# Policy Environment And Economic Growth In Democratic Institutions

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#### Abstract

This paper empirically studies how political changes within democracies affect economic growth through changes in the policy environment. We look at the relation between per capita GDP growth rate and changes in the policy environment using a panel data of 101 Democratic countries over 24 years (1997 - 2020). We analyzed the data using the within-between Random Effects (REWB) model and the prominent finding of our paper states that within democratic countries, changes in policy environment significantly leave a negative effect on the economic growth. We also look at whether governing party/chief executive staying in office for long duration stimulates or impedes economic growth while briefly looking at its implication for financial markets.

**Keywords**: Policy Environment, Political ideology, Economic Policy, Economic Growth, Democracy.

#### Introduction

The policy environment<sup>1</sup> in most democracies is ever-changing due to responsiveness being a key feature of democratic institutions. Responsiveness refers to the quality of democratic institutions to have policy outcomes that reflect public opinion. With changing policy<sup>2</sup> preferences of the citizens, a responsive democracy brings about political changes in the government through constitutional means, for instance by the election of a new governing party

<sup>&</sup>lt;sup>1</sup>When we mention Policy Environment, we refer to the status quo policy preferencewithin the political institution, where the policies under consideration are the economic policies followed by the government. We assume that thegoverning party/chief executive's ideological orientation (with respect to economic policy)determines the policy preference of the government.

<sup>&</sup>lt;sup>2</sup>For brevity, we refer to "economic policy" whenever we say "policy" in the rest of the paper.

or chief executive whose ideological orientation aligns with that of the people. Ultimately, this should lead to policies by the government that reflects the preferences of the people.

When a government that is left-oriented with respect to economic policies is replaced by one which has right orientation or vice versa, there is a significant shift in the policy orientations which impacts the policy outcome in the economy. But rather than focusing solely on changes in policy orientation, we look at changes in the policy environment which takes a broader approach. In this approach, we also consider the cases where the policy orientation of the government is ambiguous. So now, if there is a change in government such that the preceding government had an ambiguous orientation while the incumbent has a definite orientation (Left, Right, or Centre), we can consider it as a change in policy environment since it disrupts the status quo policy stability<sup>3</sup>. Whereas we cannot say for certain that there has been a definite change in policy orientation.

Most democracies regularly face such changing policy environments because of the responsive nature of these institutions. The changing policy environment could negatively affect the productive economic decisions such as investments and savings made in the economy, which in turn could affect the country's economic growth. Although most democratic countries face such changing policy environments, there are exceptions. For instance, such situations are unlikely to arise in Consociational Democracies like Switzerland (Lane, 2001) where grand coalitions form the government. In such cases, the policy environment is unlikely to change as grand coalitions are composed of many veto players and deviation from status quo is not possible when veto players have significant ideological distances among them (Tsebelis, 2002).

Within our sample of democratic countries, between 1997 and 2020, countries like Argentina, Greece, and Slovenia have a high proportion of years with a change in the policy environment and we find that those years which saw a change in the policy environment had considerably lower median GDP per capita growth rate compared to when there was no change(Figure 1). In Greece and Denmark where we see high proportion of years with significant changes in the policy environment<sup>4</sup>, the same trend could be seen where years with significant changes had lower median GDP per capita growth rate compared to the years when there were no significant changes (Figure 2). These observations give some indication of the negative effect that changes in policy environment could have on economic growth<sup>5</sup>.

The main characteristic of our study that differentiates it from previous literature is that we focus exclusively on democracies and how political changes within them (through constitutional means) affect economic growth through changes in the policy environment. This gives us insights into how Responsiveness –a feature necessary for the proper functioning of democracies affects economic growth. Furthermore, we consider the institutional factors that

<sup>&</sup>lt;sup>3</sup>While the preceding government's policy outcomes could lie anywhere in the left-right spectrum, the incumbent's policiescould be narrowed down to Left, Right or Centre.

<sup>&</sup>lt;sup>4</sup>Significant changes in policy environment account for only those changes where the government shifted from a left-oriented government to a right-oriented one or vice versa.

<sup>&</sup>lt;sup>5</sup>For being concise, we will refer to "Economic Growth" in place of "GDP per capita growth rate".

affect the policymaking process and make a distinction between within and between country effects of our key variables.

