DISCUSSION PAPER SERIES

No. 9282

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INTERNATIONAL MACROECONOMICS

Centre for Economic Policy Research

www.cepr.org

Available online at: **www.cepr.org/pubs/dps/DP9282.asp**

ISSN 0265-8003

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Discussion Paper No. 9282
January 2013

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CEPR Discussion Paper No. 9282

January 2013

ABSTRACT

Regime Change, Democracy and Growth

Theory and empirics are ambiguous on the effect of democracy on growth. Cross-country studies find that democracy has no significant impact on growth. In contrast, within-country studies find a strong positive effect of transition to democracy. We reconcile this inconsistency by showing that the positive effect of political transition is a result of swift regime change and not democratization. We identify and examine 90 successful, failed, and gradual transitions that have occurred over the last half century. This new classification permits us to compare successful episodes of democratization with unsuccessful ones -- as opposed to with the counterfactual of no transition. We find that both successful and failed transitions boost long-run growth by about one percentage point, but gradual change is quite costly in economic terms. The results imply that the growth dividend from political transition is a result of regime change and not democratization, and also offer new evidence on the importance of the speed of transition for economic growth. The results are robust to a number of alternative specifications, to stricter and more lenient definitions of democratic transition, and to including reverse transitions.

JEL Classification: N40 and O43
Keywords: democratization, event study and political transition

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Submitted 14 December 2012

1 Introduction

Do democracies grow significantly faster than autocracies? The empirical evidence is mixed. The cross-country literature finds no evidence that democratic institutions bring higher income growth (Barro, 1996, 1997; Rodrik, 1999; Tavares and Wacziarg, 2001). By contrast, more recent work focusing on within-country effects of democratization offer some reasons for optimism regarding economic performance in countries that transit successfully to democracy (Rodrick and Wacziarg, 2005; Papaioannou and Siourounis, 2008; Persson and Tabellini, 2009). One explanation for the positive within-country estimates is that there is indeed a causal effect of democracy on income growth that is obscured in cross-country studies because of other country-specific factors, which can be controlled for more precisely in time-series analysis. An alternative explanation, however, is that democratic transitions are more likely when the autocratic regime has performed poorly, and the positive effect of transition to democracy on growth is a result of an incompetent regime being replaced with a less incompetent one. Hence, the growth acceleration that occurs following political transition is about regime change and not about democracy.

In this paper, we test this hypothesis using a new data set of political regime transitions. We compare the long-run impact on growth of successful transitions (new democracies that permanently consolidate) against failed transitions (new democracies that quickly revert to autocracy). We also estimate the interim effect of democracy, for short-lived democracies before they fail, and of reversed transitions (transitions from democracy to autocracy). Unlike previous work that focuses on the growth effect of permanent democratic transitions, this classification allows us to isolate the effect of regime change from the effect of democracy. Our main finding is that the growth dividend found in within-country studies of transition to democracy is about removing a regime that produced poor economic outcomes, as opposed to a result of democratization.

Theory has long held ambiguous views of democracy on economic outcomes. On the one hand, dictators typically have more power and hence the ability to steal more from the public, with deleterious consequences for growth. Moreover, the political freedoms that come with democracy may support economic rights and opportunities (Friedman 1962). On the other hand, democracies tend to be associated with more redistribution and a potentially greater role for special interests that misuse resources (Barro 1996). In addition to static differences between the two systems, the expected duration in office matters, which tends to be more limited in democracies. Clague et al. (1996) show that transitory democracies can easily suffer from extensive expropriation because the incentive to steal and steal big is greater when the time horizon is short. Similarly, Khan (2006) argues that in a democracy, if politicians believe there is little chance of reelection ex ante, corruption tends to increase ex post, leading to a democratic equilibrium with frequent turnover, high corruption, and low growth.

Our main empirical result is consistent with the view that democracy has no significant growth effect, and shows that positive results from previous time-series studies stem from

regime change. In particular, regime transition yields a significant growth premium in the long run, irrespective of whether democracy is achieved or there is a reversion to autocracy. Specifically, countries that fall back into autocracy few years after democratic transition experience growth acceleration by 1.4 percentage points against 0.9 percentage point for countries that secure democracy in the long run. However these point estimates are not statistically different. In addition we find no evidence of a significant democracy effect in transitory democracies. These results imply that regime change facilitates the replacement of incompetent governments with more competent ones, but the political constitution of the new government is of little importance.

A second important contribution is the statistically significant economic cost of lengthy regime transitions relative to rapid transitions. Specifically, gradual regime change from autocracy to democracy is associated with a negative short-run effect on income growth immediately following the onset of transition, with no significant long-run gain. This compares poorly with the roughly one percentage point boost in long-term growth subsequent to rapid transition. The uncertainty associated with protracted regime change may be detrimental to firms' activity and investment decisions (Rodrik, 1991).

Our work builds on the large empirical literature on the link between democracy and economic performance.[1] We depart from previous within-country studies in that we estimate the output response following both successful, gradual, failed, and reversed transitions in order to disentangle the effect of regime change from that of democracy.[2] We focus on the within-country variation of economic growth following democratic regime transitions and find that while transition to a permanent democracy does boost long-term growth, the effect is no more than following a failed transition, in which the country reverts to an authoritarian government. This implies that the growth dividend is a result of regime change – replacing a dictator with bad policies – and not democracy.

Our work also relates to the literature on political instability and economic performance (e.g. Barro, 1991; Alesina et al., 1996; Perotti, 1996; Ades and Chua, 1997, Jong-A-Pin, 2009). This literature has found a negative relation between political instability and growth. One theoretical argument underlying this relationship relates to the effects of uncertainty on productive economic decisions (Benhabib and Rustichini, 1996; Svensson, 1998; Devereux and Wen, 1998; Darby et al., 2004). More recently Jong-A-Pin (2009) estimates that among different dimensions of political instability, only the instability of the political regime, changes in the polity or political leaders or constitution, has a robust and significant negative effect on economic growth. Our work contributes to this line of

[1] See for example Helliwell (1994), Alesina and Rodrick (1994), Borner et al. (1995), Barro (1996, 1997), Minier (1998), Rodrick and Wacziarg (2005), Papaioannou and Siourounis (2008), Persson and Tabellini, (2009).

[2] A large empirical literature looks into the economic determinants of democratic change; see for example Przeworski and Limongi (1997), Barro (1999), Przeworski, Alvarez,Cheibub abd Limongi (2000), and Epsteinet al. (2006), Acemoglu et al. (2008). Investigating this question is beyond the scope of the current paper. The results of such an investigation are presented in our follow-up paper, Freund and Jaud (2012).

work by examining the effect of political instability on economic growth in rapid versus gradual regime change. The results are consistent with this line of thinking, as there is no long-run growth dividend during a gradual change, and negative growth effects during the early years are never recovered.

The remainder of the article is organized as follows. The next section presents the data and the democratic transitions data set. Section 3 provides evidence on the link between democratization and economic development. Section 4 describes the estimation framework. Section 5 presents the main empirical findings and section 6 performs some robustness checks. Finally, the last section concludes.

2 Data and Democratic Transitions

A significant innovation in our paper is that we construct a new data set of democratic transitions and identify four types of regime transitions: the successful, the gradual, the failed and the reversed, based on the intensity, the speed and the sustainability of the political reform process (Freund and Jaud, 2012). Several empirical studies construct binary indicators of political transitions from autocracy to democracy, however they incorporate limited information on the transition process itself (Przeworski et al., 1996a, Mainwaring et al., 2001; Papaioannou and Siourounis, 2008).[3] Crucially, the effects of democratization on growth are likely to depend on whether the transition is rapid or gradual, temporary or permanent. Rapid transitions may be less disruptive and stable institutions are likely to promote higher human and physical capital accumulation and subsequent growth (Pritchett, 2000).

Our measure of democratic institutions is the revised Polity score (polity2) of the Polity IV data base (Marshall, Gurr and Jaggers, 2010). The Polity score reflects key characteristics of the executive recruitment, the constitutional constraints on the executive authority and the degree of fairness and competitiveness in political participation. The index ranges from -10 to +10 with higher values indicating higher level of political freedom.[4] We build on the Polity score, and use four filters to identify episodes of regime transition.[5]

[3]Przeworski et al., 1996a construct a binary regime classification, however their index stops in 1990. Mainwaring et al., (2001) classify the political regimes in 19 Latin American countries from 1945 to 1999. More recently and closest to our methodology is the paper by Papaioannou and Siourounis (2008). The authors compiled a comprehensive dataset of political transitions classifying transitions into "full" and "partial" transitions based on the intensity of the political reform. However, the authors focus on permanent transition events only.

[4]We use the Polity2 variable that is a modified version of the Polity index in previous versions of the dataset. A simple treatment, or "fix" is applied to convert instances of "standardized authority scores" (i.e., -66, -77, and -88) to conventional polity scores (i.e., within the range, -10 to +10).

[5]To ensure consistency in the timing of the transition for all four types of transitions, the year of transition – or the year of initiation of transition in the case of a gradual transition – is the year t in which the Polity score change occured.to identify episodes of regime change or transitions, between autocracy and democracy.

