Democratization and Growth: An Examination across the World Regions

Andreas Assiotis

Department of Economics, University of Cyprus, PO Box 20537, 1678 Nicosia, Cyprus

*Corresponding author: Dr. Andreas Assiotis, Department of Economics, University of Cyprus, PO Box 20537, 1678 Nicosia, Cyprus Tel: +374 10 23-72-61; E-mail: assiotis.andreas@ucy.ac.cy

Received date: December 09, 2014, Accepted date: December 20, 2014, Published date: December 30, 2014

Copyright: © 2014 Assiotis A. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Are political reforms growth enhancing? Do the effects of democratization upon growth differ over time? Moreover, could such effects differ across the world regions? By employing panel data techniques we do not find that democratizations create high transitional costs, although no strong evidence of immediate positive effects upon growth arise either. Stronger evidence points to positive effects on long-run growth. Interestingly, we find that long run growth arises more in Sub-Saharan African than in other regions. However, for the Sub-Saharan African region, the distinction between full and partial democratization events produces different growth outcomes over time.

JEL Classification: O40, O50, O55

Keywords: Democratization; Democracy; Economic Growth; Africa

Introduction

The role of political institutions, namely a democratic versus an authoritarian regime, in the process of economic development has been much discussed. Much of the past literature that has compared democratic versus authoritarian regimes and their impact on growth failed to reach consensus. Early studies often using cross sectional data do not find any significant impact of democratization on growth. More recent studies, on the other hand, such as Rodrik and Wacziarg [1], and Papaioannou and Siourounis [2] using more sophisticated econometric techniques have often shown a positive association between democratization and growth. However, very few studies consider whether the effects of democratization upon growth vary over time. Over time means not whether democratizations during the 1980’s had different effects on growth than during the 1990’s, for example. Instead, how do the effects of democratization upon growth differ between one year and ten years, for example, after democratization occurs?

A review of the existing literature reveals little information concerning the above questions and consequently this work paves the way to better understand the short and long-term effects of democratization upon growth. Perhaps the shock of political change first lowers economic growth but then democratization raises growth as the new political freedoms stabilize. Or, perhaps long run effects are also negative as rent seeking becomes more prevalent [3]. If it is the former, then how many years must transpire before positive effects arise? If short run and long run effects of democratization differ then to what extent do they differ?

This paper focuses upon the years immediately following a democratization event. We construct dummies that respectively equal one for a specific year after a democratization event and zero otherwise and include them simultaneously in a panel specification with economic growth as the dependent variable. As the coefficients upon these dummy variables change, then the predicted association between democratization and economic growth evolves over time. Moreover, we will also allow these coefficients to differ across world regions so that short run effects of democratization could also differ across these regions and not merely just over time.

This is not the first study that examines whether the effects of democratization upon economic growth differ over time. Papaioannou and Siourounis [2] consider similar issues but lump several years together. They create dummy variables denoting different periods both before and after democratizations, and examine how their coefficients vary in a growth regression. More specifically, they divide the six years following democratization into 2 three-year windows. They create two dummy variables; one for the first, second and third post reform years and one for the fourth, fifth and sixth post reform years. To capture the long run effects of democratization upon growth, they also add a third dummy variable that equals one for all years following the seventh year post democratization. Certainly, the results by PS shed more light on understanding how democratization affects economic growth. However, from our point of view there are still questions that remain unanswered. The growth rates of democratizing countries for the years following democratization could greatly differ within these three year windows. As a result, if transitional costs are nontrivial but short-lived lasting less than three years, the use of three-year windows might fail to capture these transitional costs. Hence, we will consider annual windows following a democratization episode so as to examine higher frequency effects from democratization to growth. The second extension will be to allow coefficients to differ

---

1 I am grateful to Kevin Sylwester for his valuable criticism and suggestions. I would also like to thank Elias Papaioannou for much helpful feedback. All errors are mine.
2 See Levine and Renelt [5], and Przeworski and Limongi [4] for more complete surveys.
across world regions since, as stated, these dynamics could differ depending upon the culture and histories of these countries.

Figure 1 provides evidence of significant variation in growth rates for the three years following democratization for a sample of countries considered in our study. For instance, when Argentina democratized in 1983 the growth rate for the 2 years following democratization declined and even turned negative. Conversely, on the third year the growth rate for Argentina became positive. Similarly, consider the case of Malawi. On the first year after democratization there was a significant increase in the growth rate. However, on the second year the growth rate declined by a sizeable amount. See also Figure 1 for the cases of Brazil and Comoros. The great variation in their growth experiences following democratization is readily apparent.

