Does Growth Respond to a Good Trade Policy?

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ABSTRACT

This paper examines the importance of institutions vis-à-vis openness and trade policies in determining per-capita income differences across countries. A recent literature has tried to demonstrate that more open economies grow faster. On the other hand it has also been asserted that it is not openness per-se, but institutions and good governance that matter in promoting growth. This paper attempts to test this hypothesis across a cross-section of nations. Unlike other papers in the field we have tested not only for the degree of openness but also for trade policy indicators as well as a fuller set of six institutional variables. Our broad finding is that although institutions matter, trade policies are also relevant to promoting growth, whereas openness per se has little impact on growth.

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1 Introduction

In poor low-income nations economic growth constitutes the principal avenue for poverty reduction. Redistribution, even when feasible, can never be enough on its own to substantially reduce poverty. Despite the fact that there may be a close link between growth and poverty reduction; growth may result not just from policies that foster it like trade policy reforms, but because certain nations have superior institutions within which the policy framework is determined and executed. This also raises the issue of reverse causality. Higher incomes that are the result of growth in the context of well-functioning institutions, in turn also produce superior institutions that are a function of increased per-capita income. By institutions we imply factors that result in good governance: political stability, voice and accountability, the rule of law, the regulatory framework, bureaucratic quality and the control of corruption (see Kaufmann, Kraay and Zoido-Lobaton, 2002 for example). There is little controversy over the imperative role played by both international trade and institutional quality in fostering growth. Economic development is a phenomenon which encompasses a multitude of social, economic, political and scientific phenomenon. In practice, accounting for all of these factors in order to explain growth is a difficult task.

The purpose of this paper is to empirically examine the contribution of trade policy in explaining differences in per-capita income levels across countries. We live in an era of globalisation which makes greater openness imperative. In addition we also analyse the relative contribution of institutions to prosperity compared to trade liberalisation.

With regard to international trade and growth, it has to be remembered that trade can increase or decrease in the absence of any changes to the trade policy stance (tariffs,

non-tariff barriers, export subsidies etc.).[1] Globalisation, factors that are external to an individual nation, may facilitate trade. Technological changes may make certain goods, say imports, cheaper despite trade restrictions. Similarly, a fall in transportation costs or the end of war may alter the relative price of tradables encouraging more international trade. Trade may promote growth but changes in trade policies may not foster more international trade and hence not contribute to growth or poverty reduction.

The rest of the paper is organised as follows. Section 2 contains a review of the literature covering the debate regarding the alternative impact of trade policy or openness on growth, with some authors establishing a direct link between openness and growth, whilst others emphasise the role of good institutions. Sections 3 (data and methodology) and 4 (regressions) contain our contribution to the debate. We go well beyond the analysis of Rodrik et al (2004) by including more institutional measures, openness indicators, as well as trade policy variables. Finally, section 5 concludes.

2 Trade Policy, Openness and Institutions

Where do the fundamental determinants of growth lie? Apart from the effort required in savings or capital accumulation, do the fundamental determinants of growth lie in policies such as trade policy or human capital accumulation or is growth fostered by good institutions? In an influential paper, Sachs and Warner (1995) argued that countries that were more open (based upon a number of openness indicators) grew faster than countries that were not open, hence creating pre-conditions for poverty

[1] By trade policy we mean governmentally induced mechanisms that restrict, relax or facilitate the international exchange of certain or all goods and services.

reduction. A country was classified as not open based upon violation of any of the indicators. Rodriguez and Rodrik (2000), however, have convincingly argued that the Sachs and Warner (1995) study suffered from sample selection bias and that some openness indicators could be highly correlated to other indicators of good governance or institutional quality. As an example of the first problem, countries in sub-Saharan Africa failed to be counted as open as most of them had state monopolies controlling the export trade. This is not true because "open" economies as defined by Sachs and Warner (1995), such as Indonesia also had state monopolies in petroleum for example. Secondly, another indicator of the lack of openness a black market premium on the exchange rate could be highly related to institutional quality (corruption, regulatory capacity). Most damaging of the Rodriguez and Rodrik critique of Sachs and Warner's assertion that openness promotes growth lies in the fact that an Africa dummy variable capturing the special effect of Africa on cross-national growth could be substituted for the two crucial openness indicators that contributed significantly to growth.

Rodriguez and Rodrik (2000) went on to review some of the key cross-national empirical literature on the relationship between trade policy and economic growth and conclude that there is little evidence that open trade policies, in the sense of lower tariff and non-tariff barriers to trade, are significantly associated with economic growth. The theory on this relationship, in the case of a small economy that takes world prices of tradable goods as given, would predict that: (1) in static models with no market imperfections and other pre-existing distortions, the effect of a trade restriction is to reduce the level of real GDP at world prices. In the presence of market failures such as externalities, trade restrictions may increase real GDP (although they

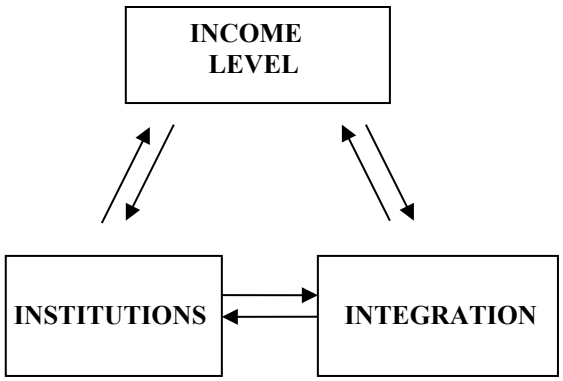
are hardly ever the first-best means of doing so); (2) in standard models with exogenous technological change and diminishing returns to reproducible factors of production, a trade restriction has no effect on the long-run (steady-state)

Dollar and Kraay (2002) have evaluated the role of institutions and international trade in economic development. They provide evidence that countries with better institutions and countries that trade more grow faster. However, they have concluded that it is trade which matters more in this nexus as a short term pro-growth strategy. Institutions matter in the long-run. But this conclusion is rejected by Rodrik et al (2002), who find that the quality of institutions 'trumps every thing else'. They conclude that when institutions are controlled for, the measures of integration have at best insignificant effects on the level of per-capita income. But there is a potential reverse causality between per-capita income levels or growth and institutions. For example richer and more developed countries have better institutions and they are more liberalised than more underdeveloped nations. So a pertinent question can be raised whether rich countries are rich because they are more open and have better institutions or does the relationship work in reverse? There is also a debate whether better institutions encourage trade or is it openness and liberalisation which eventually bring improvements to institutions? There is a bit of evidence to suggest that both possibilities exist (see for example: Anderson and Mercuiller, 1999; and Wei, 2000).