Our sample includes 160 countries between 1960 and 2010.[6][7]

A successful transition is defined as a substantial rapid and sustained regime change from autocracy to democracy. A transition in time t qualifies as successful if the following conditions are met:

(i) the Polity score increased by at least 6 points over a 3-year period,

(ii) the Polity score in time t is above 5,

(iii) following transition the Polity score remains stable above 5 until the end of the time period,

(iv) the regime in place has been non-democratic for at least 5 years prior to transition

Condition (i) ensures a sudden and substantial political-regime change. Condition (ii) marks the year of transition as the year the Polity score increased and ensures that a minimum level of democracy is reached in the first year of the transition.[8] Condition (iii) ensures that the transition is sustained with no reversal to autocratic regime.[9] Finally condition (iv) ensures that the transition is a relatex gime change from autocracy to democracy and not a recovery from a previous drop in the Polity score. Spain in 1977 is a good illustration of a successful transition, moving from autocratic to fully democratic.

A failed transition is defined as a "non-successful" transition. That is, at least one condition in the set of "successful" conditions is not met. Either, the regime change

[6]The dataset dates back to 1800. We use the data starting from 1960 to match the GDP growth data. The data is not rectangular, as some countries were created during the time period. (e.g. the former soviet bloc countries), or changed names (e.g. Tchecoslovakia that split into the Czech Republic and the Slovak Republic in 1992). New states and states that changed names are treated as new countries in our analysis. In addition, we exclude from the sample countries with less than nine years of consecutive Polity data to allow for identification of transitions.

[7]For newly-established countries, when no Polity data is available prior to the country creation, we impute the "Parent" state Polity score to allow for the identification of transitions. The former Soviet Union countries include Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzst Republic, Latvia, Lithuania, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. The former Yougoslavia countries include Bosnia, Croatia, Macedonia, Serbia and Montenegro, Slovenia. And the former Czechoslovakia countries include Czech Republic and Slovak Republic.

[8]The level 5 cutoff is arbitrary; however, it is the mean value of the Polity index in the democratic range of the index from 0 to 10. In addition, the Polity distribution is bimodal, with most countries clustered at the high (≥ 5) or low (≤ -5) ends of the distribution. While scores above 5 mask substantial differences in the way democracies function, all countries with Polity scores above 5, no matter how heterogeneous, are sharply different than the countries below 5.

[9]We allow the index to decrease by at most 2 Polity points as there may be some adjustments over the years after transition. For example in Honduras transition occurred in 1982, in 1985 the Polity index decreased from 6 to 5 for 4 years before returning and then exceeding its original transition level.

is not substantial enough and a transition in time t qualifies as failed if the following conditions are met:

A
- (i) the Polity score increased by at least 3 points over a 3-year period,
- (ii) the Polity score in time t is above 0 but at most 5,
- (iii) the regime in place has been non-democratic for at least 5 years prior to transition.

Alternatively, the regime change is substantial but not sustained and a transition in time t qualifies as failed if the following conditions are met:

B
- (i) the Polity score increased by at least 6 points over a 3-year period,
- (ii) the Polity score in time t is above 5,
- (iii) following transition the Polity score is not maintained above 5 until the end of the time period,
- (iv) the regime in place has been non-democratic for at least 5 years prior to transition.

Conditions A.(i) and A.(ii) identify cases of partial transitions where limited improvement in political freedom has been achieved. There is a move away from a non-autocratic regime but a full-democratic regime is not reached. Finally condition A.(iii) is the same as before. Conditions B.(i)-(iv) identify cases of total but unsustained transitions. Condition B.(i)-(iii) ensure that the transition is substantial and rapid but that the country reverts to a non-democratic form of ruling before the end of the sample period. Condition B.(iv) is the same as before. Conditions A.(ii) and B.(ii) mark the year of transition as the year the Polity score increased. The Democratic Republic of Congo in 2004 illustrates a case of a failed transition due to partial improvement in political freedom, while Nigeria in 1979 is an example of a substantial but unsustained democratic regime change.

A gradual transition is defined as a substantial, gradual and sustained regime change from autocracy to democracy. A transition in time t qualifies as gradual if the following conditions are met:

(i) the Polity score increased by at least 6 points over a 15-year period,

(ii) the Polity score in time $t + 15$ is above 5,

(iii) the Polity score in time t is at least 0,

(iv) following transition the Polity score remains stable above 5 until the end of the time period,

(v) the regime in place has been non-democratic for at least 5 years prior to transition.

Conditions (i) and (ii) ensure that the change in political regime occurs over a longer time period, allowing us to identify cases where the democratization process has been more uncertain. Condition (iii) ensures a gradual transition starts with an increase in the Polity score and marks the year of initiation of the transition. Conditions (iv) and (v) are the same as for a successful transition. Mexico is a good example of a gradual transition initiated in 1988: the country moved from autocratic to partially and finally fully democratic over a 12 year period. Finally,

A reversed transition is defined as a substantial and rapid regime change from democracy to autocracy. A transition in time t qualifies as reversed if the following conditions are met:

(i) the Polity score decreased by at least 6 points over a 3-year period,

(ii) the Polity score in time t is below 0,

(ii) the regime in place has been democratic for at least 5 years prior to transition.

Conditions (i) to (iii) ensure that we identify rapid regime change from democracy to autocracy. Condition (ii) marks the year of transition as the year the Polity score decreased. We identify nineteen cases that experienced a transition to autocracy, moving from a relatively stable democracy to autocratic status, generally following independence. The Gambia in 1994 is an example of a political set back when a coup d'etat abruptly ended the democratic regime in place since 1970.

Our identification conditions yield 90 democratic transitions including 41 successful, 14 gradual, 35 failed and 19 reversed transitions, occuring between 1965 and 2005. Out of the 35 failed transitions 14 are partial-failed transitions. Table 1 lists all transitions by category country and year in our sample. Seventy-nine of the 160 countries in our sample, close to 50 percent, initiated a democratic transition, with 10 countries experiencing more than one transition.[10] And a typical country has about a 30 percent chance of experiencing a democratic regime change at some point in any given decade.[11]

Figure 1 plots the episodes of regime transitions at the beginning and the end of the sample period. While most countries are autocratic in 1960, only 41 still are by 2010. Strikingly, transitions are not randomly distributed. Rather the distribution suggest strong regional

[10] Given the identification criteria, countries can experience more than one transition as long as the transition dates are more than 5 years apart.

[11] The unconditional probability of experiencing a regime change is given by the ratio of the number of democratic transitions (90) to the number of potential candidates to transition. The number of potential candidates to transition is the number of country-year pairs in which a transition could have occurred and is the sum of all country-years where the Polity score is equal or below 0 between 1965 and 2005 eliminating a 5-year window after the occurrence of each episode, since our filter imposes for this period between two episodes. We obtain 2902 possible occasions in which a transition could have occurred.

dynamics and the need to control for them in the subsequent analysis. Africa is over-represented in failed transitions, while Latin America, Southern and Eastern Europe are over-represented in successful transitions. Mainland East Asia is largely autocratic while the islands successfully evolved towards democracy. The Middle East and North Africa region is majoritarily autocratic and surrounded by either autocratic or failed democracies. Initiating the transition process does, by no means, guarantee success. There is a 46 percent chance that democracy will consolidate swiftly. In 15 percent of cases, evolution towards democracy will be gradual while as high as 39 percent of attempts will result in failure.

Figure 2 shows the evolution of the Polity score for our four types of transitions. Successful transitions swiftly move from autocracy to a state of full democracy and gradual transitions converge in steps towards consolidated democracy. Failed transition countries after an attempt to democracy reverse to autocracy within the following 5 years on average. Reversed transitions are the quasi-symmetric of successful transitions in the direction of autocracy. Figure 2 illustrates our identification strategy. Unlike previous works, the distinction we make of different types of transitions, allows us to disentangle the effect on growth of regime change from that of democracy. We are able to test whether it is the former or the latter that do matter for economic growth, by looking into the long run effects of failed compared with successful transitions, swift compared with gradual regime change and democratic with autocratic regime change.

3 Fluctuations in Growth around Transitions

This section reviews the trends and fluctuations in per capita income growth before, during and following transition for the four types of transitions identified in the previous section. Figure 3 shows the evolution of log per capita real income growth in a twenty year interval around transition for successful and failed transitions. Figure 4 presents graphs for gradual and reversed transitions.[12] On the horizontal axes negative values mark years before and positive values years after the date the transition is initiated. After restricting our sample to countries with available data for at least ten years before and after the transition, we are left with a sample of 30 successful, 17 failed and 13 gradual transitions. In the case of reversed transitions, data is available from 5 year prior to 8 year after the date of transition for a balanced sample of 14 transitions.[13]

Democratization has a non-linear effect on growth (Figure 3 panel a). Growth is highly volatile around the date of transition suggesting some heterogeneity across countries in the timing of transition and its effect on the economy. To account for this, the data is

[12] We use the GDPpc in constant 2005 US$. Data are taken from the World Bank Development Indicators database (2010).

