

SOCIAL, POLITICAL, AND INSTITUTIONAL DETERMINANTS OF INVESTMENT
AND ECONOMIC GROWTH: A CROSS-COUNTRY STUDY

by

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AND ECONOMIC GROWTH

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ABSTRACT

Investment and economic growth are affected by many factors such as physical and human capital, geography, social, and political factors. The aim of this paper is to study how social, political and institutional factors affect investment and economic growth. Specifically, this thesis aims to study the relationship between socio-political indicators such as law and order, democratic accountability, ethnic tension, government stability, and corruption in government and economic indicators like the investment, GDP and growth rate. The analysis of the impact of socio-political indicators on the investment provides a mechanism through which these affect the GDP and hence the growth rate. Employing multivariate regression on panel data with a cross-section of 141 countries over a period of 24 years ranging from 1984 to 2007, the study finds that the institutional indicators such as law and order, democratic accountability and government stability have positive relationship with growth while indicators like ethnic tension and corruption affect growth negatively, although the effect of ethnic tension and corruption are not robust in some specifications.

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Table of Contents

Abstract	iii
Acknowledgement	iv
List of figures and tables	vi
Chapter I	1
Chapter II	7
Chapter III	8
Chapter IV	18
Chapter V	22
Chapter VI	25
Chapter VII	68
References	72

List of Figures and Tables

Figure 1	5
Figure 2	5
Table 1	24
Table 2 (a)	27
Table 2 (b)	33
Table 2 (c)	40
Table 2 (d)	46
Table 3 (a)	53
Table 3 (b)	55
Table 3 (c)	57
Table 3 (d)	60
Table 4 (a)	62
Table 4 (b)	63
Table 4 (c)	64
Table 4 (d)	65
Table 5	70

I. INTRODUCTION

As the world's population grows, it becomes ever more important for the world economy to grow. When one third of the world's population is under 15 years, even the most vigorous of government policies will do little to stop this massive population growth with its corresponding needs for greater increases in production.¹ MacNeill (1991) claims that given the present rate of population growth and current forms of development, a further five to tenfold boost in economic activity will be required to meet the aspirations and needs of this growth of population.² For instance, in the context of Canada, Crane (1995) claims:

“Economic growth and improved productivity are critical to our country's future. It is only through economic growth and improved productivity that we will restore hope and opportunity, especially for Canada's young people now entering the work-force. Likewise, economic growth is critical in our fight to curb public deficits and to point the debt/GDP ratio on a steadily declining path.”³

Similar views have been expressed in the context of the USA, too. The American Association of Retired Persons (AARP) argues that sustained economic growth through strong investment in human and physical capital and productivity improvements can vastly alleviate the pressure for spending reductions or tax increases. It further stresses that economic growth is important also because tax revenues will automatically grow faster than the economy as real growth (i.e., growth that exceeds the rate of inflation) causes some taxpayers to move into higher tax brackets, increasing income tax revenue.⁴

The same is true in the context of less developed countries, where much of the world's poor population resides. The World Bank's Macroeconomics and Growth (2008) program claims ‘growth is the essential ingredient for sustained poverty reduction’.

According to the World Bank's list of economies (July 2009) there are more than 40 countries in the world that fall in the lower income group with gross national income(GNI) per capita less than a meager \$975, whereas the GNI for the high income countries is well over \$11000 per person. So, inevitably, the question here is how we can ensure a sustainable economic growth and why some countries are so poor as compared to the others.

In order to answer these questions, we need to have a clear understanding of what economic growth is. We also need to know the key factors that facilitate or deter the economic growth. It is important to investigate the mechanisms which can help understand why some countries can grow at a faster pace, while other countries cannot. What are the explanations for such cross country differences in income levels? And for that we need to go back to the theoretical and empirical studies on economic growth.

The modern concept of economic growth known as "Classical" theory is due to thinkers like Adam Smith and David Hume who think economic growth is a result of agricultural surpluses and division of labor - leading to improved productivity. This was followed by the "Neoclassical" theories which view economic growth as increased stocks of capital goods. Another significant innovation of the neoclassical theory is the role of technological development in economic growth. In the course of its history, neoclassical theory has been augmented with human capital and political instability as other important factors contributing to economic growth (Barro, 1991).

Following this, the role of political stability, in particular, and social and political institutions, in general, received considerable attention in the growth literature. The findings of these studies are mixed. Some of the studies claim that there is a negative relationship between economic growth and socio political instability while other studies

find that either such relationships are not robust in time and space or there is not necessarily a negative relationship. In fact, in some cases, studies have indicated that there is a positive relationship between political instability and growth (Campos and Nugent, 2003).

The importance of economic growth, coupled with the ongoing debate on growth theory, makes one wonder how economic growth actually takes place and how the political climate or the system of governance in any country affect the economic growth. What is the mechanism through which the political and governance indicators affect economic growth? Prompted by these questions, my study attempts to determine the relationship between social, political, and institutional (SPI) indicators and economic growth. As proxies for SPIs, I consider law and order, democratic accountability, ethnic tension, government stability, and corruption in government, which become my independent variables. I consider Gross Domestic Product (GDP) and GDP growth rate as direct measures of economic growth, and Gross Capital Formation (GCF) and Foreign Direct Investment (FDI) as vehicles of growth, and take these for my dependent variables.

Accounting for a number of control variables like trade openness, population, human capital and value of the currency (exchange rate in terms of the US dollar), and allowing for country and time fixed effects, I find that in most of the cases socio-political stability has a positive relationship with economic well being. More specifically, the institutional indicators such as law and order, democratic accountability and government stability influence growth negatively growth while indicators of ethnic tension and corruption have negative relationship with growth.

In order to find a mechanism through which the SPI indicators affect the economic growth, we should note that there are a number of channels through which the socio-political indicators can affect economic growth. One obvious channel is the impact which greater social unrest and political instability can have on incentives to invest.⁵ It is quite apparent that the lack of protection for property rights may harm prospects for private investment (Tornell and Velasco, 1992; Benhabib and Rustichini, 1996) and may reduce FDI in a country (Rodrik, 1991).

Thus, it can be said that political instability negatively affects the investment. We know that investment contributes to growth via production and the FDI is an important vehicle for the transfer of technology, contributing relatively more to growth than domestic investment. However, the higher productivity of FDI holds only when the host country has a minimum threshold stock of human capital.⁶ The strength of such claims lay on the empirical evidence. We can test whether or not the investment has a positive effect on the GDP. Please refer to figures 1 and 2.

Figure 1 shows that the gross domestic product (GDP) is positively associated with the gross capital formation (GCF). From figure 2 (in the next page), we can see that the foreign direct investment (FDI) has a positive effect on the GDP. The details about the data for GDP, GCF, and FDI will be discussed later in chapter V.

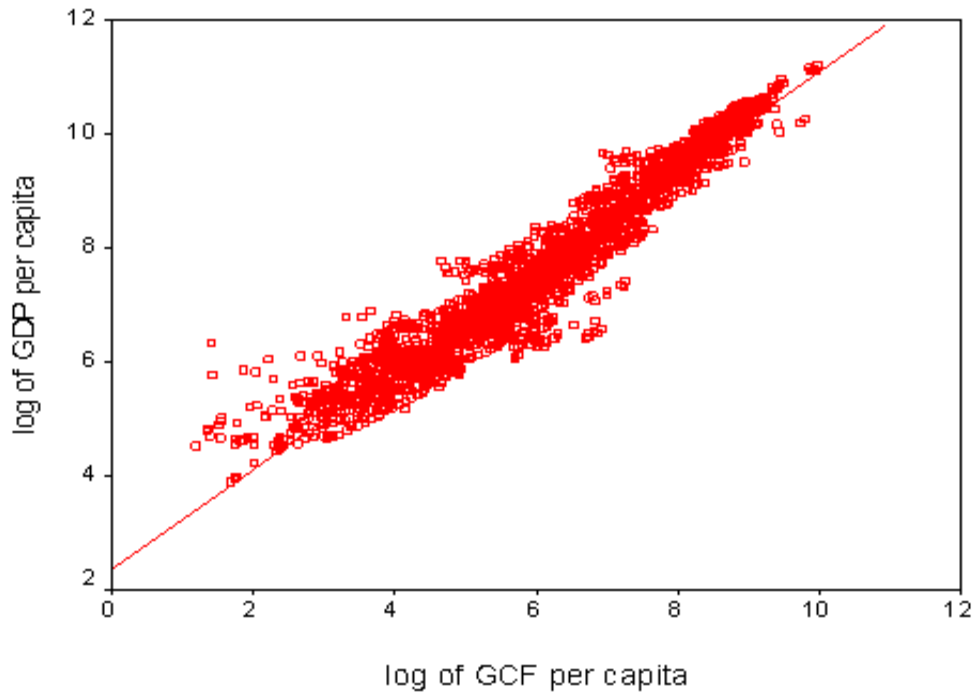


Figure 1: Plot of log GDP per capita – log GCF per capita

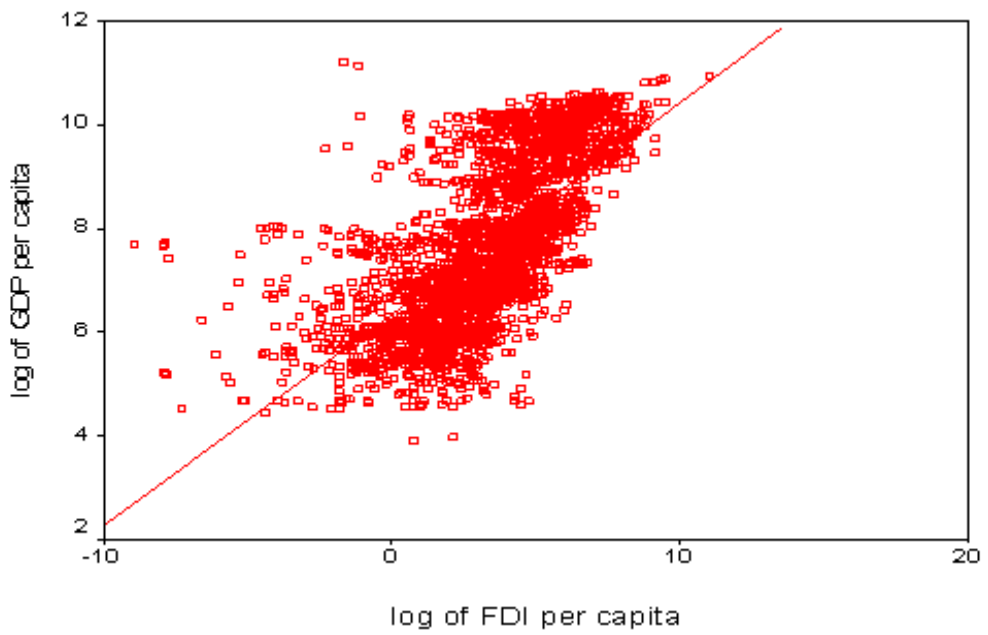


Figure 2: Plot of log GDP per capita – log FDI per capita

Furthermore, empirical studies on investment and growth show that there is a negative relationship between socio-political instability and investment and growth (Alesina and Perotti, 1996). Overland and Spagat (1998) stress that instability, implying risk, limits investment and hence growth. Mauro (1995) finds evidences indicating that much of the effects on economic growth take place through the effects on investment. Hence, political instability negatively affects growth, via investment.

Although my study finds certain relationships between social and political instability and income, but the issue is not actually as simple as this. The problem here is because of the endogeneity between the dependent and independent variables. It is argued that the economic, political and governance variables might jointly be endogenous. This implies that the political variables do not always affect the economic variables; instead the direction of causality can be reverse. There are strong theoretical arguments such as ‘poor growth performance is frequently regarded as a potential source of socio-economic unrest and government instability (Gupta, 1990) in favor of such endogeneity.

In order to resolve this issue, what one normally can do is come up with some instrument variables which are free from such reverse causality. This again has a limitation. These instrument variables are not the same as the original variables and it is difficult to come up with a good instrument variable especially in a cross-country study. My study being a preliminary one, with a range of dependent and independent variables and covering a wide cross-section of countries, I am not yet in a position to come up with sufficiently good instrument variables. I plan to bring in further refinement in my work by accounting for such endogeneity in future.

To give an outline of the remaining chapters, Chapter II discusses the research objectives, Chapter III gives a comprehensive literature review, Chapter IV introduces

the empirical model, Chapter V focuses on the data sources and definitions, Chapter VI discusses the empirical results, while chapter VII includes the conclusion of this study as well as further discussion about the future scope of study.

II. RESEARCH OBJECTIVES

Besides drawing from the previous works, what motivates my study is the disparity between countries both in the level of socio-political stabilities and economic wellbeing. On one hand, most of the developed countries enjoy a considerable degree of socio-political stability, whereas a majority of the developing (underdeveloped) countries experience political instability, frequent government changes, domestic tensions, and external sanctions, to name a few problems. On the other hand, even economically developed countries can plunge into economic crises, resulting from political instabilities. For instance, at the beginning of this century, Argentina was one of the wealthiest countries. In 1960, Argentina's income per capita was in the top twenty in the world and was higher than that of Japan. In the last thirty years, however, Argentina has often come close to economic collapse. This is maybe because Argentina has had a history of political instability, with several coups d'etat and much political violence.

In contrast, Japan had a per capita income below Iraq, Ireland and Argentina, in 1960, and was not even in the top twenty-five rich countries in the world. Since then Japan has experienced one of the fastest growth rates in the world. Unlike Argentina, until very recently Japan has been a model of political stability, with the same political party in office continuously from 1960 until 1993.⁵

Therefore, it is obvious to ask whether the economic prosperity is a consequence of the socio-political factors in a country. The above motivation clearly outlines the objectives of this study:

- Do the social, political, and institutional (SPI) factors in any country have any effect on the economic growth?
- What is the mechanism through which the political and governance indicators affect economic growth?

With these broad objectives, the thesis aims at studying the effect of various socio-political indicators (independent variables) on the economic indicators (dependent variables) like the Gross Domestic Product (GDP), GDP Growth Rate, the inflow of Foreign Direct Investment (FDI), and Gross Capital Formation (GCF). The study will investigate the relationship between each of the dependent variable and independent variable separately, and then the combined effect of all of the independent variables on each dependent variable.

