictions. In endogenous growth models, the resources used in rent-seeking are detracted from productive uses and might lead to a reduction in the rate of economic growth. A number of authors, among them, Murphy, Shleifer and Vishny (1990), have analyzed these rent-seeking activities and shown their negative effects on the rate of growth.

The main conclusion that can be derived from the above studies is that the relation between the trade regime and economic growth is theoretically very ambiguous. Depending on the structure of the model, the origin of growth and the initial endowments and conditions of the various economies, trade restrictions may or may not reduce economic growth. Given these theoretical ambiguities, we will move in section 3 to an empirical analysis of the effects of trade restrictions on economic growth. We will there present evidence that, while the implications of theory might be ambiguous, the empirical evidence is supportive of the hypothesis that trade restrictions have negative effects on the rate of economic growth.

2. Financial Intermediation and Economic Growth: A Literature Survey and a New Model.

In this section we first present a survey the literature on the relation between financial development and economic growth and then present the main results and implications of the simple model of growth, financial development and seigniorage in Roubini and Sala-i-Martin (1991).

The literature on the relation between financial development and economic growth evolved in a way similar to the one on openness and growth. In

particular, the work in the 1970's showed a strong positive empirical relation between the degree of development of financial markets and the rate of economic growth (and a negative relation between financial repression and growth) but failed to give theoretical foundation to such a relation [3]. In the period before the emergence of the endogenous growth literature, models of the relation between financial intermediation and economic activity were able to analytically relate the development of financial markets to the level of productivity but not to its rate of growth.[4] More recently, a number of authors have developed models in the endogenous literature line that derive a formal link between financial intermediation and growth[5]. This literature considers two interrelated issue: first, starting from an exogenously given financial system, it analyzes how financial intermediation affects economic growth; second, it studies how economic growth might itself affect the evolution and growth of financial intermediation. These two issues are important because the observed empirical correlation between financial development and economic growth could be interpreted in two different ways: either as implying that high financial development increases growth or, vice versa, that high growth leads to the emergence of more developed financial systems with a wider range of financial intermediaries, new financial assets and transactions.

Part of this literature concentrates on the causal links going from the financial system to economic growth[6]; in particular, these papers study in

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[3]See Goldsmith (1969), McKinnon (1973, 1986), Shaw (1973), Fry (1982, 1988), Mc Kinnon and Mathieson (1981), the World Bank (1989) and Gelb (1989).

[4]See McKinnon (1973), Shaw (1973) and Fry (1982, 1988).

[5]See Greeenwood and Jovanovic (1991), Bencivenga and Smith (1991), Levine (1991a, 1991b), De Gregorio (1991), Roubini and Sala-i-Martin (1991) and Greenwald and Stiglitz (1989).

[6]See Levine (1991a, 1991b) and Roubini and Sala-i-Martin (1991).

detail the effects of policies of repression of the financial system (in the form of taxes, restrictions and regulations of various sorts) on the rate of economic growth. Some recent papers also present optimal taxation analyses and study the reasons why government might find optimal to repress the financial system even if this leads to a slowdown of the rate of economic growth.[7]

Other contributions analyze the endogenous emergence of financial intermediaries, their effects on growth and their evolution as a consequence of economic growth. In Greenwood and Jovanovic (1991), it is assumed that the economy is subject to an unobserved aggregate shocks. The financial intermediary is modeled as an agency that does research on this shock and sells, for a fee, the information on the shock to private agents. Therefore, the financial intermediary allows a better allocation of resources in the economy and therefore stimulates capital accumulation and growth. On the other side, as a consequence of economic growth, the investors increase their participation in financial markets: investment projects that were self-financed are now financed by financial intermediaries. This model therefore implies that the observed empirical correlation between size of financial intermediation and growth can be interpreted as a two-way causal relation.

In Bencivenga and Smith (1991), the source of uncertainty in the economy (that leads to the emergence of financial intermediation) derives from the existence of an idiosyncratic liquidity shock. The emergence of financial intermediaries, in the form of commercial banks who create deposits, allows depositors to pool this liquidity risk. Therefore, the existence of banks

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[7]See De Gregorio (1991) and Roubini and Sala-i-Martin (1991).

allows a better allocation of savings since agents can now invest both in risky investments projects that are highly illiquid and in liquid bank deposits that yields a lower expected return.

The work of Levine (1990a, b) belongs to the literature studying the one way causality from financial intermediation to growth. The source of endogenous growth in those papers are production externalities as in Romer (1990) and Lucas (1988). The need for financial intermediation derives from the existence of a idiosyncratic liquidity risk, as in Diamond and Dybvig (1983). Then, different types of financial structures might emerge that will reduce this liquidity risk. Levine considers stock markets, banks and mutual funds as mechanisms that allow this reduction in liquidity risk. In each of these cases the existence of financial intermediaries and contracts leads to a better allocation of savings to investment, increases the rate of capital accumulation and increase the growth rate of the economy.

The policy implications of Levine's analysis is that policies of repression of the financial sector (in the form of taxation of the financial intermediaries and their transactions) will lead to a reduction in the rate of growth of the economy. This, however, leaves open an important issue. If financial repression leads to lower growth, why would optimizing agents who care about the welfare of private agents, decide to repress the financial sector. It is, in fact, a widely documented fact that a lot of governments in less developed nations have introduced all kinds of distortions in that particular sector.

Saint-Paul (1990) argues that financial development allows economies to use more specialized and riskier technologies. Thus, not only financial development allows for economic growth but economic growth increases the incentive for financial development. The model displays multiple equilibria

in the sense that poor countries may be stuck with low levels of growth and low levels of financial development which stop growth even further.

Before and during the 1970s, many development economists favored such policies of financial repression on several grounds[8] but the traditional explanations in the literature are not fully satisfactory. First, it was argued that the government needed to impose anti usury laws thereby intervening in the free determination of interest rates. Second, it was argued that a strict control and regulation of the banking system would give the monetary authorities a better control over the money supply. Third, it was thought that governments knew better than markets (or private banks) what the optimal allocation of savings was or what kind of investments were more or less desirable from a social perspective. Fourth, financial repression was identified with interest rates below market rates which reduced the costs of servicing government debts. The explanations are quite weak in light of the recent literature showing that financial repression might lower the growth rate of the economy.

In a recent paper (Roubini and Sala-i-Martin (1991)), we built a model of financial intermediation and growth that studies the effects of policies of financial repression on long term growth. The model is able to explain why optimizing governments might want to repress the financial sector in spite of the fact that this repression leads to lower steady state growth rates. Our view is that the main reason why government stay in the way of private financial evolution is that the financial sector is the potential source of "easy" resources for the public budget. In the model, the government has the option and capability of not allowing the financial sector to operate at its

[8]See for instance Shaw (1973), Mackinnon (1973), and Fry (1988) for an extensive analysis on this subject.

full potential by introducing all kinds of regulations, laws, other non-market restrictions to the behavior of private banks and other financial intermediaries. The source of public income stemming from this intervention is modeled through inflation tax [9]. Our model, as most models of money demand has the implication that more financial development (which can be interpreted as a reduction in the transaction costs of converting non liquid to liquid assets) reduces the need for people to carry money [10]. Hence, if the government allows for financial development, it will also see the inflation tax base, and therefore the chance to collect seigniorage, reduced. To the extent that the financial sector increases the efficiency of the economy (ie increases the amount of overall output given the total amount of inputs), the choice of the degree of financial sophistication will have real effects on the level of GDP and on the marginal product of capital. If the production function is sufficiently non-concave there will be effects on the steady state growth rate or in the growth rate for a large period of time.

We model the production side of the economy with a simple $\varphi(A)K$ linear technology as in Rebelo (1991). The parameter A is assumed to be related to the level of financial development. We think of the financial sector as increasing the microeconomic efficiency of the whole macroeconomy: it improves the link between savings and investment, it contributes to efficiently allocate the capital stock to its best use, it also helps collect and screen information (in a world of imperfect or costly information,

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[9]Clearly this is not the only source of income the government gets from repressing the financial sector. Mandatory purchases of government debt and below market interest rates are other important sources of public income. The regulation of the reserve requirement plays an important role but we think of it as a part of the overall inflation tax or seigniorage (see Brock (1989)).

[10]Money is introduced in the model via a money-in-the-utility function specification.

individuals may not know who wants to borrow or lend). Further, if financial intermediation is very costly, private entrepreneurs are forced to self finance their investment projects. From a macroeconomic or aggregate production function point of view, all this means that economies more financially developed are able to transform a given amount of inputs, K, into a larger amount of output, Y.

Firms behave competitively and maximize the present value of all future cash flows. Solving for the steady state growth rate of this economy, we find another form of what some people call "Superneutrality result" first derived by Sidrauski: changes in the rate of growth of money do not affect the steady state rate of consumption growth. Conversely, a reduction in the degree of financial development (an increase in financial repression through a fall in the parameter A) leads to a steady state reduction in the rate of growth of the economy since it reduces the marginal productivity of capital.