[13] A number of countries experienced a reversed transition in the early sixties. In addition, the majority of those countries then experienced episodes of democratic transition in the remainder of the time period thus limiting the number of observations for the analysis.

calibrated by the year of slowest growth within a four year interval before and after the date of transition (trough year) rather than by the year of transition. A more distinct picture emerges (Figure 3 panel b). For successful and failed transitions, growth typically dips for one year or two before it returns to or exceeds previous levels. Average income growth declines by around 11 percentage points (pp) for successful transitions and 7 pp for failed transitions.[14] The graphs on the right, exclude the socialist countries, which all transited at roughly the same time. Successful and failed transitions look even more alike, with around 8 pp drop in income growth.

Figure 4 suggests that gradual attempts at democratization tend to involve larger economic adjustments spread over a longer period. Growth declines on average by 21 pp during transition and remains negative for at least five years following the initiation of the transition (panel a). Once socialist countries are excluded from the sample, gradual transitions suffer a 18 pp drop in income growth on average. Interestingly, reversed transitions do not look very different from their successful or failed counterparts in how they evolve – a one to two year dip in income growth (9 pp drop) prior to a strong rebound exceeding pre-transition levels.

Overall, all transitions are associated with significant costs in the short-run. However, the cost is lower and rapidly offset by higher longer-run growth when the regime change is rapid whether successful, failed or even reversed. Only, when the transition is gradual, are economies hit harder and longer. This preliminary analysis offer suggestive evidence that the growth premium associated with transitions, may be about the pace rather than the direction of the regime change.

4 Estimation Framework

To test whether regime change rather than democracy is the main driver of economic growth, we estimate the within-country effects of democratization on income growth, using a difference in difference framework. We build on our new data set of political transitions and define several dummy variables to estimate the effect of various types of transitions on the log difference in annual income per capita in country i at time t $g_{i,t}$. The dummy variable *successful*, takes on a value of 1 in the year and subsequent years of any successful democratic transition. The dummy variable *failed*, takes on a value of 1 in the year and subsequent years of any failed transition. The dummy variable *temporary*, takes on a value of 1 in the year and subsequent years of any failed transition when a democratic regime was in place and returns to 0 when the regime reverts back from democracy to autocracy (Polity score$<$ 0). In addition, the dummy variable *gradual*, takes on a value of 1 in the year and subsequent years of any gradual transition. The sum of the three dummy variables, *successful*, *failed*, and *gradual*, is labeled *transition*, and takes on a value

[14] The percentage drop is computed as the difference in income growth between year 0 and year (-3) when the data is rescaled taking trough year as year 0.

of 1 in all years following a democratic transition. The parameters β, γ and δ, capture the contemporaneous effect of country-specific successful, failed and temporary transitions on income. The difference in difference estimation is ideally suited to distinguish the impact of different regime transitions relative to the counterfactual of no regime change. Democratic transition is the treatment while countries that do not transition – always autocratic, always democratic and intermediary – are in the control group. The inclusion in our estimations of country and time fixed effects $(\phi_i + \phi_t)$ allows us to control for determinants of economic growth having to do with time-invariant country characteristics, such as geography, natural resources or colonial history or time-varying shocks that affect all countries. Our basic framework is as follows:

$$g_{i,t} \equiv \log y_{i,t} - \log y_{i,t-1} = \alpha + \beta successful_{i,t} + \delta failed_{i,t} + \delta temporary_{i,t} + \phi_i + \phi_t + \upsilon_{i,t} \quad (1)$$

where υ is a disturbance term. We use the same estimation equation (1) as a basis for sensitivity checks. Failed transitions are defined as either insufficient improvements in the Polity score or major but temporary improvements. To distinguish the effect of major versus partial regime changes, we use the dummy variable *partial* taking on value 1 the year and subsequent years of any partial failed transition. We also define the dummy variable *reversed* taking on a value of 1 in the year and subsequent years of any regime changes in the direction of autocracy. The dummy variable controls for instances of setback of a country's democratic institutions. Moreover, democracy may be correlated with time-varying factors that affect growth. We re-estimate equation (1) controlling for a vector of time-varying controls including income level, investment, human capital, government spending and trade. We further include regional-year effects to account for regional dynamics.

A concern with the difference in difference identification scheme is that the democratic transitions may be anticipated. Democratization may occur when growth prospects are good, or growth may increase in anticipation of a regime change, biasing downwards our estimates. Alternatively, regime change may be more likely in countries with poor performance or may be triggered by particularly bad economic shock, e.g. the Asia crisis and Suharto's fall, or natural disasters such as drought (Bruckner and Ciccone, 2011). The recovery period that follows the dip in income growth during transitions may also bias our estimates upwards. To account for the timing of the economic effect of democratic transitions we create separate non-overlapping dummy variables for different periods around the transition dates.[15] The dummy variable T^1, takes on a value of 1 in the fifth, fourth and third years preceding any transition and zero otherwise. The dummy T^1 accounts for possible anticipation effects. If investments were made in anticipation of the collapse of the authoritarian regime the coefficient on T^1 would be positive. The dummy variable T^2

[15] Elias Papaioannou and Gregoris Siourounis (2008) also look at the timing of the effect of democratic transition. However, they focus on full permanent democratic transitions, the rough equivalent of our successful transitions.

takes on a value of 1 in the second, first preceding years and the year of any transition and zero otherwise. The dummy variable T^3 takes on a value of 1 in the three years following any transition and zero otherwise. The dummy variable T^4 takes on a value of 1 in the fourth, fifth and sixth years following any transition and zero otherwise. Finally, the dummy variable T^5 takes on a value of 1 in the seventh and subsequent years following any transition and zero otherwise. The dummy variables, T^3, T^4, and T^5, account for the short-run, the medium-run and the long-run effect of democratization respectively. The parameters β_k capture the average growth rates in the corresponding years preceding or following the transition start compared to the base period of non-democratic years before the transition, that is from the seventh year and backwards. Specifically we estimate

$$g_{i,t} = \alpha + \sum_{k=1}^{5} \beta_k T_{i,t}^k + \phi_i + \phi_t + \omega_{i,t} \tag{2}$$

where ω is a disturbance term. We further define corresponding dummies for each type of transitions, successful (S^1, S^2, S^3, S^4, S^5), failed (F^1, F^2, F^3, F^4, F^5), and gradual (G^1, G^2, G^3, G^4, G^5).[16] In this case the estimating equation becomes

$$g_{i,t} = \alpha + \sum_{k=1}^{5} \beta_k S_{i,t}^k + \sum_{k=1}^{5} \beta_k F_{i,t}^k + \sum_{k=1}^{5} \beta_k G_{i,t}^k + \phi_i + \phi_t + \varepsilon_{i,t} \tag{3}$$

where ε is a disturbance term. Table 2 illustrates the construction of the set of dummies in the example of a successful transition. Table 3 summarizes the definitions for our variables and Table 4 contains summary statistics for key data.

5 Empirical Results

Table 5 shows the difference in difference estimates of the effect of democratization on real per capita GDP growth using equation (1). We report least squares estimates and robust standard errors clustered at the country level (in parentheses). All our results refer to the 1961-2010 period. Column 1 estimates the effect of any democratic transition on growth. In particular, following transition countries grow 0.7 percentage point (pp) faster than countries experiencing no regime change. Our results are in line with findings in previous related work. Papaioannou and Siourounis (2008) estimated an average growth effect of approximately 0.70 pp-1.10 pp, Persson and Tabellini (2006) found an effect of 0.75 pp and Rodrik and Wacziarg (2005) an effect of 0.87 pp. The estimated coefficient in column 1 lumps together the effect of different types of transition. Column 2 includes the dummy variables for successful and failed democratic transitions to estimate separately the effect

[16] Reversed transitions are left out of the analysis of the timing of the effect of transition due to insufficient number of observations prior to the date of reversed transition.

of each on income growth. The estimated coefficients on *success* and *failed* are positive and statistically significant at the 5 percent level. The positive estimate for failed transitions may reflect a large positive effect of democracy in the democratic years preceding the regime reversal to autocracy. Column 3 augments the specification in column 2 with the *temporary* variable to disentangle the democracy effect from the regime change effect. This is our prefered specification. The estimate on the *temporary* dummy suggests no statistically significant democracy effect on growth in the years before a beginning democracy fails. The estimates on the *success* and *failed* variables remain positive and statistically significant at the 5 percent level, and the magnitude of the effect is large. Failed democracies grow 1.4 pp faster following transition than non transition countries, against an average growth acceleration of 0.9 pp in the case of permanent democratic transition countries. However the effects are not statistically different one from the other, as is evidenced by the F-test that fails to reject the null hypothesis of equality of the estimates on the *success* and *failed* variables. Combined together results in columns 1-3 suggest that the positive and significant democratization effect shown in column 1 is about political regime change rather than establishing democracy. A concern is that our coefficients may be picking the effect of the market reforms that occurred simultaneously with the political reforms in former soviet countries. Columns 4-6, replicate estimations in columns 1-3 excluding socialist countries from the sample. Our results are even stronger. The coefficients on our dummy variables *success* and *failed* increase both in magnitude and significance; while the coefficient on the *temporary* variable remains statistically insignificant.

