

Sociopolitical Instability and Capital Accumulation in Developing Countries: Cross Country pooled data Evidence.

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Abstract: This study shows that sociopolitical conflicts measured by peace building capacity in developing countries affect physical and human capital accumulation in selected 70 developing countries from all regions of the world during 2000-2004 by using econometric models. We conclude that sociopolitical instability negatively and significantly effect both physical and human capital accumulation in selected countries. Sociopolitical stability in developing countries by increasing peace building capacity is a necessary condition for accumulation of both, physical and human capital. Further this study found that a positive relationship between democracy and peace building capacity. More democracy in developing countries leads for promotion of peace building capacity and sociopolitical stability. Capital accumulation which is key source of economic growth is adversely affected by conflict and war in developing countries.

Key words: Peace, conflicts, sociopolitical instability, peace building capacity, capital accumulation.

INTRODUCTION

All economists in the world have widely accepted that both physical and human capital accumulation are powerful determinants of economic growth. Technology is absorbed into production process via both physical and human capital accumulations. Technology progress which is principle deriving force of modern world is captured by improving physical and human capital accumulation in developing countries. Present studies in source of growth of developing nations are paying more attention on sociopolitical factors which determine both capital accumulations rather than paying attention to proximate determinants of economic growth. Low saving, inappropriate economic policies and lack of infrastructures in developing countries effect capital accumulation. All these primarily depend on sociopolitical environment of developing countries directly or indirectly. Does sociopolitical conflict which negatively affects the peace building capacity of developing countries have any relationship with their capital accumulation? This is important research question to be discussed in this paper. Sociopolitical conflicts in developing countries affect the long run sources of economic growth.

Private investment is reduced due to the

sociopolitical conflicts. Public investment during conflicts or war time will become inefficient. Long run investment projects are neglected due the sociopolitical conflicts. Increasing government's defense expenditure to bring peace may lead to reduction of expenditure on socio economic infrastructures such as high ways, telecommunication, education and health etc. Foreign direct investment is reduced due to the sociopolitical conflicts. Skilled labors are being migrated to outside of countries due to the sociopolitical conflicts or war. Physical infrastructures are being destroyed or damaged due to the sociopolitical conflict or war. Human resource is affected physically and mentally due to the war. Foreign assistances for human and capital accumulation are reduced by donors due to sociopolitical instability. Tourism industry related investments are abandoned due to the war. All these factors adversely affect physical and human capital accumulation hence economic growth in long run. This study considers some direct and indirect proxy measures to measure physical and human capital accumulation. Educational attainments, educational level and research and development have an impact on human capital accumulation. Democracy in developing countries increases peace building capacity hence sociopolitical stability^[11]. Political freedom through the

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political institution promotes private investment^[23].

Physical and human capital accumulations are interrelated with each others and accumulated by peace of country in long run.

Sociopolitical stability by maintaining democracy contributes economic growth via human and physical capital accumulation^[3, 4, 5]. Political instability negatively effects the growth in Africa due to the migration of skilled workers to outside and reduction of investment. African region's low investment and poor quality of human capital caused by sociopolitical instability between and within countries negatively effect economic growth^[2, 19, 22]. Religion makes peace and reduces corruptions and positively contributes to economic growth^[6]. Political instability hamper to investment and growth in Asia. But this result is mixed in Latin American countries^[17]. Types of political regimes make peace and political stability. Democratic regimes increase physical and human capital accumulation^[1]. Social conflicts reduce investment and human capital and adversely effect economic growth. Sociopolitical instability negatively affects physical capital accumulation hence economic performances.^[7, 9, 10, 12, 21] Efficient socio-political and economic institutions reduce the sociopolitical instability and increase capital accumulation^[13, 18]. A cross-country regression with Index for sociopolitical instability (SPI) in 94 developing countries during 1960 -1994 is shown to have negative effect of sociopolitical instability on growth^[8]. Measure of political instability has three indicators: the number of political assassinations, revolutions, and successful coups. Relationship between sociopolitical instability and the investment rate, they find evidence of a positive causal relationship from SPI to the investment rate. There is no simple and straightforward relationship between sociopolitical instability and, investment and growth. SPI has larger adverse effects on middle-and high-income and good-democracy countries than low-income and poor democratic countries. The countries which are suffering from sociopolitical instability have lower capital accumulation^[14, 15, 16].