To consider why governments might want to repress the financial sector in spite of the negative effects on growth, we consider the government behavior. The government budget constraint implies that public spending and transfers are financed with income taxes (with constant tax rate τ) and seigniorage. We incorporate the possibility of tax evasion; suppose for instance that the income tax collection is not τrk but, rather $\tau\xi(rk,\tau)$, where ξ is a nonlinear function of income and tax rates that reflects tax evasion. We can think of $\xi()$ as income that is actually reported to the government which is a positive function of income but a negative function of the tax rate. Different countries may have different functions $\xi()$ which possibly due to different efficiencies in collecting income taxes and different private attitudes with respect to reporting private income.

Seigniorage in this model clearly depends on the degree of financial

development, A, through different channels. Under quite general conditions, it can be shown that per capita stock of real money is a decreasing function of the level of financial development, i.e. financial repression leads to an increase in seigniorage.

Let us now assume that the government, through regulation and other non market interventions, can control the degree of financial development, A. Given the money growth rate, the income tax rate and the tax evasion function ξ, the government faces a trade off between inflation and income taxes: on the one hand, financial development increases income and therefore increases the income tax base. On the other hand, it decreases real money demand and therefore the inflation tax base. It can be shown that, countries with $\xi'()$ close to zero, that is countries where changes in income do not lead to large changes in reported income (ie, where tax evasion is large) will optimally choose to repress the financial sector in order to expand money demand and increase the tax rate on money.

Summarizing, in order to increase the revenue from money creation, governments subject to large tax evasion choose to increases per capita real money demand by repressing the financial sector. This policy will tend to reduce the amount of services the financial sector provides to the whole economy and, given the total stock of inputs, the total amount of output will be reduced. This will reduce the marginal product of capital and, consequently, the steady state rate of growth.

The story we just explained has the following empirical implications. Countries that are financially repressed will have higher inflation rates, lower (before tax) real interest rates, higher base money per capita and lower per capita growth than countries that are financially developed. We will test some of these implications in the empirical section of the paper. Note that

the negative correlation between inflation and growth is mainly symptomatic in the sense that it reflects the larger degree of financial repression - ie, inflation has no direct effect on the growth rate in this model.

We should finally mention that De Gregorio (1991) considers model where there is a direct effect of inflation on growth through two channels: first because he assumes that money is required to buy investment goods, money is effectively an input in the production function. Inflation increases the relative cost of capital goods, thereby reducing capital accumulation and growth. Second, inflation affects the household labor supply decision: high inflation leads to lower labor supply, a reduction in the marginal productivity of capital and and a fall in growth. He also allows for tax evasion in order to study optimal taxation problems. As in Roubini and Sala-i-Martin (1991), a decline in the efficiency of the tax system (an increase in tax evasion) will lead optimizing governments to increase seigniorage, the inflation rate and therefore reduce growth. The implications partly differ from those of Roubini and Sala-i-Martin (1991) since in the latter a more inefficient tax system leads to the choice of a high inflation and a high level of financial repression, and it is financial repression (not inflation) the one that matters for growth.

3. Trade regime, financial repression and growth: the empirical evidence.

The survey of the theoretical literature on the relation between openness, the trade regime and economic growth suggested that there is no obvious relation between the trade regime and economic growth. Depending on the assumptions of the model, a more open trade regime may lead to higher or lower economic growth. This theoretical ambiguity is in contrast with the

growing empirical evidence that openness affects growth positively (see World Bank (1987) for example).

As far as the relation between financial development and economic growth is concerned, the theoretical models discussed in the previous section suggest an important relation between financial repression, inflation and economic growth: in particular financial underdevelopment and financial repression might be harmful to economic growth.

The objectives of this section are twofold. First, we will present some further econometric evidence on the relation between the trade regime, the degree of financial development and economic growth. Second, we will test whether the orientation of the trade regime and the degree of financial repression might account for the evidence that, after controlling for the usual determinants of growth, the Latin American region appear to be growing more slowly than the rest of the world. The empirical strategy that we follow is similar to the one used in a number of empirical studies on growth. We start from the results obtained in Barro (1991) on the determinants of economic growth in large cross section of countries and add measures of the orientation of the trade regime and of financial development (repression) to these basic equations [11]. The objective is to test whether, after controlling for the usual determinants of growth used in these studies (such as initial

[11]The testing approach that we follow implies that we are testing the transition to the steady state rather than the steady state itself. In particular we are not testing endogenous growth models versus neoclassical models like Quah and Rauch (1990) or Bernard and Durlauf (1990) try to do. We believe that such a question cannot be addressed with a short sample period of only 30 years. This is why we take Barro's approach rather than the steady state analysis of Quah and Rauch. Furthermore, it is hard to believe that the countries in the sample were in the steady state during the period considered (for example many of them were coming out of a major war at the beginning of the period). The analysis of Quah and Rauch, instead relies heavily on the unlikely assumption that the countries are in the steady state all the time.

income, measures of human capital, size of the government, political and institutional variables), the trade regime and the degree of financial repression contribute to explain the cross country differentials in rates of economic growth.

Because of our interest on the latin american experience, we will also test whether the significant regional dummies for Latin American growth found by Barro (1991) are explained by the orientation of the trade regime and measures of financial repression in that region.

3.1 The role of the trade regime

In order to test the hypothesis that the trade regime affects economic growth, it is necessary to obtain proxies of orientation of the trade regime. Given the theoretical ambiguities on the concepts of outward-oriented, non-distorted, liberal trade regime (see Edwards (1989) for a discussion of these concepts), in our empirical analysis we will look at a number of alternative measures of the orientation of the trade regime. We use several different proxies of the trade regime in order to test for the robustness of the results that we obtain: if the results on the relation between growth and trade are independent of the particular measure or sample of countries used we can be more confident of the robustness of our results.

As a starting point we replicate in table 1 the basic growth equations estimated by Barro (1991). We regress the average growth of per-capita income of 98 countries in the 1960-1985 period (GR6085) on the following regressors: the initial value of GDP (GDP60), the initial amount of human capital as proxied by primary and secondary school enrollment rates in 1960 (PRIM60 and SEC60), the amount of "non-productive" government spending as proxied the average ratio of real government consumption (exclusive of defense and

education) to real GDP (GOV); the distortion in the price of investment goods as proxied by the deviation of the 1960 PPP price of investment goods from the sample mean (PPPI60DEV); the degree of political instability as proxied by the number of revolutions and coups per year (REVCOUP) and the number of assassinations (ASSASS). The results of this basic regression (presented in column (1) of table 1) are familiar: the initial level of income is negatively correlated with growth consistent with the hypothesis of conditional convergence of growth rates (see also Barro and Sala-i-Martin (1990b)); the measures of human capital accumulation positively affect growth; non-productive government spending and political instability are harmful to economic growth; and distortions in the price of investment goods are negatively related with growth.

In column (2) regional dummies for Latin America and Africa are added to the basic regression. As first observed by Barro (1991), per-capita income growth in Latin America and Africa appears to be lower than the rest of the world even after controlling for the other determinants of economic growth. In particular, the parameter estimate for the Latin American dummy implies that the per capita growth rate in that region is 1.1% lower than the rest of the world after holding constant the other variables. While one interpretation of these results is that there are regional differences in economic growth, the interpretation that we will pursue in this section is that these regional dummies proxy for other omitted variables that are the actual determinants of the lower economic growth in these two regions. In particular, we will present evidence that the trade regime and the degree of financial development are important omitted variables that explain the lower economic growth observed in these regions. Columns (3) and (4) in table 1 replace the initial level of GDP in 1960 with its logarithmic value (GDP60L):

the results are essentially the same as before. The only difference is that the coefficient on GDP60L is now interpreted as an elasticity: its value of -0.014 implies that for each country the convergence to its steady state growth rate is achieved at at 1.4% rate per year. This steady state growth rate is in turn determined by values of the other explanatory variables in the regression.

We now want to expand the Barro regression by introducing a number of measures of the trade regime. Our first measure of the orientation of the trade regime is based on the well-known World Bank study of the trade orientation of a sample of developing countries (World Bank (1987)). This study distinguishes countries between strongly outward-oriented, moderately outward-oriented, moderately inward-oriented and strongly inward-oriented [12]. It should be observed that while a lot of analytical effort has been made in deriving this classification, it might suffer of the criticism that it is a subjective measure of the orientation of the trade regime [13]. For this reason, we will test the robustness of our results to different measures of the trade regime.