Figure 1 below elaborates how the inter relationship between growth, institutions and trade works In short theory and literature both imply that any analysis, which attempts to capture the effects of institutions and openness on growth, would be loaded with the problems of endogeniety and reverse causation: "The extent to which an economy

is integrated with the rest of the world and the quality of its institutions are both endogenous, shaped potentially not just by each other but also by income levels. Problems of endogeniety and reverse causality plague any empirical researcher trying to make sense of relationship among these causal factors (Rodrik et al, 2004:2)." Fortunately, there are econometric techniques to address this endogeneity problem.

Figure 1: Non Linearity of Institutions and Integration



Secondly, not all institutions may matter. Democracy and voice and accountability may not always contribute to growth, as has been the case in rapidly growing nations such as China and Singapore, see Barro (1996). There is also the issue of human capital and its place in fostering growth, and even aiding the formation of superior institutions. Glaeser et al (2004) bring forth an important missing link to the debate by suggesting that human capital is more important for growth than are institutions. In fact they went one step further by suggesting that human capital actually contributes towards institutional improvement. Their paper presents the view point whereby the potential of developing countries to grow depends more on the leadership (e.g. good or bad dictatorships) rather than institutional quality.

On the importance of human capital vis-à-vis growth, Schiff (1999), after reviewing recent empirical studies on the subject concludes that poor countries can only grow faster than rich countries if their initial stock of human capital exceeds the average level among other poor nations. For example, if East Asian and South Asian economies are compared, differences in human capital and differences in convergence level seem to move together. For instance, East Asian Developing countries witnessed unprecedented increases in GNP per capita over the last three decades, e.g. 10 times for Malaysia, 65 times for Republic of Korea and 13 times for Thailand. While during the same period for Asian least developed countries (Bhutan, Cambodia and Lao People's democratic Republic) and South Asian developing countries (Bangladesh, India and Pakistan) only a meagre increase of 2 to a little over 5 times took place.

It is intriguing to note that in 1960s when most of these countries were at similar stages of economic development, East Asian developing countries were far ahead of both Asian least developed countries and South Asian developing countries in human capital. In fact, the total literacy rates for East Asian developing countries in the 1960s were as high as 71 percent for the Republic of Korea, 68 percent for Thailand and even Malaysia had a rate of over 50 percent. On the other hand, in case of all Asian least developed countries and South Asian developing countries, the total literacy rates were as low as only 9 percent for Nepal and 15 percent for Pakistan with Cambodia having 38 percent literacy. After three decades, while Asian least developed countries and South Asian developing countries have some what ameliorated their human capital, the total literacy rates are still far below 50 percent in the cases of Bangladesh, Nepal and Pakistan. During the same period, however, East Asian developing countries have more or less achieved the formidable task of

educating most of their people. As a result, in the late 1990s, the total literacy rate of the Republic of Korea has reached 98 percent, and Malaysia managed to achieve a rate of about 90 percent. In short, economic progress in East Asia during the 1980s occurred because of their well-developed human capital endowment which gathered momentum in the 1960s or earlier.

3 Data and Methodology

In the light of the debate above our growth equation[2] comprises all the core determinants of growth, namely international economic integration (including measures of openness and trade policy), institutions and also human capital. We have also included physical capital:

$$\log y_i = \alpha + \beta N_i + \chi TP_i + \gamma HK_i + \eta PK_i + \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

In many ways the equation above is an augmented neo-classical growth model. The variable y_i is income per capita in country i, N_i, TP_i, HK_i, and PK_i are respectively measures for institutions, integration, human capital and physical capital and ε_i is the random error term.

Human Capital is represented by average schooling years. In order to have an in-depth insight into how institutions or increased integration affects the growth potential of a country, we will employ several concepts of institutions and trade policy openness variables following various definitions prevalent in the literature. For example, we

[2] Strictly speaking we have per-capita income differences and not growth as in Rodrik et. Al (2004), but differences in average income are a consequence of varying past growth rates.

take into account the six different classifications of institutions identified by Kaufman et al (2002), namely rule of law (*rl*), political stability (*ps*), regulatory quality (*rq*), government effectiveness (*ge*), voice and accountability (*va*) and control of corruption (*ctc*).[3] On the integration front, we have carefully chosen three specific measures of openness. For example, ratio of nominal imports plus exports to GDP (*lcopen*) is the conventional openness indicator (see Frankel and Romer, 1999; Alcala and Ciccone, 2002; Rose 2002, Dollar and Kraay, 2002; Rodrik et al, 2004). Two other measures of openness are overall trade penetration (*tarshov*) derived from World Bank's TARS system and overall import penetration (*Impnov*) respectively (see Rose, 2002). Neither of these measures are direct indicators of trade policy of a country, pointing only towards the level of its participation in international trade. There are indicators of trade restrictiveness acting as measures of trade policy (Edwards, 1998; Greenaway et al, 2001, Rose 2002). Import tariffs as percentage of imports (*Tariffs*), tariffs on intermediate inputs and capital goods (*Owti)*, and total import charges (*Totimpov*) can all be considered as good proxies of trade restrictiveness and have also been employed in this study. Other measures which capture restrictions in overall trade are non-tariff barriers. More over there is also a trend in the trade literature to use composite measures of trade policy. Edwards (1998) advocates the Sachs and Warner (1995) openness index (*open80*) and Leamer's Openness indicator (*leamer 82*) as being apposite proxies of openness. We have also used these composite measures to examine in detail how openness influences growth rate. In short this study has employed 6 institutional and 8 openness/trade policy variables in an attempt to undertake a comprehensive analysis of how institutional quality and exposure to increased international trade affects the economic performance of a country.

[3] The value of these variables range from -2.5 (worst) to 2.5 (best) for every country in the sample.

Note that unlike in the comparable study by Rodrik et al (2004) we have (a) included a role for human capital, (b) employed six institutional variables compared to one only in Rodrik et al (rule of law), (c) included trade policy variables and not just openness indicators and (d) expanded the set of openness measures employed.

As indicated earlier, there are potential endogeneity problems between growth and institutions, as well as between openness (or trade policy) and growth. One way of cleansing our empirical analysis from endogeneity in explanatory variables and the reverse causality between dependent and independent variables is to adopt Instrumental Variable (IV) regression analysis. As a first step to run IV regressions we have to find appropriate instruments for our 11-openness/ trade policy variables and 6 institutional concepts. The first stage estimation includes instruments for the two explanatory variables with potential endogeneity problems. The estimate in the next stage utilises the predicted variables of these variables for institutions and trade policy/openness in a standard growth regression as in (1).