This report contributes to the literature in several aspects. First, we show that political transitions towards a democracy do not produce high transitional costs. Second, while Papaioannou and Siourounis [2] show that democratization raises growth in the long-run, we show that their results are mainly driven by the Sub-Saharan African countries. This conforms to the findings of Rodrik and Wacziarg [1]. Building upon this finding, we examine if the partial democratizations affect growth differently than full democratizations. Interestingly, for the Sub-Saharan Africa case, we show that partial transitions towards democracy are only growth enhancing in the short-run. Instead, for growth to be sustained, democracies need to solidify and consolidate the democratic process.

The rest of the paper is organized as follows: Section 2 presents an overview of past studies on democracy and economic growth. Section 3 provides a description of the data we are using in our empirical specification. Section 4 describes the empirical methodology. The results are discussed in Section 5. Finally, Section 6 concludes the paper and provides suggestions for future research.

Literature Review

The question of whether the type of political regime influences economic growth has come to the fore during the "third wave of democratization"4, a period where around 60 countries experienced some form of democratic transition. Although several authors contend that democracy might foster growth, few others believe that the association between the two is negative. Przeworski and Limongi [4] and Levine and Renelt [5] find a small and statistically insignificant effect of democratization on growth. Barro [6] asserts a non-linear relationship between the two. At low levels of democracy the effects on growth are positive, while at higher levels of democracy the association among the two becomes negative.

On the other hand, others are in the view that democracies are associated with faster growth5. Recent studies such as Papaioannou and Siourounis [2], Giavazzi and Tabellini [7], Rodrik and Wacziarg [1], and Persson [7] use panel datasets with annual data and a cross section of countries. They consistently show that democratization does, indeed, foster growth. These studies also sometimes consider whether the effects of democratization upon growth differ across countries. For instance, Giavazzi and Tabellini [8] consider how the effects of political reforms could differ on growth depending upon whether they proceed or follow economic reforms, while Rodrik and Wacziarg [1] show that democratization in sub-Saharan Africa is associated with faster growth compared to other regions. Similarly, based on the democracy index they constructed, Papaioannou and Siourounis [2] provide new empirical evidence that the benefits of democratization upon growth appear in the long run. Finally, Cervellati and Sunde [9] show that peaceful democratizations provide greater growth benefits compared to violent transitions towards democracy.

Description of the Data and Descriptive Statistics

The empirical analysis utilizes annual panel data from 174 countries during the period 1960 to 2003, the same period as in Papaioannou and Siourounis [2] so as to make immediate comparisons. Table 1 lists all the countries and identifies which ones went through partial and full democratizations according to the classification of PS. Values of annual real GDP per capita growth [GROWTH], and the natural log of real GDP per capita [GDP] were taken from World Bank's World Development Indicators. We also follow the classification from World Bank in order to construct regional dummies. These are East Asia and Pacific (EAP), Europe and Central Asia (ECA), Latin America and Caribbean (LAC), Middle East and North Africa (MENA), South Asia (SE), Sub-Saharan Africa (SSA), and Western Europe (WE). Our indicator for legal system origin is obtained from La Porta et al. [9]. Appendix 1 describes the key variables in our study and also provides the sources of these variables. A summary of descriptive statistics for the key variables is presented in Table 2.

In order to control for democratic transitions we employ the dataset constructed by Papaioannou and Siourounis [2]. While they do not

---

4 A wave of democratization is a group of transitions from authoritarian to democratic regimes that occur within a specified period of time. Huntington (1991) states that democracy expands in waves. 1st wave: 1810-1922, 2nd wave: 1944-1957 and 3rd wave: 1974 – onwards. In 1970, there were only 30 democracies, while in 2002 the number of countries who are democratic is 80.

5 See, among others, Sen [28], Persson [7], and Persson and Tabellini [27].
provide a specific definition of democracy, they list four criteria that a democracy must have: free, competitive, and fair elections; and political stability.