MATERIALS AND METHODS

This study focuses on two important types of capital accumulation. First one is Physical capital accumulation measured by using two measures and second one is human capital accumulation measured by using three measures. These measures which are representing physical and human capital accumulation are used by many researchers in their studies

Measures for physical capital accumulation

1. Per capita fixed lines and mobile phone subscribers, measured for per 1000 persons in end of 2004 (Measure for per capita physical capital accumulation with technology)
2. Average investment as percent of GDP during 2000-2004 (Measure for annual capital accumulation) Measures for human capital accumulation
3. Life expectancy from birth in end of 2004 (Measure for per capita human capital accumulation)
4. Average secondary School enrollment as percent of gross enrollments during 2000-2004 (Measure for annual human capital accumulation)
5. Average tertiary school enrollment as percent of gross enrollments during 2000- 2004 (Measure for annual human capital accumulation)

This study covers 70 developing nations which had less than US\$ 3000 per capita income in 2000 from all regions of the world during the five year period, 2000-2004. This study selects one sole measure for sociopolitical conflicts which called as peace building capacity. Sociopolitical instability is measured by using the peace building capacity of selected countries based on seven sociopolitical causes (1). Human insecurity (2) Self determination (3) Discrimination (4) Regime types (5) Durability (6) Social capacity and (7) Neighborhood. . According to above mentioned sociopolitical causes, Centre for international development conflict management (CIDCM) categorizes all countries into the three categories of peace building capacity^[20]. From peace and conflict global survey reports 2001, 2003 and 2005; this study takes the peace building capacity of the selected developing countries during 2000-2004 as a sole measure for sociopolitical instability. From each report, zero score is given to peaceful countries. Score two is given to more conflicting countries. One score is given to countries which have some sociopolitical instability but they are managing the sociopolitical conflict without war. Average score of year 2001, 2003 and 2005 is taken as index for sociopolitical instability (ISPI) for period 2000-2004. The index takes a value between zero and two. Zero value means sociopolitical stability and value two means higher instability. Data for economic measures are taken from data query of world development index (WDI) of World Bank group^[24]. All data is average of period 2000-2004 except to per capita accumulated measures.

Table 1: Correlations between sociopolitical instability and physical, human capital accumulation

	Democracy Index	Fixed and mobile telephones	Investment as % of GDP	Secondary School	Tertiary school	Life expectancy
ISPI	-0.67	-0.59	-0.36	-0.52	-0.51	-0.50
n	70	68	65	62	62	68

RESULTS AND DISCUSSIONS

Correlation between democracy and sociopolitical instability in selected developing countries is around sixty seven percent. Such a high correlation indicates that more democracy leads to sociopolitical stability and peace in developing countries. Sociopolitical instability negatively correlated with Physical capital accumulation. Sociopolitical instability highly and negatively correlated with per capita physical capital accumulation. Higher sociopolitical instability reduces the physical capital accumulation. Further, if we consider the per capita telephones as an indicator of technological capacity which a country possesses, the measure per capita telephones will show the importance of sociopolitical stability to technology progress which is another source of economic growth.. Peace upgrades the technology with physical capital accumulation. Even the second measure of physical capital accumulation, investment ratio to GDP is negatively correlated with sociopolitical instability; the degree of correlation is low relatively. In developing economies which do not have sociopolitical stability, reduced private investments due to the uncertainty are being fulfilled by increased government’s investment which associated with defense sectors hence total investment ratio has not been affected in short run by sociopolitical instability seriously.(correlation is just -36 percent). However, higher sociopolitical instability reduces total investment in long run.

SPI and Physical capital accumulation: Investment of a nation in macro level primarily is determined by interest rate which equates saving and investment. However, there is no unified conclusion among the economists regarding to interest rate and investment relationship. Even monetarist emphasized that investors carefully perceive interest rate when they invest; Keynes and Keynesians insisted the pessimistic factors such as uncertainty, risk and political instability. Economic environment such as monetary (interest rate), fiscal and exchange rate policies also directly and indirectly influence gross national investment. Saving

is determined by income and consumption. Economic environment and sociopolitical environment are influencing capital accumulation. In developing countries, our objective variable of sociopolitical instability is a powerful determinant of investment expenditures. It reduces the investments in both physical and human infrastructures. Economic policy environment is measured by openness. Per capita telephone which is a measure for per capita physical capital accumulation with technology is determined by economic environment variables, income level of countries, foreign direct investment and openness. In an equation, we include our objective variable of index of sociopolitical instability.

$$TELE_t = f (Y_t, FDI_t, OP_t, ISPI_t) \tag{1}$$

TELE_t- Per capita telephones- per 1000 persons (proxy variable for per capita physical capital accumulation)
 Y_t - Per capita income of end of period, year 2004
 FDI_t - Net foreign direct investment as % of total FDI of selected countries.

OP_t - Openness (Export plus import divided by GDP)
 ISPI_t- Index for sociopolitical instability.

Estimation 1

$$TELE_t = B_0 + B_1 Y_t + B_2 FDI_t + B_3 OP_t - B_4 ISPI_t + e_t$$

$$= 0.015 + 0.00018Y + 0.01FDI + 0.001OP - 0.062 ISPI$$

(0.364) (14.18)^a (2.32)^b (2.07)^b (3.05)^a

$$R^2 = 0.87, \quad n = 65,$$

a, b and c are 1, 5 and 10 percent significant level respectively. t- Statistics are in parentheses.

The estimation 1 shows that sociopolitical instability has a strong negative influence on per capita physical capital accumulation than open and FDI in selected developing countries. Sociopolitical environment plays more important role than economic environment for physical capital accumulation

$$PINVE_t = f (C_t, FDI_t, G_t, ISPI_t) \tag{2}$$

PINVE_t- Physical capital accumulation (measured by average investment as % of GDP)

C_t - Average Consumption share of GDP

FDI_t -Net foreign direct investment as % of total FDI of selected countries.