With the above caveat in mind, we create two dummy variables (PROT63-73 and PROT73-85) that take values one through four (from one for strongly outward-oriented countries to four for strongly inward-oriented). The first (second) of these variables represents the trade orientation of each country in the 1963-1973 (1973-85) period (according to the World Bank

[12]The classification of a country as being outward or inward oriented is made by the World Bank on the basis of various measures of trade policy, tariffs, subsidies and quantitative restrictions.

[13]I.e. it might not be robust to the ex ante biases or priors of the researcher.

classification)[14]. It should be observed that the introduction of the variables for the trade orientation (PROT) reduces the sample from 98 to 59 countries. Therefore, in table 2 (and all the subsequent tables) we first present, as an initial reference regression, the results of the basic Barro regression for the smaller subset of countries. We do so because, when discussing the role and effects of new and additional variables, it is important to use the same sample of countries: in fact, the changed parameter estimates and significance levels of particular variables might be due to the changed sample rather than the introduction of additional explanatory variables [15]. As can be seen by comparing this reference equation with the corresponding one in table 1, the reduction of the sample from 98 to 59 countries does not significantly affect the reference equation. The principal differences in the 59–country regression are two: the coefficient on secondary enrollment (SEC60) is now statistically significant; the coefficient on the distortion in the price of investment goods (PPI60DEV) is now insignificant;

The results of the basic regression with the addition of our proxies for the trade regime (PROT63–73 and PROT73–85) are presented in column (1)–(4) in table 2. The results in column (1) and (3) in the table show the the trade orientation variable significantly affects the growth rate: a country with a

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[14]We extend the World Bank sample of 38 countries by adding values for other 21 countries that, on the basis of effective rates of protection and other proxies of the trade regime can be classified as having strongly outward–oriented trade regimes (see Kelly (1988) for statistical evidence on the outward orientation of these countries). These are Taiwan and twenty advanced industrial countries (Japan, Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden, Switzerland, U.K., Canada, U.S., Australia and New Zealand).

[15]In many studies (for example Easterly (1990) and Levine and Renelt (1990)) the results of regressions with additional variables are compared with those of regressions based on very different samples. Such a procedure obscures the reason for the change in significance of particular regressors: i.e. whether it is driven by the addition of omitted variables or the change in sample.

more inward-oriented trade regime grows more slowly than an outward-oriented country after controlling for the other determinants of economic growth. [16]

The reduction in per-capita growth is not only statistically significant[17] but also economically significant: a move from a strongly outward-oriented to a strongly-inward trade regime is associated with a reduction in per-capita growth of 2.5% per year! The columns (2) and (4) in table 2 also show that the results for the PROT variables are robust to the addition of regional dummies for Latin America and Africa. More importantly, the introduction of the PROT variables significantly reduces the coefficient estimates and the statistical significance of the regional dummies. In particular, when PROT73-85 is introduced in the regression notably the Latin American dummy becomes statistically insignificant (compare column (6) with column (4)) and its point estimate is reduced by half . The results suggest an important implication: the reason why Latin America appears to be growing slower than the rest of the world appears to be mostly explained by the inward-oriented import-substitution policies followed by many countries in the region during

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[16]It should be observed that the variable PROT73-85 might suffer of a partial endogeneity problem. It might be that low economic growth leads to the choice of a protected (inward-oriented) trade regime rather than the other way around. This problem is partially mitigated by the use of PROT63-73 that refers to the initial time period and is therefore less subject to an endogeneity problem. It could of course be argued that even the initial choice of the trade regime might be endogenous and induced by a persistently low level of economic growth. In response to this, we suggest two counterarguments. From a historical point of view, the move to import-substitution policies in the 1950's appears to be driven by the then prevailing "export pessismism" view of the Prebisch school rather than weak economic growth. From an empirical point of view, instrumental variable regression that control for the endogeneity of PROT show a still strong and significant value for the trade regime variable. These regression, not reported here, are available upon request.

[17]In the following We consider a coefficient as being statistically significant if it is significant at the 5% confidence level.

the period considered [18]. It is also interesting to observe that, for the African continent dummy, the introduction of the trade regime dummy does not appear to significantly affect the parameter estimate and the statistical significance of the African dummy. This suggest that factors, other than the trade regime might account for the poor growth performance of this region.

One of the potential shortcoming of the PROT index used in table 2 is that it imposes a particular functional form for the trade orientation effect. In particular, it implies that the effect of a strongly inward regime on growth is three time larger than the one of a strongly outward regime. Moreover, some critics of the World Bank (1987) study on outward orientation and growth have argued that, while the growth experience of strongly outward-oriented countries might be different from the one of strongly inward-oriented countries, the growth experience of moderately inward-oriented countries does not appear to differ significantly from the one of moderately outward oriented countries.

In order to study the sensitivity of the regressions results to this specification, in table 3 we present the estimates of the model with a separate dummy variable for each trade regime (SO stands for strongly outward-oriented, SI for strongly inward-oriented and MI for moderately inward-oriented); each dummy variable takes value one for the country in that trade regime in the period considered and zero otherwise. It then follows that, residually, the constant on the reference equation represents the result for the moderately outward-oriented regime and the coefficients on SI, SO and MI show how these countries did relative to moderately outward-oriented ones.

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[18]The Latin American dummy is still significant when we use PROT63-73 but, as table 3 below will show, this might be due to the peculiar fuunctional form chosen for the PROT variable.

Separate regressions are presented for the classification of the trade regime in the 1963-73 and 1973-1985 periods (SO63-73, SI63-73, MI63-73; SO73-85, SI73-85, MI73-85).

The results in table 3 confirm those obtained in table 2. Strong outward-orientation leads to significantly higher growth rates; strong inward-orientation leads to significantly lower growth rates. Moreover, as in table 2, the introduction of the trade regime dummies turns the Latin American dummy to values that are statistically insignificant (t-statistics of 1.4) and leads to a drop in its point estimate by over a half. This insignificance of the Latin American dummy is robust to the use of both PROT63-73 and PROT73-85: this confirms the potential importance of the policies of import substitution in explaining the growth differential between Latin America and other regions. As far as the the comparison between moderately inward-oriented and moderately outward-oriented countries is concerned, the results are more ambiguous. In the 1963-1973 period, the dummy for the moderately inward countries (MI) is negative and statistically significant; this would suggest that moderately inward countries grow significantly less than moderately outward-oriented countries (at 1% less per year in per capita terms). However, in the 1973-1985 period the sign on MI is negative but statistically significant only at the 10% confidence level. This would suggests that for the most recent period the growth performance of moderately inward and outward countries might not be significantly different.

Next, table 4 presents the results of regressions with a different classification of the trade orientation dummy. A single trade regime dummy (TDUM) is used taking value zero for (strongly and moderately) outward-oriented countries and value one for (strongly and moderately) inward-oriented countries; we distinguish again between the two sub-periods

classified by the World Bank (TDUM63-73 and TDUM73-85) [19]. The previous results are confirmed: outward-oriented countries grow faster than inward-oriented ones (on average 1.6% more per year in per capita terms). Here, however, the Latin American dummy remains significant even if its point estimate is marginally reduced.

To test the robustness of the above results, we move next to a different classification of the trade regime. Agarwala (1983) measured the degree of price distortions in various markets for a sample of 31 developing countries. The level of distortions was distinguished between low, medium and high. In particular, a country is defined as having a high distortion level for trade in the manufacturing sector if the effective rate of protection is above 80%; a low level is represented by effective protection below 40% and a medium level by protection in the 40-80% range. The same study classifies the 31 countries on the basis of the distortions (misalignments) of the real exchange rate distinguishing between high medium and low levels of misalignment. Following Agarwala's (1983) classification, we create two dummy variables: ERP for the degree of Effective Rate of Protection in manufacturing and EXCHRATE for the distortions in the real exchange rate. These dummy variables take values 1 to 3 depending on whether the distortion measure is low, medium or high. We add 23 countries to the 30 countries in the Agarwala sample that appear in our data set [20].

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[19]Easterly (1990) uses a similar dummy TDUM but takes a weigted average of the two subperiods instead of considering them separately; moreover, his sample is limited to the original 39 countries in the World Bank study. Given that a number of countries changed their trade regimes between the two periods, it might be better to consider separately the two subperiods.

[20]These additional countries are the 21 listed in page 28 plus Singapore and Hong Kong. They are all characterized by a low level of effective protection of manufacturing (below 40%) and a low level of distortion of the real exchange rate. For statistical evidence on the trade policies of these countries see the IMF study of Kelly et al. (1988).