Table 6 considers the effect of the pace and intensity of the regime change on growth. In columns 1-2 we augment the specification in column 3 Table 5 by the *gradual* transitions indicator variable. Column 1 shows that a gradual regime change has a negative but statistically insignificant effect on growth following transition. Private companies and foreign investors prefer a stable political environment to do business. A high propensity of regime change is associated with more uncertainty about policies of a potential new government. This lowers firms' incentives to invest, in turn affecting economic development (Svensson, 1998). Column 2 estimates the effect of major versus partial changes in the Polity score for failed transitions. The estimate on the dummy variable *partial* is statistically insignificant, while the estimate on the *failed* variable remains positive and significant. The results suggest that a rapid and complete regime change, whether sustained or not, rather than a gradual or partialmove towards democracy yields a growth acceleration in the years following the change. Column 3 augments specification in column 1 by the reverse transitions indicator variable. The *reversed* dummy captures the growth effect of a regime change from democracy to autocracy. Hence, we test whether the direction of the political transition differentially affects subsequent growth. Our results show a positive but not statistically significant effect of reversed regime change on growth. This is further evidence that the growth effect of democratic transitions is about change not about democracy. Excluding socialist countries from the sample in columns 4-6, leaves our results qualitatively unchanged. Combined together our findings in Table 5 and 6 suggest that the change in

political regime rather than the type of regime matters more for economic development.

The coefficients on the democratic transitions variables in Table 5 and 6 capture the average annual growth during the post-transition period. However as shown in Figures 3 and 4 the output response following transition is non monotonic. Table 7 columns 1-2 estimate the timing of the economic effect of all democratic transitions using equation (2). In column 1 we find that income growth does not statistically vary in anticipation of the collapse of the authoritarian regime. The estimate on the T^2 pulse variable is negative and statistically significant at the 1 percent implying a decrease in annual income growth by 1.7 percentage points in the years during transition. The estimate on the pulse variable T^3 is negative and statistically significant at the 10 percent. In the three years following transition growth is lower by 1.4 percentage points compared to the base pre-transition period. The estimates on the T^4, and T^5 variables are positive and statistically significant at the 10 and 1 percent respectively. Compared to the non-democratic years prior to the transition annual growth is on average 0.9 percent higher in the medium run (year 4, 5 and six following transition) and gains an extra 0.7 percentage point after the sixth post-transition year. Column 2 excludes socialist countries from the sample. The results suggest higher transition costs in socialist countries where democratization coincided in most cases with economic crises. Excluding socialist countries, the medium run effect of transition is now statistically insignificant, the long run effect remains positive and statistically significant at the 1 percent.

Table 7 columns 3-4 estimate the timing of the effect of successful, failed and gradual democratic transitions separately using equation (3). Column 3 reports results for the full sample. Our results suggest differences in the output responses following successful, failed and gradual transitions. The estimates on the T^2 variable imply a statistically significant economic cost to successfully transiting. A successful transition from autocracy to democracy cuts average income growth by 2.2 percentage points in the years during transition. In the case of failed transitions the point estimates on the T^2 and T^3 pulse variables are negative but statistically insignificant. This cost is delayed to the first three years in the case of gradual transitions, with growth slowing down by 5.3 percentage points. The estimates on the T^5 pulse variable are positive and statistically significant for successful and failed transitions. Our results suggest that the uncertainty associated with piecemeal attempts to transition has a negative effect on growth, while countries that swiftly removed past regime experienced higher growth in the long run.

6 Robustness Checks

This section explores the robustness of our main result on regime change. Table 8 reestimates the effect of democratic transitions on income growth using the specification of column 3 in Table 5 as our benchmark model – which focuses on successful, failed and temporary. It may be that omitted variables drive our results. Columns 1-2 test the

sensitivity of our estimates including two lags of additional time-varying controls; capital accumulation, human capital, government consumption and trade openness. Our results are robust to controlling for those additional covariates. Column 3-4 control for regional dynamics and include year*region fixed effects and columns 5-6 check that our results are not driven by poor estimates of growth after or before a transition. We impose that the number of observations with growth data available before and after transition is the same. We call this sample the "balanced" sample. Our results remain qualitatively the same. Column 7-8 check that our results are not driven by time trends not captured by the time effects. We estimate a placebo specification, where the initiation of the each transition is lagged by five years. The point estimates are not statistically significant implying that our results are driven by the specific events we are focusing on.

Table 9 uses specification of column 3 in Table 5 and examines the robustness of our results to the definition of successful transitions. We modify the level 5 Polity score cutoff at the time of transition. Lowering the cutoff from 5 to 4 increases the number of successful transitions from 41 to 43. Mozambique in 1994 and Romania in 1990, previously classified as failed and gradual respectively, are considered succesful transitions under a cutoff level of 4. Alternatively, imposing a higher threshold of 6 in place of 5, reduces the number of successful transitions significantly from 41 to 29.[17] Columns 1-4 test the sensitivity of our estimates to lowering the cutoff level from 5 to 4. Columns 5-8 test the sensitivity of our estimates to increasing the cutoff level from 5 to 6. Our results are robust to using different threshold levels.

Finally, Table 10 replicates the series of robustness checks in Table 8 using equation (3), using pulse variables. Our results remain qualitatively the same.

7 Concluding Remarks

This paper reconciles the contrasting results from the cross-country and within-country literature on democracy and growth. We show that the positive growth effect found in the within-country literature is about regime change as opposed to democratization. We use a new data set of political transitions where we classify transitions into successful, failed, gradual and reversed, based on the intensity, pace and sustainability of the regime change. We are able to compare the long run impact on growth of failed transitions with successful transitions. We also estimate the effect of democracy in new democracies before they fail. In doing so, we are able to disentangle the effect of regime change from that of democracy.

Our empirical analysis suggests that a rapid democratic transition whether or not successful is associated with a significant growth premium in the long run. Our estimates suggest that following swift transition irrespective of whether it succeeds or fails, there

[17] The following countries are now classified as failed transitions: Benin (1991), Dominican Republic (1978), El Salvador (1984), Guyana (1992), Honduras (1982), Indonesia (1999), Korea, Rep. (1988), Malawi (1994), Nicaragua (1990), Estonia (1991), Macedonia, FYR (1991), Ukraine (1991).

is a growth premium of about one percentage point. These estimates likely reflect the positive effect of removing an inefficient regime whose rule has led to systematic economic mismanagement. Another important result is the statistically significant economic cost of lengthy regime transitions compared with rapid transitions. The uncertainty associated with piecemeal regime change is detrimental to firms' activity and investment, hence limiting the speed of economic development.

Our results highlight how failing to account for different features in the political reform process explains the contrasting empirical evidence around one of the most debated question in economics. While the cross-country literature estimates the "no" effect of democracy on growth, the within-country literature captures the positive effect of change of regime.