III. LITERATURE REVIEW

It seems pertinent to make it clear what we actually mean by *economic growth*. Economic growth is the increase in the amount of the goods and services produced by an economy over time. Beder (1993) defines economic growth as an increasing standard of

living, amount of money, even taking inflation into account, and an increasing capacity for the economy to provide goods and services for final use.⁸

Regarding the theoretical foundation of economic growth, the modern conception of economic growth began with thinkers such as David Hume and Adam Smith. Moving further ahead, the Neoclassical Theory, promulgated by Robinson, Solow, and others, propounded the notion of growth as increased stocks of capital goods.⁹

A. The Solow Model

The Neoclassical Growth Model, developed by Robert Solow and Trevor Swan in the 1950s, was the first attempt to model long-run growth analytically. This model assumes that countries use their resources efficiently and that there are diminishing returns to inputs of capital and labor increases. From these two premises, the neoclassical model makes three important predictions. First, increasing capital relative to labor leads to economic growth, since people can be more productive given more capital. Second, poor countries with less capital per person will grow faster because each additional unit of capital will produce a higher return than rich countries with ample capital. Third, because of diminishing returns to capital, economies will eventually reach a point at which no new increase in capital will lead to economic growth. This point is called a "steady state". Considering a standard neo-classical production function and taking the rates of saving and capital population growth as exogenous, the Solow model shows that these two variables determine the steady state level of income per capita.¹⁰ Later works, however, question the legitimacy of such predictions.

B. Digression from the Solow Model – Inclusion of Human Capital

Persistent cross country differences in income is an issue that the Solow model fails to explain (Mankiw, Romer and Weil, 1992). In order to explain the cross country differences in income, Mankiw and others formulated an augmented Solow Model taking into consideration the human capital as one of the determinants of growth.¹¹

According to Barro (1991), the hypothesis of the neo classical growth models that poor countries grow faster than rich countries seems inconsistent with the cross country evidence.¹² He agrees with the endogenous models (Lucas, 1988; Rebelo 1990 and Romer 1990) which assume that human capital plays an important role in explaining the cross country variation in income. Following an empirical analysis, he puts forth a modification in the original hypothesis of exogenous neo classical growth models and claims that “a poor country tends to grow faster than a rich country, but only for a given quantity of human capital”.

As an indicator of human capital he considers two proxy independent variables, namely school enrollment ratio and the quality of education. The higher the enrollment ratio, the higher the country’s investment in human capital. To account for the quality of education he uses the student-teacher ratio. The higher the student-teacher ratio, the lower is the quality of education.

Adopting a holistic approach, Barro’s study also finds that growth rates have relationship with fertility and physical investment. He finds that in endogenous growth models such as Barro and Becker (1989), and Becker, Murphy, and Tamura (1990), per capita growth and net fertility tend to move inversely (Barro, 1992). For example, a higher initial stock of human capital leads to higher growth and lower fertility. Further,

he found that per capita growth and the ratio of private investment to GDP are negatively related to the ratio of government consumption expenditure to GDP.

C. GDP, Growth and Political Instability

Barro (1991) studies the effect of political instability, among other indicators, on the growth rate. By including political instability variables like number of revolutions and coups and political assassinations, he finds that political instability is inversely related to growth and investment. This provides a new perspective to look at the economic growth, from the socio-political point of view.

Subsequently, there have been a number of studies aimed at analyzing the impact, both direct as well as indirect, of social, political and governance indicators on the growth of a country. Levine and Renelt (1992) examine the linkages between long-run growth rates and a variety of economic policy, political and institutional indicators. For the political variables they use revolutions and coups and index of civil liberties.¹³ To check the robustness of the indicators, they adopt an extreme bound approach. The *extreme bounds test* for variable 'z' says, if the lower extreme bound is negative and the upper extreme bound is positive, then variable 'z' is not robust. In other words, this means that if anyone finds just one regression for which the sign of the coefficient changes, or becomes insignificant, then the variable is not robust.¹⁴ Their study finds that the relationship between the political indicators and growth is not robust; however, revolutions and coups have robust negative correlations with the share of investment in GDP.

Mauro (1995) studies the effect of political instability and bureaucratic inefficiency on growth and investment. He uses a subjective index of political instability

comprising of various factors, and an even more subjective index of bureaucratic inefficiency that includes political instability. He finds that political instability has a negative effect on growth while its effect on investment is insignificant. He also finds that bureaucratic inefficiency has a negative effect on growth. Further, he studies the effect of corruption on growth investment and government expenditure. This again provides tentative empirical evidence that corruption lowers investment and economic growth. The observed effects are considerable in magnitude: using the Business International Index of corruption, a one standard deviation improvement in the corruption index causes investment to rise by 5% of GDP and the annual rate of growth of GDP per capita to rise by half a percentage point. The evidence indicates that much of the effects on economic growth take place through the effects on investment.¹⁵

Alesina and Perotti (1996) also study the effects of socio-political instability on investment and growth. Using principal component analysis, they construct a socio-political instability (SPI) index based on the number of politically motivated assassinations, the number of people killed in domestic mass violence (as a percentage of the nation's total population), the number of successful and attempted coups, and a categorical variable for whether the nation is a democracy or a dictatorship. Their findings suggest that there is a negative relationship between SPI and Investment and growth.^{16,17}

Sala-i-Martin (1997) studies the effect of 63 different variables, including social and political variables on growth. The variables for law and order, political rights, and civil liberties, are found to be good for growth (positively related with growth) while the number of revolutions and military coups and war dummies are found to be bad for growth (negatively related with growth). However, he finds that not all of the variables

are robust. For example, including investment as one of the independent variables, many of the variables become insignificant.

Overland and Spagat (1998) opine that political instability is a major impediment to growth in a wide variety of countries. They further stress that instability, implying risk limits investment and hence growth. Moreover, on the role of instability in economic decision making they say that since physical capital is becoming increasingly mobile across countries and regions (Sachs and Warner, 1995), the role of political instability in economic decision making is increasing as foreign investment and capital flight respond ever more sensitively to changes in countries' political environments.¹⁸

Thus, socio-political instability and growth have been at the center of many recent studies. Prominent works include studies attempting to find the relation between political instability (PI), factors accumulation and growth (Romers 1986, Barro and Sala-i-Martin 1995). The views and findings of this group have already been discussed. The second group of study includes the analysis of the positive theories of fiscal deficit and how political instability can lead policymakers to use debt strategically to constrain the future choices of their potential successors (Tabellini and Alesina 1990). The next group of studies focuses at the investigation of the impact of political instability and electoral uncertainty on monetary and fiscal policy (Nordhaus 1975; Alesina 1988; Lohman 1996).

There are arguments which support the view that political instability induces uncertainty, which in turn affects the policies that retard the growth rates. *Following an unbiased increase in political uncertainty, the policy myopia increases and the average growth rate falls* (Darby, Li and Muscatelli).¹⁹ The authors support their argument with empirical evidence. Annete (2000) finds that the probability of a government change, one of the characteristics of political instability, encourages the incumbent government to

issue more debt. There are at least two reasons for this encouragement. The first is the incumbent government would like to implement policies that would maximize its chances of being re-elected to the office. That means implementation of short term gain policies like giving compensation to certain groups.²⁰ The second reason is that the incumbent would like to generate constraints that will affect the future choices of the potential successor. A typical example of this sort of initiatives is the strategic use of deficit and debt to tie a successor's hands (Persson and Svensson, 1989). Making use of the model developed by Alesina and Tabellini in 1990, Carmignani has shown that (political) instability leads to excessive debt. This, in the long run, will hamper growth.

Another such initiative is manipulating monetary and fiscal policies right before election. Norhaus (1975) and Lindbeck (1976) pointed out that 'purely opportunistic policymakers systematically manipulate fiscal and monetary policy instruments right before elections in order to stimulate growth and reduce unemployment below normal'. This, in turn, increases their chances of being re-elected.

Butkiewicz & Yanikkaya (2005) argue that governments in politically unstable and polarized countries are more likely to adopt inefficient or sub-optimal policies, including the maintenance of inefficient tax systems, higher current government consumption, or the accumulation of larger external debts, which, in turn, adversely affect long-run economic growth.²¹

Thus, theoretical arguments and empirical evidences show that there is a negative relationship between political instability and growth (Carmignani, 2003). However, there are ambiguous predictions on how instability affects the growth rate. Olsson (1982) suggests that too stable governments are more likely to adopt policies that favor special interests of certain interest groups rather than pursuing long-term efficiency and growth.

Furthermore, on one hand, higher government consumption reduces growth while on the other hand, by increasing consumption, the government is able to reduce instability and this has a direct positive effect on growth in steady state (Carmignani, 2003). Asterio and Price (2000) stress that in principle policy volatility and the associated uncertainty might increase investment and growth.

Campos and Nugent (2003) take a different empirical approach to establish that there is a positive relationship between social and political instability (SPI) and growth. They employed Granger causality to find that there is a Granger causality relationship going from SPI to investment, which is positive. Thus, SPI and growth are positively related.²²

There are other variables such as ethnic fractionalization, economic discrimination of ethnic minorities, and urbanization growth that are relevant determinants of socio-political instability. Specifically, Annett (2000), Auvinen & Nafziger (2002), Collier & Hoeffler (2004), and Ellingsen (2000) show that ethnic fractionalization has a positive and significant effect on instability levels.^{23,24,25} Ellingsen (2000) and Goldstone, et.al. (2005) claim that economic discrimination of ethnic minorities is what leads to political instability because those groups that are discriminated against rebel against the system. Auvinen (1997) and Annett (2000) argue that urbanization tends to promote more political instability. High urbanization rates promote more instability because it is difficult for the government to provide basic services in highly populated cities, which creates popular discontent.²⁶

D. Institutions Approach

Although the above discussion explains the cross-country differences in income levels to a certain extent, the vastness of these differences has led scholars to think about even more comprehensive factors that determine or control those differences. Established literature on the subject outline that there are at least three prominent factors which account for such differences, namely, geography, integration, and institutions.²⁷

Geography is a key determinant of climate, endowment of natural resources, disease burden, transportation costs, and diffusion of knowledge and technology from more advanced areas. It exerts, therefore, a strong influence on agricultural productivity and the quality of human resources. Recent writings by Jared Diamond and Jeffrey Sachs are among the more notable works in this tradition (Diamond 1997; Gallup, Sachs, and Mellinger 1998, and Sachs 2001). On the other hand, the integration view looks at the role of international trade as a driver of productivity change. This view gives market integration, and impediments thereof, a dominant role in fostering economic convergence between richer and poorer regions of the world (Frankel and Romer, 1999, Sachs and Warner 1995).

The study carried out by Rodrik, et al, (revised in 2002) yields some distinctive results. They find that the quality of institutions dominate the other two variables as the most important determinant of growth. Once institutions are controlled for, integration has no direct effect on incomes, while geography has at best weak direct effects. Trade often enters the income regression with the “wrong” (i.e., negative) sign, as do many of the geographical indicators. By contrast, the measure of property rights and the law and order always enter with the correct sign, and are statistically significant, often with t-statistics that are very large (Rodrik, et al, 2002). An important finding of this exercise is

that institutional quality has a positive and significant effect on integration. Importantly, integration also has a positive impact on institutional quality, suggesting that trade can have an indirect effect on incomes by improving institutional quality.

This is in agreement with the findings of Easterly and Levine (2002), that geography exerts a significant effect on the quality of institutions. Easterly and Levine used ratio of trade to GDP as a measure of Integration, whereas measure of geography was taken as a country's distance from the equator (measured in degrees). In their study, the institutional quality measure is due to Kaufmann, Kraay, and Zoido-Lobaton (2002), which is a composite indicator of a number of elements that capture the protection afforded to property rights as well as the strength of the law and order. In the actual regression they (Rodrik, et al) find that the quality of institutions has a significant positive relationship with GDP per capita, while trade and distance from the equator both exert a negative, but insignificant effect on incomes.

E. Economic Freedom Approach: Free the World Project

An even more comprehensive study of the institutions approach comes from the Economic Freedom of the World project of the Frazer Institute, Canada. This project views economic freedom as crucial to growth and human development. Gwartney and Lawson (2000) define economic freedom as:

“Individuals have economic freedom when property they acquire without the use of force, fraud, or theft is protected from physical invasions by others and they are free to use, exchange, or give their property as long as their actions do not violate the identical rights of others. An index of economic freedom should measure the extent to which rightly acquired property is protected and individuals are engaged in voluntary transactions”.²⁸

Accordingly, the Economic Freedom of the World index measures size of government: expenditures, taxes, and enterprises, legal structure and security of property rights, access to sound money, freedom to trade internationally, regulation of credit, labor, and business. Empirical studies based on index have found it to be correlated with economic growth, higher living standards, income equality, less corruption and less political violence. However, some empirical analysis suggests that the index is not closely correlated with economic growth,²⁹ but regression analysis of the disaggregated components suggests that some specific freedoms contribute to economic growth while others hamper it.³⁰

Following from the above discussion on factors affecting income, investment, and hence, growth we see that there are a host of factors, such as institutional factors, that can have significant effect on the economic growth. One such major institutional factor is socio-political stability, which has profound effects on the growth.

IV. EMPIRICAL MODEL

To fulfill the objectives of the study, I consider the Gross Domestic Product (GDP) per capita, GDP growth rate, Gross Capital Formation (GCF) per capita, and Foreign Direct Investment (FDI) per capita as my dependent variables, since these can represent the income, growth and inflow of investment for countries. From the review of existing literature we see that both income and investment depend on the socio-political institutional variables. Considering all the aforesaid aspects, I propose the following model:

$$\begin{aligned}
Y_{i,t}^* = & \alpha_i + \varphi_t + \beta_{i,t} * laword_{i,t} + \gamma_{i,t} * demacc_{i,t} + \delta_{i,t} * ethten_{i,t} \\
& + \varepsilon_{i,t} * govstab_{i,t} + \epsilon_{i,t} * corruptn_{i,t} + \vartheta_{i,t} * trdopen_{i,t} \\
& + \lambda_{i,t} * logpop_{i,t} + \chi_{i,t} * urbpop_{i,t} + \pi_{i,t} * pop1_{i,t} \\
& + \rho_{i,t} * pop2_{i,t} + \sigma_{i,t} * litrate_{i,t} + \tau_{i,t} * currexc_{i,t} \\
& + \omega_{t-1} * Y_{i,t-1} + \mu_{i,t}
\end{aligned}$$

where, $Y_{i,t}^*$ stands for the economic indicator. It could be log GDP per capita, GDP growth rate, log GCF per capita, or log FDI per capita depending upon the case under consideration, α_i gives the country fixed effect, and φ_t stand for the time fixed effect, $\mu_{i,t}$ gives the error;

laword stands for the law and order index,

demacc stands for the democratic accountability index,

ethten stands for the ethnic tension index,

govstab stands for the government stability index,

corruptn stands for the corruption in government index,

trdopen stands for trade openness,

logpop stands for log of total population,

urbpop stands for the urban population as a percentage of total population,

pop1 stands for the percentage of population in the age group of 0 to 14 years,

pop2 stands for the percentage of population in the age group of 15 to 64 years,

litrate stands for the literacy rate among the population in the age group of 15 to 24 years,

and finally,

currexc stands for the currency exchange rate in terms of US dollar.