We followed previous studies, which have not only identified instruments for openness and institutions, but they have also run several robustness checks to validate the power of these instruments. The literature clearly establishes that predicted trade shares following Frankel and Romer (*FR*) (1999) from a gravity equation is the most appropriate instrument for openness/ trade policy. On the other hand, the most compelling institutional instrument is the measure of settler mortality suggested by Acemolgu, Johnson and Robinson (2001). But the data is only available for 64 countries. Though Rodrik et al (2004) have extended it to 80 countries; it still covers a

relatively low number when compared to another widely used institutional instrument namely 'fractions of the population speaking English and Western European languages as the first language' which covers as many as 140 countries. Thus following Dollar and Kraay (2002) and Hall and Jones (1999), we use this instrument for our institutional proxies. Following Rodrik et al (2004), we employed 'distance from the equator' as a third instrument (proxy for geography) and is a purely exogenous concept.

Our IV regression model has two equations, where in the first stage we generate predicted values of openness/ trade policy and institutions by regressing them on a set of instruments.

$$N_i = \lambda_i + \phi ENG_i + \nu EUR_i + \tau FR_i + \theta GEO_i + \varepsilon_{Ni} \quad \text{..... (2)}$$

$$TP_i = \pi_i + \varpi FR_i + \varsigma ENG_i + \rho EUR_i + \upsilon GEO_i + \varepsilon_{Ni} \quad \text{.....(3)}$$

where ENG_i and EUR_i are our instruments for institutions referring to fractions of population speaking English and European languages respectively. FR_i is instrument for trade policy and GEO_i is proxy for geography showing distance from the equator.

At the second stage the predicted values of respective institutional and openness variables are employed in growth equation (equation 1) along with concepts of human capital and physical capital.

4 Regression Results

Table 1: First Stage Regression Results for Instrumental variables:

First Stage Results									
	lcopen	**Impnov**	**Tarshov**	**Tariff**	**Owti**	**Txtrg**	**Totimpov**	**Owqi**	**Ntarfov**
Lfrkrom	0.51 (12.7)*	15.9 (7.5)*	27.6 (7.2)*	-1.17 (-1.07)	-0.07 (-3.7)*	0.004 (0.75)	-15.3 (-4.6)*	-0.04 (-1.19)	-17.79 (-3.01)*
Engfrac	0.37 (2.4)*	16.3 (2.3)*	25.4 (2.01)*	-0.98 (-0.27)	0.004 (0.07)	0.002 (0.12)	11.28 (0.99)	-0.11 (-0.98)	17.06 (0.84)
Eurfrac	-0.12 (-1.2)	-5.9 (-1.6)	-5.5 (-0.6)	-3.7 (-1.3)	-0.06 (-1.3)	-0.18 (-1.7)***	-2.18 (-0.32)	-0.001 (-0.01)	-28.2 (-2.33)*
Disteq	-0.77 (-0.1)	0.05 (0.57)	0.1 (0.54)	-0.19 (-3.9)*	-0.002 (-2.3)*	-0.001 (-4.04)*	0.18 (0.93)	-0.01 (-0.71)	-0.27 (-0.77)
F-test	43.9*	17.4*	15.8*	5.6*	6.04*	5.9*	6.1*	1.04	3.88*
R^2	0.55	0.43	0.41	0.19	0.21	0.32	0.26	0.04	0.18

First Stage Results								
	Open80s	**Leamer82**	**VA**	**PS**	**GE**	**RQ**	**RL**	**CTC**
Lfrkrom	0.16 (2.55)*	-0.07 (-0.48)	0.86 (2.37)*	0.26 (2.88)*	0.25 (3.31)*	0.097 (1.20)	0.27 (3.42)*	0.27 (3.53)*
Engfrac	-0.03 (-0.16)	0.16 (0.70)	0.65 (2.03)*	0.24 (0.70)	0.48 (1.6)	0.286 (0.88)	0.502 (1.54)	0.73 (2.43)*
Eurfrac	0.16 (1.22)	-0.15 (-0.95)	0.88 (4.47)*	0.64 (3.04)*	0.62 (3.39)*	0.82 (4.21)*	0.51 (2.63)*	0.49 (2.73)*
Disteq	0.01 (4.03)*	0.01 (3.99)*	0.02 (7.09)	0.02 (6.63)*	0.02 (7.37)*	0.01 (3.76)*	0.03 (8.14)*	0.029 (8.08)*
F-test	7.6*	4.7*	26.9*	17.8*	24.3*	11.9*	25.2*	28.2*
R^2	0.31	0.31	0.43	0.35	0.42	0.25	0.42	0.45

t- values in the parenthesis. *, **, *** denotes significance at 1%, 5 % and 10% levels respectively.

It would be interesting to know what information our first stage results give us regarding the quality of instruments. Table 1 suggests that for nearly all specifications of openness and institutional quality, the respective instruments carry the right signs. In some cases where the instruments carry wrong signs, they are also insignificant. Before proceeding to our second stage regressions, we tried to see how predicted values of our openness and institutional variables relate to economic growth in a linear framework. It is interesting to note that the use of instrumental variables

provides a much clearer picture of openness/ trade policy and institutions with regard to economic growth and establishes the robustness of our instruments.

Moving on to the second stage regression analysis, Table 2a, 2b and 2c (appendix 1) provides the results of growth equation with combinations of our 3 openness variables with all the institutional concepts under various specifications. The results are very similar to the ones obtained by Rodrik et al (2004). Institutions clearly trump openness because in most cases it is noted that the latter variable enters into the growth equation with the wrong sign. The insignificance of our openness proxies capturing the level of trade or movements in terms of trade in explaining long term growth rate of a country comes as no surprise. These findings are in accordance with the findings of Dollar and Kraay (2002) and Rodrik (1998), who suggest that the correlation of trade levels and growth performance is at best weak in the long run. Our results reinforce this fact in a more comprehensive manner as we have provided additional specifications to the growth equation by including human capital and physical capital. Especially, the inclusion of human capital has improved the explanatory power of our model as it is evident from higher R^2 values and it has helped to anchor the influence of institutions in explaining growth.