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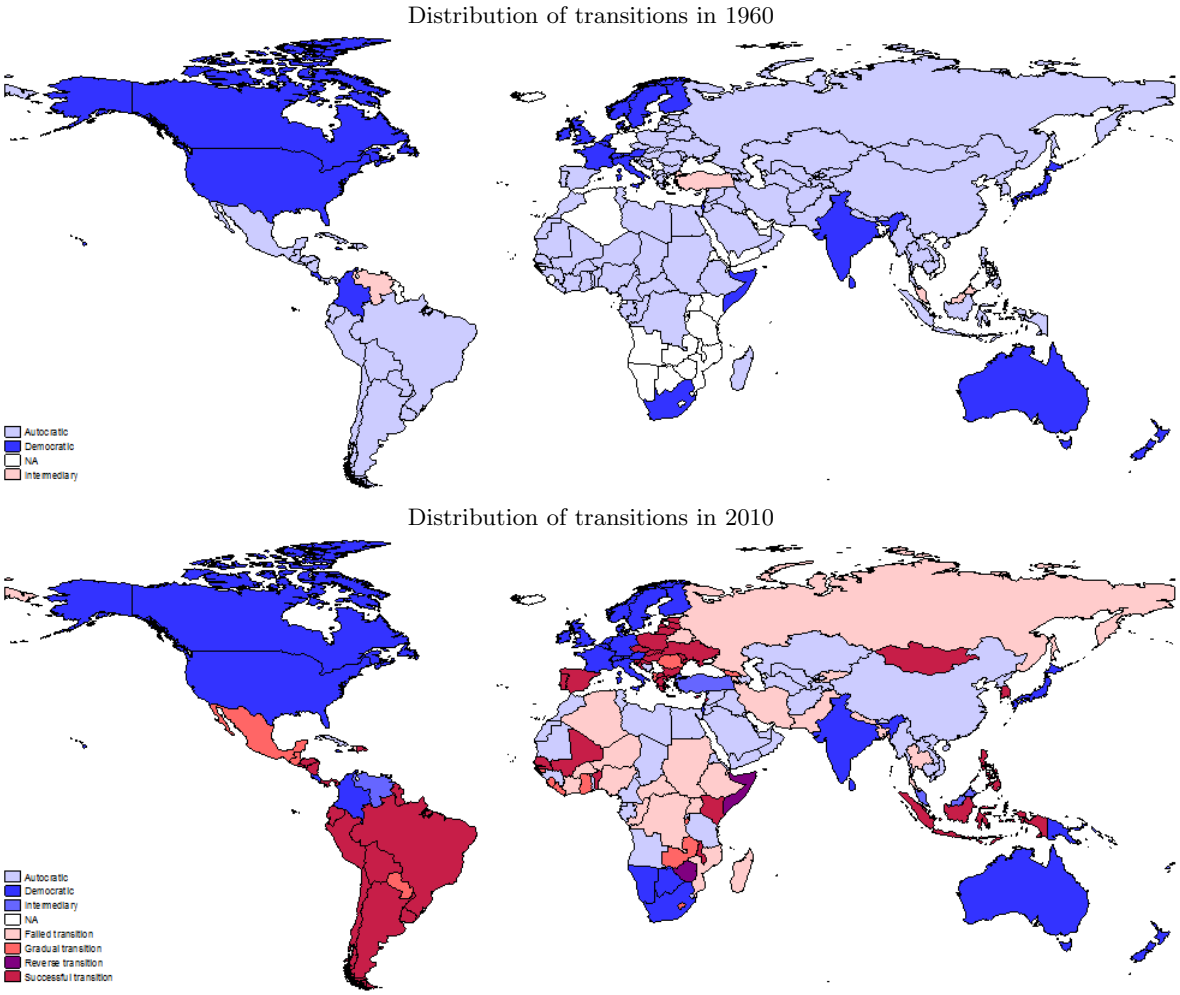
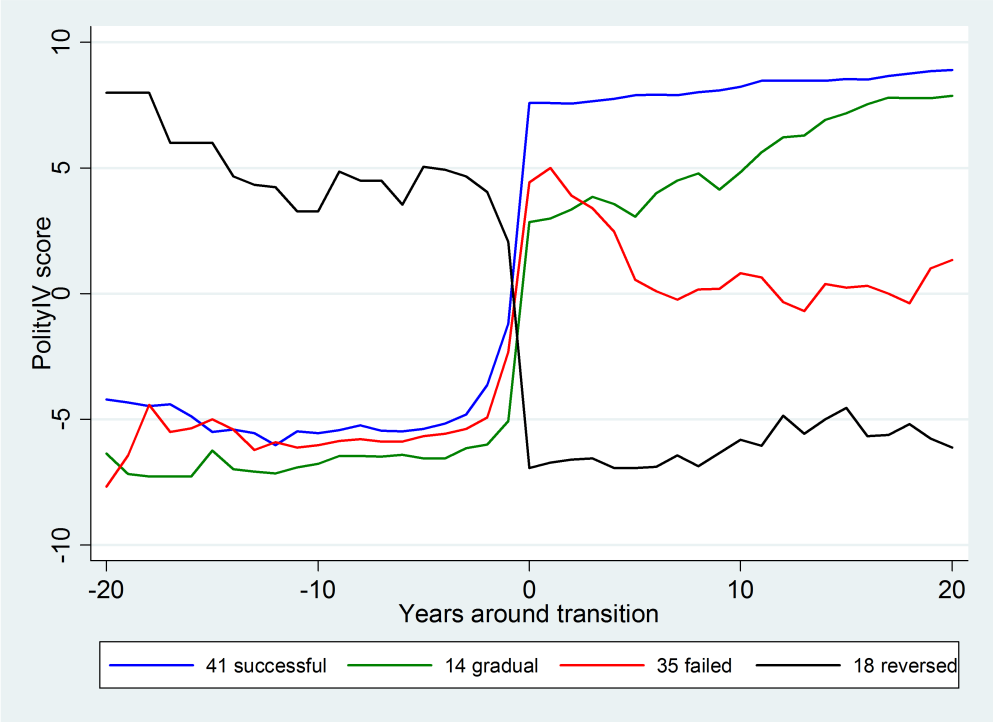
8 Figures And Tables

Figure 1: Democratic Transitions In The World, 1960-2010



Note: NA corresponds to non independent countries

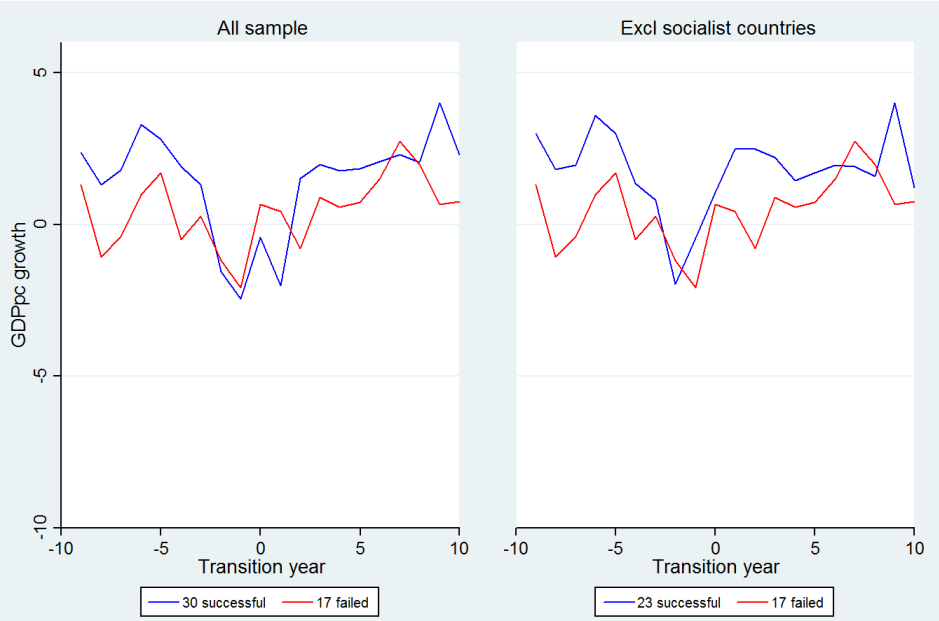
Figure 2: Evolution Of The Polity Score By Transition Type



Note: Unbalanced sample of countries

Figure 3: Democratic Transitions And Economic Growth: Successful And Failed

Panel a: Year 0 = transition year



Panel b: Year 0 = trough year

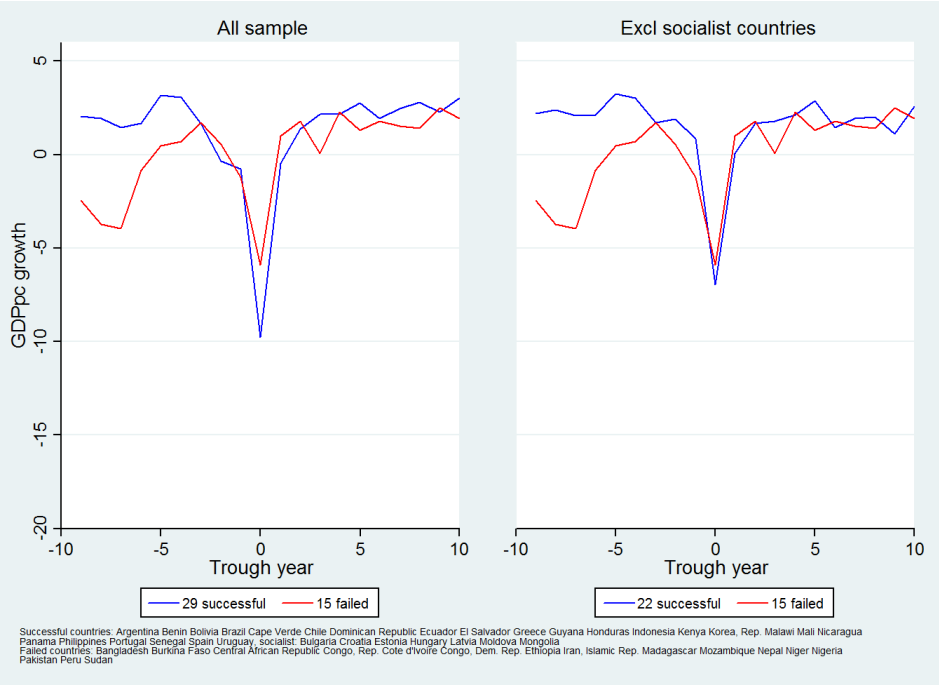
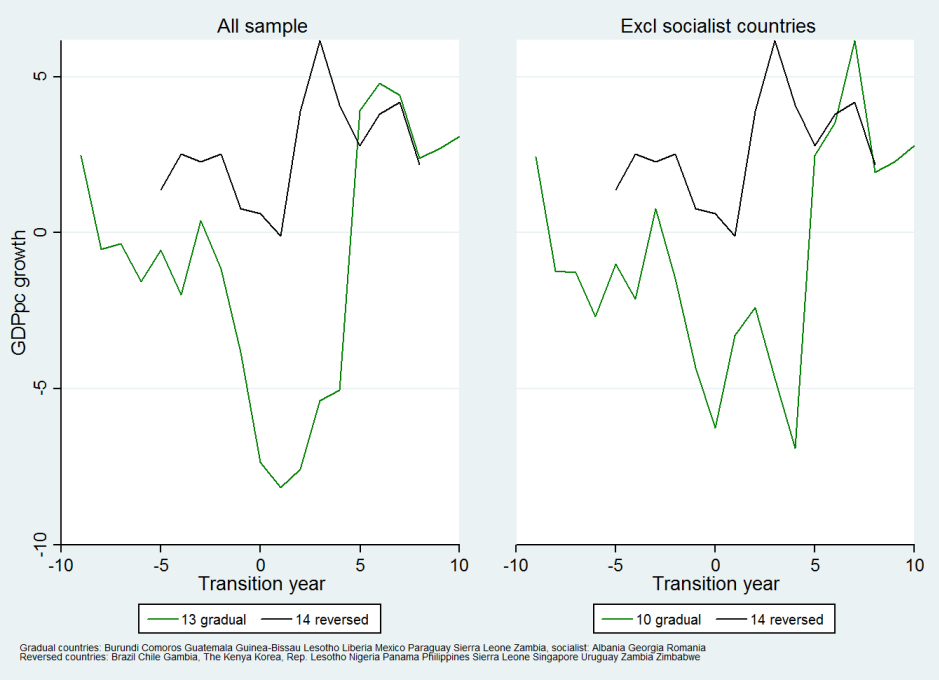