Socio-political instability is a very broad term in itself. Therefore, before going any further it is appropriate to have an understanding of the concept. Regarding the definition of political instability, there have been varied views. Kaufmann, Kraay and Mastruzzi (2007) define political instability as a measure of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism. Largely speaking, the definitions of political instability encompass two broad dimensions.³¹ The first dimension includes the phenomena of social and political unrest such as mass violence, politically motivated death and assassinations, riots, and revolutions. The second dimension includes events such as government terminations and electoral surprises (Carmignani, 2003).

As regards to the indicators of socio-political stability, the quality of political institutions are reflected in the form of government stability, democratic accountability, corruption in the bureaucratic set up, and law and order. The structure of social composition in terms of the number of ethnic, linguistic and cultural divisions, the degree of their peaceful co-existence, can be measured from the ethnic tensions existing in a country. So I believe that to capture the overall effect of these social and political factors on the economic indicators of a country, a good model should include all of them. Although there can be many such indicators, having gone through the existing literature and checking for correlation among a host of social and political indicators, I found that a model should at least include law and order, democratic accountability, ethnic tension, government stability, and corruption in government.

Apart from the above independent variables, other factors such as population distribution across the rural-urban demarcation and across ages, trade openness, currency exchange rates, and literacy rates of population in the age group 15 to 24 years, which

can act as a proxy for a country's investment in human capital, needs to be controlled for. The inclusion of population will account for how the size of population of a country affects its economic indicators like GDP, growth rate, and or investment. The urban areas tend to have more concentration of economic activity, so the percentage of urban population will reflect the degree to which a country's population is actively involved in economic activities.

The distribution of population into two different age groups of 0 to 14 years and 15 – 65 years will account for the fertility rates and the proportion of children in population and the active labor force in a country. In addition, the literacy rate among the population in the age group of 15-24 years, as a proxy for a country's investment in human capital, will account for the quality of human capital.

Trade openness, a measure of export plus import as a fraction of GDP, will decide how open a country is to external trade. The currency exchange rate, expressed in terms of US Dollar will give a measure purchasing power of respective currencies. Further, robustness of the empirical results should be checked across a panel of countries over a period. The country fixed effects capture country to country variation arising from differences in time invariant factors such as geographical, cultural, and other contextual issues. The time fixed effects capture various time specific issues like periods of recession and expansion, technological changes over time, and climate changes.

The robustness check should also include a set of OLS estimations of the dependent variables regressing on their respective 1-year lagged values. This will help capture the time trend, if any, in the dependent variables. In other words, including the one year lag of the dependent variables as regressors, we will be minimizing the non-stationarity in the dependent variables. Thus, we can see if the dependent variables

(regressands) are just functions of their respective lagged values, or they really are affected by the other independent variables as well.

V. ABOUT THE DATA: SOURCES AND DEFINITIONS

For the economic variables GDP, GCF, Export, and Import data are in the 1990 US dollar, and taken from the World Bank website. FDI inflows are in the current value of the US dollar in 2008. The currency exchange rates are average rates for the year 2008. Both FDI and currency exchange rates data are available in the IMF database. The population data have also been taken from the World Bank group. The yearly literacy rates are intrapolated from the five year aggregates, available in the UNESCO dataset. The socio-political variables, taken from the Researcher's Dataset, Table 3.B, of International Country Risk Guide (ICRG), have been defined by the Political Risk Services (PRS) Group, New York.³² All these data were available from 1984 to 2007 for more than 141 countries. The definitions of various socio-political variables have been outlined as follows.

Government Stability: It measures the ability of a government to carry out programs and ability to stay in office. For any given country the longer the government stays in the office and the more it is able to carry out the planned programs, the higher is the index. The value for the index ranges from 0 to 12. With an index of 11.5 Brunei has the highest government stability for the year 2007. On the other hand, Taiwan with a score of 4.00 has the least government stability.

Law and order: The law sub-component is an assessment of the strength and impartiality of the legal system, while the order sub-component is an assessment of popular observance of the law. The index takes values ranging from 0 to 6. Countries like Australia, New Zealand, Sweden, etc. have the highest law and order index of 6, while Somalia has the worst law and order with a score of 0.5.

Democratic Accountability: It measures a Government's responsiveness to people. The more is the government responsive to people's needs and demand, the higher the country's Democratic accountability index. The index takes values ranging from 0 to 6. Many countries including France, Finland, Hungary, etc. have the maximum democratic accountability index of 6, whereas countries like Myanmar, the Democratic People's Republic of Korea have the least democratic accountability of 0.

Ethnic Tensions: It measures racial, national, and language division. The higher the extent of conflict among divisions, the lower is the ethnic tension index for a country. The value for the index ranges from 0 to 6. Countries like the Democratic Republic of Congo have the lowest value of 1 while Qatar, like some other countries, has the highest score of 6.

Corruption in Government: This variable is meant to capture the likelihood that high government officials will demand special payments, and the extent to which illegal payments are expected throughout low levels of government. The index takes on values ranging from 0 (most corrupt) to 6 (least corrupt); Hence, the index is *decreasing* in the level of corruption. Zimbabwe with the least score of 0 has the highest level of corruption, while Finland with a score of 6, as of 2007, becomes the least corrupt country in the world.

Table 1
Descriptive Statistics of the Variables

	N	Minimum	Maximum	Mean	Std. Deviation
law and order	3120	.00	6.00	3.6429	1.51251
democratic	3120	.00	6.00	3.6486	1.66737
accountability	3120	.00	6.00	3.9209	1.48710
ethnic tensions	3120	.00	6.00	3.9209	1.48710
government stability	3120	.67	12.00	7.5424	2.29169
corruption in government	3120	.00	6.17	3.0677	1.38002
gdp	3266	1074481 31.00	9393840 000000. 00	1883413 58762.6 139	7037628727 07.12800
gross capital formation	3242	- 1656434 71.00	2099470 000000. 00	4504332 7907.01 11	1614732954 21.83000
FDI_INFL	3164	- 3648265 4648.40	3139970 00000.0 0	3907541 556.028 7	1610535555 9.72995
EXPORT	3259	5132730 .00	1409640 000000. 00	4926658 5418.79 81	1278004170 66.67040
IMPORT	3259	2148318 1.00	2040510 000000. 00	4916710 1626.20 19	1401256302 93.90100
TOT_POP	3204	150616	1311797 692	3944312 4.08	131138681. 626
% of total poulation	3190	8.50	100.00	56.2985	22.98395
% of total poulation	3213	13.57	51.92	32.4947	10.46743
% of total poulation	3213	46.20	79.28	60.6078	6.77353
LIT_RATE	3000	.0000	1.9980	.877333	.1819749
CURR_EXC	2834	.000000	1507226 .417000	3090.33 327639	55458.0582 59944
Valid N (listwise)	2317				

VI. EMPIRICAL RESULTS

As discussed earlier, the study attempts to delineate the relationship between four dependent variables, namely GDP growth rate, log GDP per capita, log GCF per capita and log FDI per capita with the independent variables and the control variables, followed by a robustness check accounting for country and time fixed effects. Another such check has been made to determine whether or not the changes in the dependent variables are results of time rather than that of a change in the independent variable(s). For this, one year lagged values of each of the dependent variables have been included as regressors in respective regressions. Accordingly, the results have been tabulated in three different sets.

A. Interpretation of the Empirical Results

The first set of results tabulate the coefficients on the independent variables alone and then after accounting for the control variables, for all the independent variables, one by one. Then the same is repeated for all the independent variables taken together. These are tabulated in tables 2(a), (b), (c), & (d).

In tables 2 (a), (b), (c), & (d), the column 1 contains all the independent and control variables. Column 2 shows the coefficient of law and order index (law_ord) without accounting for the control variables. Column 3 enlists the coefficients of law and order index (law_ord) as well as those of other control variables. Column 4 gives the coefficient of democratic accountability (dem_acc) alone whereas column 5 shows the coefficients for the democratic accountability index as well as those of the control

variables. Similarly the remaining columns incorporate the coefficients of other independent variables and control variables. The last two columns show the coefficients of all the independent variables taken together first without control variables (in column 12) and then with control variables (in column 13).

The last two rows in each table enlist the R^2 values and the number of observations for each of the corresponding regressions.

GDP Growth Rate

Table 2(a) shows the results from regression of GDP growth rate as the dependent variable on the independent variables, namely, law and order, democratic accountability, ethnic tension, government stability, and corruption in government. In addition to these variables, control variables such as trade openness, population, labor force, literacy rate, and currency exchange rate have been accounted for.

GDP growth rate (growth rate) is positively related to law and order, as it can be seen from the column 2 of table 2 (a). It shows that for a unit increase in law and orders index the growth rate increases by 0.31 percentage points.

This relationship is further strengthened by the inclusion of control variables like the size of the population, the labor force, and the quality of human capital and the currency exchange rate as described above. The effect is clear from column 3 in the same table. When accounted for various control variables, the growth rate increases by 0.53 percentage points, for a unit increase in the law and order index. In both cases the coefficients are statistically significant at 1% level. This implies that the better the law and order scenario in a country, the higher would be the growth rate.

Table 2 (a)
Dependent Variable: GDP Growth Rate (grth_rat)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Law & Order (law_ord)		0.307*** [.076]	0.531*** [.097]									0.152 [0.114]	0.248** [0.121]
Democratic Accountability (dem_acc)				0.111* [.069]	0.281*** [0.090]							0.130* [0.083]	0.175* [0.095]
Ethnic Tension (eth_ten)						0.269*** [0.0781]	0.339*** [0.087]					0.030 [0.093]	0.097 [0.094]
Government Stability (gov_stab)								0.585*** [0.049]	0.426*** [0.051]			0.549*** [0.056]	0.357*** [0.056]
Corruption in Government (corruptn)										(0.204)** [0.084]	0.129 [0.103]	(0.489)*** [0.113]	(0.072) [0.120]
Trade Openness (trd_open)			0.614*** [.163]		0.591*** [0.163]		0.669*** [0.165]		0.457*** [0.162]		0.607*** [0.164]		0.501*** [0.164]
Log total Population (log_pop)			0.287*** [.077]		0.256*** [0.077]		0.287*** [0.077]		0.244*** [0.076]		0.273*** [0.077]		0.256*** [0.077]
Urban Population % (urb_pop)			(0.026)*** [.007]		(0.024)*** [0.006]		(0.0286)*** [0.006]		(0.024)*** [0.006]		(0.025)*** [0.007]		(0.026)*** [0.006]
Population % (0-14) years (pop_0_14)			0.189*** [.035]		0.194*** [0.038]		0.155*** [0.033]		0.132*** [0.033]		0.154*** [0.037]		0.191*** [0.039]
Population % (15 - 64) year (pop_15_64)			0.294*** [.053]		0.342*** [0.056]		0.289*** [0.052]		0.239*** [0.052]		0.302*** [0.055]		0.281*** [0.057]
Literacy Rate (lit_rate)			(1.053) [.800]		(1.042) [0.803]		(1.022)*** [0.802]		(1.318)* [0.793]		(1.050) [0.805]		(1.288)* [0.793]
Currency Exchange Rate (curr_exc)			0.000 [0.000]		0.000 [1.831]		0.000*** [0.000]		0.000 [0.000]		0.000 [0.000]		0.000 [0.000]
R squared		0.005	0.039	0.001	0.03	0.004	0.033	0.045	0.055	0.044	0.027	0.051	0.06
Observations		3006	2294	3006	2294	3006	2294	3006	2294	3006	2294	3006	2294

*** implies that the coefficient is statistically significant at 1% level

**implies that the coefficient is statistically significant at 5% level

*implies that the coefficient is statistically significant at 10% level

Standard Errors are shown in [...]; values inside the parentheses (...) are negative

Although the effect of the law and order variable is as expected, the regression has a very low R^2 of 0.005 in the first case, which implies that only 0.5% of the variation in the growth rate is explained by the law and order. After the inclusion of the control variables the R^2 improves a little to 0.039. This implies that in the latter case the independent variable along with the control variables can explain 3.9 % of the variation in the GDP growth rate.

Column 3 also shows the effect of various control variables on the growth rate in the regression on the law and order. Trade openness shows a significantly strong positive relationship with the growth rate. For one percent increase in trade openness, the GDP growth increases by 0.61 percentage points, meaning higher the trade openness of a country higher is the growth rate.

The log of population is also positively associated with the growth rate. For one percent increase in population the growth is increased by about 0.28%. Such a positive relationship between the growth rate and population of countries can be understood from the fact that most of the developing countries have been experiencing higher growth rates as compared to the already developed countries where the annual growth is very low. At the same time developing countries have larger population, in general. Hence there is a positive relationship between the population and growth rate.

In contrast, the percentage of urban population displays a negative relationship with the growth rate. The reason for this is pretty much the same as that in case of total population. Higher percentage of urban population means, higher degree of industrialization, and more economic activities. And in highly industrialized countries of

Europe or America, that have larger shares of urban population, the growth rates are low. Hence, such a relationship.

To explain the positive relationship between percentage of population in the age group of 0 to 14 years of age, and the growth rate, we need to take into account the fact that most of the developing countries have high fertility rates and hence, have higher percentage of population below 15 years of age.

Again these same countries have been experiencing higher growth rates in recent years. Literacy rate on the other hand shows a negative relationship with the growth rate. In this case also, this negative association can be attributed to the fact that the growth rates are higher in developing countries where the literacy rates are low. Currency exchange rate has little effect on the growth rate.