### Sample of Countries

<table>
<thead>
<tr>
<th>Panel A</th>
<th>Panel B</th>
<th>Panel C</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Full Democratizations&quot;</td>
<td>&quot;Partial Democratizations&quot;</td>
<td>Borderline Democratizations</td>
</tr>
<tr>
<td>(24) Mexico (1997)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 1: Sample of Countries.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Observations</th>
<th>Mean</th>
<th>St. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROWTH of Real GDP per capita</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP</td>
<td>5840</td>
<td>7.38</td>
<td>1.55</td>
</tr>
<tr>
<td>DEM</td>
<td>6309</td>
<td>0.13</td>
<td>0.33</td>
</tr>
<tr>
<td>INVEST</td>
<td>5541</td>
<td>22.19</td>
<td>8.91</td>
</tr>
<tr>
<td>GOV</td>
<td>5564</td>
<td>15.82</td>
<td>7.14</td>
</tr>
<tr>
<td>TRADE</td>
<td>5580</td>
<td>69.08</td>
<td>39.79</td>
</tr>
</tbody>
</table>

### Table 2: Summary Statistics (1960-2003).

Their construction basically relies on two other indices of democracy, namely the Freedom House [FH] and Polity IV [POLITY] measures, and various historical resources. The variable obtained from their dataset is denoted as [DEM]. That is a dummy variable that takes the value of one in the year of a permanent democratization episode and in the subsequent years. PS further denote “partial” and “full” democratization episodes. Like PS, DEM

---

6 This variable ranges from 1–7 where higher numbers indicate less political freedom. Freedom House divides countries into not free (5.5 to 7), partly free (3.0 to 5.0) and free (1.0 to 2.5).

7 This variable ranges from -10 to +10 where lower numbers imply lower levels of democracy. See Marshall and Jaeggers [25] for additional information on this measure.

8 A full democratization is recorded when Freedom House designates the country as fully free and when the country receives a POLITY IV score above 7.
equals one for either event occurring although we will later allow for differences between the two\(^9\).

In addition, democratization is recorded as long as a country did not slip back into autocracy. Therefore, a disadvantage of this classification is that it fails to capture any temporary events of democratization. On the other hand, we believe that this variable has advantages over other indices of democracy that have been used in the past. First, unlike the FH and POLITY variables which receive values between 1 to 7 and -10 to +10 respectively, the DEM variable enables us to better interpret the coefficient of democracy since a country is either considered democratic or not. Besides, since Papaioannou and Siourounis utilize both the FH and POLITY variables in order to construct theirs, the new variable could better address special cases where democratization events were unclear.

Finally, to capture the short and long-run effects of democratization on growth, we construct 10 dummy variables based on the variable \([DEM]: DEM_{it} = 1\) if country \(i\) became democratic at time \(t\) and zero otherwise. \(DEM_{t+1}\) if country \(i\) became democratic at time \(t-1\) and zero otherwise. \(DEM_{t+2t}\) if country \(i\) became democratic at time \(t-2\) and zero otherwise. \(DEM_{t+3t}, DEM_{t+4t}, DEM_{t+5t}\) and \(DEM_{t+6t}\) are given similarly. \(DEM_{t+7t}\) if country \(i\) in period \(t\) if country \(i\) became democratic at time \(t-7\) or earlier. We take to account for long-run effects of democratization upon economic growth. Also, similar to PS we construct leads to the state of the economy before democratization: \(DEM_{t-1}\) is 1 in country \(i\) for period \(t\) if \(i\) became democratic at time \(t-2\). \(DEM_{t-2}\) is given similarly. Failure to control for growth prior to democratization could bias the coefficients on \(DEM_0\) or \(DEM_1\) to the extent that these changes persist over time. Therefore, it becomes crucial to add these variables in our specification to capture any anticipation effects and/or highly volatile precursors to democratization that could bias the results. Of course, significant coefficients on \(DEM_{t+2t}\) and \(DEM_{t+1t}\) would indicate that growth (or the lack thereof) could be causing political change.

In the regressions, we also add other explanatory variables that have often been considered in growth regressions [10]. These variables are the investment share of GDP \([INVEST]\), the share of government expenditures in GDP \([GOV]\), and the trade share of GDP \([TRADE]\). These values were also taken from World Bank’s World Development Indicators and are the same control variables PS use.