The results of the regressions using the ERP and EXCHRATE measures of price distortions in trade are presented in table 5. Considering first the reference Barro regression, we observe that the reduction in sample size from 98 to 53 countries implies two main differences: the African dummy and the REVCOUP (proxying for political instability) are now statistically not significant. The remaining variables are not significantly affected by the change in sample size. Column (1) to (3) show the results obtained by adding ERP and EXCHRATE, first separately and next jointly, in the basic Barro regression. The results imply that higher degrees of price distortions in trade (high effective protection) and misalignments in the real exchange rate are significantly associated with lower rates of economic growth. These results are confirmed when we add the regional dummies to the regressions as in columns (5) and (6) and when we drop the political variables REVCOUP and ASSASS (in column (6)) because of their insignificant coefficients in the other regressions in table 5. One can observe that, while the Latin American dummy is significant in these regressions, its point estimate drops substantially (from –0.0145 to –0.0085). As far as the economic significance of the variables ERP and EXCHRATE is concerned, the parameters estimate imply that the move from a low to a high level of effective protection in manufacturing leads to a reduction in the growth rate of 1.6% per year. Similarly, a high level of misalignment in the real exchange rate implies a reduction of the growth rate of 1.5%–1.2% per year.

In table 6 we obtain similar results when we replace the variable ERP with ERP40: this is a dummy variable that takes value 1 when the effective rate of protection in our extended Agarwala sample is above 40% and zero otherwise. In particular, column (3) and (4) show that the variables ERP40 and EXCHRATE are both significant; moreover, the regional dummy for Latin

America is not significant and its point estimate is much smaller once we control for ERP40 and EXCHRATE [21]. The economic significance of these variables is similar to the one found in table 5: a reduction of 1.4% in growth rates in countries with high rates of effective protection and a reduction in growth of 1.0% to 1.3% in countries with highly misaligned real exchange rates. The results on the Latin American dummy confirm that the lower growth rate of Latin America is substantially explained by the orientation of the trade regime (and exchange rate misalignment) in that region.

As a next step we want to test the potential effect of different types of restrictions to international transactions on the rate of economic growth. It is usual to distinguish conceptually between restrictions to current account transaction and restrictions to capital account transaction. Do these restrictions affect the rate of economic growth ? And are current account restrictions more harmful than capital account restrictions ? These questions are interesting given the recent theoretical and empirical debate on the correct "order of liberalization of the balance of payments" [22]. This literature on the timing of liberalization does not deal directly with the growth consequences of the sequencing of liberalization. It is therefore interesting to consider empirically the growth consequences of restriction to current and capital transactions.

In order to test empirically the above issues, we constructed two dummy variables for current and capital account restrictions. The source of the

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[21]Jones (1990) uses a similar measure of effective protection (ERP40) but finds it not to be significant. However, his sample is different from the one used here; in particular it does not include industrial countries.

[22]The main contributions to this literature include work by Edwards (1984), Frenkel (1982), McKinnon (1982) and Michaely (1982).

data is the International Monetary Fund annual report on Exchange Rate Arrangements and Restrictions. These data have one major advantage and disadvantage. On the plus side, the survey is quite comprehensive in terms of the number of countries covered; we can therefore obtain information on 84 of the 98 countries in our original sample. On the minus side, the summary tables in the survey report only the existence of restrictions without considering their extent and intensity. Countries with widespread and significant restrictions are therefore lumped together with countries with minor restrictions.

Subject to this caveat, we constructed two dummy variables: CURCONT taking value one if the IMF reports restrictions to current account transactions and zero otherwise; and CAPCONT taking value one if the IMF reports restrictions to capital account transactions and zero otherwise. The results of the regressions including these variables are presented in table 7. The table shows that, in the reference Barro regression, the reduction of the sample size from 98 to 84 is of no consequence for the parameter estimates. Regarding the role of current account transaction restrictions, column (1) show that the coefficient on CURCONT is of the right sign and statistically significant: current account restrictions are associated with lower per capita growth. In particular, a literal interpretation of the coefficient estimate would imply that the existence of these restriction leads to a 1.0% lower rate of growth of per capita GDP per year. One can also observe that the presence of the CURCONT variable is not sufficient to drive away the significance of the regional dummy for Latin America. It is likely that the generic nature of the CURCONT dummy (that lumps countries with major restrictions together with countries with minor restrictions) accounts for its inability to attribute most of the low growth in Latin America to the significant trade restrictions

in the region.

As far as the role of restrictions to capital account transactions is concerned, column (2) in table 7 shows that the coefficient on CAPCONT is negative but statistically not significant (even though the point estimate is similar to that of CURCONT). This result would suggest that the growth consequences of capital account restrictions might not be as important as those the current account ones. This interpretation is also consistent with the implications of many studies in the "timing of liberalization" literature that suggest the importance of liberalizing the current account first [23]. It is also consistent with the empirical evidence from most OECD countries where the liberalization of the capital account occurred much later than the one of the current account [24].

The results obtained with the various measures of the orientation of the trade regime used above are consistent with the hypothesis that highly restrictive trade policies are harmful to long term growth. It should be observed that the various proxies of the trade regime, while obtained through different sources, studies and while covering different countries and time periods, are all highly correlated with each other. This is evident from table 8 where we present the correlation coefficients between these various trade regime proxies. Given the potential criticism that some of the measures might be biased because of their "subjective" nature, the evidence on the high relation between them reduces the concern that the classification of a country as being inward or outward oriented might be strongly biased by the priors of

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[23]More strongly, authors like Diaz-Alejandro (1985) and McKinnon (1982) have pointed out the risks associated with an early liberalization of the capital account.

[24]For example, it is only recently that capital controls have been eliminated in advanced industrial countries such as France and Italy.

the specific researcher.

Our final proposed proxy for the trade regime is given by the degree of openness of the country (as measured for example by the share of exports in GDP) [25]. This measure is problematic for a number of reasons. First, a country might be very open or not for reasons not related to the trade regime; for example large countries tend to have a lot of interregional trade rather than international trade so that they appear more closed than smaller open economies. Second, there might be a serious endogeneity problem: if we take the average degree of openness over the sample period, this might be affected by growth rather than the other way around. This endogeneity problem can be partly mitigated by considering openness at the beginning of the sample period. Subject to these caveats, we take the export to GDP ratio in 1965 as proxy for the degree of openness [26]. The results of the regressions including the export to GDP ratio are presented in table 9. The coefficient on the export to GDP ratio is positive and statistically significant: a higher degree of openness is associated with a higher rate of economic growth. It can be observed that the Latin American dummy is still significant in these regressions. However, this result is not surprising if we consider that the export to GDP ratio does not control for the actual orientation of the trade regime and is therefore a quite imprecise measure of the trade regime bias.

In summary, the results presented in this section confirm the importance of the trade regime for the rate of economic growth. While the theoretical

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[25]A number of studies have considered the relation between export performance and economic growth via the estimation of a neoclassical production function. Among these Tyler (1981), Feder (1983), Kavoussi (1984), Balassa (1985), Jung and Marshall (1985). See Edwards (1989) for a survey of these studies and a critical analysis of their results. For a recent study on the relation between trade shares and growth see Quah and Rauch (1990).

[26]We choose 1965 to get a value as close as possible to the beginning of the sample and for the largest sample of countries.

link between openness, trade regime and growth is ambiguous, the empirical evidence is for most measures consistent with the hypothesis that trade barriers and inward-oriented trade regimes are harmful to long term growth. The evidence on a large cross-section of countries is therefore consistent with the results of numerous multicountry projects on the relation between trade regime, export growth and economic performance (Krueger (1978), Bhagwati (1978), Balassa (1971, 1982) and World Bank (1987)). The results also suggest that an important reason why, after controlling for a set of other variables, Latin America appears to be growing slower than the rest of the world appears to be the inward-oriented import-substitution policies followed by many countries in the region during the period considered. In particular, the regional dummy for Latin American appears as insignificant when most of the measures of trade restrictions are added to the reference regression and its point estimate is significantly reduced as well.

3.2. The role of financial development and financial repression.

The theoretical models surveyed in section 2 imply that there might be an important relation between financial development, inflation and economic growth. In particular, the models in Roubini and Sala-i-Martin (1991) and Levine (1990a, b) suggest that financial underdevelopment and financial repression may be harmful to economic growth. The empirical literature on financial repression also suggests that financial repression is associated with negative real interest rates, high required reserve ratios and the choice of a high inflation tax [27]. In this section we would like to test empirically

[27]See McKinnon (1973, 1986), Shaw (1983), Fry (1982, 1988), McKinnon and Mathieson (1981).

the hypothesis that distortions in financial markets and the degree of financial development are important determinants of the rate of economic growth.

In order to test empirically the relation between financial factors and economic growth, it is necessary to obtain measures of the degree of financial development or financial repression. The approach that we take here is to derive alternative proxies for the financial characteristics of a country and test their explanatory power in our growth regressions.