From column 4 of the table 2 (a) it follows that Democratic Accountability has a direct positive effect on the growth rate. Accordingly, for a unit increase in the democratic accountability index, the growth rate increases by 0.11 percentage point. Although the direction of the regression is as expected but a very low R^2 of 0.001 which shows that only 0.1% of the variation in the growth rate is explained by the democratic accountability.

Further, when we account for the control variables like the size of the population, the labor force, the quality of human capital, and the currency exchange rates, democratic accountability seems even more prominent. In the latter case in column 5, accounting for the control variables, the GDP growth rate increases to 0.28 percentage points for one unit increase in democratic accountability. Again, the coefficients are statistically significant at 1% level. This shows that a government with a better responsiveness to the

people enhances the growth rate of the country. After the inclusion of the control variables the R^2 improves a slightly to 0.03. This implies that in the latter case the independent variable along with the control variables can explain 3% of the variation in the GDP growth rate. The effect of the control variables on growth rate is more or less the same as in previous case.

From column 6, we can see that displaying a positive relationship with the growth rate, the ethnic tensions index (high index value implies low level of tension) affirms that the presence of such tensions have a negative impact on the growth of a country. For a unit increase in the ethnic tension index, the growth rate increases by 0.27 percentage point. This relationship is further emboldened by the inclusion of various controlling factors.

In the presence of the control variables, according to column 7, the GDP growth rate increases by 0.34 percentage points per unit increase in the ethnic tension index. The coefficients, in both cases, are statistically significant at 1% level. This means that a country with lesser ethnic conflicts or partisan interests is likely to grow more as compared to a country with a higher degree of partisan interests. However, a very low R^2 of 0.004, in the first case, shows that only 0.4% of the variation in the growth rate is explained by the ethnic tension index. After the inclusion of the control variables the R^2 improves a little to 0.033. This implies that in the latter case the ethnic tension index along with the control variables can explain 3.3 % of the variation in the GDP growth rate.

Columns 8 and 9 of table 2 (a) show that the growth rate of a country is positively related to the Government Stability. This is confirmed by the regression of GDP Growth

Rate on the Government Stability index. For a given country, on an average, a unit increase in the government stability index increases the growth rate by 0.59 percentage point.

But when we take into consideration the controlling factors, this effect shows a slight decline. In the presence of the control variables, the growth rate increases by only 0.43 percentage points against a unit increase in the government stability measure. Even then the government stability has the second largest effect on the growth rate after law and order. Since the coefficients are statistically significant at 1% level, it can be inferred that a more stable government enhances the growth of a country. Once again, a very low R^2 of 0.045, in the first case, shows that only 4.5% of the variation in the growth rate is explained by the government stability index. After the inclusion of the control variables the R^2 slightly improves to 0.055. This implies that in the latter case the government stability index along with the control variables can explain 5.5 % of the variation in the GDP growth rate.

Corruption in Government, like ethnic tension, has a negative affect on the growth rate of a country. From column 10, it can be figured out that for a unit reduction in the level of corruption in the government, the growth rate increases by 0.2 percentage point. But in presence of the other controlling factors this effect seems insignificant. When we account for the control variables, in column 11, although corruption index shows a positive coefficient but it is not statistically significant at even 10% level of significance. Accordingly, the value of R^2 also shows a decline from 0.045 to 0.025 with the inclusion of the control variables.

In the multivariate regression of the growth rate (please refer to columns 12 and 13 of the above table), the law and order is still positively related with the growth rate. Although the coefficients reduce both in magnitude as well as significance levels in comparison to columns 2 and 3, but the direction remains intact. In presence of other variables, the democratic accountability shows a slightly stronger positive relationship with the growth rate as compared to the simple regression (column 4), but when accounted for the control variables, the coefficient is smaller compared to the former case (column 5) free from other independent variables. The significance level also falls from 1% to 10%. Ethnic tension index in this case, becomes statistically insignificant even at 10 % level, although it maintains a weak positive relationship with the growth rate. Government stability still shows a strong positive relationship with the growth rate which is statistically significant even at 1% level. Corruption on the other hand, displays a strong negative relationship with the growth rate in the absence of the control variables.

But when accounted for the control variables, it becomes statistically insignificant. Altogether all the coefficients are as expected. Even in the multivariate regression of all the independent variables, the R^2 is still low. An R^2 of 0.051 in the first case (column 12) shows that only about 0.5% of the changes in growth rate is explained by all the five independent variables combined together. With the inclusion of the control variables the R^2 , increases only slightly to 0.06. Such low values of R^2 demand that we include other explanatory factors in the set of regressors. The inclusion of factors like country fixed effects and time fixed effects and time trends will be discussed later.

The effect of the control variables on GDP growth rate are similar to that discussed in case of column 3 of table 2 (a).

Table 2 (b)
Dependent Variable: Log GDP Per Capita (l_gdp_pc)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Law & Order (law_ord)		0.681*** [0.015]	0.222*** [.013]									0.381*** [.020]	0.172*** [0.015]
Democratic Accountability (dem_acc)				0.500*** [0.015]	0.111*** [.012]							0.170*** [.015]	0.0279** [0.012]
Ethnic Tension (eth_ten)						0.451*** [018]	0.003 [.012]					0.056*** [.017]	(0.082)*** [0.012]
Government Stability (gov_stab)								0.198*** [.0121]	0.03*** [.007]			0.032*** [.01]	(0.007) [0.007]
Corruption in Government (corruptn)										0.68*** [0.17]	0.250*** [0.013]	0.280*** [.021]	(0.172)*** [0.015]
Trade Openness (trd_open)			(0.088)*** [0.022]		(0.098)*** [0.023]		0.097*** [0.023]		(0.107)*** [0.023]		(0.069)*** [0.021]		(0.092)*** [0.021]
Log total Population (log_pop)			(0.106)*** [0.01]		(0.119)*** [0.011]		(0.117)*** [0.011]		(0.118)*** [0.010]		(0.095)*** [0.01]		(0.101)*** [0.009]
Urban Population % (urb_pop)			0.029*** [0.001]		(0.03)*** [0.001]		0.03*** [0.001]		0.03*** [0.001]		0.0278*** [0.001]		(0.029)*** [0.001]
Population % (0-14) years (pop_0_14)			(0.064)*** [0.005]		(0.063)*** [0.005]		(0.087)*** [0.005]		(0.087)*** [0.005]		(0.049)*** [0.005]		(0.042)*** [0.005]
Population % (15 - 64) year (pop_15_64)			(0.014)** [0.007]		0.005 [0.008]		(0.019)*** [0.007]		(0.022)*** [0.007]		0.023*** [0.007]		(0.017)** [0.007]
Literacy Rate (lit_rate)			(0.113) [0.103]		(0.113) [0.107]		(0.094) [0.109]		(0.116) [0.109]		(0.168)* [0.102]		(.161)* [0.098]
Currency Exchange Rate (curr_exc)			0.000 [0.000]		0.000 [0.000]		0.000 [0.00]		0.000 [0.000]		0.000 [0.000]		0.000 [2.346]
R squared		0.422	0.786	0.269	0.766	0.178	0.758	0.084	0.76	0.348	0.789	0.507	0.803
Observations		2951	2383.000	2951	2383	2951	2383	2951	2383	2951	2383	2951	2383

*** implies that the coefficient is statistically significant at 1% level

**implies that the coefficient is statistically significant at 5% level

*implies that the coefficient is statistically significant at 10% level

Standard Errors are shown in [...]; values inside the parentheses (...) are negative

Log of GDP per Capita

Table 2 (b) incorporates the results from regression of log of GDP per capita as the dependent variable on the independent variables, namely, law and order, democratic accountability, ethnic tension, government stability, and corruption in government.

From column 2, we find that law and order index shows a positive relationship with the GDP per capita. In the most basic regression of log GDP per capita on the law and order index, the coefficient is positive and statistically significant at 1% level. The OLS estimate shows that for a unit increase in the law and order index, the GDP per capita increases by 0.68%.

When accounted for the control variables, though the GDP per capita still increases with increase in law and order index, but with a much smaller coefficient of just 0.22 (please refer to column 3). This shows that the control variables, on an average, play a significant role in determining the GDP per capita. The inclusion of the control variables improves the value of R^2 for the regression. In the former case (column 2) the R^2 was 0.42 and when the control variables were accounted for, the value of R^2 rises to 0.79, indicating that about 79% of the variation in GDP per capita is explained by the second set of regressors that include the control variables while only 42 % of the variation in the dependent variable was explained by the law and order alone. This implies that the latter set of regressors explain the variation in GDP per capita much better than law and order index only.

Column 3 shows the effect of various control variables on the GDP in the regression on the law and order. Trade openness shows a feeble relationship with the GDP per capita. For one percent increase in trade openness, the GDP per capita decreases

by 0.09 percentage points, meaning higher the trade openness of a country lower is the income per capita. One possible explanation for such an affect of trade openness is that for most of the developing countries, the GDP is very low. So while measuring the trade openness, GDP being on the denominator, increases the ratio of import plus export to the GDP. That means low income countries may show higher values of trade openness, as compared to the richer countries where the GDP is high and hence the openness might seem low. Hence there is a negative association of trade openness with the GDP per capita.

The log of population is negatively associated with the GDP per capita. This implies that the higher the population, the lower the income per capita. For one percent increase in population the GDP per capita decreases by approximately 0.11 percentage point. In contrast, the percentage of urban population displays a positive relationship with the per capita income. The reason for this is pretty obvious. Higher percentage of urban population means more economic activities and hence, higher income per capita. To explain the negative relationship between percentage of population in the age group of 0 to 14 years of age, and the GDP per capita, we need to take into account the fact that most of the developing countries have high fertility rates and has hence, higher percentage of population below 15 years of age. Again these same countries have been experiencing lower GDP per capita.

Literacy rate, on the other hand, shows a weak negative relationship with GDP per capita in some cases (please refer to columns 11 and 13) but in most cases, the relationship is statistically insignificant. And even in those significant cases, the level of

significance is quite low (only at the level of 10%). So the relationship between literacy rate and per capita income on an average is not very clear.

Column 4 of Table 2 (b) shows that the democratic accountability is positively related to the GDP per capita. For a unit increase in the democratic accountability index, the GDP per capita increases by 0.5 percentage point. But when the effect of the control variables is considered (in column 5), the coefficient on the accountability index falls to 0.11. Thus in the latter case, the GDP per capita increases by only about 0.11 percentage point for a unit increase in the democratic accountability index.

Both these results are statistically significant at 1% level. The R^2 in latter case is higher (about 0.77) as compared to the former which was just about 0.27. This indicates that about 77% of the variation in GDP per capita is explained by the second set of regressors including the control variables whereas only 27% of the variation in the dependent variable was explained by the democratic accountability. Thus, the control variables play an important role in determining the GDP per capita.

Column 6 shows that the ethnic tension index is positively related to the log GDP per capita. But since, we know that for a given country the higher the value of the index, the lower the ethnic tension, it means a country with lesser ethnic tensions is more likely to have a higher GDP per capita. From column 6 of Table 2 (b) it can be seen that for a unit increase in the ethnic tension index, the GDP per capita increases by 0.45%.

But when we take into account factors like the population, the percentage of urban population, human capital etc. as control variables, the effect of ethnic tension on GDP per capita becomes smaller and loses its statistical significance. A higher R^2 of 0.75 in the

second case (column 7) indicates that on an average there are factors other than ethnic tension that determine the per capita income.

The government stability, like law and order, is positively associated with the income per capita. In the first case (column 8), on an average, for a unit increase in the government stability index, the GDP per capita increases by about 0.2 percentage point. But when the effect of the control variables is considered (in column 9), the coefficient on the stability index falls to 0.03. Besides, coefficient in the latter case is statistically insignificant, too. The values of R^2 of these two regressions, 0.086 in the first case and 0.76 in the second case, also show that the government stability alone does not explain much the variation in income per capita. Thus, the control variables exert a significant influence in determining the income per capita rather than government stability alone.

Corruption in government plays a significant role in determining the per capita income. A positive association of the corruption index with the GDP per capita shows that lower the corruption in a country higher is the GDP per capita. Column 10 of Table 2 (b) shows that on an average for a unit increase in the corruption index the GDP per capita rises by 0.68 percentage point. When accounted for the control variables, the coefficient changes in magnitude, although its direction remains unaltered. Column 11 shows the effect of corruption on per capita income. For a unit increase in the corruption in government index, the GDP per capita increases by about 0.25 percentage point. A higher value of R^2 in the latter case which is close to 79% against about 35% in the first case suggests that the corruption does play a negative role in determining the GDP per capita but it is not so strong as is suggested by the coefficient in column 10.

In the multivariate regression of the per capita income (please refer to columns 12 and 13), the law and order is positively related with the growth rate. Although the coefficients reduce both in magnitude in comparison to columns 2 and 3, but the direction remains intact. In presence of other variables, the democratic accountability shows a weaker positive relationship with the GDP per capita as compared to the simple regression (column 4), but when accounted for the control variables, the coefficient is smaller as compared to the former case (column 5) free from other independent variables and the level of significance also falls from 1% level to 5% level.

Ethnic tension index still maintains a significant positive association even though the magnitude of the coefficient reduces substantially in the first case. When accounted for the control variables, ethnic tension becomes a stronger determinant of the income per capita and it becomes statistically significant as well.

Government stability shows a weak positive relationship with the GDP per capita (column 12), but when accounted for the control variables, it becomes statistically insignificant. Corruption on the other hand, displays a strong negative relationship with the growth rate in the absence of the control variables. But when accounted for the control variables, it becomes weaker as compared to the coefficient in column 11.

Altogether most of the coefficients are as expected. In the multivariate regression of all the independent variables (please refer to column 12), the R^2 is 0.507 which means that about 50% of the variation in the dependent variable is explained by different independent variables. With the inclusion of the control variables, the R^2 increases further to 0.803. The effect of the control variables on the log of GDP per capita is quite similar to that observed in column 3. To further enhance the values of R^2 other explanatory

factors will be included later in the set of regressors. The inclusion of factors like country fixed effects and time fixed effects and time trends will be discussed later.

In order to establish a mechanism by which the socio-political indicators affect the economic growth, we analyze the effect of socio-political indicators on investment, which, in turn, affects the economic growth.