**Those Responsible for Prevention**

The greatest responsible agent for health prevention in Brazil is currently the government, through its designated agency, the Ministry of Health. The implementation of the campaign items for these programs is done as follows: the government hires an advertising agency and they (the government) play the role of the client, creating a detailed briefing about what they want and how the campaign should be. The implementation is borne by the agency that responds only to the ideas of the representative of the government in question. There are also design studios that, by the force of demand or "tradition", specialize in the subject and depend on competition for funds allocated annually to health prevention in governments and local municipalities. In this case, creation is made and evaluated according to the studio owner, but always through the "sieve" of who provided the financial subsidy.

Finally, there are also agencies that have greater "freedom" of creation, the NGOs, which, in turn, also depend on funding, and work on demand. In the NGOs, the work is often done through a briefing, however the greatest difference is that in this case who usually discusses the contents is not the client (funder), but those responsible for the administration of the NGO, who might be militant and/or seropositive.

In general, preventive propaganda does not respond to the expectations/demands and needs of a directly "concerned" client, but to a funder instrument, and that apparently has been greatly limiting the messages contained in the preventive campaign items.

This arises as a double issue, primarily because many of the preventive actions take into account a derivation of a consolidated medical knowledge translated into short information at times provided by people who do not necessarily have some sort of familiarity with the matter of health prevention.

The second problem originates from the labor relations of the designer in any project situation, which is the negotiation of the formats and contents of a campaign item aimed at better solving design problems. Such negotiation typically occurs directly with the client and not with an "intermediate" agent.

Therefore, the planning of prevention campaigns presents even more restrictions than the clichés in the creative routine of designers, who usually work from the feedback of their clients, filling the gaps and needs that appear in each project. However, in the case of health prevention, such feedback can only be measured through surveys and epidemiological data related to the status before and after the implementation of the campaigns.

Then why not take advantage of the design professionals, who, thanks to their formation, are constantly placed before the search for the solution of problems and the filling of gaps, to think about new systems and models for health prevention and management? The paradigm of damage reduction can serve as an interesting reference in this regard, as it stresses the importance of information, built in interaction with the so-called risk populations and developed through multidisciplinary teams – which points to a possible more active role for the designer within this paradigm.

**Methodology**

Past studies on democracy and growth has mostly focused on standard cross-sectional growth regressions with historical characteristics on the right hand side. In this paper, we are examining the within-country effects of democratization upon growth, and we therefore use panel techniques with yearly data. Following Papaioannou and Siourounis [2] we estimate a difference-in-difference\(^{10}\) specification in which reforming countries are the "treated" group, whereas countries that did not go through any reform

---

\(^9\) Additionally, PS classified countries that experienced reverse transitions (from a democracy back to an autocracy) and borderline democratizations with trivial improvements in the level of political freedom. We remove these countries from our specification to better estimate the relevant coefficients. The results are very similar once we include them in our sample.

\(^{10}\) Giavazzi and Tabellini [7] and Rodrik and Wacziarg [1] also use similar econometric techniques to identify the effects of political reforms on economic performance outcomes.
are the “control” group. Also, we use country and time fixed effects to control the unobserved time-invariant country characteristics and global trends, respectively.

Consider the following specification:

\[ Y_{it} = \alpha_i + \beta_t + \gamma X_{it} + \sum_{j=-2}^{0} \delta_j (DEM_{j})_{it} + \epsilon_{it} \]  (1)

Equation (1) presents our main specification where \(i,t\) denote country and time respectively, \(Y\) is the growth rate of real GDP per capita adjusted for PPP, \(\alpha_i\) and \(\beta_t\) indicate country and year fixed effects. \(X'it\) will initially be empty but later include time-varying covariates such as government expenditure, investment, trade and income. \(DEM\) is our measure of democratization. Finally, \(\epsilon\) denotes the error term where \(E(\epsilon_{it}) = 0\) for all \(i\) and \(t\). To allow for arbitrary correlation over time we calculate standard errors as in Arellano (1987)\(^{11}\), \(^{12}\).

A concern for using a difference-in-difference model is whether there are any unobserved variables that could affect growth differently between the control and treated groups. To the extent that such variables are time-invariant they will be captured by the fixed effects. With respect to time-varying factors we control for standard fixed effects. \(X'it\) will initially be empty but later include time-varying covariates such as natural log of real GDP per capita, investment, trade and government.