We also look at whether governing party/chief executive remaining in office for a longer duration has an impact on economic growth, in the context of democracies. This could hurt economic growth as governments that remain in office for long durations are more susceptible to interest groups which makes them less likely to implement policies which focuses on social welfare (Olson, 2008).

The main conclusion from our study is that there is a significant negative effect of changes in the policy environment on economic growth within democratic countries, after controlling for several institutional factors and macroeconomic shocks. We also find that in democracies, governing party/chief executive staying in office for longer durations has a significant negative impact on economic growth as well. The impact of changes in policy environment and other political changes will be reflected in the financial markets as well due to the highly interconnected framework of financial markets and the economy.

# **Literature Review**

There is considerable literature on democracies and their relationship with the economy. The study by Acemoglu, Naidu, Restrepo & Robinson (2019) shows that the democratization of a country (transition from non-democracy to democracy) significantly leaves a positive impact on the GDP per capita and that this leads to a substantial increase in GDP per capita in the long run. Plümper & Martin (2003) developed a political-economic argument for this effect and concluded that varied stages of democracy in an economy effect the government's stake in the economy and the contribution of public goods in total public expenditure which in turn influences the growth rates of economy.

Papers like that of Quinn & Woolley (2001) and Satyanath & Subramanian (2004) focus on economic stability in democracies. They argue that policies in democratic systems replicate the risk avoidance by ordinary citizens and therefore bring economic stability. Satyanath & Subramanian (2004) provides evidence that democracies have a strong causal impact in promoting long-run nominal macroeconomic stability.

Literature related to political uncertainty and growth of an aconomyis crucial to our research as political uncertainty greatly affects the policy environment. The study by Alesina, Özler, Roubini& Swagel (1996) finds that political instability reduces growth with the result being strong for government changes that significantly change the ideological composition of the executive.. They reason that political instability increases policy uncertainty, which negatively influences productive economic decisions leading to low economic growth. Gasiorowski (1998) suggests that the relationship between macroeconomic conditions and political instability runs primarily from the latter to the former. This serves as a justification for not focusing on the reverse effect between change in policy environment and economic growth in our research. Feng (1997) investigates and concludes that growth is promoted circuitously by making significant regular change in government and preventing asymmetrical government change. Another set of related literature focuses on the relationship between policy variability/policy volatility on economic growth. Hopenhayn & Muniagurria (1996) explore the impact of policy variability ("degree of regime-switching") on welfare and growth. Variability decreases the instability in investment rates, thereby reducing the scale of variations in consumption and therefore increasing welfare. The paper by Brunetti (1998) gives a similar conclusion where higher instability of policies is found to be related to below average growth rate.

In the context of government's (governing party/leader/chief executive) duration in office and economic growth, Olson (2008) stresses that governments which stay in office for a greater period are more susceptible to interest groups leading to less focus on policies that maximizes social welfare. Papaioannou & Zanden (2015) study proves that prolonged span in office of a dictator disturbs development of an economy. While Papaioannou's paper focused on dictators, Jones & Olken (2005) examine the relationship between changes in national leader and economic growth. They use exogenous changes<sup>6</sup> in national leadership (Jones & Olken, 2005).

Our research focuses exclusively on democratic institutions and the constitutional government changes that take place within them, unlike previous literature which explores general relations between political institutions and the economy. We also derive substantive results by decomposing the relations into within and between country effects.

# **Data and Variables**

For our analysis, DPI 2020 dataset ("Beck, Clarke, Groff, Keefer & Walsh, 2001") was utilized to gather institutional data for the countries under consideration. We used the Executive Index of Electoral Competitiveness (EIEC)<sup>7</sup> to shortlist our democratic countries and determine an optimal period<sup>8</sup>. If EIEC is above a certain threshold then the country is deemed to be democratic whereas when it is below the threshold then the country is deemed autocratic or is an indication of non-consolidation of democratic institutions of the country<sup>9</sup>. Effectively in our analysis, democratic countries are those where the executives are competitively elected. Using these conditions, we finalized a sample of 101 democratic countries and the 24-year period of 1997-2020. The countries are from "East Asia & Pacific" (10), "Europe & Central Asia" (40), "Latin America & Caribbean" (21), "Middle East & North Africa" (3), "Sub-Saharan Africa" (23), "South Asia" (2) and "North America" (2).