Log Gross Capital Formation (GCF) per Capita

Table 2 (c) presents the results from regression of log of Gross Capital Formation (GCF) per capita as the dependent variable on the independent variables, namely, law and order, democratic accountability, ethnic tension, government stability, and corruption in government.

Log GCF per Capita is positively related to law and order, as it can be seen in the column 2 of Table 2 (c). The OLS estimate shows that for a unit increase in the law and order index, the GCF per capita increases by 0.75%, where as when accounted for the control variable, the GCF per capita still increases with increase in law and order index, but with a much smaller coefficient of just 0.24 (please refer to column 3).

This shows that the control variables play a significant role in determining the GCF per capita. The inclusion of the control variables improves the value of R^2 for the regression. In the former case (column 2) the R^2 was 0.42 and when the control variables were accounted for, the value of R^2 rose to 0.76, indicating that about 76% of the variation in GCF per capita is explained by the second set of regressors including the control variables while only 42 % of the variation in the dependent variable

Table 2 (c)
Dependent Variable: Log GCF PC A&B (l_cpf_pc)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Law & Order (law_ord)		0.753*** [0.016]	0.238*** [0.015]									0.380*** [0.024]	0.129*** [0.018]
Democratic Accountability (dem_acc)				0.570*** [0.017]	0.171*** [0.014]							0.204*** [0.017]	0.075*** [0.014]
Ethnic Tension (eth_ten)						0.539*** [0.020]	0.054*** [0.014]					0.112*** [0.018]	(0.029)** [0.014]
Government Stability (gov_stab)								0.236*** [0.014]	0.037*** [0.008]			0.048*** [0.011]	0.010 [0.008]
Corruption in Government (corruptn)										0.749*** [0.019]	0.309*** [0.015]	0.295*** [0.023]	0.223*** [0.018]
Trade Openness (trd_open)			(0.013) [0.025]		(0.024) [0.026]		(0.011) [0.026]		(0.035) [0.027]		(0.013) [0.025]		(0.002) [0.025]
Log total Population (log_pop)			(0.099)*** [0.012]		(0.115)*** [0.012]		(0.107)*** [0.012]		(0.112)*** [0.012]		(0.083)*** [0.011]		(0.089)*** [0.011]
Urban Population % (urb_pop)			0.028*** [0.001]		0.029*** [0.001]		0.028*** [0.001]		0.029*** [0.001]		0.027*** [0.001]		0.027*** [0.001]
Population % (0-14) years (pop_0_14)			(0.055)*** [0.005]		(0.043)*** [0.006]		(0.076)*** [0.005]		(0.08)*** [0.005]		(0.033)*** [0.006]		(0.018)*** [0.006]
Population % (15 - 64) year (pop_15_64)			0.014* [0.008]		0.045*** [0.009]		0.010 [0.009]		0.005 [0.0098]		0.06*** [0.008]		0.063*** [0.006]
Literacy Rate (lit_rate)			0.127 [0.120]		0.117 [0.123]		0.142 [0.126]		0.120 [0.126]		0.056 [[0.117]		0.052 [0.115]
Currency Exchange Rate (curr_exc)			0.000 [2.857]		0.000 [0.000]		0.000 [0.000]		0.000 [0.000]		0.000 [0.000]		0.000 [0.000]
R squared		0.419	0.759	0.28	0.748	0.206	0.735	0.095	0.735	0.342	0.772	0.508	0.782
Observations		2927	2383	2927	2383	2927	2383	2927	2383	2927	2383	2927	2383

*** implies that the coefficient is statistically significant at 1% level

**implies that the coefficient is statistically significant at 5% level

*implies that the coefficient is statistically significant at 10% level

Standard Errors are shown inside square brackets [...]; values inside the parentheses (...) are negative

was explained by the law and order. This implies that the latter set of regressors explain the variation in GCF per capita much better than law and order index alone.

Column 3 shows the effect of various control variables on the GCF in the regression on the law and order. Trade openness shows a weak negative relationship with the GDP per capita. For one percent increase in trade openness, the GCF per capita decreases by 0.01 percentage points, meaning higher the trade openness of a country lower is the investment per capita. One possible explanation for such an affect of trade openness is that for most of the developing countries, the GCF is very low. So while measuring the trade openness, GDP being on the denominator, increases the ratio of import plus export to the GDP. That means low income countries may show higher values of trade openness, as compared to the richer or more industrialized countries where the GDP is high and hence the openness might seem low. Hence there is a negative association of trade openness with the GCF per capita.

The log of population is negatively associated with the GCF per capita. This implies that the higher the population, the lower the income per capita. For one percent increase in population the GDP per capita decreases by approximately 0.01 percentage point. In contrast, the percentage of urban population displays a positive relationship with the per capita income. The reason for this is pretty obvious: industrialized countries with small population and poor or agriculture based economies with large population. Hence, lower savings with rise in population. Higher percentage of urban population means more economic activities and hence, higher income per capita. To explain the negative relationship between percentage of population in the age group of 0 to 14 years of age, and the GCF per capita, we need to take into account the fact that most of the developing

countries have high fertility rates and has hence, higher percentage of population below 15 years of age. Again these same countries have been experiencing lower GCF per capita. This might be one of the reasons for the negative relationship.

Literacy rate does not show any statistically significant relationship with GCF per capita, although the coefficient is positive. So the relationship between literacy rate and per capita income on an average is not very clear. Currency exchange rate has little effect on GCF per capita.

Column 4 of Table 2 (c) shows that the democratic accountability is positively related to the GCF per capita. For a unit increase in the democratic accountability index, the GCF per capita increases by 0.57 percentage point. But when the effect of the control variables is considered (in column 5), the coefficient on the accountability index falls to 0.17. Thus in latter case, the GCF per capita increases by only about 0.17 percentage point for a unit increase in the democratic accountability index. Both these results are statistically significant at 1% level. The R^2 in latter case is higher (about 0.75) as compared to the former which was just about 0.28. This indicates that about 75% of the variation in GCF per capita is explained by the second set of regressors including the control variables while only 28% of the variation in the dependent variable was explained by the democratic accountability alone. Thus, the control variables play an important role in determining the GCF per capita.

Column 6 of Table 2 (c) shows that on an average, the ethnic tension index is positively related to the GCF per capita. That means a country with lesser ethnic tensions is more likely to have a higher GCF per capita. It can be seen that for a unit increase in the ethnic tension index, the GCF per capita increases by 0.54%. But when we take into

account factors like the population, the degree of urbanization, human capita etc. as control variables, the effect of ethnic tension on GCF per capita becomes smaller. In the latter case, for a unit increase in the ethnic tension index, the GCF per capita increases by 0.054% but both these regressions are statistically significant. A higher R^2 of 0.735 in the second case (column 7) as compared to just 0.206 in the former case, indicates that on an average there are factors other than ethnic tension that determine the per capita investment. Government stability, as expected, is positively associated with the GCF per capita. In the simplest case (column 8), on an average, for a unit increase in the government stability index, the GCF per capita increases by about 0.24 percentage point.

When the effects of the control variables are considered (in column 9), the coefficient on the government stability index falls to 0.037. Both these coefficients are statistically significant at 1% level. The value of R^2 increases with the inclusion of various control variables. Without any control variables, the value of R^2 were 0.095 which increases to 0.735 on the inclusion of the control variables (please refer to column 10). From this information about the R^2 of these two regressions we can see that the government stability alone does not explain much the variation in GCF per capita. Thus, the control variables exert a significant influence in determining the GCF per capita rather than government stability alone.

The corruption in government, on the other hand, plays a significant role in determining the GCF per capita. A positive association of the corruption index with the GCF per capita shows that lower the corruption in a country higher is the GCF per capita. Column 10 of Table 2 (c) shows that on an average for a unit increase in the corruption index, the GCF per capita increases by 0.75 percentage point.

But, when accounted for the control variables, coefficient changes in magnitude, although the direction remains unaltered. Column 11 shows the effect of corruption on per capita income. For a unit increase in the corruption in government index, the GCF per capita increases by about 0.31 percentage point. A higher value of R^2 in the latter case which is close to 77% against about 34% in the first case suggests that the corruption does play a negative role in determining the GCF per capita but it is not so strong as is suggested by the coefficient in column 10.

In the multivariate regression of the GCF per capita (please refer to columns 12 and 13), the law and order is still positively related with the GCF per capita. Although the coefficients reduce both in magnitude in comparison to columns 2 and 3, but the direction remains intact. In presence of other independent variables, democratic accountability shows a weaker positive relationship with the GCF per capita as compared to the simple regression in column 4 and the regression with the control variables in column 5.

Ethnic tension index still maintains a significant positive association even though the magnitude of the coefficient reduces substantially for both the regressions, the one without accounting for the control variables as well as the other with the control variables. Government stability shows a weak positive relationship with the GCF per capita (column 12), but when accounted for the control variables, it becomes statistically insignificant. Corruption on the other hand, displays a negative relationship with the GCF per capita. Both these regressions, with and without the control variables, are statistically significant.

In the multivariate regression of all the independent variables (please refer to column 12), the R^2 is 0.508 which means that about 51% of the variation in the dependent

variable is explained by different independent variables. With the inclusion of the control variables, the R^2 increases further to 0.782 showing that the independent variables along with the control variables account for about 78 % of the variation in the dependent variable. To further enhance the values of R^2 other explanatory factors will be included later in the set of regressors. The inclusion of factors like country fixed effects and time fixed effects and time trends will be discussed later.

The effect of the control variables on the Gross Capital Formation per capita is similar to those discussed in case column 3.

Log of FDI per Capita

Table 2 (d) tabulates the results from regression of log of Foreign Direct Investment (FDI) per capita as the dependent variable on the independent variables, namely, law and order, democratic accountability, ethnic tension, government stability, and corruption in government. Log FDI per Capita is positively associated with the law and order, as it can be seen from the table. The OLS estimate shows that for a unit increase in the law and order index, the FDI per capita increases by 0.96% (column2).

But, when accounted for the control variable, the FDI per capita still increases with increase in law and order index, but with a smaller coefficient of just 0.43 (please refer to column 3). Both the regressions are significant and the respective coefficients of the independent variables are statistically significant at 1% level. This shows that the control variables, on an average, play a significant role in determining the FDI per capita.

From column 3, it is evident that trade openness has a significant positive relationship with the FDI per capita. Greater is the trade openness, the more the country

Table 2 (d)
Dependent Variable: Log FDI Per Capita (l_fdi_pc)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Law & Order (law_ord)		0.964*** [.028]	0.426*** [.032]									0.531*** [0.04]	0.246*** [0.037]
Democratic Accountability (dem_acc)				0.763*** [0.027]	0.447*** [0.029]							0.474*** [0.03]	0.388*** [0.029]
Ethnic Tension (eth_ten)						0.670*** [0.032]	0.162*** [.030]					0.130*** [0.032]	(0.004) [0.029]
Government Stability (gov_stab)								0.463*** [0.021]	0.252*** [0.017]			0.243*** [0.02]	0.189*** [0.017]
Corruption in Government (corruptn)										0.697*** [0.035]	0.199*** [0.035]	(0.053) [0.04]	(0.057) [0.038]
Trade Openness (trd_open)			0.378*** [.053]		0.354*** [0.052]		0.387*** [0.055]		0.286*** [0.052]			0.372*** [0.054]	0.316*** [0.050]
Log total Population (log_pop)			(0.265)*** [0.026]		(0.301)*** [0.025]		(0.273)*** [0.026]		(0.291)*** [0.025]			(0.271)*** [0.026]	(0.295)*** [0.024]
Urban Population % (urb_pop)			0.019*** [.002]		0.019*** [0.002]		0.018*** [0.002]		0.020** [0.002]			0.018*** [0.002]	0.019*** [0.002]
Population % (0-14) years (pop_0_14)			(0.061)*** [0.012]		(0.007) [0.012]		(0.092)*** [0.011]		(0.105)*** [0.011]			(0.072)*** [0.012]	(0.008) [0.012]
Population % (15 - 64) year (pop_15_64)			0.015 [0.018]		0.106*** [0.018]		0.014 [0.018]		(0.018) [0.017]			0.042** [0.019]	0.067** [0.018]
Literacy Rate (lit_rate)			1.558*** [0.269]		1.458*** [0.265]		1.552*** [0.278]		1.365*** [0.267]			1.521*** [0.278]	1.331*** [0.252]
Currency Exchange Rate (curr_exc)			0.000 [0.000]		0.000 [0.000]		0.000 [0.000]		0.000 [0.000]			0.000 [0.000]	0.000 [0.000]
R squared		0.304	0.549	0.231	0.561	0.144	0.519	0.159	0.557	0.131	0.519	0.413	0.607
Observations		2638	2138	2638	2138	2638	2138	2638	2138	2638	2138	2638	2138

*** implies that the coefficient is statistically significant at 1% level

**implies that the coefficient is statistically significant at 5% level

*implies that the coefficient is statistically significant at 10% level

Standard Errors are shown inside square brackets [...]; values inside the parentheses

(...) are negative

participates in cross border trade, and hence, higher is the FDI inflow. The total population, on the other hand, has a negative effect on FDI per capita. This may be because of two reasons. First, given an FDI inflow, the size of the population, being on denominator of the dependent variable, divides it. The greater the denominator, the smaller the ratio. Hence, the negative relationship.

The other reason may be related to the developing and developed countries. Most of the developing countries are populous and until recently they were not receiving a whole lot of FDIs. On the other hand, the European countries are less populous but have high FDI inflows. This factor also can lead to a negative relationship between population and FDI inflow per capita.

Urban population, as expected, has a positive relationship with the FDI per capita. Higher percentage of urban population implies higher degree of industrialization and higher trade and commerce activities. Hence, more FDI inflows. The population in the age group 0-14 is negatively associated with the FDI inflow. This is because of the fact that most of the developing countries have higher fertility rates, and hence greater child population. And due to the reasons discussed above they have or at least they used to have lower FDI inflow, as compared to their child populations percentage. The percentage of population in the age group of 15 to 64 years has a positive effect on the GDP. This might be because of the fact that this particular age group actually represents the labor force in most countries. Given a population, a higher labor force invites more FDI. Literacy rate has the highest impact among all the above variables on FDI. Higher the literacy rate, higher is the FDI inflow. It is because higher literacy rate is an indicator for better human capital. Better human capital facilitates the FDI inflow.