Endogeneity concerns

Another issue that might be of concern is whether democratization is driven by growth. Like Papaioannou and Siourounis [2], Giavazzi and Tabellini [7] and Rodrik and Wacziarg [1], we treat democratization as exogenous so our analysis is analogous to theirs. A supporting justification comes from Acemoglu et al. [11] who find that income does not cause democratization once they include fixed effects in their specification. Of course, others suggest that growth promotes democracy\(^{13}\). Obviously, we cannot rule out the aforementioned scenario, however, we are less concerned regarding this issue.

One additional concern is the possibility for bias generated by including a lagged dependent variable on the right hand side. However, Judson and Owen [12] after performing Monte Carlo simulations show that such bias is less than 3% when \(T \geq 20\). We, therefore, estimate regressions including only cross-sections with more than 20 years of observations.

Full versus partial democratizations

Do partial democratizations affect growth differently than full democratizations? Does the marginal benefit of democratization come early or late, from the initial stages or in the long run? In order to further examine this issue, we follow the classification by PS and create \(DEM_P\) (partial or moderate) and \(DEM_F\) (full). The subscripts remain the same and so we consider the same timing issues as before. We then repeat the specifications stemming from Equation 1 but replace \(DEM\) with \(DEM_F\) and \(DEM_P\) for all leads and lags. Results on this analysis are presented in section 5.

Regional differences

This section explores the possibility that the short and long-run effects of democratization upon growth differ across regions such as Sub-Saharan Africa, Asia and Latin America. Sylvester [13] argues that democratization is associated with faster growth in newer countries. Since many African countries are relatively new, then perhaps political reforms could provide faster growth benefits for these countries. Englebert [14] argues that weak institutions prohibit many African leaders from enacting progrowth policies. If democratic leaders enjoy a stronger political foundation, then democratization could have bigger effects upon growth than in other regions. Of course, one might also argue that transitional costs are higher as democratization might results in greater chaos where political institutions are weak. See Kaplan [15] and Zakaria [16]. If so, then the dynamics as to how democratization affects growth also differs across countries. To allow for such differences we consider the following specification:

\[ Y_{it} = \alpha_i + \beta_t + \gamma X_{it} + \sum_{j=-2}^{0} \delta_j (DEM_{j})_{it} + \theta M_{it} + \sum_{k=1}^{7} \delta_k (DEM_{k})_{it} + \epsilon_{it} \]  (2)

Equation (2) is identical to (1) but also includes the interactive term(s) between democratization and the regional dummies denoted by \(Z\). Following the classification by World Bank the regions are: East Asia and Pacific (EAP), Europe and Central Asia (ECA), Latin America and Caribbean (LAC), Middle East and North Africa (MENA), South Asia (SE), Sub-Saharan Africa (SSA), and Western Europe (WE).

Econometric Results

Before turning to our analysis, we replicate the results from PS in Table 3. Their specification is identical to our baseline model in equation (1) except for the timing dummies. They consider the following dummy variables. \(D1\) applies to the fifth, fourth, and third pre-democratization years. \(D2\) applies to the second and first pre-democratization years as well as the year of democratization (as labeled by PS). \(D3\) applies to the first, second and third post reform years. \(D4\) applies to the fourth, fifth and sixth post reform years. Finally, \(D5\) applies to the seventh and all subsequent post reform years. These dummies equal one when a democratization occurred in the relevant period and equal zero otherwise. Each variable is set to zero in all other cases. Unlike PS, our dependent variable \(GROWTH\) is adjusted for purchasing power parity.

<table>
<thead>
<tr>
<th>Estimation Method</th>
<th>Fixed Effect</th>
<th>Fixed Effect</th>
<th>Fixed Effect</th>
<th>Fixed Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>0.41</td>
<td>0.30</td>
<td>0.35</td>
<td>0.77</td>
</tr>
<tr>
<td></td>
<td>(0.60)</td>
<td>(0.54)</td>
<td>(0.56)</td>
<td>(0.55)</td>
</tr>
<tr>
<td>D2</td>
<td>-1.79</td>
<td>0.32</td>
<td>0.37</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td>(0.78)</td>
<td>(0.61)</td>
<td>(0.66)</td>
<td>(0.69)</td>
</tr>
<tr>
<td>D3</td>
<td>1.14</td>
<td>1.10</td>
<td>1.16</td>
<td>1.51</td>
</tr>
<tr>
<td></td>
<td>(0.61)*</td>
<td>(0.55)**</td>
<td>(0.65)*</td>
<td>(0.62)*</td>
</tr>
</tbody>
</table>

\(^{11}\) For further details see Bertrand et al. [20].