In tables 2d, 2e and 2f (appendix 1), we have regressed various measurements of tariff and non-tariff barriers along with institutions under different specifications of equation 1. Interestingly, we find that institutional superiority vis-a-vis trade policy has toned down. In some instances, institutions enter the growth equation insignificantly. The frequency of such cases increases when human capital is present in equation 1. For example, tables 2d and 2e shows that rule of law enters into the

growth equation with a negative sign nearly under all specifications. This is an interesting finding in the light of the Rodrik et al (2004) paper, who employed the rule of law as the only proxy for institutions and then go on to claim the superiority of institutions over any other process of growth as they find out that rule of law is always significant and carries the right sign as opposed to their different openness proxies which sometimes carried the wrong signs. Though we also find that institutional superiority is unquestioned in a growth equation which has openness proxies, but in the presence of trade policy variables the superiority of institutions has diminished especially for the rule of law, which has appeared with wrong signs in some cases. Additionally we observe from table 2d that voice and accountability and control for corruption carry negative signs under specification 4 of the growth equation when they are paired with *tariffs*.

As far as our trade policy variables are concerned, they also can have wrong signs. But unlike Rodrik et al (2004), where in many instances openness variables carry wrong signs and were also significant, our trade policy variables which carry wrong signs are generally insignificant. For example our proxies of import taxes namely *tariffs* (import duties as percentage of imports) in 2d and *totimpov* (overall weighted average total import charges) in 2f are the trade policy variables which carry wrong signs most frequently. But then they are also the ones who have been insignificant under all specifications and with any of the institutional combinations respectively.

There are many studies which have tried to capture the effects of trade policy on economic development, i.e., Sachs and Warner (1995), Edwards (1998) and Greenaway, Morgan and Wright (2002) are among the prominent studies which have

employed direct proxies of trade policies. They confirm that the countries with policy-induced barriers to international trade grow at a slower pace. Notwithstanding the important role of these studies in giving a useful insight into the 'trade and growth' debate vis-s-vis trade policy, they have two shortcomings: first, in the light of recent evidence provided by Rodrik et al (2004) and Dollar and Kraay (2002), their studies are likely to suffer from miss-specification bias as they have not taken account of institutions in their growth equations. Secondly, they have assumed trade policy to be a purely exogenous concept.

Wood (2004), while commenting on the 'trade and growth' debate, not only emphasised that a more convincing basis for trade policy recommendations could only be provided if trade policy variables are included in the regressions, but also pointed out that any such attempt should consider trade policy as an endogenous concept as no trade policy recommendations can be given with out taking second best effects into account as trade policies crucially depend on the functioning of domestic markets of any particular country.

To this effect we have somewhat addressed the endogeneity of trade policy variables by regressing them on a set of instruments. Though the instruments remain very general in nature they do capture certain country specific characteristics. And as our growth equation has institutional proxies and human capital along with trade policy variables, our analysis goes one step further from previous cross sectional studies which have attempted to find out effects of trade policy on economic development.

Table 2g and 2h (appendix 1) shows the results of composite measures of openness and measures based on residuals, when they are regressed with various institutional concepts. Again we find that institutions, though significant in most instances, are not the most significant factor in determining economic growth as it was the case in tables 2a, 2b and 2c. The results suggest that trade liberalisation does matter as o*pen80s* in 2g (Sachs–Warner openness measures) is significant when it enters growth, [whereas the three openness variables we employed are all insignificant] for regulatory quality and rule of law and *leamer82* in 2h (Leamer's measure of trade restrictiveness based on residuals) is highly significant for regulatory quality.

Here the significance of *open80s* reinforces the importance of trade policy and gives some important insights into the debate. For example, it defines country as open if (i) non-tariff barriers cover less than 40 percent of trade, (ii) average tariff rates are less than 40 percent, (iii) the black market premium was less than 20 percent during the 1980s, (iv) the economy is not socialist, and (v) the government does not control major exports through marketing boards. The rationale for combining these indicators into a single dichotomous variable is that they represent different ways in which policy makers can close their economy to international trade. However, according to the evidence provided by Rodriguez and Rodrik (2000), the Sachs-Warner composite measure mainly derives its strength from the combination of black market premium and the state monopoly of exports, whereas state monopoly on major exports is a well-known equivalent between import and export taxes as it captures cases in which governments tax major exports and therefore reduce the level of trade (exports and imports), and black market premium captures foreign exchange restrictions as a trade barrier. Though they accepted state monopoly of exports as an appropriate proxy of

trade restrictiveness, they feared that black market premia is not a good choice as it is highly correlated with inflation, the debt/exports ratio, wars and institutional quality and may simply capture the effect of widespread macroeconomic and political crisis. Well to this effect our IV regression analysis solves the problem of endogeneity of black market premia as we have regressed *open80s* with set of institutional and openness instruments. It may, therefore, be that both government monopoly over major exports and black market premia are robust proxies of trade restrictiveness.

5 Conclusions

Notwithstanding the importance of institutions, a pertinent question arises as to whether institutions rule over trade. Institutions, whether it is rule of law or voice and accountability or political stability or regulatory quality or control of corruption or government effectiveness, are all pre requisite for development and are catalyst for the success of any development strategy. But the fact remains that institutions or institutional development is a long term phenomenon and is not an objective policy concept for a short term economic strategy to achieve higher economic growth. That is why even after finding institutions to rule over integration, Rodrik et al (2004) conclude their paper with following lines: " How much guidance do our results provide to policy makers who want to improve the performance of their economies? Not much at all. Sure, it is helpful to know that geography is not destiny, or that focusing on increasing the economy's links with world markets is unlikely to yield convergence. But the operational guidance that our central result on the primacy of institutional quality yields is extremely meagre." Our paper, on the contrary, suggests

that trade does matter and substantiates the earlier studies regarding the importance of trade policy in determining economic growth.

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Appendix 1:

Table 2a: Second Stage Regression Results for Lcopen and Institutions

	Dependent Variable: Log of Per Capita Income																							
Inde-pendent Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Lcopen	-0.77	-0.08	-0.05	-0.03	-0.09	-0.08	-0.09	-0.07	-0.22	0.21	-0.03	-0.24	-0.63	-0.05	0.41	0.41	-0.22	-0.21	-0.14	-0.12	-0.03	-0.29	-0.41	-0.40
	(-0.5)	(-0.5)	(-0.3)	(-0.2)	(-0.6)	(-0.6)	(-0.4)	(-0.3)	(-1.4)	(-1.4)	(-1.4)	(0.19)	(-0.5)	(-0.4)	(1.7)***	(1.7)***	(-2.0)***	(-1.8)***	(-0.8)	(-0.7)	(-1.1)**	(-2.0)**	(-2.2)**	(-2.0)**
Va	0.88	0.90	1.31	1.34																				
	(3.7)*	(3.8)*	(10.6)*	(10.9)*																				
Ps					1.08	1.06	1.55	1.55																
					(3.7)*	(3.9)*	(9.2)*	(9.7)*																
Ge									1.26	1.26	1.53	1.55												
									(3.6)*	(3.7)*	(10.4)*	(10.9)*												
Rq													0.86	0.94	2.11	2.11								
													(2.6)*	(2.8)*	(8.2)*	(8.7)*								
Rl																	0.97	0.97	1.37	1.40				
																	(4.2)*	(4.4)*	(11.9)*	(12.4)*				
Ctc																					0.85	0.88	1.42	1.48
																					(3.6)*	(3.6)*	(10.9)*	(11.3)*
Hk	0.16	0.15			0.11	0.12			0.05	0.05			0.21	0.21			0.11	0.11			0.14	0.13		
	(2.6)*	(2.6)*			(1.6)	(1.7)***			(0.6)	(0.6)			(3.8)*	(3.8)*			(1.7)***	(1.8)***			(2.1)**	(2.0)**		
Pk	0.006		0.02		-0.11		-0.01		0.001		0.02		0.22		-0.005		-0.007		0.009		0.08		0.02	
	(0.5)		(1.6)***		(-0.7)		(-0.8)		(0.1)		(0.02)		(-0.03)		(-0.3)		(-0.1)		(0.8)		(1.6)		(1.5)	
F-test	60.0*	81.3*	40.4*	60.4*	46.6*	66.1*	30.2*	47.3*	47.5*	65.2*	38.7*	60.1*	71.0*	93.5*	24.9*	38.9*	84.2*	116.3*	51.8*	78.2*	70.1*	91.2*	44.3*	65.1*
R2	0.69	0.69	0.42	0.40	0.62	0.63	0.26	0.27	0.62	0.62	0.42	0.42	0.75	0.75	0.13	0.14	0.78	0.79	0.55	0.55	0.75	0.73	0.49	0.46

- t- values in the paranthesis. *, **, *** denotes significance at 1%, 5 % and 10% levels respectively.
- Standard errors are corrected for as we run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson and MacKinnon. 1993).
- We have not generated the missing values and thus n takes the range from approximately 30 to 140, while generally taking the value of 70.

Table 2b: Second Stage Regression Results for Impnov and Institutions

Dependent Variable: Log of Per Capita Income																								
Inde-pendent Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Impnov	-0.004	-0.005	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01	-0.02	-0.01	-0.002	-0.002	0.001	0.001	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.9)	(-0.9)	(-1.3)	(-1.3)	(-1.5)	(-1.6)	(-1.6)	(-1.5)	(-1.8)***	(-1.8)***	(-2.2)**	(-2.0)**	(-0.5)	(-0.5)	(0.2)	(0.2)	(-1.8)***	(1.9)***	(-1.9)***	(1.8)***	(-1.8)***	(-1.9)***	(-2.6)**	(-2.0)**
Va	0.78	0.74	1.39	1.46																				
	(2.8)*	(2.6)*	(8.6)*	(8.8)*																				
Ps					1.10	1.07	1.50	1.54																
					(2.9)*	(2.9)*	(8.4)*	(8.6)*																
Ge									1.58	1.54	1.51	1.56												
									(2.4)**	(2.4)**	(9.5)*	(9.6)*												
Rq													0.72	0.68	2.17	2.18								
													(2.2)**	(1.9)***	(7.6)*	(8.2)*								
Rl																	0.89	0.87	1.38	1.41				
																	(2.8)*	(2.8)*	(10.6)*	(11.1)*				
Ctc																					0.89	0.97	1.36	1.47
																					(2.3)*	(2.3)*	(10.1)*	(9.9)*
Hk	0.17	0.19			0.09	0.11			-0.04	-0.01			0.24	0.25			0.12	0.13			0.11	0.11		
	(2.4)**	(2.9)*			(1.0)	(1.2)			(-0.4)	(-0.1)			(4.3)*	(4.1)*			(1.5)	(1.6)			(1.1)	(1.0)		
Pk	0.02		0.03		0.01		0.01		0.02		0.02		0.01		-0.01		0.01		0.01		0.04		0.04	
	(1.7)***		(1.8)***		(0.6)		(0.8)		(1.1)		(1.2)		(0.58)		(-0.2)		(0.72)		(0.6)		(2.2)**		(2.5)**	
F-test	51.7*	69.1*	29.1*	39.9*	39.0*	53.3*	26.5*	37.8*	26.9*	36.6*	34.4*	47.4*	67.3*	91.7*	22.9*	34.3*	65.6*	87.6*	44.2*	63.4*	48.6*	54.6*	40.4*	50.8*
R2	0.71	0.70	0.39	0.34	0.62	0.63	0.36	0.33	0.45	0.45	0.49	0.45	0.78	0.78	0.29	0.30	0.77	0.77	0.61	0.61	0.70	0.64	0.57	0.49

- t- values in the paranthesis. *, **, *** denotes significance at 1%, 5 % and 10% levels respectively.
- Standard errors are corrected for as we run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson and MacKinnon. 1993).
- We have not generated the missing values and thus n takes the range from approximately 30 to 140, while generally taking the value of 70.

Table 2c: Second Stage Regression Results for Tarshov and Institutions

	Dependent Variable: Log of Per Capita Income																							
Inde-pendent Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Tarshov	-0.003 (-1.0)	-0.003 (-1.0)	-0.01 (-1.4)	-0.01 (-1.4)	-0.005 (-1.5)	-0.005 (-1.6)	-0.01 (-1.5)	-0.01 (-1.4)	-0.01 (-1.8)***	-0.01 (-1.6)	-0.01 (-2.1)**	-0.01 (-1.9)**	-0.002 (-0.8)	-0.002 (-0.8)	-0.001 (-0.01)	0.001 (0.1)	-0.005 (-1.8)***	-0.005 (1.9)***	-0.01 (-1..7)***	-0.01 (-1.6)	-0.01 (-1.9)***	-0.01 (-1.9)***	-0.01 (-2.5)**	-0.01 (-2.3)**
Va	0.77 (2.7)*	0.72 (2.6)*	1.41 (8.4)*	1.48 (8.6)*																				
Ps					1.30 (2.9)*	1.01 (2.9)*	1.5 (8.3)*	1.54 (8.5)*																
Ge									1.42 (2.5)**	1.01 (2.6)*	1.51 (9.3)*	1.57 (9.5)*												
Rq													0.73 (2.2)**	0.68 (1.9)***	2.17 (7.6)*	2.19 (8.1)*								
Rl																	0.81 (2.8)*	0.79 (2.7)*	1.38 (10.4)*	1.41 (10.9)*				
Ctc																					0.79 (2.3)*	0.86 (2.3)**	1.3 (9.9)*	1.47 (9.9)*
Hk	0.17 (2.6)**	0.20 (2.9)*			0.11 (1.4)	0.13 (1.5)			0.01 (0.1)	0.01 (1.5)			0.24 (4.3)*	0.25 (4.1)*			0.15 (1.9)**	0.16 (2.1)**			0.15 (1.6)	0.15 (1.6)	0.04 (2.5)**	
Pk	0.02 (1.7)***		0.03 (1.8)***		0.01 (0.6)		0.01 0.79		0.02 (1.1)		0.02 (1.1)		0.01 (0.7)		-0.004 (-0.18)		0.01 (0.73)		0.01 (0.6)		0.03 (2.2)**			
F-test	52.3*	69.5*	28.1*	38.5*	41.8*	57.2*	25.8*	37.1*	31.2*	57.2*	33.2*	46.3*	66.3*	90.2*	23.1*	34.3*	68.7*	91.6*	44.8*	62.1*	52.4*	60.2*	39.1*	49.7*
R2	0.71	0.71	0.37	0.31	0.65	0.66	0.35	0.33	0.52	0.66	0.48	0.44	0.78	0.78	0.30	0.30	0.78	0.78	0.60	0.59	0.72	0.67	0.56	0.48