The inclusion of the control variables improves the value of R^2 for the regression. In the former case (column 2) the R^2 was 0.304 and when the control variables were accounted for the value of R^2 rose to 0.549, indicating that about 55% of the variation in FDI per capita is explained by the second set of regressors including the control variables while only 30 % of the variation in the dependent variable was explained by the law and order. This implies that the latter set of regressors explain the variation in FDI per capita much better than law and order index alone.

The relationship between log FDI per capita and democratic accountability can be seen from Column 4 of Table 2 (d). It shows that the democratic accountability is positively related to the FDI per capita. For a unit increase in the democratic accountability index, the FDI per capita increases by 0.76 percentage point. But when the effect of the control variables is considered (in column 5), the coefficient on the accountability index falls to 0.45. Thus in latter case, the FDI per capita increases by only about 0.45 percentage point for a unit increase in the democratic accountability index. Both these results are statistically significant at 1% level. The R^2 in latter case is higher (about 0.56) as compared to the former which was just about 0.23. This indicates that about 56% of the variation in FDI per capita is explained by the second set of regressors including the control variables while only 23% of the variation in the dependent variable was explained by the democratic accountability alone. Thus, the control variables play an important role in determining the FDI per capita.

On an average, the ethnic tension is negatively associated with the FDI, since the ethnic tension index is positively related to the FDI per capita. That means a country with lesser ethnic tensions is more likely to have a higher FDI per capita. From column 6 of

Table 2 (d) it can be seen that for a unit increase in the ethnic tension index, the FDI per capita increases by 0.67%.

But, when we take into account factors like the population, the degree of industrialization, human capital etc. as control variables the effect of ethnic tension on FDI per capita becomes smaller. In the latter case (column 7), for a unit increase in the ethnic tension index, the FDI per capita increases by 0.16% but both these regressions are statistically significant. A higher R^2 of 0.55 in the second case (column 7), as compared to just 0.30 in the former case, indicates that on an average there are factors other than ethnic tension that determine the per capita FDI.

Government stability, as expected, is positively associated with the FDI per capita. In the simplest case (column 8), on an average, for a unit increase in the government stability index, the FDI per capita increases by about 0.46 percentage point. But when the effect of the control variables is considered (in column 9), the coefficient on the stability index falls to 0.252. This implies that, after accounting for the control variables, the FDI per capita increases by 0.25 percentage point against one unit change in the government stability index. Both these coefficients are statistically significant at 1% level.

The value of R^2 increases with the inclusion of various control variables. Without any of the control variables, the value of R^2 was about 0.16 which increases to 0.56 on the inclusion of the control variables (please refer to column 10). From this information about the R^2 of these two regressions we can see that the government stability alone does not explain much the variation in FDI per capita but once the control variables are accounted for, it explains nearly 56% of the variation in FDI per capita. Thus, the control

variables exert a significant influence in determining the FDI per capita rather than government stability alone.

The corruption in government plays a significant role in determining the FDI per capita. A positive association of the corruption index with the FDI per capita shows that lower the corruption in a country higher is the FDI per capita. Column 10 of Table 2 (d) shows that on an average for a unit increase in the corruption index, the FDI per capita increases by 0.70 percentage point.

But, when accounted for the control variables, coefficient changes in magnitude, although the direction remains unaltered. Column 11 shows the effect of corruption on per capita income. For a unit increase in the corruption in government index, the FDI per capita increases by about 0.20 percentage point. A higher value of R^2 in the latter case which is close to 52% against about 13% in the first case suggests that the corruption does play a negative role in determining the FDI per capita but it is not so strong as is suggested by the coefficient in column 10.

In the multivariate regression of the log FDI per capita (please refer to columns 12 and 13), the law and order is still positively related with the growth rate. Although the coefficients reduce both in magnitude in comparison to columns 2 and 3, the direction remains intact.

In presence of other independent variables, the democratic accountability shows a weaker positive relationship with the FDI per capita as compared to the simple regression (column 4) and the regression with the control variables (column 5).

Ethnic tension index, in the first case without the control variables (column 12), still maintains a significant positive association with FDI per capita even though the

magnitude of the coefficient reduces substantially. In the second case with the control variables, not only the coefficient becomes negative but also the ethnic tension index loses its significance (column 13).

Government stability shows a weaker but positive relationship with the FDI per capita (columns 12 and 13). In the multivariate regression of all the independent variables, corruption becomes statistically insignificant.

In the multivariate regression of all the independent variables (please refer to column 12), the R^2 is 0.413 which means that about 41% of the variation in the dependent variable is explained by different independent variables. With the inclusion of the control variables, the R^2 increases further to 0.607 showing that the independent variables along with the control variables account for about 61 % of the variation in the dependent variable. To further enhance the values of R^2 other explanatory factors will be included later in the set of regressors. The inclusion of factors like country fixed effects and time fixed effects and time trends will be discussed later.

B. Checking for Robustness across Space and Time (Fixed Effects)

The second set of results tabulate the coefficients from regressions taking into consideration the country and time fixed effects which have been tabulated in tables 3 (a), (b), (c), & (d). In these tables, column 1 again enlists all the independent and the control variables, while the second and third columns capture the coefficients on law and order index. But unlike the first set, now column 2 captures the country fixed effects and column 3 captures the country and time fixed effects together for the law and order index. Similarly column 4 and 5 capture the country fixed effect and country plus time fixed

effects on the coefficients of democratic accountability index. And the remaining columns tabulate the coefficients of the respective independent variables, while the last two columns describe the independent variables taken together.

Country and Time Fixed Effects on GDP Growth Rate

Taking into consideration the country and time fixed effects, Table 3 (a) shows the results from regression of GDP growth rate as the dependent variable on the independent variables, namely, law and order, democratic accountability, ethnic tension, government stability, and corruption in government.

Having accounted for the country fixed effects in column 2 and time fixed effect in column 3, Table 3 (a) shows that the GDP growth rate (growth rate) is still positively related to law and order, as it can be seen in Table 3 (a). Column 2 shows that for a unit increase in law and order index, the GDP increases by 0.46 percentage points. This relationship is slightly weakened in presence of the time fixed effect in column 3.

When accounted for time fixed effects, the growth rate increases by 0.42 percentage points, for a unit increase in the law and order index. In both cases the coefficients are statistically significant at 1% level. This implies that better the law and order scenario in a country, higher would be the growth rate.

The value of R^2 also increases to 0.135, in the first case, after the inclusion of the time fixed effects the R^2 improves even more to 0.154. These values of R^2 are many times higher than the corresponding values in table 2 (a).

Table 3 (a)
Dependent Variable: GDP Growth Rate (grth_rat)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Law & Order (law_ord)		0.461*** [.143]	0.415*** [.161]									0.277* [0.173]	0.157 [0.182]
Democratic Accountability (dem_acc)				0.292*** [0.131]	0.211* [0.131]							0.204 [0.136]	0.164 [0.136]
Ethnic Tension (eth_ten)						0.375*** [0.143]	0.319** [0.154]					0.144 [0.166]	0.009 [0.168]
Government Stability (gov_stab)								0.400*** [0.071]	0.707*** [0.089]			0.362*** [0.073]	0.707*** [0.093]
Corruption in Government (corruptn)										0.045 [0.158]	0.052 [0.171]	(0.210) [0.171]	(0.294)* [0.181]
Trade Openness (trd_open)		0.675 [.543]	0.437 [.555]	0.589 [0.544]	0.388 [0.555]	0.640 [0.543]	0.377 [0.555]	0.425 [0.541]	0.263 [0.547]	0.634 [0.544]	0.396 [0.555]	0.427 [0.542]	0.278 [0.548]
Log total Population (log_pop)		1.769 [1.735]	1.434 [2.36]	2.531* [1.718]	2.198 [2.352]	2.132 [1.726]	1.321 [2.374]	(0.492) [1.794]	(1.261) [2.355]	2.648 [1.729]	2.021 [2.351]	(1.155) [1.822]	(1.342) [2.376]
Urban Population % (urb_pop)		(0.136)** [.05]	(0.131)** [.061]	(0.147)** [0.059]	(0.144)** [0.061]	(0.148)** [0.059]	(0.146)* [0.061]	(0.160)*** [0.059]	(0.155)* [0.059]	(0.152)* [0.059]	(0.149) [0.060]	(0.143)** [0.059]	(0.142)** [0.060]
Population % (0-14) years (pop_0_14)		0.030 [.185]	0.103 [.262]	0.067 [0.186]	0.105 [0.262]	0.043 [0.185]	0.161 [0.265]	0.216 [0.187]	0.201 [0.259]	(0.001) [0.188]	0.085 [0.263]	0.307* [0.194]	0.238 [0.262]
Population % (15 - 64) year (pop_15_64)		0.263 [.213]	0.310 [.269]	0.340* [0.214]	0.359 [0.269]	0.305 [0.213]	0.391* [0.270]	0.460** [0.214]	0.437* [0.265]	0.279 [0.215]	0.340 [0.269]	0.513** [0.218]	[0.456]* [0.268]
Literacy Rate (lit_rate)		1.881 [4.655]	2.070 [4.66]	1.478 [4.679]	1.751 [4.680]	1.887 [4.661]	1.909 [4.666]	0.714 [4.639]	0.347 [4.606]	2.440 [4.665]	2.352 [4.669]	(0.189) [4.656]	0.035 [4.626]
Currency Exchange Rate (curr_exc)		0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]
Country Fixed Effect	X	X	X	X	X	X	X	X	X	X	X	X	X
Time Fixed Effect		X		X		X		X		X		X	X
R squared		0.136	0.154	0.134	0.153	0.135	0.153	0.145	0.176	0.132	0.152	0.148	0.177
Observations		2294	2294	2294	2294	2294	2294	2294	2294	2294	2294	2294	2294

This implies accounting for country and time fixed effects, we get a more reliable result, which supports the robustness of our previous results. From the Table 3 (a) it follows that Democratic Accountability has a direct positive effect on the growth rate. According to the regression result in column 4 with country fixed effects, for a unit increase in the democratic accountability index, the growth rate increases by 0.29 percentage point.

Further, in column 5, accounting for the time fixed effects, the GDP growth rate increases to 0.21 percentage points for one unit increase in democratic accountability. These coefficients are statistically significant at 1% and 10% level respectively. This time again the direction of the regression is as expected, magnitudes of the coefficients are quite comparable to those from column 4, table 2 (a). The plus point is that the R^2 improves substantially to 0.134 and 0.153 respectively for column 4 and column 5. This implies accounting for the country and fixed effects help explaining the variation better than that without the fixed effects. This, once again proves that the results in table 2 (a) are robust.

Similarly, comparing the corresponding columns tables 2 (a) and 3 (a), it can be seen easily that the coefficients are quite similar in nature as well as in magnitude. In some cases, however, the coefficients lose statistical significance, which shows that all the variables are not equally important in all countries. Hence, on an average, not all the results are robust.

Table 3 (b)
 Dependent Variable: Log GDP Per Capita (l_gdp_pc)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Law & Order (law_ord)		0.024*** [.004]	0.037*** [.004]									0.03*** [0.004]	0.037*** [0.004]
Democratic Accountability (dem_acc)				0.015*** [.003]	0.012*** [0.003]							0.013*** [0.003]	0.007** [0.003]
Ethnic Tension (eth_ten)						0.005 [0.003]	0.015*** [0.004]					(0.007)*** [0.004]	0.001 [0.004]
Government Stability (gov_stab)								0.007*** [.002]	0.004* [.002]			(0.004)*** [0.002]	0.000 [0.002]
Corruption in Government (corruptn)										(0.009)** [0.004]	0.003 [0.004]	(0.023)*** [0.004]	(0.01)** [0.004]
Trade Openness (trd_open)		0.167*** [0.013]	0.134*** [0.013]	0.162*** [0.013]	0.135*** [0.013]	0.164*** [0.013]	(0.135)*** [0.013]	0.162*** [0.013]	0.135*** [0.013]	0.164*** [0.013]	0.136*** [0.013]	0.161** [0.013]	(0.139)*** [0.013]
Log total Population (log_pop)		(0.226)*** [0.039]	(0.587)*** [0.054]	(0.189)*** [0.038]	(0.524)*** [0.054]	(0.188)*** [0.038]	(0.564)*** [0.055]	(0.233)*** [0.041]	(0.551)*** [0.055]	(0.190)*** [0.039]	(0.532)*** [0.054]	(0.292)*** [0.041]	(0.584)*** [0.055]
Urban Population % (urb_pop)		0.0141*** [0.001]	0.013*** [0.001]	(0.014)*** [0.001]	0.012*** [0.001]	0.013*** [0.001]	0.012*** [0.001]	0.013** [0.001]	0.011*** [0.001]	0.014*** [0.001]	0.011*** [0.001]	0.015*** [0.001]	(0.013)*** [0.001]
Population % (0-14) years (pop_0_14)		(0.053)*** [0.004]	(0.012)* [0.006]	(0.051)*** [0.004]	(0.012)*** [0.006]	(0.053)*** [0.004]	(0.001) [0.006]	(0.051)** [0.005]	(0.012)** [0.006]	(0.052)*** [0.005]	(0.013)** [0.006]	(0.044)*** [0.004]	(0.010)*** [0.006]
Population % (15 - 64) year (pop_15_64)		(0.037)*** [0.005]	(0.004) [0.006]	(0.033)*** [0.005]	0.000 [0.006]	(0.036)*** [0.005]	0.001 [0.006]	(0.033)*** [0.005]	0.000 [0.006]	(0.034)*** [0.005]	(0.001) [0.006]	(0.030)*** [0.005]	(0.003)*** [0.006]
Literacy Rate (lit_rate)		(0.276)*** [0.078]	(0.313)*** [0.076]	(0.287) [0.078]	(0.318)*** [0.077]	(0.264)* [0.078]	(0.315)*** [0.078]	(0.268)*** [0.078]	(0.305)*** [0.078]	(0.249)*** [0.078]	(0.299)*** [0.078]	(0.285)*** [0.078]	(0.319)*** [0.077]
Currency Exchange Rate (curr_exc)		0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]
Country Fixed Effect	X	X	X	X	X	X	X	X	X	X	X	X	X
Time Fixed Effect		X		X			X		X		X		X
R squared	0.993	0.994	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.994
Observations	2383	2383	2383	2383	2383	2383	2383	2383	2383	2383	2383	2383	2383

Country and Time Fixed Effects on GDP per Capita

Table 3 (b) incorporates the results from regression of log of GDP per capita as the dependent variable on the independent variables, namely, law and order, democratic accountability, ethnic tension, government stability, and corruption in government. In this case the country and time fixed effects have also been accounted for. Including the country and time fixed effects, the law and order index still shows a positive relationship with the GDP per capita. Both the coefficients (column 2 and 3) are positive as well as statistically significant at 1% level. Although the coefficients fall in magnitude as compared to those in the corresponding column in Table 2 (b), but a higher value of R^2 shows that after accounting for the country fixed effects the results are significant, have better explaining power, and are at the same time robust across countries and time.