\(^{12}\) Following Papaioannou and Siourounis [2] we compute clustered standard errors to allow for the possibility of spatial correlation across sections. To save space, results have not been reported but are available upon request.

\(^{13}\) See Lipset [24] and Barro [10].
statistically significant, implying that the benefits of democratization
D4 we also find similar results as in PS. In all specifications these
estimates on D5 They consistently show that D5 is positive and
Regressions (annual), 1960 – 2003. Dependent variable is the growth
This conforms with the findings of PS where they suggest that some
methodology will better explore this issue.

Table 3: Papaioannou and Siourounis [2] Regressions. Panel Data
democratizations. Columns 2-4 include lagged growth, and two-
rate of real GDP per capita (not adjusted for PPP). White period
specification of column 1 but excludes all the former socialist countries
and countries with less than 20 obs. Column 4, includes two-
government, and the log of real GDP per capita.

The coefficient estimates for D2 is only negative and significant
when the specification includes only the democratization variables.
This conforms with the findings of PS where they suggest that some
transitional costs took place after reforms. For the parameters D3 and
D4 we also find similar results as in PS. In all specifications these
coefficients are positive but not always significant. The main difference
between our results and the ones produced by PS is the coefficient
estimates on D5 They consistently show that D5 is positive and
statistically significant, implying that the benefits of democratization
upon growth come in the long run. However, our results are not
always consistent with this finding. We suspect that this is because of
the different growth rate we are employing. We hope that our
methodology will better explore this issue.

Table 4: Panel Data Regressions (annual), 1960 – 2003. Dependent
variable is the growth rate of real GDP per capita (PPP). White period
standard errors in parentheses. * significant at 10%, ** significant at
5%, *** significant at 1%. Note: All Columns exclude borderline
democratizations. Columns 2-4 exclude all the Formerly socialist
countries and countries with less than 20 obs. Column 4, includes two-
year lagged government, investment and trade.

Table 4 presents the results from our baseline specification. As
described earlier, we regress economic growth on our democratization
measure, utilizing cross-sectional annual data from 1960 to 2003.
Column 1 considers the first specification when the only regressors are
the democratization dummy variables. Column 2 repeats the
specification of column 1 but excludes all the former socialist countries
due to their very special conditions of democratization. Columns 3
and 4 allow for other regressors such as investment, trade,
government, and the log of real GDP per capita.

We first examine the coefficients DEM-2 and DEM-1 which allow
growth to differ before democratization occurs. In column 1 of Table
4, the coefficient on DEM-2 is negative and statistically significant.
This implies that economic growth was relatively low 2 years before a
transition. This finding raises concerns as to whether a
democratization event is exogenous or is driven by an economic
downturn. The good news is that the coefficient estimates for DEM-1
and DEM0 are statistically insignificant. However, in columns 2-4
when we exclude all the former socialist countries and add other
control variables into the regressions, the negative sign on these
parameters disappears. Perhaps the formerly socialist countries
experienced greater transitional costs when democratized. Regardless,
though, we find no strong evidence that growth was lower (or higher)
before democratizations occurred.

In column 1 of Table 4, we find a positive and significant coefficient
on DEM1 and DEM3. However, only the coefficient estimates for
remain significant in all the following specifications. Although
Papaioannou and Siourounis [2] suggest short-run growth benefits of
democratization, our approach provides a more insightful
understanding of such effects. More specifically, we provide some evidence that on average growth benefits come very soon. Column 4 shows similar results when we allow the “control” group to change by excluding all the countries that were always democratic throughout our sample period.

Despite the encouraging results, one should be careful interpreting these coefficients. Consider the estimates from column 1. The coefficient on DEM0 is -0.69. The growth rate for the countries that democratized drops by 0.69 in the year of the transition. In contrast, the coefficient on DEM1 suggest an increase in growth of 1.14 percentage points. However, some of this probably stems from a "recovery" from the negative effects of the prior year.

For our annual windows, the largest coefficients are those of DEM4 suggesting that growth reaches its highest point a few years after democratization occurs. The coefficient upon the long-run dummy DEM7 is also large and positive. As in PS, we find strong long-run effects from democratization.