Since we are looking at changes in policy/political environment and their effects on economic growth, our dependent variable is GDP per capita growth (GROWTH) procured from the World Bank (The World Bank, 2021a). Our key explanatory variables are as follows:

1. Change in Policy Environment (POLICYENVCHNG): This is a binary variable derived from the EXECRLC variable of DPI 2020 dataset. EXECRLC indicates the governing party's orientation with respect to economic policy or the chief executive's

<sup>&</sup>lt;sup>6</sup> They consider deaths of leaders while in office as a source of exogenous variation in leadership,

<sup>&</sup>lt;sup>7</sup> The index was provided in the DPI 2020 dataset and gives a measure of how competitive the electoral elections are.

<sup>&</sup>lt;sup>8</sup>We focused on determining a time period that provided the maximum number of observations for democratic countries given our condition that the countries should be continuously democratic till 2020. <sup>9</sup>The same conditionwas used in DPI 2020 to distinguish between democratic and autocratic countries.

orientation in cases where the executive deviated considerably from the party orientation or if the chief executive is independent. In cases where the party's platform doesn't focus on economic issues; there are competing wings or there is no information, we assume that the policy orientation was ambiguous. To create our change in policy environment variable, we coded those years which had a change in policy orientation (i.e., any change between Left, Right, Centre, or Ambiguous) as "1" and the years with no change as "0"<sup>10</sup>. Following these criteria ensured the absence of missing values in this variable.

- 2. **Significant Change in Policy Environment:** Created using the criteria specified for Change in Policy Environment but this variable considers only significant changes in policy orientation, i.e., a change from left-oriented government to right-oriented one or vice versa.
- 3. **Party**<sup>11</sup> **Duration:** This variable captures the duration (in years) for which the party of chief executive has been in office. The variable is the same as PRTYIN provided in DPI 2020 with changes made to account for independent executives. Since independent executives are not affiliated to any party, we assume that they represent independent parties and assign values based on the chief executive's length in office.<sup>12</sup>
- 4. **Chief Executive Duration:** This variable counts how long (in years) the chief executive has been in office. The executive who formally (de jure) holds power is counted. It is the same as YRSOFFC of DPI2020 with some minor changes made to account for missing values.

The control variables used in the regression models (denoted as CONTROL in the regression equation) and their description are as follows: -

- CHECKS-In political institutions, the number of political decision-makers whose agreement is critical for changes in policy determines the policy making power of the government. It is essential to control for this factor as it would vary across countries and across time. The CHECKS variable is included in the DPI 2020 dataset. and is constructed by accounting for the quantity of veto companies in a political system. (Beck et al., 2001). The higher value of CHECKS means that the government has less decision-making power and hence wouldn't have much control over the policy outcomes. In case of missing values, we filled them using carry forward/carry back methods or filled them using previous trends that were observed (Kantor, 2004).
- 2. **EDUCATION-** Education index developed by the "Human Development Report Office (United Nations Development Programme, 2020), is an average of mean years of schooling (of adults) and expected years of schooling (of children), both expressed

<sup>&</sup>lt;sup>10</sup>For cases where there was an interim government of different policy orientation for just 1 year, we consider it as no change in policy environment (since there was a change in government within 1 year, there would have been political instability and therefore the government is unlikely to have implemented their policies).

<sup>&</sup>lt;sup>11</sup> For brevity whenever we use the word "party" we refer to the party of the chief executive/governing party.

<sup>&</sup>lt;sup>12</sup>In the case of Switzerland, the government has never been renewed completely at the same time. Therefore, we assume it to be equivalent to the same party remaining in power and for Party duration, we assumed the value to be equivalent to how long the country has been deemed to be democratic.

as an index obtained by scaling with the corresponding maxima". This index is used as a proxy for the level of human capital.

- **3. DEMOCRACY-** Since the Barro effect implies "the existence of a non-linear (u shaped) relation between the level of democracy and economic growth" (Barro, 1996), it is essential to control for the level of democracy and we do so by using "V- Dem's Liberal Democracy Index (Coppedge et al, 2016)".
- 4. **STAB** Indicator for Political Stability and Absence of Violence/Terrorism This is one of the three Governance Indicators (Kaufmann et al., 2010) which we use to control for the quality of political institutions. This pointer considers insights of the likelihood that the government will be weakened or defeated by unauthorized or violent means.
- 5. **GOVEFF-** Indicator for Government Effectiveness –"It controls for the capacity of the government to effectively formulate and implement sound policies. This Governance indicator captures the perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies".
- 6. **CORR-** Control of Corruption It controls for the respect of citizens and the state for the organizations that govern financial and societal interactions among them. This pointer takes into consideration observations of the degree to which public power is used for private gain.