Comparing the remaining columns of Table 3 (b) with the corresponding columns of Table 2 (b), we clearly find that except for a few slight variations (columns 10, 11 & 13), the results in both the tables are quite similar. In column 10 the corruption index is significant but loses the significance after accounting for the time fixed effects in column 11. But in both the cases the coefficients are very small having practically little effect. This implies in the global context corruption does not play a very significant role in determining the per capita income.

Similarly, the coefficient on the democratic accountability index becomes insignificant on column 13. One of the reasons for this insignificance might be the very definition of democratic accountability across countries. A certain level of accountability might be considered low in a developed country while the same level of accountability will be unattainable in some other country. So, it cannot be compared exactly. The same

Table 3 (c)
Dependent Variable: Log GCF PC (l_cpf_pc)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Law & Order (law_ord)		0.045*** [0.008]	0.064*** [0.009]									0.05*** [0.01]	0.061*** [0.010]
Democratic Accountability (dem_acc)				0.018** [0.008]	0.015** [0.008]							0.009 008]	0.002 [0.008]
Ethnic Tension (eth_ten)						0.007 [0.008]	0.016* [0.009]					(0.022)** 01]	(0.014) [0.009]
Government Stability (gov_stab)								0.02*** [0.005]	0.023*** [0.005]			0.017*** 004]	0.016*** [0.005]
Corruption in Government (corruptn)										0.006 [0.009]	0.024** [0.010]	(0.012) [0.01]	0.002 [0.011]
Trade Openness (trd_open)		0.449*** [0.031]	0.42*** [0.032]	0.441*** [0.031]	0.412*** [0.032]	0.444*** [0.031]	0.412*** [0.032]	0.435*** [0.031]	0.410*** [0.032]	0.445*** [0.031]	0.412*** [0.032]	0.439*** 031]	0.417*** [0.031]
Log total Population (log_pop)		(0.267)*** [0.092]	(0.599)*** [0.130]	(0.195)** [0.091]	(0.495)*** [0.131]	(0.195)** [0.092]	(0.539)*** [0.132]	(0.341)*** [0.096]	(0.611)*** [0.132]	(0.18)** [0.091]	(0.506)*** [0.130]	(0.401)*** [0.097]	(0.641)*** [0.132]
Urban Population % (urb_pop)		0.022*** [0.003]	0.022*** [0.003]	0.021*** [0.003]	(0.02)*** [0.003]	0.021*** [0.003]	0.02** [0.003]	0.02*** [0.003]	0.019*** [0.003]	0.021*** [0.003]	0.019*** [0.003]	0.022*** 003]	0.022*** [0.003]
Population % (0-14) years (pop_0_14)		(0.020)** [0.010]	0.017 [0.015]	(0.019)* [0.011]	0.016 [0.015]	(0.022)** [0.011]	0.019 [0.015]	(0.013) [0.011]	0.018 [0.015]	(0.024)** [0.011]	0.014 [0.015]	(0.010) [0.011]	0.017 [0.015]
Population % (15 - 64) year (pop_15_64)		(0.015)*** [0.012]	0.013 [0.015]	(0.010) [0.012]	0.019 [0.015]	(0.013) [0.012]	0.021 [0.015]	(0.006) [0.012]	0.021 [0.015]	(0.014) [0.012]	0.017 [0.015]	(0.007) 012]	0.013 [0.015]
Literacy Rate (lit_rate)		(0.431)** [0.184]	(0.438)** [0.186]	(0.435)** [0.186]	(0.438)** [0.188]	(0.406)** [0.185]	(0.43)** [0.188]	(0.428)** [0.184]	(0.455)** [0.187]	(0.404)** [0.185]	(0.425)** [0.187]	(0.442)** [0.184]	(0.457)** [0.186]
Currency Exchange Rate (curr_exc)		0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [1.270]	0.000 [0.000]	0.000 [.000]	0.000 [0.000]	0.000 0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]
Country Fixed Effect	X	X	X	X	X	X	X	X	X	X	X	X	X
Time Fixed Effect		X		X			X		X		X		X
R squared	0.969	0.969	0.968	0.969	0.968	0.968	0.969	0.969	0.969	0.968	0.969	0.969	0.969
Observations	2383	2383	2383	2383	2383	2383	2383	2383	2383	2383	2383	2383	2383

problem arises when we think of accountability over a period of time. This shows that most of the results in Table 2 (b) are robust across countries and years, but not all.

Country and Time Fixed Effects on Gross Capital Formation

Table 3 (c) incorporates the results from regression of log of GCF per capita as the dependent variable on the independent variables, namely, law and order, democratic accountability, ethnic tension, government stability, and corruption in government. In this case, the country as well as time fixed effects have also been accounted for. Log GCF per capita is positively related to law and order, as it can be seen from columns 2 and 3.

The OLS estimate shows that for a unit increase in the law and order index, the GCF per capita increases by 0.045 percentage point, whereas when accounted for the time fixed effect, the GCF per capita still increases with increase in law and order index, but with a larger coefficient of just 0.064 (please refer to column 3). Both these results are statistically significant at 1% level. This implies that the effect of law and order on GCF is similar to those in column 3 in Table 2 (c) even after accounting for the cross country differences. Hence, these results are robust to cross country variations as well as variations across time.

Similarly, comparing columns 4 and 5 of Table 3 (c) with that of column 5 in Table 2 (c), we see that the results are similar in nature (directions) but slightly different in magnitude. Other columns in Table 3 (c) also display more or less the same comparison with Table 2 (c). Hence, we can claim that a few exceptions apart, the relationship of the GCF with the independent variables is robust to international differences, as well as the differences in time periods.

Country and Time Fixed Effects on Foreign Direct Investment

Table 3 (d) incorporates the results from regression of log of FDI per capita as the dependent variable on the independent variables, namely, law and order, democratic accountability, ethnic tension, government stability, and corruption in government.

In this case, the country as well as time fixed effects have also been accounted for. Columns 2 and 3 of Table 3 (d) show that despite considering the country and time fixed effects, FDI inflow is still positively related to law and order. Both these coefficients are statistically significant. Comparing with column 3 of the Table 2 (d) we see that these effects are similar in direction and comparable in magnitude. This means that the results in Table 2 (d) are robust in space and time.

Similarly, comparing column 4 and 5 of Table 3 (d) with the column 5 of Table 2 (d), it can be easily observed that the latter is not much difference in terms of the coefficients of the regressors. So, once again, we can claim that some of the initial results are robust in time and across countries.

Table 3 (d)
Log FDI Per Capita (l_fdi_pc)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Law & Order (law_ord)	0.304*** [0.034]	0.276*** [0.276]										0.262*** [0.040]	0.211*** [0.042]
Democratic Accountability (dem_acc)				0.258*** [0.030]	0.224*** [0.030]							0.211*** [0.031]	0.196*** [0.031]
Ethnic Tension (eth_ten)						0.146*** [.035]	0.143*** [0.036]					(0.018) [0.038]	0.028 [0.039]
Government Stability (gov_stab)								0.107*** [0.016]	0.084*** [0.021]			0.079*** [0.016]	0.053** [0.021]
Corruption in Government (corruptn)										0.076** [0.038]	0.066* [0.040]	(0.090)** [0.039]	(0.082)** [0.042]
Trade Openness (trd_open)	0.544*** [0.132]	0.316** [0.132]	0.452*** [0.132]	0.255* [0.131]	0.499*** [.134]	0.263** [0.133]	0.443*** [0.133]	0.254* [0.133]	0.503*** [0.134]	0.272** [0.133]	0.454*** [0.130]	0.278** [0.130]	0.278** [0.131]
Log total Population (log_pop)	1.825*** [0.386]	(1.832)*** [0.539]	2.255*** [0.382]	(1.305)** [0.536]	2.174*** [.391]	(1.85)*** [0.549]	1.544*** [0.408]	(1.862)*** [0.550]	2.469*** [0.389]	(1.479)*** [0.543]	1.100*** [0.403]	(1.91)*** [0.545]	(1.91)*** [0.545]
Urban Population % (urb_pop)	0.032** [0.013]	0.005 [0.014]	0.027** [0.013]	(0.001) [0.013]	0.027** [.014]	(0.004) [0.013]	0.022* [0.013]	(0.007) [0.013]	0.024* [0.013]	(0.006) [0.0136]	0.032** [0.013]	0.006 [0.013]	0.006 [0.013]
Population % (0-14) years (pop_0_14)	(0.491)*** [0.045]	(0.087) [0.061]	(0.451)*** [0.045]	(0.081) [0.061]	(0.502)*** [.045]	(0.069) [0.062]	(0.454)*** [0.045]	(0.084) [0.062]	(0.523)*** [0.046]	(0.100)* [0.062]	(0.390)*** [0.046]	(0.059) [0.061]	(0.059) [0.061]
Population % (15-64) year (pop_15_64)	(0.405)*** [0.052]	(0.046) [0.063]	(0.340)** [0.052]	(0.008) [0.063]	(0.396)*** [.053]	(0.011) [0.063]	(0.347)*** [0.052]	(0.015) [0.063]	(0.408)*** [0.053]	(0.030) [0.064]	(0.308)*** [0.052]	(0.010) [0.063]	(0.010) [0.063]
Literacy Rate (lit_rate)	0.471 [0.827]	(0.342) [0.819]	0.053 [0.831]	(0.720) [0.821]	0.541 [.840]	(0.401) [0.827]	0.507 [0.835]	(0.403) [0.827]	0.601 [0.843]	(0.306) [0.830]	(0.031) [0.816]	(0.783) [0.813]	(0.783) [0.813]
Currency Exchange Rate (curr_exc)	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [4.692]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [4.728]	0.000 [0.000]
Country Fixed Effect	X	X	X	X	X	X	X	X	X	X	X	X	X
Time Fixed Effect		X		X		X		X		X		X	X
R squared	0.800	0.812	0.799	0.812	0.794	0.808	0.796	0.808	0.792	0.807	0.807	0.816	0.816
Observations	2138	2138	2138	2138	2138	2138	2138	2138	2138	2138	2138	2138	2138

C. Robustness Checks with Lagged Dependent Variables

The third set of results incorporates the one year lag of the dependent variables as an independent variable, along with all other independent and control variables. These are tabulated in tables 4 (a), (b), (c), & (d). In the third set of results, column 1 again contains all the independent and the control variables; column 2 contains the coefficients of the law and order index, all the control variables, and one year lag of the independent variables. Similarly the second column does the same for democratic accountability, the third for ethnic tension and so on.

Table 4 (a) incorporates the results from regression of GDP growth rate as the dependent variable on the independent variables, namely, law and order, democratic accountability, ethnic tension, government stability, and corruption in government. In this case, in addition to the country and time fixed effects, the one year lagged values of the growth rate have also been included among the regressors. Like in previous cases, in Table 4 (a) the column 1 enlists all the independent variables, the controlled variables and the fixed effects.

The column 2 of table 4 (a) contains the coefficient on the law and order index, column 3 contains the coefficient on the democratic accountability index, and so on. The last column, column 7 shows the coefficients of all the independent variables, when taken together. From column 2 we can see that the law and order index has a strong positive relationship with the growth rate. The result is significant at 1% level and hence, robust. Thus, it shows that law and order is positively associated with GDP growth rate.

Table 4 (a)
GDP Growth Rate (grth_rat)

	1	2	3	4	5	6	7
Law & Order (law_ord)	0.548						0.332**
	[0.122]						[0.136]
Democratic		0.254*					0.188**
Accountability		[0.098]					[0.101]
(dem_acc)							
Ethnic Tension			0.314***				(0.055)
(eth_ten)			[0.117]				[0.126]
Government Stability					0.682***		0.665***
(gov_stab)					[0.067]		[0.070]
Corruption in						0.092	(0.269)**
Government (corruptn)						[0.129]	[0.135]
Trade Openness	0.422	0.369	0.356	0.201	0.369	0.241	
(trd_open)	[0.423]	[0.424]	[0.424]	[0.415]	[0.424]	[0.414]	
Log total Population	0.908	1.964	1.020	(1.383)	1.740	(1.487)	
(log_pop)	[1.835]	[1.834]	[1.852]	[1.817]	[1.835]	[1.831]	
Urban Population %	(0.119)**	(0.141)***	(0.144)***	(0.151)***	(0.146)***	(0.128)***	
(urb_pop)	[0.048]	[0.048]	[0.048]	[0.047]	[0.048]	[0.048]	
Population % (0-14)	0.040	0.046	0.094	0.136	0.017	0.164	
years (pop_0_14)	[0.202]	[0.203]	[0.204]	[0.198]	[0.203]	[0.200]	
Population % (15 - 64)	0.240	0.306	0.333*	0.377*	0.278	[0.372]*	
year (pop_15_64)	[0.207]	[0.207]	[0.208]	[0.203]	[0.208]	[0.205]	
Literacy Rate (lit_rate)	4.804	4.498	4.834	3.364	5.165	2.942	
	[3.584]	[3.607]	[3.598]	[3.519]	[3.603]	[3.525]	
Currency Exchange	0.000	0.000	0.000	0.000	0.000	0.000	
Rate (curr_exc)	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	
Country Fixed Effect	X	X	X	X	X	X	X
Time Fixed Effect	X	X	X	X	X	X	X
Lag of Dependent Variable	X	X	X	X	X	X	X
R squared	0.553	0.55	0.55	0.57	0.549	0.573	
Observations	2190	2190	2190	2190	2190	2190	