Figure 4: Democratic Transitions And Economic Growth: Gradual And Reversed

Panel a: Year 0 = transition year



Panel b: Year 0 = trough year

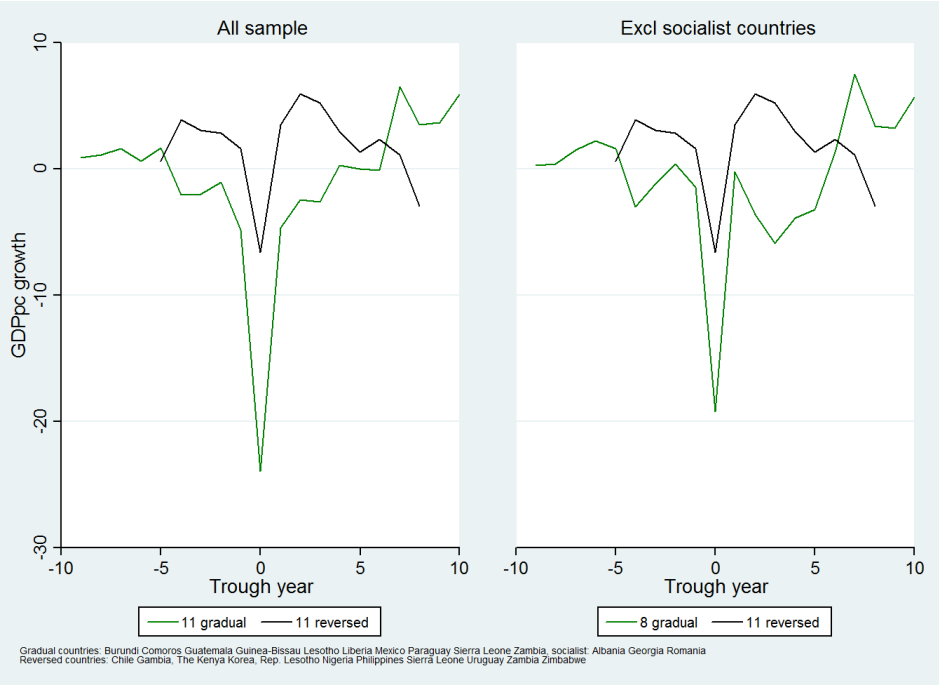


Table 1: Transitions And Non-Transitions, 1960-2010

	Successful Democratic Transitions		Failed Democratic Transitions			Gradual Democratic Transitions		Reversed Transitions		Intermediary Regimes	Always Autocratic Regimes	Always Democratic Regimes
1	Argentina	1983	1 Argentina	1973		1 Albania	1990	1 Brazil	1965	1 Fiji	1 Australia	1 Afghanistan
2	Benin	1991	2 Bangladesh	1991		2 Burundi	2001	2 Chile	1973	2 Malaysia	2 Austria	2 Angola
3	Bolivia	1982	3 Burkina Faso	1978		3 Comoros	1990	3 Gambia, The	1994	3 Solomon Islands	3 Belgium	3 Azerbaijan
4	Brazil	1985	4 Central African R	1993		4 Ghana	1996	4 Greece	1967	4 Turkey	4 Botswana	4 Bahrain
5	Bulgaria	1990	5 Congo, Rep.	1992		5 Guatemala	1986	5 Guyana	1980	5 Venezuela, RB	5 Canada	5 Bhutan
6	Cape Verde	1991	6 Ecuador	1968		6 Guinea-Bissau	1994	6 Kenya	1969		6 Colombia	6 Bosnia and Herzegovina
7	Chile	1989	7 Ghana	1979		7 Lesotho	1993	7 Korea, Rep.	1972		7 Costa Rica	7 Cambodia
8	Cyprus	1969	8 Haiti	1994		8 Liberia	1990	8 Lesotho	1971		8 Denmark	8 Cameroon
9	Dominican Republic	1978	9 Haiti	2005		9 Mexico	1988	9 Nigeria	1966		9 Finland	9 Chad
10	Ecuador	1979	10 Madagascar	1991		10 Paraguay	1989	10 Panama	1968		10 France	10 China
11	El Salvador	1984	11 Mozambique	1994		11 Romania	1990	11 Peru	1968		11 Germany	11 Cuba
12	Greece	1975	12 Nepal	1990		12 Sierra Leone	1996	12 Philippines	1972		12 India	12 Egypt, Arab Rep.
13	Guyana	1992	13 Niger	1991		13 Zambia	1991	13 Sierra Leone	1967		13 Ireland	13 Equatorial Guinea
14	Honduras	1982	14 Nigeria	1979				14 Singapore	1965		14 Israel	14 Eritrea
15	Hungary	1990	15 Pakistan	1973		New Independent States		15 Somalia	1969		15 Italy	15 Gabon
16	Indonesia	1999	16 Pakistan	1988		14 Georgia	1990	16 Uganda	1967		16 Jamaica	16 Guinea
17	Kenya	2002	17 Peru	1979				17 Uruguay	1972		17 Japan	17 Iraq
18	Korea, Rep.	1988	18 Sudan	1965				18 Zambia	1972		18 Mauritius	18 Jordan
19	Lebanon	2005	19 Sudan	1986				19 Zimbabwe	1987		19 Namibia	19 Kazakhstan
20	Malawi	1994	20 Algeria	2004	(P)						20 Netherlands	20 Korea, Dem. Rep.
21	Mali	1992	21 Congo, Dem. Rep	2004	(P)						21 New Zealand	21 Kuwait
22	Mongolia	1992	22 Cote d'Ivoire	2000	(P)						22 Norway	22 Lao PDR
23	Nicaragua	1990	23 Djibouti	1999	(P)						23 Papua New Guinea	23 Libya
24	Panama	1989	24 Ethiopia	1993	(P)						24 South Africa	24 Mauritania
25	Peru	2001	25 Ghana	1970	(P)						25 Sri Lanka	25 Morocco
26	Philippines	1987	26 Guatemala	1966	(P)						26 Sweden	26 Myanmar
27	Poland	1991	27 Iran, Islamic Rep.	1997	(P)						27 Switzerland	27 Oman
28	Portugal	1976	28 Nigeria	1999	(P)						28 Timor-Leste	28 Qatar
29	Senegal	2000	29 Thailand	1969	(P)						29 Trinidad and Tobago	29 Rwanda
30	Spain	1978	30 Thailand	1978	(P)						30 United Kingdom	30 Saudi Arabia
31	Uruguay	1985	31 Uganda	1980	(P)						31 United States	31 Swaziland
												32 Syrian Arab Republic
New Independent States			New Independent States									33 Tajikistan
32	Croatia	2000	32 Armenia	1991								34 Tanzania
33	Czech Republic	1990	33 Belarus	1991								35 Togo
34	Estonia	1991	34 Kyrgyz Republic	2005	(P)							36 Tunisia
35	Latvia	1991	35 Russian Federati	1992	(P)							37 Turkmenistan
36	Lithuania	1991										38 United Arab Emirates
37	Macedonia, FYR	1991										39 Uzbekistan
38	Moldova	1993										40 Vietnam
39	Slovak Republic	1990										41 Yemen, Rep.
40	Slovenia	1991										
41	Ukraine	1991										

Note: The year of transition is reported next to the country. (P) marks a partial failed transition. When countries experienced several democratic transitions, we consider each transition as a distinct event if there is at least a five year gap between the end of the previous transition and the start of the next one. Countries that experienced several failed transitions include, Ghana in 1970 and 1979, Haiti in 1994 and 2005, Nigeria in 1979 and 1999, Pakistan in 1973 and 1988, Sudan in 1965 and 1986 and Thailand in 1969, 1978. Argentina in 1973 and 1983 or Peru in 1980 and 2001, experienced failed then successful transitions.The non transitioning countries are either stable democracies (31), stable autocracies (41) and intermediary status countries (5). Intermediary countries are countries that have experienced several transitions and reversals over the sample period.