To make our dataset completely balanced, we used interpolation/ extrapolation to fill in the missing values. At most, the intermittent gaps in data existed for a maximum of 4 years and the missing values didn't occur continuously for consecutive years; hence the application of interpolation/extrapolation can be justified.

By looking at the sample means for the key variables and classifying the countries according to the "World Bank Income Group Classification" ("The World Bank", 2021b) (Table 1), we find that "High Income countries" have the highest average frequency for years with Change in Policy Environment, followed by Upper Middle Income and Lower Middle-Income Countries. We can see the same trend for years with Significant change in Policy Environment as well, although the frequencies are much lower as there are considerably fewer observations for significant changes. For Party duration, we see that Low Income countries had the longest average duration for parties' length in Office. The same is true for chief executives' average duration in office as well.

As for GDP per capita and changes in the policy environment (Table 2), we see that the average per capita GDP growth rate is lower for years with a change in policy environment compared to when there is no change. Although Low Income countries show a higher growth rate, this could be attributed to the fact that the observations are fewer for this Income group. For significant changes, there are only a few observations for all income groups except for High Income group countries where we see that the average growth rate is considerably lower compared to the case of no change in the policy environment.

# Methodology

To analyze our panel data, we employ the "Within-Between Random Effects Model" (REWB) also known as the hybrid model. REWB model is effectively a random effects model that models heterogeneity within the parameter estimates and at the same time incorporates the advantages of the Fixed Effects Model. REWB Model helps in recognizing the possibility of differences between the within and between effects of a predictor and explicitly models those separate within and between effects (Bell, Fairbrother & Jones, 2019). It helps in modeling heterogeneity at both the cluster (between countries) and observation level (within country). Therefore, this model helps us gain substantive results by helping us model both the within and between country effects of our key variables. A general REWB Model is specified below: -

$$y_{it} = \beta_0 + \beta_{1W}(x_{it} - \overline{x_i}) + \beta_{1B}\overline{x_i} + \beta_2 z_i + (v_i + \varepsilon_{it})$$

where y<sub>it</sub> is the dependent variable

x<sub>it</sub>is a time varying (level1) independent variable

zis a time invariant (level 2) independent variable

 $\beta_{1W} \text{represents the average within effect of } x_{it}$ 

 $\beta_{1B}$  represents the average between effect of  $x_{it}$ 

viare the model's level 2 random effects

 $\epsilon_{it}$  are the model's level 1 residuals

Although we are not considering Level 2 variables in our regression models, REWB Model still helps in decomposing the within and between effects of our predictors. We also controlled for time fixed effect in our model using year dummies. Therefore, our base model for estimation is as follows: -

$$\begin{aligned} \text{GROWTH}_{\text{it}} &= \beta_0 + \beta_{1W}(\text{POLICYENVCHNG}_{\text{it}} - \overline{\text{POLICYENVCHNG}_{1}}) \\ &+ \beta_{1B}\overline{\text{POLICYENVCHNG}_{1}} + \beta_{2W}(\text{PRTYIN}_{\text{it}} - \overline{\text{PRTYIN}_{1}}) \\ &+ \beta_{2B}\overline{\text{PRTYIN}_{1}} + \delta_{jW}(\text{CONTROL}_{\text{it}} - \overline{\text{CONTROL}_{1}}) \\ &+ \delta_{jB}\overline{\text{CONTROL}_{1}} + \gamma_1 T_1 + \dots + \gamma_n T_n + (v_i + \epsilon_{\text{it}}) \end{aligned}$$

$$\begin{split} \delta_{jW}(\text{CONTROL}_{it} - \overline{\text{CONTROL}_{i}}) &= \delta_{1W}(\text{EDUC}_{it} - \overline{\text{EDUC}_{i}}) + \delta_{2W}(\text{DEMOC}_{it} - \overline{\text{DEMOC}_{i}}) \\ &+ \delta_{3W}(\text{STAB}_{it} - \overline{\text{STAB}_{i}}) \\ &+ \delta_{4W}(\text{GOVEFF}_{it} - \overline{\text{GOVEFF}_{i}}) \\ &+ \delta_{5W}(\text{CORR}_{it} - \overline{\text{CORR}_{i}}) \end{split}$$