- t- values in the paranthesis. *, **, *** denotes significance at 1%, 5 % and 10% levels respectively.
- Standard errors are corrected for as we run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson and MacKinnon. 1993).
- We have not generated the missing values and thus n takes the range from approximately 30 to 140, while generally taking the value of 70.

Table 2d: Second Stage Regression Results for Tariffs and Institutions

	Dependent Variable: Log of Per Capita Income																							
Inde-pendent Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Tariffs	0.03	0.02	0.44	-0.39	0.001	0.003	-0.06	-0.14	0.03	0.03	-0.06	-0.18	-0.01	-0.01	-0.14	-0.19	-0.01	-0.003	-0.12	-0.21	0.001	0.007	-0.18	-0.27
	(0.5)	(0.5)	(0.4)	-0.21	(0.02)	(0.1)	(-0.8)	(-0.9)	(0.5)	(0.6)	(-0.6)	(-0.7)	(-0.2)	(-0.1)	(-1.5)	(-1.4)	(-0.3)	(-0.1)	(-1.4)	(-1.1)	(0.1)	(0.16)	(-1.1)	(-1.1)
Va	1.04	1.04	4.04	-0.97																				
	(2.9)*	(3.0)*	(0.6)	(-0.1)																				
Ps					0.89	0.89	1.08	0.61																
					(3.3)*	(3.4)*	(1.9)***	(0.6)																
Ge									1.01	1.08	0.98	0.33												
									(2.6)*	(2.6)*	(1.4)	(0.2)												
Rq													1.10	1.18	1.01	0.49								
													(1.8)***	(1.9)***	(0.9)	(0.3)								
Rl																	0.68	0.71	0.62	0.19				
																	(3.3)*	(3.4)*	(1.1)	(0.2)				
Ctc																					0.56	0.62	0.22	-0.19
																					(2.3)**	(2.4)**	(0.2)	(-0.1)
Hk	0.15	0.16			0.16	0.17			0.16	0.16			0.19	0.18			0.17	0.18			0.21	0.21		
	(1.8)***	(1.8)***			(1.9)**	(2.1)**			(1.8)***	(1.7)***			(2.3)**	(2.1)**			(2.7)*	(2.8)*			(2.9)*	(2.9)*		
Pk	0.001		0.003		0.001		0.01		0.01		0.01		-0.01		-0.01		0.001		0.01		0.01		0.01	
	(0.1)		(0.1)		(0.1)		(0.4)		(0.8)		(0.8)		(-0.4)		(-0.2)		(0.2)		(0.3)		(1.1)		(0.4)	
F-test	43.8*	61.7*	2.3***	4.7*	52.9*	71.5*	32.1*	26.5*	41.2*	50.1*	33.4*	17.9*	51.5*	67.6*	17.6*	17.3*	86.3*	114.7*	22.7*	15.8*	62.6*	80.2*	11.6*	9.3*
R2	0.67	0.67	-	-	0.73	0.72	0.48	0.01	0.66	0.61	0.51	-	0.73	0.72	0.04	-	0.83	0.82	0.26	-	0.78	0.76	-	-

- t- values in the paranthesis. *, **, *** denotes significance at 1%, 5 % and 10% levels respectively.
- Standard errors are corrected for as we run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson and MacKinnon. 1993).
- We have not generated the missing values as in cross section analysis this may lead to spurious results. Thus 'n' takes the range from approximately 30 to 70 (in case of specification 1) 70 to 140 (in case of specification 4), where as mostly it has taken the range of 60 – 70.

Table 2e: Second Stage Regression Results for Owti and Institutions

Dependent Variable: Log of Per Capita Income																								
Inde-pendent Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Owti	0.29	0.36	0.42	0.36	1.15	0.92	0.23	-0.07	4.66	3.98	3.18	2.53	-1.48	-1.45	-2.3	-2.3	-0.58	-0.39	0.02	-0.21	0.41	0.82	1.87	1.75
	(0.2)	(0.2)	(0.2)	(0.2)	(0.5)	(0.4)	(0.1)	(-0.03)	(0.9)	(0.9)	(1.1)	(0.9)	(-1.3)	(-1.3)	(-1.1)	(-1.1)	(-0.4)	(-0.3)	(0.01)	(-0.1)	(0.2)	(0.4)	(0.81)	(0.7)
Va	0.81	0.78	1.44	1.46																				
	(2.3)**	(2.3)**	(5.3)*	(5.5)*																				
Ps					1.31	1.27	1.49	1.48																
					(2.1)**	(2.1)**	(5.4)*	(5.6)*																
Ge									2.12	1.98	1.75	1.71												
									(1.5)	(1.6)	(4.9)*	(5.5)*												
Rq													0.45	0.42	1.87	1.93								
													(1.2)	(1.1)	(4.6)*	(4.9)*								
Rl																	0.51	0.57	1.34	1.34				
																	(1.3)	(1.6)	(6.4)*	(6.8)*				
Ctc																					0.66	0.74	1.46	1.49
																					(1.5)	(1.6)	(5.7)*	(6.1)*
Hk	0.17	0.19			0.04	0.05			-0.09	-0.07			0.25	0.26			0.20	0.91			0.19	0.18		
	(2.4)*	(2.6)*			(0.3)	(0.4)			(-0.3)	(-0.3)			(4.1)*	(3.6)*			(2.2)**	(2.1)**			(1.9)**	(1.8)**		
Pk	0.02		0.02		-0.01		0.001		-0.02		-0.01		0.01		0.01		0.005		0.001		0.01		0.01	
	(1.2)		(1.2)		(-0.4)		(0.02)		(-0.6)		(-0.5)		(0.6)		(0.8)		(0.4)		(0.1)		(1.1)		(0.7)	
F-test	45.9*	62.7*	27.5*	41.4*	26.1*	38.1*	26.4*	41.7*	11.8*	1.89*	22.2*	38.3*	62.8*	87.0*	25.4*	38.5*	76.1*	102.7*	43.0*	66.7*	55.4*	67.9*	32.9*	50.7*
R2	0.69	0.69	0.38	0.37	0.48	0.52	0.39	0.41	-	0.01	0.25	0.33	0.78	0.79	0.39	0.38	0.82	0.82	0.62	0.63	0.76	0.73	0.50	0.50