Table 5: Panel Data Regressions (annual), 1960 – 2003. Dependent variable is the growth rate of real GDP per capita (PPP) White period standard errors in parentheses. * significant at 10%, ** significant at 5%, *** significant at 1%. Note: All Columns exclude borderliner democratizations. Columns 2-4 exclude all the formerly socialist countries. Columns 3-4 include lagged growth, two-year lagged income, two-year lagged government, investment, trade and exclude countries with less than 20 obs. Column 4 excludes all the countries that were democratic throughout the sample period. To save space, we only report part of the coefficient estimates.

We now examine whether the benefits of democratization come from "partial" or "full" progress towards democracy. To account for this distinction we repeat our baseline specification but replace the democratization variables DEM_2,7 with the variables DEM_F_2,7 and DEM_P_2,7, denoting full and partial democratizations specifically. Table 5 presents these results. To save space, we only report part of the coefficient estimates. In the first column of Table 5, we only include the democratization variables. The results show that the effects of democratization differ depending upon the type of the transition. Although the coefficient estimates for DEM_F_1 and DEM_P_1 are negative, they are statistically insignificant. The coefficient estimates for DEM_F_3 and DEM_P_3 are positive and significant at 10% and 5%, respectively. In columns 1 through 4 of Table 5, the parameter on DEM_F_1 is large, positive and statistically significant. In column 1, when no other controls are included, the coefficients on DEM_P_7 and DEM_F_7 are also positive and significant suggesting that both partial and full democratizations enhance growth in the long-run. Column 2 repeats the specification in column 1 but excludes the former socialist countries due to their very special conditions of democratization. Interestingly, the coefficient on DEM_P_7 drops in magnitude and becomes marginally significant (at the 10% level). In columns 3 and 4 the coefficient DEM_F_7 is positive and highly significant. In column 1, when no other controls are included, the coefficients on DEM_P_7 and DEM_F_7 are also positive and significant suggesting that both partial and full democratizations enhance growth in the long-run. Column 2 repeats the specification in column 1 but excludes the former socialist countries due to their very special conditions of democratization. Interestingly, the coefficient on DEM_P_7 drops in magnitude and becomes marginally significant (at the 10% level). In columns 3 and 4 the coefficient DEM_F_7 is positive and highly significant. In column 1, when no other controls are included, the coefficients on DEM_P_7 and DEM_F_7 are also positive and significant suggesting that both partial and full democratizations enhance growth in the long-run. Column 2 repeats the specification in column 1 but excludes the former socialist countries due to their very special conditions of democratization. Interestingly, the coefficient on DEM_P_7 drops in magnitude and becomes marginally significant (at the 10% level). In columns 3 and 4 the coefficient DEM_F_7 is positive and highly significant. In column 1, when no other controls are included, the coefficients on DEM_P_7 and DEM_F_7 are also positive and significant suggesting that both partial and full democratizations enhance growth in the long-run. Column 2 repeats the specification in column 1 but excludes the former socialist countries due to their very special conditions of democratization. Interestingly, the coefficient on DEM_P_7 drops in magnitude and becomes marginally significant (at the 10% level).
Table 6: Panel Data Regressions (annual), 1960 – 2003. Dependent variable is the growth rate of real GDP per capita (PPP). White period standard errors in parentheses. Significant at 10%, ** significant at 5%, *** significant at 1%. Note: All Columns exclude borderline democratizations. Columns 2-4 include lagged growth, two-year lagged income, two-year lagged government, investment and trade. Columns 2-4 also exclude all the Formerly Socialist countries and the interactive term DEM_7*SSA. It is consistently positive and statistically significant. Past researchers argue that the effects of democratization upon growth are greater in Sub-Saharan African countries than in other regions [17] and Sylvester [13]. Our results can directly speak to these findings. Not only do we confirm that democratization in Africa is associated with faster growth, but we also show that the benefits of democratization in Africa will come in the long-run. Also, Papaioannou and Siourounis [2] suggest that democratization is growth enhancing in the long-run. Our analysis shows that this finding is mainly driven by the Sub-Saharan African countries. One explanation for this could be that the effects of democracy on economic growth are stronger for ethnically heterogeneous countries [18-25].

In column 4 of Table 6, we run equation (1) but focus on Sub-Saharan African countries. Our previous results become even stronger since the coefficient estimate for DEM7 is also positive and very highly significant (at the 1%). The coefficient on DEM1 is also positive and large in magnitude. Possibly, these findings stem from the fact that economic institutions in these countries were relatively weaker prior to democratization; thus, the absence of political structures served as an immediate basis for the democratization effects to take place.