Table 4 (b)
Log GDP per Capita

	1	2	3	4	5	6	7
Law & Order (law_ord)		0.038*** [.004]					0.0367*** [0.004]
Democratic Accountability (dem_acc)			0.014*** [.003]				0.0082** [0.003]
Ethnic Tension (eth_ten)				0.016*** [0.004]			0.003 [0.004]
Government Stability (gov_stab)					0.004* [0.002]		(0.001) [0.002]
Corruption in Government (corruptn)						0.005 [0.004]	(0.008)* [0.004]
Trade Openness (trd_open)		0.130*** [0.013]	0.126*** [0.013]	0.126*** [0.013]	0.126** [0.013]	0.126*** [0.013]	0.130*** [0.013]
Log total Population (log_pop)		(0.499)*** [0.055]	(0.434)*** [0.056]	(0.481)*** [0.057]	(0.461)*** [0.057]	(0.445)*** [0.056]	(0.491)*** [0.057]
Urban Population % (urb_pop)		0.014*** [0.001]	0.013*** [0.001]	0.013*** [0.001]	0.012*** [0.001]	0.012*** [0.001]	0.014*** [0.001]
Population % (0-14) years (pop_0_14)		(0.01)* [0.006]	(0.010)*** [0.006]	(0.008) [0.006]	(0.011)* [0.006]	(0.012)* [0.006]	(0.009) [0.006]
Population % (15 - 64) year (pop_15_64)		(0.004) [0.006]	0.000 [0.006]	0.001 [0.006]	(0.001) [0.006]	(0.001) [0.006]	(0.003) [0.006]
Literacy Rate (lit_rate)		(0.679)*** [0.109]	(0.692)*** [0.112]	(0.674)*** [0.112]	(0.659)*** [0.112]	(0.656)*** [0.112]	(0.696)*** [0.110]
Currency Exchange Rate (curr_exc)		0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]
Country Fixed Effect		X	X	X	X	X	X
Time Fixed Effect		X	X	X	X	X	X
Lag of Dependent Variable		X	X	X	X	X	X
R squared		0.994	0.994	0.994	0.994	0.994	0.994
Observations		2294	2294	2294	2294	2294	2294

Table 4 (c)

Table 4 (c)
Log GCF Per Capita (l_cpf_pc)

	1	2	3	4	5	6	7
Law & Order (law_ord)	0.066*** [0.009]						0.066*** [0.010]
Democratic Accountability (dem_acc)		0.019*** [0.007]					0.006 [0.007]
Ethnic Tension (eth_ten)				0.016* [0.009]			(0.015)* [0.009]
Government Stability (gov_stab)					0.018*** [0.005]		0.012** [0.005]
Corruption in Government (corruptn)						0.027*** [0.010]	0.000 [0.010]
Trade Openness (trd_open)	0.370*** [0.031]	0.363*** [0.031]	0.363*** [0.031]	0.362*** [0.031]	0.406*** [0.034]	0.369*** [0.030]	
Log total Population (log_pop)	(0.466)*** [0.131]	(0.355)*** [0.132]	(0.405)*** [0.134]	(0.456)*** [0.134]	(0.429)*** [0.146]	(0.482)*** [0.133]	
Urban Population % (urb_pop)	(0.0245)*** [0.003]	0.022*** [0.003]	0.022*** [0.003]	0.022*** [0.003]	0.019*** [0.004]	0.025*** [0.003]	
Population % (0-14) years (pop_0_14)	0.015 [0.014]	0.014 [0.015]	0.017 [0.015]	0.016 [0.015]	0.018 [0.016]	0.014*** [0.014]	
Population % (15 - 64) year (pop_15_64)	0.008 [0.015]	0.015 [0.015]	0.016 [0.015]	0.016 [0.015]	0.025 [0.017]	0.008 [0.015]	
Literacy Rate (lit_rate)	(0.813)*** [0.259]	(0.819)*** [0.262]	(0.783)*** [0.262]	(0.808)*** [0.262]	(0.408) [0.287]	(0.841)*** [0.259]	
Currency Exchange Rate (curr_exc)	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [1.189]
Country Fixed Effect	X	X	X	X	X	X	X
Time Fixed Effect	X	X	X	X	X	X	X
Lag of Dependent Variable	X	X	X	X	X	X	X
R squared	0.974	0.973	0.973	0.073	0.971	0.974	
Observations	2293	2294	2294	2294	2190	2294	

Table 4 (d)
Log FDI Per Capita (l_fdi_pc)

	1	2	3	4	5	6	7
Law & Order (law_ord)		0.262*** [0.033]					0.226*** [0.036]
Democratic Accountability (dem_acc)			0.199*** [0.0261]				0.184*** [0.026]
Ethnic Tension (eth_ten)				0.124*** [0.032]			0.020 [0.034]
Government Stability (gov_stab)					0.063*** [0.018]		0.040** [0.018]
Corruption in Government (corruptn)						0.010 [0.035]	(0.133)*** [0.037]
Trade Openness (trd_open)		0.270** [0.123]	0.232* [0.123]	0.215* [0.125]	0.200* [0.125]	0.225* [0.125]	0.241** [0.121]
Log total Population (log_pop)		(2.239)*** [0.514]	(1.770)*** [0.514]	(2.250)*** [0.527]	(2.256)*** [0.530]	(1.927)*** [0.522]	(2.274)*** [0.520]
Urban Population % (urb_pop)		0.009 [0.012]	0.004 [0.012]	0.000 [0.012]	-0.002 [0.012]	-0.001 [0.012]	0.012 [0.012]
Population % (0-14) years (pop_0_14)		(0.074) [0.055]	(0.062) [0.055]	(0.059) [0.057]	(0.070) [0.056]	(0.083) [0.056]	(0.035) [0.055]
Population % (15 - 64) year (pop_15_64)		(0.025) [0.057]	0.017 [0.057]	0.006 [0.058]	0.003 [0.058]	(0.009) [0.058]	0.020 [0.057]
Literacy Rate (lit_rate)		0.647 [0.940]	0.303 [0.944]	0.621 [0.955]	0.709 [0.954]	0.827 [0.957]	0.148 [0.931]
Currency Exchange Rate (curr_exc)		0.000 [3.872]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]
Country Fixed Effect		X	X	X	X	X	X
Time Fixed Effect		X	X	X	X	X	X
Lag of Dependent Variable		X	X	X	X	X	X
R squared		0.867	0.866	0.863	0.863	0.862	0.871
Observations		1948	1948	1948	1948	1948	1948

Column 3 shows that the democratic accountability index is robust at 10% level of significance. Similarly, the indices on the ethnic tension (column 4) and government stability (column 5) are robust at 1% level. The corruption index (column 6) is no longer significant.

In column 2, when all the independent and control variables are taken together, the law and order and the democratic accountability are robust at 5% level of significance, but the ethnic tension is no longer significant. On the other hand, the corruption becomes a significant regressor, again.

Table 4 (b) incorporates the results from regression of log of GDP per capita as the dependent variable on the independent variables, namely, law and order, democratic accountability, ethnic tension, government stability, and corruption in government. In this case, in addition to the country and time fixed effects, the one year lagged values of the log GDP per capita have also been included among the regressors. Like in previous cases, in Table 4 (b) the column 1 enlists all the independent variables, the controlled variables and the fixed effects. The column 2 contains the coefficient on the law and order index, column 3 contains the coefficient on the democratic accountability index, and so on. The last column, column 7 shows the coefficients of all the independent variables, when taken together.

The law and order (column 2) is positively related with the GDP per capita. The coefficient is significant at 1% level and hence law and order is robust. From column 3 we see that the democratic accountability is also positively related with the log GDP per capita. And it is robust, too. So is ethnic tension index. Government stability is robust but only at 10% level of significance whereas corruption is no longer significant.

However, in case of the multivariate regression when we consider all the independent variables together, only the law and order is significant at 1% level, the democratic accountability at 5% level, and corruption at 10% level. Other than that, ethnic tension and government stability lose significance, and hence become no-robust.

Table 4 (c) incorporates the results from regression of log GCF per capita rate as the dependent variable on the independent variables, namely, law and order, democratic accountability, ethnic tension, government stability, and corruption in government. In this case, in addition to the country and time fixed effects, the one year lagged values of the log GCF per capita have also been included among the regressors. Like in previous cases, in Table 4 (c) the column 1 enlists all the independent variables, the controlled variables and the fixed effects. The column 2 contains the coefficient on the law and order index, column 3 contains the coefficient on the democratic accountability index, and so on. The last column, column 7 shows the coefficients of all the independent variables, when taken together.

Law and order, democratic accountability, government stability, and corruption, all have positive coefficients significant at 1% level. Although the ethnic tension has a positive coefficient, it has a lower level of significance at just 10% level.

Taking all the independent variables together, we can see that the law and order index is positively related to Gross Capital Formation. The coefficient is significant at 1% level. Hence, it can be said to be robust. Ethnic tension is positively related to the GCF but the significance level is low. Government stability is also positively related, and it is significant at 5% level. Democratic accountability and corruption are no longer significant.

Individually all the independent variables, except corruption in government are significant and positively associated with FDI inflow. When we consider all the independent variables together, ethnic tension loses significance. Thus, law and order, Democratic Accountability, Government Stability, and Corruption in Government can be said to be positively associated with the FDI inflow.

In the combined regression of all the independent variables law and order and democratic accountability are significant at 1% level, government stability is significant at 5% level and are all positively related with FDI inflow. Corruption, as expected, is negatively related to FDI inflow and significant at 1% level. Ethnic tension has a positive coefficient but not statistically significant at 10% level.

VII. CONCLUSION AND DISCUSSION

It is true that my study is not the first one to analyze the impacts of socio-political (institutional) indicators on the economic variables. However, both in terms of its subject matter as well as in terms of sample size my study distinguishes itself from others. The first distinction is, although there have been a number of studies in this subject area, very few have emphasized the mechanism by which the institutional indicators impact growth. My study finds that socio-political stability increases the investment and hence the income and the growth. Second, my thesis attempts to study the effect of a wide range of independent variables on a whole range of dependent variables, rather than just the GDP or the growth rate. This widens the scope of my study.

As I consider four dependent variables namely growth rate, GDP, gross capital formation, and the FDI, and five dependent variables such as law and order, democratic accountability, ethnic tension, government stability, and corruption in government, which gives an opportunity to delve into the effect of any of the five independent variables on the dependent variables. Thus we can look deep into the relationships.

Third, I have tried to incorporate the most recent data available. My dataset includes data from 1984 to 2007, which gives the recent trends in economic growth as well socio-political scenario. Another significant contribution of my study is that it covers much broader sample size than any of the existing studies. I consider a panel of 141 countries touching every geographical region and covering all economic categories such low income, middle income and high income countries over a period of 24 years. This allows the results to be generalized for all the countries, rather than confining them to a particular group of countries.

In my study, although the socio-political indicators individually are significant determinants of growth but all of them are not robust to all the specifications (please refer to Table 5 in the next page). Collectively considering all the social, political, and institutional indicators among the independent variables, government stability has a direct positive effect on growth rate. Law and order and democratic accountability have a positive impact on GDP per capita and foreign direct investment (FDI). Also, law and order has a positive effect on capital formation as well.

Further, FDI is positively impacted by law and order, democratic accountability and government stability. Only the coefficients in the dark shaded area are robust in all specifications. Other than that, variables like corruption and ethnic tension show

Table 5

Variables	GDP Growth Rate	Log GDP per Capita	Log GCF per Capita	Log FDI per Capita
Law and order (LA)	Positive/NS*	Positive	Positive	Positive
LA,CV	Positive/NS	Positive	Positive	Positive
LA,CV,CFE	Positive	Positive	Positive	Positive
LA,CV,CFE,TFE	Positive/NS	Positive	Positive	Positive
LA,CV,CFE,TFE,Lag**	Positive	Positive	Positive	Positive
Democrat. Accountability (DA)	Positive	Positive	Positive	Positive
DA,CV	Positive	Positive	Positive	Positive
DA,CV,CFE	Positive/NS	Positive	Positive/NS	Positive
DA,CV,CFE,TFE	Positive/NS	Positive	Positive/NS	Positive
DA,CV,CFE,TFE,Lag	Positive	Positive	Positive/NS	Positive
Ethnic Tension (ET)	Positive/NS	Positive	Positive	Positive
ET,CV	Positive/NS	NS/Negative	Positive/Negative	Positive/NS
ET,CV,CFE	Positive/NS	NS/Negative	NS/Negative	Positive/NS
ET,CV,CFE,TFE	Positive/NS	Positive/NS	Positive/NS	Positive/NS
ET,CV,CFE,TFE,Lag	Positive/NS	Positive/NS	Positive/Negative	Positive/NS
Government Stability (GS)	Positive	Positive	Positive	Positive
GS,CV	Positive	Positive/NS	Positive/NS	Positive
GS,CV,CFE	Positive	Positive/Negative	Positive	Positive
GS,CV,CFE,TFE	Positive	Positive/NS	Positive	Positive
GS,CV,CFE,TFE,Lag	Positive	Positive/NS	Positive	Positive
Corruption in Government (CG)	Negative	Positive	Positive	Positive/NS
CG,CV	NS	Positive/Negative	Positive	Positive/NS
CG,CV,CFE	NS	Negative	NS	Positive/Negative
CG,CV,CFE,TFE	NS/Negative	NS/Negative	Positive/NS	Positive/Negative
CG,CV,CFE,TFE,Lag	NS/Negative	NS/Negative	Positive/NS	NS/Negative

* Positive/NS should be interpreted as the coefficient is positive for individual independent variable, but not significant when considered with all other independent variables. The interpretation for NS/Positive is just the opposite.

**CV - Control Variable, CFE - Country Fixed Effect, TFE - Time Fixed Effect and Lag - lag of the corresponding dependent variable.

significant negative effect in some cases, but in some other cases they are either not significant, or they lose their robustness because of conflicting directionality, with change in the controlling factors. In other words, they don't pass all the robustness checks.

Finally, it can be said that government stability has a direct positive effect on growth rate, whereas law and order and democratic accountability contribute to growth via increasing the income and investment. So, to conclude, we can say that political stability has a direct positive effect on growth and institutional quality positively affects growth, indirectly via increasing investment.

In order to improve the quality of this study as well as to further strengthen the existing knowledge on the topic I would like to recommend that if we can come up with suitable instrument variables for all the independent variables, it would minimize the endogeneity problem. With the same set of variables, the study could be divided into various regions, and economic classes that would give more specific results. Otherwise, the results seem too general and we might end up ignoring substantial effects specific to any regions and class. Therefore, in future, I would like to work in these directions and make the above recommendations for other researchers as well.

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