- t- values in the paranthesis. *, **, *** denotes significance at 1%, 5 % and 10% levels respectively.
- Standard errors are corrected for as we run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson and MacKinnon. 1993).
- We have not generated the missing values as in cross section analysis this may lead to spurious results. Thus 'n' takes the range from approximately 30 to 70 (in case of specification 1) 70 to 140 (in case of specification 4), where as mostly it has taken the range of 60 – 70.

Table 2f: Second Stage Regression Results for Totimpov and Institutions

	Dependent Variable: Log of Per Capita Income																							
Inde-pendent Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
totimpo	0.012	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.04	0.04	0.005	0.005	0.01	0.01	0.005	0.01	0.02	0.02	0.06	0.04	0.04	0.03
	(0.7)	(0.7)	(0.7)	(0.7)	(0.7)	(0.8)	(0.9)	(0.9)	(1.1)	(0.9)	(1.7)***	(1.8)***	(0.7)	(0.8)	(0.6)	(0.6)	(0.6)	(0.7)	(1.5)	(1.5)	(0.6)	(0.6)	(1.9)***	(2.1)**
Va	1.94	1.70	1.94	1.91																				
	(1.3)	(1.3)	(3.1)*	(3.5)*																				
Ps					0.31	0.26	1.02	1.11																
					(1.1)	(1.0)	(3.3)*	(3.7)*																
Ge									1.61	2.4	2.4	2.4												
									(1.1)	(0.8)	(2.8)*	(3.2)*												
Rq													0.33	0.25	1.34	1.54								
													(1.0)	(0.7)	(3.7)*	(4.1)*								
Rl																	0.15	0.11	1.9	1.8				
																	(0.3)	(0.2)	(2.9)*	(3.8)*				
Ctc																					3.66	2.70	2.6	2.43
																					(0.5)	(0.5)	(2.9)*	(3.7)*
Hk	-0.04	-0.03			0.30	0.32			0.09	-0.06			0.29	0.31			0.31	0.33			-0.17	--0.05		
	(-0.1)	(-0.1)			(5.2)*	(6.0)*			(0.4)	(-0.1)			(4.2)*	(4.3)*			(2.7)*	(2.9)*			(-0.2)	(-0.1)		
Pk	-0.02		-0.01		0.01		0.04		-0.02		-0.02		0.01		0.02		0.01		-0.02		-0.01		-0.01	
	(-0.4)		(-0.03)		(0.9)		(1.8)***		(-0.5)		(-0.6)		(0.6)		(0.9)		(0.5)		(-0.6)		(-0.2)		(-0.4)	
F-test	4.29*	6.54*	4.05*	6.25*	19.5*	26.1*	5.9*	7.12*	6.41*	4.54*	3.4*	5.1*	20.8*	27.9*	7.32	8.5*	21.4*	28.03*	4.4*	7.2*	1.77	4.0*	4.04**	6.89*
R2	-	-	-	-	0.59	0.59	-	-	-	-	-	-	0.63	0.63	0.22	0.16	0.64	0.63	-	-	0.15	-	-	-

- t- values in the paranthesis. *, **, *** denotes significance at 1%, 5 % and 10% levels respectively.
- Standard errors are corrected for as we run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson and MacKinnon. 1993).
- We have not generated the missing values as in cross section analysis this may lead to spurious results. Thus 'n' takes the range from approximately 30 to 70 (in case of specification 1) 70 to 140 (in case of specification 4), where as mostly it has taken the range of 60 – 70.

Table 2g: Second Stage Regression Results for Open80 and Institutions

Dependent Variable: Log of Per Capital Income																								
Inde-pendent Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Open80	0.68	0.59	0.53	0.44	1.79	1.42	0.64	0.50	2.01	1.82	0.05	-0.08	1.14	1.12	2.25	2.19	1.86	1.85	2.50	2 . 4	1.98	2.01	1.97	2.05
	(0.59)	(0.53)	(0.39)	(0.32)	(0.9)	(0.9)	(0.3)	(0.27)	(0.8)	(0.7)	(0.03)	(-0.1)	(1.2)***	(1.9)***	(1.9)***	(1.8)***	(1.7)***	(1.7)***	(1.4)	(1.4)	(1.3)	(1.4)	(1.12)	(1.1)
Va	0.26	0.29	1.15	1.20																				
	(0.51)	(0.58)	(2.6)*	(2.7)*																				
Ps					-0.47	0.20	1.30	1.35																
					(-0.3)	(-0.2)	(1.8)***	(2.0)***																
Ge									-0.48	-0.39	1.31	1.36												
									(-0.3)	(-0.3)	(2.3)***	(2.5)**												
Rq													0.30	0.34	1.23	1.30								
													(0.5)	(0.6)	(1.7)***	(1.8)***								
Rl																	-0.45	-0.47	0.47	0.53				
																	(-0.8)	(-0.8)	(0.87)	(1.0)				
Ctc																					-0.4	-0.39	0.60	0.60
																					(-0.6)	(-0.7)	(1.2)	(1.1)
Hk	0.27	0.27			0.38	0.34			0.38	0.38			0.26	0.25			0.41	0.41			0.36	0.37		
	(3.6)*	(3.63)*			(1.5)	(1.5)			(1.5)	(1.5)			(2.8)*	(2.8)*			(2.9)*	(3.0)*			(3.2)*	(3.4)*		
Pk	0.008		0.01		0.02		-0.002		0.01		0.01		0.01		0.008		0.01		0.02		0.006		0.03	
	(0.7)		(0.83)		(0.5)		(-0.1)		(0.6)		(0.2)		(0.4)		(0.3)		(0.7)		(0.9)		(0.3)		(1.6)	
F-test	61.3*	84.4*	31.0*	10.6*	26.1*	48.4*	18.1*	26.4*	22.1*	33.9*	27.3*	39.4*	42.8*	57.6*	14.5*	21.8*	25.7*	34.5	16.1*	24.5*	23.5*	31.0*	21.6*	29.3*
R2	0.83	0.83	0.61	0.59	0.62	0.72	0.37	0.36	0.55	0.60	0.58	0.56	0.76	0.75	0.19	0.19	0.60	0.59	0.30	0.32	0.56	0.55	0.48	0.43

- t- values in the paranthesis. *, **, *** denotes significance at 1%, 5 % and 10% levels respectively.
- Standard errors are corrected for as we run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson and MacKinnon. 1993).
- We have not generated the missing values as in cross section analysis this may lead to spurious results. Thus 'n' takes the range from approximately 30 to 70 (in case of specification 1) 70 to 140 (in case of specification 4), where as mostly it has taken the range of 60 – 70.