As a robustness check, we estimate equation (2) but we replace the set of dummies DEM_2,7 with the dummies DEM_F_2,7 and DEM_P_2,7. Moreover, we interact DEM_F_2,7 and DEM_P_2,7 with regional dummies (SSA, LAC, EAP, WE). Again, only the coefficient estimates for Sub-Saharan Africa remain significant. Table 7 provides the results. Column 1 does not allow for any additional explanatory variables. Column 2 allows for other growth covariates. In both columns, the coefficient on DEM_F1 is not statistically significant. On the other hand, the coefficient estimates on DEM_P1 are 2.60 and 2.31, respectively. Implications from the above finding suggest that the benefits of democratization in Africa will come in the immediate benefits for the African countries in particular. On the contrary, the coefficient on DEM_P7 is not statistically significant. The positive association between partial democratization and growth disappears in the long-run. Instead, in columns 1 and 2, the coefficients upon DEM_F7 are positive, statistically significant and large in magnitude. Possibly, these findings stem from the fact that economic institutions in these countries were relatively weaker prior to democratization; thus, the absence of political structures served as an immediate basis for the democratization effects to take place.

Table 6 considers the other set of questions we raised in the introduction, namely whether the timing differs across regions. Using the specification in (2), we interact the democratization dummies [DEM_2,7 with the regional dummies (SSA, EAP, and LAC)]. Column 1 contains only the democratization variables and the interactive term. Columns 2 and 3 include other controls such as lagged growth, two-year lagged income, investment, government and trade. What one should note from these results is the coefficient estimate on the interactive term DEM_7*SSA. It is consistently positive and statistically significant. Past researchers argue that the effects of democratization upon growth are greater in Sub-Saharan African countries than in other regions [17] and Sylvester [13]. Our results can directly speak to these findings. Not only do we confirm that democratization in Africa is associated with faster growth, but we also show that the benefits of democratization in Africa will come in the long-run. Also, Papaioannou and Siourounis [2] suggest that democratization is growth enhancing in the long-run. Our analysis shows that this finding is mainly driven by the Sub-Saharan African countries. One explanation for this could be that the effects of democracy on economic growth are stronger for ethnically heterogeneous countries [18-25].

In column 4 of Table 6, we run equation (1) but focus on Sub-Saharan African countries. Our previous results become even stronger since the coefficient estimate for DEM7 is also positive and very highly significant (at the 1%). The coefficient on DEM1 is also positive and large in magnitude. Possibly, these findings stem from the fact that economic institutions in these countries were relatively weaker prior to democratization; thus, the absence of political structures served as an immediate basis for the democratization effects to take place.

As a robustness check, we estimate equation (2) but we replace the set of dummies DEM_2,7 with the dummies DEM_F_2,7 and DEM_P_2,7. Moreover, we interact DEM_F_2,7 and DEM_P_2,7 with regional dummies (SSA, LAC, EAP, WE). Again, only the coefficient estimates for Sub-Saharan Africa remain significant. Table 7 provides the results. Column 1 does not allow for any additional explanatory variables. Column 2 allows for other growth covariates. In both columns, the coefficient on DEM_F1 is not statistically significant. On the other hand, the coefficient estimates on DEM_P1 are 2.60 and 2.31, respectively. Implications from the above finding suggest that the benefits of democratization in Africa will come in the immediate benefits for the African countries in particular. On the contrary, the coefficient on DEM_P7 is not statistically significant. The positive association between partial democratization and growth disappears in the long-run. Instead, in columns 1 and 2, the coefficients upon DEM_F7 are positive, statistically significant and large in magnitude. Possibly, these findings stem from the fact that economic institutions in these countries were relatively weaker prior to democratization; thus, the absence of political structures served as an immediate basis for the democratization effects to take place.

Table 7: Panel B: Correlation Matrices.
Conclusions

Generally, we show that moderate democratic reforms in sub-Saharan Africa are associated with (high) short-run growth benefits. Thus, we have evidence to support Barro’s [6] finding that moderate democratic reforms can speed up growth. However, for the Sub-Saharan Africa case, we show that these effects are only present in the short-run. Moderate democratic reforms do not guarantee growth benefits in the long-run. Instead, for growth to be sustained, democracies need to solidify and consolidate the democratic process. Examples of Botswana and Mauritius could support our findings.

References