G_t - Average Government share of GDP

ISPI_t- Index for sociopolitical instability

t - Time period, 2000-2004

Estimation 2

$$PINVE = B_0 - B_1 C_t + B_2 FDI_t + B_3 G_t - B_4 ISPI_t + e_t$$

$$= 24.42 - 0.019C + 0.25FDI + 0.047 - 2.97 ISPI$$

(5.21)^a (0.368) (2.43)^b (0.81) (3.05)^a

$$R^2 = 0.248, \quad n = 63,$$

The variable sociopolitical instability is more significant than other variables. We don not include the

variable saving in this model directly for two reasons. First, saving equals to investment in a closed economy. Second saving and consumption are correlated with income proportionately.

In two measures which are considered to investigate the impact of sociopolitical instability on physical capital accumulation, the variable of sociopolitical instability has more significant effect on them than other variables. Therefore, we can conclude that sociopolitical instability created by conflicts or war in selected developing countries adversely affects the physical capital accumulation. Economic growth which primarily depends on capital accumulation with technology is affected by sociopolitical conflict and war in developing countries.

SPI and Human capital accumulation: Correlations among selected human capital measures and sociopolitical instability showed the strong negative relationship among the variables in previous sections. But to see to what extent they effect human capital accumulation and to compare the effect with other variables, we employ simple regression analysis. For per capita human capital accumulation, we can ask a question why the life expectancy of countries differs from country to country. One factor is obvious; the income is key determinant of life expectancy of countries. Beyond the income, what are the determinants which affect life expectancy? Sociopolitical instability effects the life expectancy of people.

$$LEXP_t = f(Y_t, PINVE_t, ISPI_t) \quad (3)$$

LEXP_t - Life expectancy (Proxy measure for per capita human capital accumulation)

Y_t - Per capita income of end of period, year 2004

PINVE_t - Physical capital accumulation (measured by average investment as % of GDP)

ISPI_t - Index for sociopolitical instability.

Estimation 3

$$LEXP_t = B_0 + B_1 Y_t + B_2 PINVE_t - B_3 ISPI_t + e_t$$

$$= 49.9 + 0.0041 Y + 0.426 PINVE - 3.69 ISPI$$

$$(8.79)^a \quad (3.75)^a \quad (2.13)^b \quad (1.88)^c$$

$$R^2 = 0.457, \quad n = 65,$$

$$SEDU_t = f(Y_t, PINVE_t, ISPI_t) \quad (4)$$

SEDU_t - Average secondary education enrollments

Estimation 4

$$SEDU_t = B_0 + B_1 Y_t + B_2 PINVE_t - B_3 ISPI_t + e_t$$

$$= 36.5 + 0.0125 Y + 0.515 PINVE - 8.31 ISPI$$

$$(2.47)^b \quad (4.51)^a \quad (0.974) \quad (1.67)^c$$

$$R^2 = 0.476, \quad n = 60,$$

$$TEEDU_t = f(Y_t, PINVE_t, ISPI_t) \quad (5)$$

TEEDU_t - Average tertiary education enrollments

Estimation 5

$$SEDU_t = B_0 + B_1 Y_t + B_2 PINVE_t - B_3 ISPI_t + e_t$$

$$= 12.34 + 0.009^a Y - 0.0124 PINVE - 4.281 ISPI$$

$$(1.55) \quad (5.8) \quad (0.43) \quad (1.59)^c$$

$$R^2 = 0.546, \quad n = 58,$$

According to estimations from 4, 5 and 6, our objective variable, index of sociopolitical instability has an expected negative sign and considerable significant level in three selected measures which are proxy variables of human capital accumulation in developing countries. They have significant despite of considerable correlations among the independent variables, particularly between income and ISPI. New economic growth theories are emphasizing the role of human capital accumulation for growth. This human capital accumulation is affected by conflict and war in developing countries adversely. Peace is important for rapid economic growth which is back bone of economic development. Stable sociopolitical environment without violations, conflicts and wars between and within developing nations is a predominant policy prescription. Governments of developing nations, international economic and political institutions and whole international community must seek the mechanism to bring peace for economic development in developing countries rather than implementing pure economic policies without sociopolitical concern.

CONCLUSION

Both the physical and human capital accumulation are being effected adversely by sociopolitical instability in developing countries. These effects are robust and significant in comparison to other variables. Sociopolitical instability effects physical and human capital accumulation associated with technology. These effects are negatively significant in selected developing countries during 2000-2004. The countries which have high sociopolitical instability have lower physical and human capital accumulation. Peace to bring sociopolitical stability a precondition to accumulate physical and human capital that is a key determinant of economic growth in developing countries. Economic policies formulated by developing governments to achieve higher economic growth without considering sociopolitical environment have failed because of having sociopolitical instability. Democracy is a positive determinant of sociopolitical stability in developing countries. Sociopolitical causes which are fundamental determinants of economic development in developing countries are more important than economic proximate determinants in the world.

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