The literature on financial repression suggests that economies that are financially repressed are characterized by credit rationing and artificially low real interest rates. Governments in financially repressed economies tend to control deposit and lending rates below the level of the inflation rates so that real interest rates will tend to be low and/or negative. Agarwala (1983) and Gelb (1988) present strong evidence on the negative relation between financial repression and real interest rates in a sample of over thirty developing countries; they also show that the simple bivariate relation between economic growth and financial repression (as proxied by real interest rates) is negative: low real interest rates are correlated with low economic growth. Easterly (1990) presents evidence that a proxy for financial repression based on Gelb's data significantly affects the growth rate in a cross-country sample of 32 developing countries.

Agarwala (1983) classifies the 31 countries in its sample according to their degree of distortions in the financial markets. The degree of distortion is defined as being high when real interest rates during the 1970's were less than minus 5%; low when real interest rates were positive and medium when they were in the 0 to minus 5% range. Starting from the Agarwala sample we collected additional information on a sample of economically advanced

countries and added them to the sample. We thus create a dummy variable FINREP for 53 countries that takes value one when real interest rates are positive; two when real interest rate are negative but higher than minus 5%; and 3 when real interest rates are lower than minus 5%. [28]

In column (1) in table 10 we include the proxy FINREP for financial repression in the basic growth regression. This variable appears to have the right sign and is statistically significant: a higher degree of financial repression leads to lower economic growth. We can also observe that, once we control for financial repression, the Latin American dummy in column (2) not only loses its statistical significance but its point estimate drops by more than half. This suggests that one of the reasons for the significant regional dummy in the original Barro regressions might be the high degree of financial repression in Latin America [29]. From the economic point of view, the coefficient estimate on the FINREP variable implies that the move from an economic with a low level of financial repression to one with a high level of financial repression implies a lowering of the growth rate around 1.3% per year (see column (4)).

In columns (3) and (4) of table 10 we also present the results of regressions where two of the Agarwala measures of financial and trade distortions are jointly added to the basic trade regressions: the FINREP measure of financial repression and the EXCHRATE measure of real exchange rate

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[28]The sample of countries is identical to the one derived for the variables ERP and EXCHRATE above. The reference Barro regression is therefore the same as the one discussed in table 5 above.

[29]Of the nine Latin American countries in the Agarwala sample, eight are characterized by a high degree of financial repression in the 1970's. These are: Argentina, Brazil, Chile, Jamaica, Mexico, Uruguay, Bolivia and Peru. The FINREP variable, however, is not a simple dummy for Latin America since several other countries in the sample are characterized by a high level of financial repression.

distortion; as can be seen from the table they both enter significantly in the regression. The Latin American dummy is again statistically not significant and its point estimate is significantly lower.

Next, table 11 presents the results of regressions where a composite index of distortions in financial markets, factors markets and trade is introduced in the growth regression. This composite index (DISTORT) is derived from Agarwala as a weighted average different distortion measures [30]. This dummy variable takes value one when the overall distortions degree is low; two when the distortion level is medium; and three when it is high. The coefficient estimate of DISTORT has the expected sign and is statistically significant: a higher degree of overall financial, trade and other distortions is associated with lower per-capita growth. Consistent with previous results, the regional dummy for Latin America appears to be statistically insignificant when we introduce this composite measure of distortions. The coefficient estimate of the DISTORT variable implies that the move from an overall low level of economic distortions to a high level of economic distortions implies a reduction in the growth rate of 3.1% per year.

Next, in table 12 we present the results of regressions where the Agarwala measure of real interest rate distortions is substituted with the one created by Gelb (1988) and used by Easterly (1990). The Gelb measure differs from the one in Agarwala by considering a different sample of countries and measuring real interest rates in the 1980's. When the distortion dummy is defined as a zero/one variable taking value one when real interest rates are negative (FINREP1), the sign of the coefficient is correct but statistically not significant (see column (1)). However, when the variable is defined as

[30]See Agarwala (1983) for a detailed description of the construction of this variable.

taking value one when real interest rates are strongly negative (less than minus five percent), table 12 shows the corresponding dummy (FINREP2) is significantly negative (columns (2)–(3)): strongly negative real interest rate lead to low real growth [31]. These results suggest that, while a moderate degree of financial repression may not affect excessively economic growth, a strong degree of financial repression is associated with significantly lower economic growth (around 1.1% of per capita growth per year). In these regressions, the point estimate of the Latin American dummy is reduced but the variable remains significant.

As discussed in the section one, one of the reasons why government follow policies of financial repressions is to expand the tax base on which seigniorage is collected. In particular, a high coefficient of required reserve for commercial banks will force them to hold a greater amount of non–interest bearing monetary reserves; this represents an important source of seigniorage for the government in many developing countries. As argued by McKinnon (1984), a high reserve ratio proxies for the degree of financial underdevelopment and/or repression; therefore, we expect economic growth to be lower in countries with a high ratio of reserves to money. We define the reserve ratio (RESERVE) as the ratio of commercial bank reserves to the money supply (M1 and quasi money) and we compute the average ratio for the 1960–1984 period; the maximum sample we get is 58 countries. In table 13 we present the regressions with the RESERVE variable; since the variables REVCOUP and ASSASS are insignificant in this 58–country sample they are dropped from the regressions in columns (1) and (2). In the regression in column (1) the

[31]The results that we obtain with FINSNEG are similar to those in Easterly (1990). However, we consider a larger sample of countries (52 instead of 32) that includes the industrial countries.

reserve variable is statistically significant while in column (2) (where the regional dummies are included in the regression), the reserve variable is marginally significant. We also observe that the RESERVE variable is not sufficient, by itself, to drive away the regional dummies. The results in table 13 are consistent with the theoretical model in Roubini and Sala-i-Martin (1991), where a high degree of financial repression is achieved, among other means, through high required reserves for commercial banks and leads to a lowering of economic growth.

The model also suggests that countries characterized by a high degree of financial repression will witness higher rates of inflation. Financial repression and underdevelopment, by expanding the tax base for seigniorage (through high required reserve ratios and increased money demand) will also lead the government to choose a higher level of the seigniorage tax, i.e. a higher inflation rate. In order to test such a hypothesis, we add to the basic growth regression the average inflation rate in the 1960-1985 period. The results are presented column (1)-(3) in table 14. The inflation rate enters with the right sign and is statistically significant: a higher inflation rate is correlated with lower economic growth [32]. More specifically, the coefficient estimate implies that a 10% inflation rate per year is associated with a lower per capita growth rate of 0.5% per year.

It should be observed that the empirical association of inflation with growth does not imply a causal relation between inflation and growth. The model presented in the previous section rather suggest that financial repression leads to negative real interest rates, high required reserve ratios and the the choice of a high inflation tax. This high relation between

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[32]Kormendi and McGuire (1985) find a similar effect of inflation on economic growth.

different measures of financial repression is evident from table 15 where we report the correlation coefficients between inflation rates, reserve ratios and measures of financial repression. Low real interest rates (high values of FINREP) and high required reserve ratios are high correlated with inflation rates; high required reserve ratios are positively associated with high distortions in financial markets.

The results of this section are consistent with the implications of the theories dicussed in section one. Controlling for other determinants of growth, a high degree of financial underdevelopment and/or financial repression will lead to lower economic growth. The result is robust to the alternative measures of financial repression derived and used in the econometric analysis in this section.

4. Concluding Remarks.

We analyzed the relation between the trade regime, the degree of financial development and the growth performance of a large cross section of countries at the theoretical and empirical levels. We argued that the open economy growth literature does not give clear answers to the question of what is the relation between openness, the trade regime and economic growth.

We also argued that one of the reasons why some governments may choose to repress the financial sector is that it delivers easy inflationary revenue since financial repression induces private agents to carry a larger stock of nominal money, the base for the inflation tax. This financial repression reduces the growth rate of the economy.

In the third section we presented some empirical evidence on the relation between the trade regime, financial repression and growth for a large sample of countries. We presented a number of variables that measure different aspects of the trade regime and the trade orientation of countries. The

systematic finding was that there is a negative relation between trade distortions and growth. We then presented some variables that capture the degree to which the financial sector is distorted. We confirmed the predictions of the theory in that financial repression affects growth negatively, inflation rates and growth rates are positively related and reserve ratios and growth are negatively related.

As we proceeded along, we tested the significance of a regional dummy for Latin American countries. We found that, unlike the variables used in Barro (1991), our variables tend to make the Latin American dummy disappear. This suggests that a large fraction of the negative growth experience of the sample of Latin American countries is explained by distortionary policies both in the trade and in the financial sectors.