Table 2: Breaking Up The Transition Process

Date	Transition	Transition dummies			Sucessful transition dummies			Failed transition dummies		
		T2	T3	T4	S2	S3	S4	F2	F3	F4
-3	0	1	0	0	1	0	0	0	0	0
-2	0	1	0	0	1	0	0	0	0	0
-1	0	1	0	0	1	0	0	0	0	0
0	1	1	0	0	1	0	0	0	0	0
1	0	0	1	0	0	1	0	0	0	0
2	0	0	1	0	0	1	0	0	0	0
3	0	0	1	0	0	1	0	0	0	0
4	0	0	0	1	0	0	1	0	0	0
5	0	0	0	1	0	0	1	0	0	0
6	0	0	0	1	0	0	1	0	0	0

Table 3: Variables Definitions And Sources

Variable	Description	Source
Polity2	The combined Polity score is the difference between the democracy and autocracy indicator. This is an additive twenty-one-point scale (-10;10).	POLITY IV
GDPpc growth	Real per capita GDP growth is defined as the annual logarithmic change of real per capita GDP from t-1 to t. Data are in constant 2000 dollars.	WDI 2010
transition	Indicator variable that takes on a value of 1 in the year and subsequent years of any transition, 0 otherwise.	Authors' calculations.
success	Indicator variable that takes on a value of 1 in the year and subsequent years of any succesful transition, 0 otherwise.	Authors' calculations.
failed	Indicator variable that takes on a value of 1 in the year and subsequent years of any failed transition, 0 otherwise.	Authors' calculations.
gradual	Indicator variable that takes on a value of 1 in the year and subsequent years of any gradual transition, 0 otherwise.	Authors' calculations.
T^1	Indicator variable that takes value 1 on the fifth and fourth and third years preceeding any transition and 0 otherwise.	Authors' calculations.
T^2	Indicator variable that takes on a value of 1 in the second, first preceeding years and the year of any transition and 0 otherwise.	Authors' calculations.
T^3	Indicator variable that takes on a value of 1 in the three years following any transition and 0 otherwise	Authors' calculations.
T^4	Indicator variable that takes on a value of 1 in the fourth, fifth and sixth years following any transition and 0 otherwise.	Authors' calculations.
T^5	Indicator variable that takes on a value of 1 in the seventh and subsequent years following any transition and 0 otherwise.	Authors' calculations.

Table 4: Descriptive Statistics

Variable	Observation	Mean	Std. Dev.
GDPpc growth	5902	1.77	5.97
transition	5902	0.29	0.45
successful	5902	0.15	0.36
failed	5902	0.09	0.29
temporary	5902	0.05	0.21
gradual	5902	0.05	0.21
small	5902	0.03	0.18
reversed	5902	0.12	0.32
Excluding socialist countries			
GDPpc growth	5161	1.75	5.47
transition	5161	0.25	0.43
successful	5161	0.12	0.33
failed	5161	0.09	0.29
temporary	5161	0.05	0.21
gradual	5161	0.04	0.20
small	5161	0.03	0.17
reversed	5161	0.13	0.34

Table 5: Regime Change, Democracy And Growth

	All sample			Non socialist countries		
	(1)	(2)	(3)	(4)	(5)	(6)
$transition_{i,t}$	0.707**			1.018***		
	(0.338)			(0.326)		
$successful_{i,t}$		0.890**	0.900**		1.160***	1.162***
		(0.423)	(0.423)		(0.398)	(0.397)
$failed_{i,t}$		0.952**	1.441**		1.150**	1.279***
		(0.432)	(0.625)		(0.461)	(0.456)
$temporary_{i,t}$			-0.780			-0.211
			(0.791)			(0.496)
Fixed Effects		country, year			country, year	
Observations	5,902	5,902	5,902	5,161	5,161	5,161
R-squared	0.165	0.166	0.166	0.149	0.150	0.150
N countries	145	145	145	115	115	115
Successful	39	39	39	26	26	26
Failed	31	31	31	27	27	27
Test b1=b2	-	F(1,144):0.01	F(1,144):0.62	-	F(1,114):0.01	F(1,114):0.05
	-	(p=0.90)	(p=0.43)	-	(p=0.95)	(p=0.83)

The method of estimation is least square. Robust standard errors (in parentheses) are clustered at the country level. The dependent variable is the t-1 to t log difference in real per capita GDP (WDI 2010). Country with less than twenty years of observations for the dependent variable are dropped from the sample. The F-test of equality of the estimates on the *success* and *failed* variables is reported. The variable *transition* is the sum of the three dummy variables, *successful*, *failed*, and *gradual*, and takes on a value of 1 in all years following a democratic transition.The constant is not reported. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Table 6: Pace And Intensity Of Regime Change

	All sample				Non socialist countries			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$successful_{i,t}$	0.883**	0.893**	0.873**	0.850**	1.186***	1.152***	1.124***	1.140***
	(0.430)	(0.423)	(0.415)	(0.423)	(0.401)	(0.397)	(0.389)	(0.392)
$failed_{i,t}$	1.416**	1.345**	1.449**	1.333**	1.316***	1.150**	1.290***	1.194**
	(0.635)	(0.587)	(0.627)	(0.597)	(0.462)	(0.465)	(0.459)	(0.475)
$temporary_{i,t}$	-0.774	-0.829	-0.790	-0.832	-0.219	-0.277	-0.224	-0.304
	(0.792)	(0.816)	(0.792)	(0.820)	(0.499)	(0.502)	(0.498)	(0.509)
$gradual_{i,t}$	-0.152			-0.141	0.224			0.247
	(0.578)			(0.583)	(0.665)			(0.668)
$partial_{i,t}$		0.367		0.356		0.527		0.560
		(0.864)		(0.869)		(0.896)		(0.899)
$reversed_{i,t}$			0.347	0.352			0.421	0.419
			(0.505)	(0.505)			(0.488)	(0.485)
Fixed Effects	country, year				country, year			
Observations	5,902	5,902	5,902	5,902	5,161	5,161	5,161	5,161
R-squared	0.166	0.166	0.166	0.166	0.150	0.150	0.150	0.150
N countries	145	145	145	145	115	115	115	115
Successful	39	39	39	39	26	26	26	26
Failed	14	14	14	14	11	11	11	11
Gradual	31	31	31	31	27	27	27	27
Partial	12	12	12	12	10	10	10	10
Reversed	17	17	17	17	17	17	17	17
Test b1=b2	F(1 144):0.60	F(1 144):0.48	F(1 144):0.71	F(1144):0.54	F(1 114):0.06	F(1 114):0.01	F(1 114):0.10	F(1 114):0.01
	(p=0.44)	(p=0.49)	(p=0.40)	(p=0.46)	(p=0.81)	(p=0.90)	(p=0.76)	(p=0.92)

The method of estimation is least square. Robust standard errors (in parentheses) are clustered at the country level. The dependent variable is the t-1 to t log difference in real per capita GDP (WDI 2010). Country with less than twenty years of observations for the dependent variable are dropped from the sample. The F-test of equality of the estimates on the *success* and *failed* variables is reported. The constant is not reported. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Table 7: Timing Of The Effect Of Transitions

	All	NS	All			NS		
	(1)	(2)	(3)			(4)		
			Successful	Failed	Gradual	Successful	Failed	Gradual
T^1[-5,-3]	0.359	0.228	0.583	0.179	0.070	0.523	-0.023	-0.022
	(0.841)	(0.539)	(0.857)	(0.263)	(0.068)	(0.744)	(-0.035)	(-0.021)
T^2[-2,0]	-1.705***	-1.209*	-2.284***	-0.329	-3.452	-1.239	-0.390	-3.303
	(-2.716)	(-1.849)	(-2.752)	(-0.547)	(-1.411)	(-1.558)	(-0.655)	(-1.170)
T^3[1,3]	-1.424*	0.162	-0.587	-0.758	-5.398*	1.598**	-0.051	-2.896
	(-1.915)	(0.263)	(-0.643)	(-0.828)	(-1.731)	(2.584)	(-0.081)	(-1.036)
T^4[4,6]	0.903*	0.565	0.917	0.696	1.149	0.731	0.687	-0.316
	(1.765)	(1.110)	(1.455)	(1.074)	(0.735)	(1.189)	(1.072)	(-0.187)
T^5[7,∞[	1.612***	1.443***	1.292**	2.153***	1.535	1.112**	1.859***	1.462
	(3.347)	(3.283)	(2.405)	(3.353)	(1.392)	(2.360)	(3.566)	(1.137)
Fixed Effects	country, year		country, year			country, year		
Observations	5,902	5,161	5,902			5,161		
R-squared	0.177	0.154	0.182			0.158		
Nb countries	145	115	145			115		
Successful	39	26	39			26		
Failed	31	27	31			27		
Gradual	14	11	14			11		