 $\delta_{jB}\overline{CONTROL_{i}} = \delta_{1B}\overline{EDUC_{it}} + \delta_{2B}\overline{DEMOC_{it}} + \delta_{3B}\overline{STAB_{it}} + \delta_{4B}\overline{GOVEFF_{it}} + \delta_{5B}\overline{CORR_{it}}$ 

The use of the REWB model over Fixed and Random Effects models is further justified by testing the equality of the within and between coefficients by employing a Joint Wald Test which shows that the coefficients are significantly different from each other at 1% Level of Significance. The inclusion of the year dummy variables helps in controlling for macroeconomic shocks and a Joint Wald Test for the coefficients of all year dummies shows that the coefficients are significantly different from 0 at 1% level of significance thereby justifying the inclusion of time fixed effects in the models.

## Results

To estimate the effects of our key explanatory variables, we utilized 3 different Models all of which used the same control variables and year dummies but had different combinations of the key variables.

In Model 1, the key variables included are Change in Policy Environment and Party Duration. We find that the "within" coefficient for Change in Policy Environment is negative and significant at 5% level of significance. This implies that "within" a democratic country, after controlling for other factors, a Change in Policy Environment decreases GDP per capita growth rate by 0.5%. The "between" country coefficient for Change in Policy Environment is not significant whereas Party duration has a significant "between" country effect at 5% level of significance. The coefficient is negative implying that "between" democratic countries, an increase in average party duration of a country by 1 year decreases GDP per capita growth rate by 0.03%. Therefore, democratic countries where governing parties stay in Office for longer average durations have lower average GDP per capita growth rate.

In Model 2, we substituted Significant Change in Policy Environment for Change in Policy Environment keeping all the remaining variables from Model 1. The "between" coefficient for this variable is significant and negative at 5% Level of Significance implying "between" democratic countries, an increase in frequency of years with significant policy changes in a country by 1 unit decreases GDP per capita growth rate by 6.37%. This indicates that countries having a higher frequency of significant policy changes have lower average GDP per capita growth rate.

Model 3 substitutes Chief Executive duration for Party duration in Model 1, keeping all the remaining variables of Model 1.The results show that Chief Executive's duration has significant and negative "between" as well as "within" country effects. The "between" country effect implies that "between" democratic countries, increase in average chief executive duration (in Office) of a country by 1 year decreases GDP per capita growth rate by 0.09%. While the "within" country effect implies that "between" than average leads to a reduction in GDP per capita growth rate by 0.04%. A comparison of the between effects for Chief Executive duration and Party duration shows that Chief Executive duration has a larger between country effect on Economic Growth.

## **Implications for Financial Markets**

The policy environment decides whether the economic policies will be left-oriented (preferring government intervention in markets) or right-oriented (taking a laissez-faire approach to markets) which in turn impacts the productive economic decisions made in the economy. A change in policy environment brings in new legislative risks for the businesses and hence negatively impacts the financial markets. As we see from our results, a change in policy environment within a democratic country reduces economic growth by 0.5% and similar effects might be observed in the financial markets as well. Whereas for significant changes in policy environment, we see a large "between" country effect which implies countries with more years of significant changes has less growth and this affects the investment decisions of companies planning to invest in other countries (or it could be a consideration to prevent exposure to legislative risks). Businesses with widespread supply chains are also impacted by policy changes in other countries. We also that years with no change in policy environment have better growth which might point to the economy and financial market adjusting to the new policy environment. In case of chief executive/governing party's duration in Office, a change would bring a variety of new opportunities to businesses as well as prevent the government from being dictated by interest groups.

#### Conclusion

The ultimate aim of this paper has been to study whether the responsiveness of democratic institutions has an indirect effect on the economy. We do this by looking at whether changes in the policy environment (a byproduct of the changing political landscape) affect economic growth by having an impact on productive economic decisions in the economy. We also study whether the chief executive/governing party staying in Office for a longer duration stimulates or impedes economic growth in democratic institutions.