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Data Appendix

Variable Definitions

Taken from the Barro–Wolf Data Set:

GR6085	Annual growth rate of per capita GDP 1960–1985
GDP60	GDP in 1960
PRIM60	Primary school enrollment Rate, 1960
SEC60	Secondary school enrollment rate, 1960
GOV	Average of the real government consumption (exclusive of defense and education) to real GDP
PPI60DEV	Deviation of the 1960 PPP value of the investment deflator from the sample mean
REVCOUP	Number of revolutions and coups per year (1960–85 or sub–sample)
ASSASS	Number of assassinations per million population per year
LAT.AMER.	(0, 1) dummy variable for Latin America
AFRICA	(0, 1) dummy variable for sub–Saharan Africa

Other Variables:

PROTxx (1, 2,3,4) index of outward/inward orientation of the trade regime based on 1987 World Development Report of the World Bank and on additional information on 21 other countries

SOxx (0, 1) dummy variable for strongly outward–oriented countries. Source: same as for PROT

SIxx (0, 1) dummy variable for strongly inward–oriented countries. Source: same as for PROT

MIxx (0, 1) dummy variable for moderately inward–oriented countries. Source: same as for PROT

TDUMxx (0, 1) dummy for outward/inward orientation of the trade regime Source: same as for PROT

ERP (1, 2, 3) index of degree effective protection in manufacturing based on Agarwala (1983) and additional information on 23 other countries

ERP40 (0, 1) dummy for ERP> 0.4

EXCHRATE (1, 2, 3) index of degree real exchange rate misalignment. Source: same as for ERP

DISTORT (1, 2, 3) index of overall price distortions. Source: same as for ERP

CURCONT (0, 1) dummy for restrictions to current account transactions, 1978. Source: IMF report on Exchange Rate Arrangements and Restrictions

CAPCONT (0, 1) dummy for restrictions to capital account transactions, 1978. Source: IMF report on Exchange Rate Arrangements and Restrictions

EXPGDP65 Export to GDP ratio, 1965. Source: 1989 World Development Report of

the World Bank

FINREP (1, 2, 3) index of degree of real interest rate distortions. Source: same as for ERP

FINREP1 (1, 2, 3) index of degree of real interest rate distortions. Source: Gelb (1988) and information on additional 23 countries

FINREP2 (0, 1) index of degree of real interest rate distortions. Source: Gelb (1988) and information on additional 23 countries

RESERVE Ratio of commercial banks' reserves to money. Source: International Financial Statistics of the IMF

INF6085 Average CPI inflation rate, 1960–1985. Source: International Financial Statistics of the IMF

Table 1: Barro Growth Regressions

	(1)	(2)	(3)	(4)
dep. var.	GR6085	GR6085	GR6085	GR6085
no. obs.	98	98	98	98
constant	0.0320	0.0354	0.0171	0.0242
	(0.0073)	(0.0073)	(0.0079)	(0.0079)
GDP60	-0.0072	-0.0066	--	--
	(0.0011)	(0.0010)		
log_GDP6	--	--	-0.0149	-0.0140
			(0.0029)	(0.0027)
SEC60	0.0287	0.0113	0.0222	0.0057
	(0.0088)	(0.0081)	(0.0092)	(0.0100)
PRIM60	0.0238	0.0262	0.0324	0.0303
	(0.0062)	(0.0065)	(0.0073)	(0.0070)
GOV	-0.1300	-0.0998	-0.1312	-0.1010
	(0.0323)	(0.0284)	(0.0336)	(0.0290)
PPI60DEV	-0.0142	-0.0142	-0.0177	-0.0166
	(0.0056)	(0.0049)	(0.0058)	(0.0049)
REVCOUP	-0.0201	-0.0161	-0.0220	-0.0193
	(0.0069)	(0.0070)	(0.0080)	(0.0078)
ASSASS	-0.0032	-0.0024	-0.0005	-0.0008
	(0.0019)	(0.0018)	(0.0022)	(0.0021)
LAT.AMER	--	-0.0140	--	-0.0112
		(0.0032)		(0.0035)
AFRICA	--	-0.0115	--	-0.0147
		(0.0042)		(0.0043)
adj.R-sq.	0.5032	0.5806	0.4787	0.5525
std.err.	0.0131	0.0120	0.0134	0.0124

Table 2: Role of the Trade Regime (I)

	reference	(1)	(2)	(3)	(4)
dep. var.	GR6085	GR6085	GR6085	GR6085	GR6085
no. obs.	59	59	59	59	59
constant	0.0415	0.0511	0.0590	0.0715	0.0763
	(0.0081)	(0.0081)	(0.0083)	(0.0083)	(0.0105)
GDP60	-0.0072	-0.0083	-0.0076	-0.0083	-0.0076
	(0.0011)	(0.0008)	(0.0009)	(0.0007)	(0.0008)
SEC60	0.0175	0.0236	0.0128	0.0176	0.0097
	(0.0065)	(0.0060)	(0.0060)	(0.0059)	(0.0061)
PRIM60	0.0222	0.0229	0.0149	0.0106	0.0046
	(0.0084)	(0.0064)	(0.0074)	(0.0062)	(0.0081)
GOV	-0.1081	-0.1037	-0.0817	-0.1077	-0.0896
	(0.0392)	(0.0338)	(0.0365)	(0.0328)	(0.0331)
PPI60DEV	-0.0237	-0.0158	-0.0129	-0.0131	-0.0110
	(0.0141)	(0.0157)	(0.0142)	(0.0151)	(0.0140)
REVCOUP	-0.0130	-0.0053	-0.0076	-0.0003	-0.0031
	(0.0066)	(0.0049)	(0.0046)	(0.0059)	(0.0053)
ASSASS	-0.0029	-0.0032	-0.0032	-0.0030	-0.0032
	(0.0019)	(0.0019)	(0.0019)	(0.0017)	(0.0019)
PROT63-73	--	-0.0086	-0.0074	--	--
		(0.0016)	(0.0015)		
PROT73-85	--	--	--	-0.0128	-0.0114
				(0.0022)	(0.0022)
LAT.AMER.	-0.0142	--	-0.0083	--	-0.0063
	(0.0043)		(0.0032)		(0.0039)
AFRICA	-0.0172	--	-0.0149	--	-0.0128
	(0.0074)		(0.0062)		(0.0048)
adj.R-sq.	0.6787	0.7237	0.7565	0.7617	0.7817
std.err.	0.0108	0.0100	0.0094	0.0093	0.0089

Table 3: Role of the Trade Regime (II)

	(1)	(2)	(3)	(4)
dep. var.	GR6085	GR6085	GR6085	GR6085
no. obs.	59	59	59	59
constant	0.0335	0.0453	0.0405	0.0499
	(0.0074)	(0.0077)	(0.0065)	(0.0089)
GDP60	-0.0087	-0.0080	-0.0086	-0.0080
	(0.0009)	(0.0009)	(0.0008)	(0.0008)
SEC60	0.0192	0.0101	0.0167	0.0088
	(0.0063)	(0.0068)	(0.0062)	(0.0066)
PRIM60	0.0224	0.0115	0.0125	0.0051
	(0.0065)	(0.0081)	(0.0059)	(0.0092)
GOV	-0.1016	-0.0817	-0.1115	-0.0931
	(0.0364)	(0.0384)	(0.0354)	(0.0361)
PPI60DEV	-0.0129	-0.0092	-0.0102	-0.0079
	(0.0172)	(0.0153)	(0.0161)	(0.0147)
REVCOUP	-0.0065	-0.0097	0.0003	-0.0038
	(0.0055)	(0.0051)	(0.0075)	(0.0067)
ASSASS	-0.0031	-0.0036	-0.0034	-0.0034
	(0.0016)	(0.0020)	(0.0020)	(0.0021)
SO63-73	0.0138	0.0136	0.0186	0.0171
	(0.0044)	(0.0048)	(0.0048)	(0.0045)
SI63-73	-0.0136	-0.0123	-0.0214	-0.0191
	(0.0040)	(0.0036)	(0.0056)	(0.0053)
MI63-73	-0.0104	-0.0096	-0.0071	-0.0077
	(0.0051)	(0.0051)	(0.0043)	(0.0051)
LAT.AMER.	--	-0.0050	--	-0.0049
		(0.0034)		(0.0035)
AFRICA	--	-0.0150	--	-0.0125
		(0.0065)		(0.0052)
adj.R-sq.	0.7280	0.7586	0.7623	0.7797
std.err.	0.0099	0.0093	0.0093	0.0089

Table 4: Role of the Trade Regime (III)