The method of estimation is least square. Robust standard errors (in parentheses) are clustered at the country level. The dependent variable is the t-1 to t log difference in real per capita GDP (WDI 2010). Country with less than twenty years of observation for the dependent variable are dropped from the sample. The constant is not reported. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Table 8: Robustness Checks I: Regime Change, Democracy And Growth

	Additional controls		Year*region fixed effect		Balanced sample		Placebo transitions	
Sample	All	NS	All	NS	All	NS	All	NS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$successful_{i,t}$	0.750*	1.235***	1.285***	1.141**	1.060**	1.215**	0.197	0.560
	(0.417)	(0.396)	(0.459)	(0.458)	(0.510)	(0.478)	(0.434)	(0.408)
$failed_{i,t}$	1.351*	1.092*	1.570**	0.993	1.508**	1.273**	0.037	0.376
	(0.778)	(0.581)	(0.772)	(0.651)	(0.757)	(0.512)	(0.558)	(0.552)
$temporary_{i,t}$	-0.594	-0.005	-0.842	-0.047	-1.048	-0.079	0.504	0.022
	(0.915)	(0.616)	(0.777)	(0.598)	(0.964)	(0.392)	(0.451)	(0.403)
investment	-0.020	0.027						
	(0.032)	(0.021)						
life expectancy	0.042	0.034						
	(0.044)	(0.039)						
govt consump.	-0.046	-0.047*						
	(0.030)	(0.024)						
trade share	0.024**	0.016**						
	(0.010)	(0.007)						
Fixed Effects	country year		country year*region		country year			
Observations	5,218	4,558	3,898	3,292	4,729	4,171	5,902	5,161
R-squared	0.193	0.181	0.236	0.188	0.175	0.160	0.165	0.147
N countries	144	114	111	84	127	103	145	115
Successful	32	25	31	19	30	20	30	26
Failed	27	25	24	20	22	19	27	26
Test b1:b2	F(1 143):0.53 (p=0.47)	F(1113):0.05 (p=0.83)	F(1 110):0.12 (p=0.73)	F(1 83):0.04 (p=0.84)	F(1 126):0.27 (p=0.61)	F(1 102):0.01 (p=0.93)	F(1144):0.07 (p=0.79)	F(1 114):0.10 (p=0.75)

The method of estimation is least square. Robust standard errors (in parentheses) are clustered at the country level. The dependent variable is the t-1 to t log difference in real per capita GDP (WDI 2010). Country with less than twenty years of observations for the dependent variable are dropped from the sample. The F-test of equality of the estimates on the *success* and *failed* variables is reported. The constant is not reported. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Table 9: Robustness Checks II: Regime Change, Democracy And Growth

Sample	Cutoff=4				Cutoff=6			
	All		NS		All	NS		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$successful_{i,t}$	0.914**	0.868**	1.237***	1.214***	0.770**	0.718**	1.074**	1.040**
	(0.410)	(0.411)	(0.394)	(0.390)	(0.355)	(0.364)	(0.504)	(0.493)
$failed_{i,t}$	1.396**	1.249**	1.233***	1.098**	1.507***	1.466***	1.308***	1.277***
	(0.621)	(0.585)	(0.456)	(0.470)	(0.486)	(0.512)	(0.441)	(0.460)
$temporary_{i,t}$	-0.851	-0.932	-0.309	-0.436	-0.658	-0.672	-0.146	-0.188
	(0.798)	(0.834)	(0.501)	(0.513)	(0.540)	(0.542)	(0.429)	(0.440)
$gradual_{i,t}$		-0.107		0.252		-0.147		0.243
		(0.608)		(0.667)		(0.747)		(0.668)
$partial_{i,t}$		0.514		0.745		0.113		0.399
		(0.877)		(0.893)		(0.600)		(0.869)
$reversed_{i,t}$		0.348		0.403		0.376		0.438
		(0.504)		(0.483)		(0.451)		(0.487)
Fixed Effects	country, year				country, year			
Observations	5,902	5,902	5,161	5,161	5,902	5,902	5,161	5,161
R-squared	0.166	0.166	0.150	0.150	0.166	0.166	0.150	0.150
N countries	145	145	115	115	145	145	115	115
Successful	40	40	27	27	27	27	17	17
Failed	30	30	26	26	43	43	36	36
Gradual	13	13	11	11	14	14	11	11
Partial	12	12	12	10	12	12	12	10
Reversed	17	17	26	17	17	17	36	17
Test b1=b2	F(1 144):0.51	F(1 144):0.36	F(1 114):0.01	F(1 114):0.04	F(1 5705):1.69	F(1 5702):1.65	F(1 114):0.14	F(1 114):0.14
	(p=0.48)	(p=0.55)	(p=0.99)	(p=0.83)	(p=0.19)	(p=0.20)	(p=0.70)	(p=0.71)

The method of estimation is least square. Robust standard errors (in parentheses) are clustered at the country level. The dependent variable is the t-1 to t log difference in real per capita GDP (WDI 2010). Country with less than twenty years of observations for the dependent variable are dropped from the sample. The F-test of equality of the estimates on the *success* and *failed* variables is reported. The constant is not reported. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Table 10: Robustness Checks III: Timing Of The Effect Of Transitions

	Additional controls		Year*region fixed effect		Balanced sample	
Sample	All	NS	All	NS	All	NS
	(1)	(2)	(3)	(4)	(5)	(6)
Successful transitions						
T^1 [-5,-3]	0.654	0.598	0.284	-0.042	0.051	0.305
	(0.682)	(0.733)	(0.721)	(0.850)	(0.754)	(0.895)
T^2 [-2,0]	-1.382*	-1.147	-1.055	-0.191	-3.225***	-1.658*
	(0.776)	(0.776)	(0.818)	(0.843)	(1.053)	(0.976)
T^3 [1,3]	-0.476	1.727***	0.438	1.781***	-1.304	1.489*
	(0.929)	(0.603)	(0.970)	(0.635)	(1.223)	(0.802)
T^4 [4,6]	0.896	0.838	0.777	0.407	0.210	0.395
	(0.606)	(0.621)	(0.766)	(0.815)	(0.717)	(0.654)
T^5 [7,∞ [	1.340**	1.262***	1.273**	0.765	0.851	0.979*
	(0.535)	(0.462)	(0.599)	(0.603)	(0.519)	(0.504)
Failed transitions						
T^1 [-5,-3]	0.553	0.294	-0.309	-0.422	0.771	0.744
	(0.740)	(0.725)	(1.029)	(1.074)	(0.909)	(0.903)
T^2 [-2,0]	0.148	-0.079	-0.957	-1.072	-0.926	-0.762
	(0.609)	(0.593)	(0.933)	(0.998)	(0.879)	(0.813)
T^3 [1,3]	-0.365	0.387	-0.681	0.080	-1.256	-0.017
	(0.982)	(0.615)	(1.090)	(1.022)	(1.332)	(0.965)
T^4 [4,6]	1.066	0.976	0.188	0.018	0.045	0.264
	(0.731)	(0.712)	(0.936)	(0.933)	(0.846)	(0.821)
T^5 [7,∞ [	2.493***	1.824***	2.330***	1.488*	2.137**	1.710**
	(0.776)	(0.605)	(0.870)	(0.790)	(0.864)	(0.690)
Gradual transitions						
T^1 [-5,-3]	0.331	-0.085	-0.151	0.521	-0.420	0.022
	(1.189)	(1.113)	(1.050)	(1.189)	(1.185)	(1.137)
T^2 [-2,0]	-0.678	-0.519	-3.666	-2.978	-5.524	-5.404
	(1.036)	(0.752)	(2.400)	(2.944)	(3.794)	(4.133)
T^3 [1,3]	-3.115	-0.158	-4.968	-3.064	-9.430*	-5.645
	(2.818)	(1.112)	(3.163)	(2.967)	(5.594)	(3.931)
T^4 [4,6]	2.113	0.541	0.460	-1.481	-0.772	-0.948
	(1.630)	(1.783)	(1.813)	(1.865)	(2.161)	(2.518)
T^5 [7,∞ [	1.598	0.789	1.197	0.566	0.919	1.375
	(1.452)	(1.154)	(1.115)	(1.331)	(1.474)	(1.696)
Fixed Effects	country,year		country year*region		country year	
Observations	5,220	4,558	3,952	3,292	4,795	4,171
R-squared	0.204	0.185	0.248	0.196	0.192	0.173
N countries	144	114	111	84	127	103
Successful	32	25	31	19	30	20
Failed	27	25	24	20	22	19
Gradual	12	10	14	11	8	7

The method of estimation is least square. Robust standard errors (in parentheses) are clustered at the country level. The dependent variable is the t-1 to t log difference in real per capita GDP (WDI 2010). For each of the following controls –investment, life expectancy, government consumption and trade share – we include a two-year lag of the variable (coefficients are not reported). Country with less than twenty years of observation for the dependent variable are dropped from the sample. The constant is not reported. *, **, and *** denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.