From our analysis, we can conclude that changes in the policy environment do affect economic growth. By using the REWB regression model on the panel data of 101 democratic countries for the24-year period (1997 - 2020), we decomposed the within and between country effects of our variables of interest and found that changes in policy environment have a significant negative effect on Economic growth within a country while significant changes in policy environment have a significant and negative between country effect. As for the length of chief executive/ governing party's duration in Office and its relation with Growth, we find that governing party remaining in Office for a longer duration has a significant and negative between country effect on has a significant and negative for a longer duration has a significant and negative between country effect while chief executive remaining in Office for a longer duration has a significant and negative effect within as well as between countries.

This points to the conclusion that the policy environment needs to be stable to promote economic growth and that the same government need not stay in Office continuously to achieve the same. The same government staying in Office proves to impede economic growth. Government changes reflect a pattern of system adjustability and government accountability in favor of economic purpose and is thus likely to produce higher growth (Feng, 1997). It also prevents the government from falling prey to interest groups and deviating from its objective of maximizing social welfare (Olson, 1984).

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The research questions dealt within this paper could be expanded further to study how economic growth might affect the policy environment (reverse causation) in democracies as a result of the endogenous relationship that exists between the economy and political institutions. Studies could also be done on Political Business Cycles (Nordhaus, 1975) and their relation with the term of office set by different democratic institutions, chief executive/ party duration in Office, age of democracy, regular/irregular changes, etc. Such studies could ultimately help us in getting a deeper understanding of the workings of democratic institutions and their interaction with the economy.

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# Appendix

Figure 1:- Box plot showing GDP per capita growth rate vs Years with change in policy environment



**Figure 2:-** Box plot showing GDP per capita growth rate vs Years with significant change in policy environment



**Table 1**: Sample means of the variables with the sample countries subdivided according to

 Income Groups

|  | All              | Low Income       | Lower Middle<br>Income | Upper Middle<br>Income | High Income     |
|--|------------------|------------------|------------------------|------------------------|-----------------|
| GDP per capita growth                    | 2.15             | 2.21             | 2.61                   | 2.36                   | 1.67<br>(1.12)  |
| Change in Policy Environment             | 0.083            | 0.037<br>(0.042) | 0.074<br>(0.057)       | 0.084<br>(0.065)       | 0.114 (0.067)   |
| Significant Change in Policy Environment | 0.037<br>(0.053) | 0.007<br>(0.028) | 0.019<br>(0.042)       | 0.028<br>(0.045)       | 0.07<br>(0.057) |
| Party duration                           | 10.16<br>(11.49) | 12.63<br>(10.01) | 8.84<br>(8.02)         | 11.21<br>(11.54)       | 8.94<br>(13.66) |
| Chief Executive duration                 | 5.73<br>(4.43)   | 8.72<br>(5.96)   | 6.07<br>(4.76)         | 5.27<br>(4.25)         | 4.1<br>(1.42)   |
| Note: Standard deviation in parenthesis  |                  | 1 2020           |                        |                        |                 |

Sources: The World Bank; Variables created using DPI 2020

 Table 2: Average GDP per capita growth rate corresponding to the status of policy environment

|                              | A II     | Low Income | Lower Middle | Upper Middle |              |
|------------------------------|----------|------------|--------------|--------------|--------------|
|                              | All      |            | Income       | Income       | півні псотте |
| No Chango                    | <b>~</b> | 2 20       | 2.04         | 2.40         | 1 47         |
|                              | 2.2      | 2.29       | 2.94         | 2.49         | 1.47         |
| Standard Deviation           | (4.21)   | (4.50)     | (4.55)       | (4.62)       | (3.31)       |
| No of Observations           | 2221     | 461        | 501          | 506          | 753          |
| Change in Policy Environment | 1.51     | 2.38       | 2.03         | 2.09         | 0.82         |
| Standard Deviation           | (4.28)   | (2.55)     | (5.65)       | (4.85)       | (3.35)       |
| No of Observations           | 203      | 18         | 46           | 44           | 95           |
| Significant Change in Policy |          |            |              |              |              |
| Environment                  | 1.35     | 3.73       | 3.22         | 2.97         | 0.3          |
| Standard Deviation           | (3.87)   | (2.61)     | (5.52)       | (4.64)       | (3.00)       |
| No of Observations           | 90       | 5          | 9            | 19           | 57           |
|                              |          |            |              |              |              |