	(1)	(2)	(3)	(4)
dep. var.	GR6085	GR6085	GR6085	GR6085
no. obs.	59	59	59	59
constant	0.0373	0.0469	0.0455	0.0553
	(0.0083)	(0.0084)	(0.0077)	(0.0094)
GDP60	-0.0080	-0.0073	-0.0079	-0.0071
	(0.0009)	(0.0010)	(0.0009)	(0.0010)
SEC60	0.0269	0.0149	0.0258	0.0123
	(0.0068)	(0.0067)	(0.0071)	(0.0068)
PRIM60	0.0247	0.0169	0.0179	0.0100
	(0.0071)	(0.0084)	(0.0070)	(0.0097)
GOV	-0.1004	-0.0782	-0.1206	-0.0915
	(0.0389)	(0.0405)	(0.0392)	(0.0362)
PPI60DEV	-0.0223	-0.0185	-0.0243	-0.0196
	(0.0146)	(0.0133)	(0.0150)	(0.0139)
REVCOUP	-0.0060	-0.0081	-0.0110	-0.0125
	(0.0066)	(0.0065)	(0.0062)	(0.0063)
ASSASS	-0.0041	-0.0039	-0.0022	-0.0022
	(0.0022)	(0.0020)	(0.0017)	(0.0018)
TDUM63-73	-0.0165	-0.0140	--	--
	(0.0043)	(0.0040)		
TDUM73-85	--	--	-0.0157	-0.0133
			(0.0046)	(0.0059)
LAT.AMER.	--	-0.0092	--	-0.0103
		(0.0032)		(0.0050)
AFRICA	--	-0.0153	--	-0.0173
		(0.0065)		(0.0067)
adj.R-sq.	0.7013	0.7378	0.6616	0.7111
std.err.	0.0104	0.0097	0.0110	0.0102

Table 5: Role of the Trade Regime (IV)

	reference	(1)	(2)	(3)	(4)	(5)
dep. var.	GR6085	GR6085	GR6085	GR6085	GR6085	GR6085
no. obs.	53	53	53	53	53	53
constant	0.0473	0.0627	0.0493	0.0674	0.0739	0.0730
	(0.0094)	(0.0118)	(0.0088)	(0.0095)	(0.0100)	(0.0108)
GDP60	-0.0068	-0.0076	-0.0069	-0.0072	-0.0068	-0.0066
	(0.0012)	(0.0012)	(0.0012)	(0.0011)	(0.0011)	(0.0011)
SEC60	0.0120	0.0222	0.0237	0.0221	0.0116	0.0127
	(0.0089)	(0.0086)	(0.0077)	(0.0071)	(0.0075)	(0.0071)
PRIM60	0.0213	0.0135	0.0222	0.0132	0.0069	0.0075
	(0.0091)	(0.0089)	(0.0078)	(0.0077)	(0.0087)	(0.0091)
GOV	-0.1339	-0.1460	-0.1494	-0.1367	-0.1156	-0.1104
	(0.0382)	(0.0359)	(0.0363)	(0.0363)	(0.0356)	(0.0345)
PPI60DEV	-0.0316	-0.0321	-0.0240	-0.0198	-0.0199	-0.0206
	(0.0134)	(0.0128)	(0.0128)	(0.0118)	(0.0116)	(0.0122)
REVCOUP	-0.0132	-0.0111	-0.0033	-0.0007	-0.0056	--
	(0.0086)	(0.0056)	(0.0092)	(0.0067)	(0.0069)	
ASSASS	-0.0048	-0.0045	-0.0049	-0.0039	-0.0038	--
	(0.0030)	(0.0024)	(0.0028)	(0.0020)	(0.0023)	
ERP	--	-0.0083	--	-0.0077	-0.0083	-0.0087
		(0.0031)		(0.0026)	(0.0022)	(0.0024)
EXCHRATE	--	--	-0.0092	-0.0087	-0.0052	-0.0068
			(0.0031)	(0.0027)	(0.0029)	(0.0024)
LAT.AMER.	-0.0145	--	--	--	-0.0088	-0.0085
	(0.0050)				(0.0041)	(0.0040)
AFRICA	-0.0111	--	--	--	-0.0123	-0.0103
	(0.0060)				(0.0057)	(0.0059)
adj.R-sq.	0.6622	0.6428	0.6554	0.7102	0.7402	0.7362
std.err.	0.0102	0.0104	0.0103	0.0094	0.0089	0.0090

Table 6: Role of the Trade Regime (V)

	(1)	(2)	(3)	(4)
dep. var.	GR6085	GR6085	GR6085	GR6085
no. obs.	53	53	53	53
constant	0.0534	0.0604	0.0630	0.0625
	(0.0089)	(0.0094)	(0.0104)	(0.0107)
GDP60	-0.0080	-0.0073	-0.0072	-0.0071
	(0.0010)	(0.0010)	(0.0010)	(0.0010)
SEC60	0.0217	0.0095	0.0127	0.0135
	(0.0082)	(0.0082)	(0.0074)	(0.0070)
PRIM60	0.0162	0.0107	0.0108	0.0106
	(0.0080)	(0.0089)	(0.0092)	(0.0096)
GOV	-0.1448	-0.1177	-0.1186	-0.1141
	(0.0354)	(0.0367)	(0.0349)	(0.0336)
PPI60DEV	-0.0291	-0.0243	-0.0179	-0.0180
	(0.0159)	(0.0133)	(0.0123)	(0.0122)
REVCOUP	-0.0094	-0.0104	-0.0039	--
	(0.0064)	(0.0075)	(0.0078)	
ASSASS	-0.0043	-0.0039	-0.0037	--
	(0.0023)	(0.0027)	(0.0027)	
ERP40	-0.0140	-0.0129	-0.0128	-0.0138
	(0.0053)	(0.0042)	(0.0038)	(0.0038)
EXCHRATE	--	--	-0.0056	-0.0069
			(0.0029)	(0.0026)
LAT.AMER	--	-0.0114	-0.0074	-0.0070
		(0.0040)	(0.0047)	(0.0046)
AFRICA	--	-0.0139	-0.0107	-0.0093
		(0.0066)	(0.0065)	(0.0068)
adj.R-sq.	0.6477	0.7132	0.7309	0.7309
std.err.	0.0104	0.0094	0.0091	0.0091

Table 7: Role of the Trade Regime (VI)

	reference	(1)	(2)
dep. var.	GR6085	GR6085	GR6085
no. obs.	84	84	84
constant	0.0357	0.0396	0.0378
	0.0074	0.0073	0.0069
GDP60	-0.0065	-0.0074	-0.0070
	0.0011	0.0011	0.0013
SEC60	0.0081	0.0095	0.0108
	0.0089	0.0079	0.0096
PRIM60	0.0289	0.0285	0.0302
	0.0071	0.0067	0.0071
GOV	-0.1195	-0.1163	-0.1151
	0.0320	0.0307	0.0318
PPI60DEV	-0.0155	-0.0133	-0.0154
	0.0052	0.0053	0.0052
REVCOUP	-0.0109	-0.0112	-0.0115
	0.0063	0.0057	0.0058
ASSASS	-0.0029	-0.0028	-0.0025
	0.0018	0.0016	0.0016
CURCONT	--	-0.0052	--
		0.0026	
CAPCONT	--	--	-0.0044
			0.0029
LAT.AMER.	-0.0157	-0.0167	-0.0165
	0.0034	0.0033	0.0034
AFRICA	-0.0115	-0.0126	-0.0103
	0.0047	0.0045	0.0047
adj.R-sq.	0.6801	0.6902	0.6846
std.err.	0.0106	0.0104	0.0105

Table 8: Correlation Matrix

	PROT63	PROT73	TDUM63	TDUM73	EXCHRAT	ERP	ERP40
PROT63	1.0000	0.8651	0.9286	0.6836	0.5617	0.8365	0.7940
PROT73		1.0000	0.7822	0.9251	0.5057	0.8230	0.8252
TDUM63			1.0000	0.6487	0.5664	0.7610	0.7088
TDUM73				1.0000	0.3802	0.7066	0.7088
EXCHRATE					1.0000	0.3928	0.4321
ERP						1.0000	0.9091
ERP40							1.0000

Table 9: Role of the Trade Regime (VII)

	reference	(1)	(2)
dep. var.	GR6085	GR6085	GR6085
no. obs.	85	85	85
constant	0.0035	0.0263	0.0302
	(0.0073)	(0.0065)	(0.0070)
GDP60	-0.0065	-0.0072	-0.0065
	(0.0011)	(0.0011)	(0.0010)
SEC60	0.0124	0.0339	0.0137
	(0.0091)	(0.0096)	(0.0098)
PRIM60	0.0267	0.0229	0.0245
	(0.0069)	(0.0054)	(0.0065)
GOV	-0.0938	-0.1201	-0.0910
	(0.0284)	(0.0275)	(0.0265)
PPI60DEV	-0.0132	-0.0131	-0.0130
	(0.0050)	(0.0060)	(0.0053)
REVCOUP	-0.0160	-0.0182	-0.0139
	(0.0068)	(0.0067)	(0.0066)
ASSASS	-0.0022	-0.0014	-0.0012
	(0.0017)	(0.0021)	(0.0017)
EXPGDP65	--	0.00014	0.00017
		(0.00007)	(.00006)
LAT.AMER.	-0.0127	--	-0.0130
	(0.0034)		(0.0034)
AFRICA	-0.0116	--	-0.0128
	(0.0044)		(0.0044)
adj.R-sq.	0.5905	0.5408	0.6091
std.err.	0.0117	0.0124	0.0115