Table 2h: Second Stage Regression Results for Leamer82 and Institutions

Dependent Variable: Log of Per Capita Income																								
Inde-pendent Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Leamer 82	0.32	0.28	0.40	0.35	-0.02	0.10	-0.02	-0.03	-0.14	-0.03	-0.11	-0.17	1.26	1.41	1.47	1.46	-0.36	-0.14	-0.42	-0.35	-0.35	-0.21	-0.12	-0.21
	(0.79)	(0.73)	(0.91)	(0.77)	(-0.04)	(0.21)	(-0.03)	(-0.05)	(-0.3)	(-0.08)	(-0.17)	(-0.25)	(2.14)**	(2.2)**	(3.9)*	(3.9)*	(-0.87)	(-0.4)	(-0.4)	(-0.43)	(-0.7)	(-0.5)	(-0.17)	(-0.28)
Va	0.82	0.81	1.02	1.05																				
	(3.87)*	(3.85)*	(6.2)*	(6.18)*																				
Ps					0.93	0.92	1.28	1.31																
					(2.9)*	(3.08)*	(3.45)*	(3.67)*																
Ge									0.99	0.99	1.17	1.21												
									(3.2)*	(3.3)*	(4.4)*	(4.6)*												
Rq													1.62	1.79	1.66	1.71								
													(2.6)**	(2.6)**	(5.09)*	(5.34)*								
Rl																	0.91	0.84	1.19	1.18				
																	(3.8)*	(3.8)*	(3.6)*	(3.9)*				
Ctc																					0.74	0.71	0.98	1.01
																					(2.9)*	(3.5)*	(4.14)*	(4.4)*
Hk	0.07	0.08			0.07	0.06			0.029	0.02			0.02	-0.008			0.05	0.06			0.09	0.09		
	(1.02)	(1.19)			(0.81)	(0.77)			(0.32)	(0.23)			(0.19)	(-0.06)			(0.78)	(0.85)			(1.14)	(1.21)		
Pk	0.01		0.29		-0.01		0.01		-0.001		0.01		0.02		0.02		-0.02		-0.003		-0.008		0.018	
	(1.03)		(1.9)***		(-0.52)		(0.41)		(-0.11)		(0.97)		(1.17)		(1.28)		(-1.4)		-0.11		(-0.44)		(0.88)	
F-test	42.4*	57.8*	47.1*	62.5*	26.3*	38.6*	16.1*	23.5*	37.6*	53.4*	28.0*	38.5*	30.5*	34.7*	34.4*	49.6*	49.7*	73.9*	19.8*	31.2*	34.5*	54.3*	27.4*	38.2*
R2	0.82	0.81	0.81	0.79	0.71	0.72	0.48	0.46	0.80	0.80	0.71	0.67	0.76	0.70	0.75	0.74	0.85	0.86	0.59	0.61	0.78	0.81	0.71	0.68

- t- values in the paranthesis. *, **, *** denotes significance at 1%, 5 % and 10% levels respectively.
- Standard errors are corrected for as we run Durbin–Wu–Hausman test (augmented regression test) for endogeneity (see Davidson and MacKinnon. 1993).
- We have not generated the missing values as in cross section analysis this may lead to spurious results. Thus 'n' takes the range from approximately 30 to 70 (in case of specification 1) 70 to 140 (in case of specification 4), where as mostly it has taken the range of 60 – 70.

Appendix 2:

Data and Sources:

Ctc: Control of Corruption, Year: 1997/98. Source: Kaufman et al.

Disteq: Distance from Equator of capital city measured as abs (Latitude)/90. Source: Rodrik, Subramanian & Trebbi (2002)

Engfrac: Fraction of te population speaking English. Source**:** Rodrik, Subramanian & Trebbi (2002)

Eurfrac: Fraction of the population speaking one of the major languages of Western Europe: English, French, German, Portuguese, or Spanish. Source: Rodrik, Subramanian & Trebbi (2002)

Ge: Government Effectiveness**,** Year: 1997/98. Source: Kaufman et al.

Hk: Average Schooling Years in the total population at 25,Year, 1999. Source: Barro & Lee.

Impnov: Import Penetration Overall, 1985, Source: Rose (2002).

Lcopen: Natural logarithm of openness. Openness is given by the ratio of (nomnal) imports plus exports to GDP (in nominal US dollars), Year: 1985. Source: Penn World Tables, Mark 6..

Leamer82: Leamer's Measure of Openness based on Residuals, Year: 1982. Source: Rose (2002).

Logfrankrom: Natural logarithm of predicted trade shares computed following Frankel and Romer (1999) from a bilateral trade equation with 'pure geography' variables. Source: Frankel and Romer (1999).

LnY: Natural logarithm of Per Capita Income at purchasing Power Prices (PPP), Year: 2000. Source: World Development Indicators (WDI), 2002.

Open80: Sachs and Warners (1995) composite openness index. Source: Rose (2002).

Owti: Tariffs on intermediate inputs and Capital Goods, Year: 1985, Source: Barro and Lee

Pk: Gross Capital Formation as a percentage of GDP, Year: 2000. Source: World Development Indicators (WDI), 2002.

Ps: Political Stability, Year: 1997/98. Source: Kaufman et al.

Rl: Rule of Law**,** Year: 1997/98. Source: Kaufman et al.

Rq: Regulatory Quality, Year: 1997/98. Source: Kaufman et al.

Tariffs: Import Duties as percentage imports, Year:1985. Source: World Development Indicators (WDI), 2002.

Tarshov: TARS trade Penetration Overall, Year: 1985, Source: Rose (2002)

Totimpov: Weighted Average Total Import Charges, Overall, Year: 1985. Source: Rose (2002).

Va: Voice and Accountability, Year: 1997/98. Source: Kaufman et al.