Sources: The World Bank; Variables created using DPI 2020

**Table 3**: Regression results using REWB Model with GDP per capita growth as the dependent variable

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|   | Model 1  | Model 2  | Model 3  |  |  |  |  |
|---|----------|----------|----------|--|--|--|--|
| Change in Policy Environment (between)                          | -5.062   | -        | -3.986   |  |  |  |  |
|   | (-2.97)  |          | (-2.79)  |  |  |  |  |
| Change in Policy Environment (within)                           | -0.541** | -        | -0.573** |  |  |  |  |
|   | (-0.27)  |          | (-0.27)  |  |  |  |  |
| Significant Change in Policy Environment (between)              | -        | -6.374** | -        |  |  |  |  |
|   |          | (-3.19)  |          |  |  |  |  |
| Significant Change in Policy Environment (within)               | -        | -0.024   | -        |  |  |  |  |
|   |          | (-0.4)   |          |  |  |  |  |
| Party duration (between)  | -0.037** | -0.033** | -        |  |  |  |  |
|   | (-0.01)  | (-0.01)  |          |  |  |  |  |
| Party duration (within)   | -0.018   | -0.013   | -        |  |  |  |  |
|   | (-0.01)  | (-0.01)  |          |  |  |  |  |
| Chief Executive duration (between)                              | -        | -        | -0.094** |  |  |  |  |
|   |          |          | (-0.04)  |  |  |  |  |
| Chief Executive duration (within)                               | -        | -        | -0.040** |  |  |  |  |
|   |          |          | (-0.02)  |  |  |  |  |
|   |          |          | ()       |  |  |  |  |
| CHECKS (between)  | -0.124   | -0.171   | -0.126   |  |  |  |  |
|   | (-0.16)  | (-0.15)  | (-0.15)  |  |  |  |  |
| CHECKS (within)   | 0.053    | 0.049    | 0.054    |  |  |  |  |
|   | (-0.07)  | (-0.07)  | (-0.07)  |  |  |  |  |
| EDUCATION (between)   | 3.152**  | 2.621    | 3.441**  |  |  |  |  |
|   | (-1.48)  | (-1.46)  | (-1.43)  |  |  |  |  |
| EDUCATION (within)  | 2.953    | 2.948    | 2.979    |  |  |  |  |
|   | (-3.62)  | (-3.62)  | (-3.62)  |  |  |  |  |
| DEMOCRACY (between)   | -2.328   | -2.429   | -2.735** |  |  |  |  |
|   | (-1.31)  | (-1.28)  | (-1.33)  |  |  |  |  |
| DEMOCRACY (within)  | -1.337   | -1.429   | -1.529   |  |  |  |  |
|   | (-1.41)  | (-1.41)  | (-1.42)  |  |  |  |  |
| STAB (between)  | 0.299    | 0.268    | 0.193    |  |  |  |  |
|   | (-0.33)  | (-0.33)  | (-0.32)  |  |  |  |  |
| STAB (within)   | 0.590**  | 0.591**  | 0.601**  |  |  |  |  |
| 2 · · · 2 (·······)   | (-0.25)  | (-0.25)  | (-0.25)  |  |  |  |  |
| GOVEEE (between)  | 0.764    | 0.793    | 0.607    |  |  |  |  |
|   | (-0.68)  | (-0.68)  | (-0.66)  |  |  |  |  |
| GOVEEE (within)   | -0.77    | -0.755   | -0.745   |  |  |  |  |
|   | (-0.46)  | (-0.46)  | (-0.46)  |  |  |  |  |
| CORR (between)  | -0.982   | -0.826   | -0.886   |  |  |  |  |
|   | (-0.6)   | (-0.59)  | (-0.58)  |  |  |  |  |
| CORR (within)   | 1 668*** | 1 677*** | 1 671*** |  |  |  |  |
|   | (-0.48)  | (-0.48)  | (-0.48)  |  |  |  |  |
|   | ( 0.40)  | ( 0.40)  | (0.40)   |  |  |  |  |
| Year Dummies  | Applied  | Applied  | Applied  |  |  |  |  |
| Note: Standard errors are in parenthesis, *** p<0.01, ** p<0.05 |          |          |          |  |  |  |  |