Table 10: Role of Financial Repression (I)

	reference	(1)	(2)	(3)	(4)
dep. var.	GR6085	GR6085	GR6085	GR6085	GR6085
no. obs.	53	53	53	53	53
constant	0.0473	0.0548	0.0592	0.0563	0.0583
	(0.0094)	(0.0098)	(0.0103)	(0.0095)	(0.0115)
GDP60	-0.0068	-0.0080	-0.0073	-0.0076	-0.0070
	(0.0012)	(0.0012)	(0.0012)	(0.0011)	(0.0012)
SEC60	0.0120	0.0143	0.0079	0.0163	0.0123
	(0.0089)	(0.0079)	(0.0086)	(0.0071)	(0.0073)
PRIM60	0.0213	0.0265	0.0200	0.0251	0.0211
	(0.0091)	(0.0092)	(0.0091)	(0.0087)	(0.0096)
GOV	-0.1339	-0.1330	-0.1188	-0.1320	-0.1163
	(0.0382)	(0.0334)	(0.0356)	(0.0337)	(0.0348)
PPI60DEV	-0.0316	-0.0278	-0.0261	-0.0211	-0.0221
	(0.0134)	(0.0143)	(0.0132)	(0.0127)	(0.0125)
REVCOUP	-0.0132	-0.0079	-0.0104	-0.0019	--
	(0.0086)	(0.0069)	(0.0074)	(0.0079)	
ASSASS	-0.0048	-0.0053	-0.0051	-0.0049	--
	(0.0030)	(0.0023)	(0.0028)	(0.0024)	
FINREP	--	-0.0089	-0.0072	-0.0069	-0.0066
		(0.0028)	(0.0033)	(0.0027)	(0.0036)
EXCHRATE	--	--	--	-0.0061	-0.0065
				(0.0029)	(0.0026)
LAT.AMER.	-0.0145	--	-0.0061	--	-0.0032
	(0.0050)		(0.0055)		(0.0055)
AFRICA	-0.0111	--	-0.0105	--	-0.0055
	(0.0060)		(0.0052)		(0.0055)
adj.R-sq.	0.6622	0.6787	0.6931	0.7030	0.6936
std.err.	0.0102	0.0099	0.0097	0.0095	0.0097

Table 11: Role of Financial Repression (II)

	reference	(1)	(2)
dep. var.	GR6085	GR6085	GR6085
no. obs.	53	53	53
constant	0.0473	0.0728	0.0778
	(0.0094)	(0.0113)	(0.0116)
GDP60	-0.0068	-0.0078	-0.0071
	(0.0012)	(0.0011)	(0.0011)
SEC60	0.0120	0.0153	0.0072
	(0.0089)	(0.0075)	(0.0074)
PRIM60	0.0213	0.0154	0.0092
	(0.0091)	(0.0087)	(0.0088)
GOV	-0.1339	-0.1318	-0.1133
	(0.0382)	(0.0345)	(0.0339)
PPI60DEV	-0.0316	-0.0210	-0.0189
	(0.0134)	(0.0132)	(0.0129)
REVCOUP	-0.0132	-0.0041	-0.0068
	(0.0086)	(0.0053)	(0.0057)
ASSASS	-0.0048	-0.0048	-0.0047
	(0.0030)	(0.0020)	(0.0026)
DISTORT	--	-0.0173	-0.0156
		(0.0044)	(0.0045)
LAT.AMER.	-0.0145	--	-0.0059
	(0.0050)		(0.0040)
AFRICA	-0.0111	--	-0.0117
	(0.0060)		(0.0047)
adj.R-sq.	0.6622	0.7152	0.7393
std.err.	0.0102	0.0093	0.0089

Table 12: Role of Financial Repression (III)

	reference	(1)	(2)	(3)
dep. var.	GR6085	GR6085	GR6085	GR6085
no. obs.	52	52	52	52
constant	0.0495	0.0483	0.0525	0.0525
	(0.0081)	(0.0101)	(0.0088)	(0.0087)
GDP60	-0.0067	-0.0063	-0.0067	-0.0060
	(0.0012)	(0.0012)	(0.0012)	(0.0012)
SEC60	0.0160	0.0143	0.0236	0.0158
	(0.008)	(0.0076)	(0.0074)	(0.0064)
PRIM60	0.0153	0.0134	0.0107	0.0084
	(0.0078)	(0.0086)	(0.008)	(0.0082)
GOV	-0.1377	-0.1214	-0.1716	-0.1358
	(0.0440)	(0.0467)	(0.0431)	(0.0470)
PPI60DEV	-0.0182	-0.0218	-0.0221	-0.0214
	(C.0054)	(0.0057)	(0.0059)	(0.0053)
REVCOUP	-0.0143	--	-0.0058	--
	(0.0110)		(0.0108)	
ASSASS	-0.0048	--	-0.0052	--
	(0.0034)		(0.0035)	
FINREP1	--	-0.0040	--	--
		(0.0055)		
FINREP2	--	--	-0.0142	-0.0108
			(0.0046)	(0.0046)
LAT.AMER	-0.0149	-0.0154	--	-0.0115
	(0.0050)	(0.0053)		(0.0051)
AFRICA	-0.0149	-0.0134	--	-0.0112
	(0.0068)	(0.0083)		(0.0065)
adj.R-sq.	0.6367	0.5988	0.6111	0.6385
std.err.	0.0107	0.0113	0.0111	0.0107

Table 13: Role of Financial Repression (IV)

	reference	(1)	(2)
dep. var.	GR6085	GR6085	GR6085
no. obs.	58	58	58
constant	0.0375	0.0322	0.0353
	(0.0092)	(0.0071)	(0.0072)
GDP60	-0.0065	-0.0087	-0.0068
	(0.0017)	(0.0016)	(0.0017)
SEC60	0.0105	0.0315	0.0114
	(0.0136)	(0.0120)	(0.0120)
PRIM60	0.0244	0.0294	0.0265
	(0.0082)	(0.0048)	(0.0067)
GOV	-0.1279	-0.1500	-0.1068
	(0.0458)	(0.0368)	(0.0407)
PPI60DEV	-0.0174	-0.0148	-0.0141
	(0.0057)	(0.0065)	(0.0053)
REVCOUP	-0.0096	--	--
	(0.0067)		
ASSASS	-0.0032	--	--
	(0.0019)		
RESERVE	--	-0.0387	-0.0301
		(0.0159)	(0.0161)
LAT.AMER.	-0.0123	--	-0.0103
	(0.0040)		(0.0044)
AFRICA	-0.0135	--	-0.0140
	(0.0058)		(0.0056)
adj.R-sq.	0.6352	0.5854	0.6370
std.err.	0.0113	0.0120	0.0112

Table 14: Role of Financial Repression (V)

	reference	(1)	(2)	(3)
dep. var.	GR6085	GR6085	GR6085	GR6085
no. obs.	65	65	65	65
constant	0.0423	0.0393	0.0469	0.0396
	(0.0076)	(0.0094)	(0.0079)	(0.0074)
GDP60	-0.0068	-0.0077	-0.0069	-0.0066
	(0.0010)	(0.0012)	(0.0010)	(0.0011)
SEC60	0.0171	0.0348	0.0179	0.0204
	(0.0082)	(0.0087)	(0.0082)	(0.0076)
PRIM60	0.0198	0.0246	0.0194	0.0229
	(0.0067)	(0.0078)	(0.0065)	(0.0067)
GOV	-0.1396	-0.1765	-0.1441	-0.1370
	(0.0370)	(0.0393)	(0.0353)	(0.0364)
PPI60DEV	-0.0064	-0.0089	-0.0076	-0.0092
	(0.0066)	(0.0081)	(0.0067)	(0.0069)
REVCOUP	-0.0167	-0.0144	-0.0142	--
	(0.0086)	(0.0089)	(0.0083)	
ASSASS	-0.0023	-0.0026	-0.0027	--
	(0.0018)	(0.0024)	(0.0019)	
INF6085	--	-0.0690	-0.0453	-0.0527
		(0.0236)	(0.0231)	(0.0264)
LAT.AMER.	-0.0152	--	-0.0142	-0.0146
	(0.0037)		(0.0039)	(0.0039)
AFRICA	-0.0163	--	-0.0155	-0.0141
	(0.0048)		(0.0046)	(0.0052)
adj.R-sq.	0.6612	0.5678	0.6695	0.6508
std.err.	0.0101	0.0114	0.0100	0.0103

Table 15: Role of Financial Repression

	INF6085	FINREP	FINREP2	RESERVE
INF6085	1.0000	0.6609	0.7061	0.5105
FINREP		1.0000	0.7119	0.6248
FINREP2			1.0000	0.4717
RESERVE				1.0000