

Civil Conflict, Democratization, and Growth: Violent Democratization as Critical Juncture*

Matteo Cervellati

University of Bologna

Uwe Sunde

University of Munich

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Abstract

This paper provides an empirical investigation of the interaction between violent conflicts, democratization and growth in the “Third Wave” of democratization. The effect of democratization is weakened when accounting for the incidence of civil conflict. The results document that the growth effect of democratization is heterogeneous and depends on the democratization scenario. Peaceful transitions to democracy have a significant positive effect on growth that is even larger than reported in the previous literature, whereas violent transitions have no or even negative growth effects.

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I Introduction

Democratization brings economic prosperity. This view finds widespread support within international politics and has been advocated as rationale for actively supporting democratization, even at the risk of temporarily triggering violent conflicts during the transition process. Behind this perception lies the idea that, once firmly established, democracy will eventually lead to economic growth, irrespective of the modes of democratization. In spite of the widespread popular support of this view, there is relatively little empirical evidence on the relationship between democratization, social conflict and economic growth.

This paper presents an empirical investigation of the growth effects of democratization, civil conflict, and the interaction between them. A large body of research in political science discusses at length the complex and highly intertwined processes of democratization and civil violence, see, e.g., Huntington (1993). However, as discussed below, the available empirical studies have investigated the effect of democratization on growth, while abstracting from the role of civil conflicts. The literature in political science has further pointed out that the level of violence during democratization, and not only conflicts *per se*, might have long lasting effects on the prospects of democracies.¹ The point of democratization can be a “critical juncture” for the development of a country, and the level of violence during the regime transition might have long lasting effects on the future prospects of democracies.² While many authors have discussed the role of the

¹The role of violence during democratization for the features of emerging democracies is not obvious *a priori*. Huntington (1993) discusses extensively the interactions between violence and democratization during what he called the “third wave” of democratization. After pointing out that one cannot exclude that violent democratization might be beneficial, he concludes that it appears more plausible that peaceful transitions provide a better basis for the prospects of emerging democracies (Huntington, 1993, page 276).

²The hypothesis that countries embark on different development paths at important moments of their

contingencies in the transition scenario regarding the features of emerging democracies, the possibility that violent democratization might be relevant for the growth prospects of democracies is still empirically untested.

We use data for the “third wave” of democratization from the period 1960-2003. In the analysis, we exploit within-country variation over time, rather than variation across countries.³ This empirical strategy follows Rodrik and Wacziarg (2005), Persson and Tabellini (2006) and, more specifically, the event study approach of Papaioannou and Siourounis (2008). Using a difference-in-differences design, this approach exploits the heterogeneous timing of democratization across countries, whilst accounting for time invariant unobserved heterogeneity across countries by including country fixed effects, as well as for trends and waves in democratization by including year fixed effects.⁴

As a first step, the paper extends the scope of the existing literature on the growth history (so-called critical junctures) with persistent implications for development outcomes goes back at least to Moore (1966). More specifically, the role of different scenarios of the transition to democracy has been discussed in the political science literature by Lynn (1990), Remmer (1990), Sorensen (1993), Doh (1994), Munck and Leff (1997) and Field (2004), among others. Formal theories that investigate the determinants and consequences of different democratization scenarios are presented in Cervellati, Fortunato, and Sunde (2011, 2012).

³Earlier literature along the lines of Barro (1996), exploits variation across countries and delivers mixed findings, which have been attributed to the existence of unobserved country specific heterogeneity, see for instance La Porta, Lopez-de Silanes, Shleifer, and Vishny (1999) and Cheibub and Vreeland (2011).

⁴This approach addresses two central empirical problems in the estimation of the growth effect of democratization – the conceptualization and measurement of democratization, and the identification of the effect whilst also accounting for relevant but unobserved country specific heterogeneity. The analysis extends the previous investigations through the explicit investigation of the interaction between democratization, violent conflicts and growth. The different results can be directly compared to previous findings by retaining a fully comparable benchmark setup.

effect of democratization by explicitly accounting for the occurrence of violent conflicts, the role of which has been essentially omitted in the previous studies.⁵ This first set of findings documents that civil conflict is a relevant time-varying variable, whose effect is neither captured by country nor by time fixed effects. The results document a substantially smaller effect of democratization on growth once conflicts are controlled. The point estimates of the democratization effect are reduced by about a quarter and their significance is lower, particularly when internal conflicts concerning the control of the government are taken into account. Conflicts have a significantly negative growth effect, which is around three times as large as that of democratization. These findings are robust to the consideration of different samples and alternative definitions of conflict and democratization.

In a second step, we investigate whether the growth effect of democratization depends on the transition scenario. The specification is extended in order to allow for a heterogeneous effect of democratization, depending on the level of violence in the year of, or prior to, democratization, in addition to controlling for both country and time fixed effects, economic conditions and the occurrence of violent conflicts. The results reveal that the transition scenario does indeed play an important role. The effect of peaceful

⁵The study by Tavares and Wacziarg (2001) is exceptional in investigating different channels through which democracy affects growth in a cross-country growth framework, including war casualties. The work by Rodrik (1999) investigates whether the growth effects of adverse shocks are larger in countries with higher latent conflict and weaker institutions and documents a negative growth effect of conflict. Our analysis complements these investigations, which are based on cross-country variation, by focusing the role of democratization (rather than democracy) and exploiting within-country variation over time. The analysis also complements earlier work on the effects of political instability on growth, see, e.g., Alesina et al. (1996).

democratic transitions on growth is positive, significant, and quantitatively larger than the average effect of democratization in those countries that experienced a violent transition to democracy. Democratic transitions that result from violence do not enable a country to grow significantly faster than countries that do not experience a transition to democracy at all. The finding of a heterogeneous effect of democratization depending on the transition scenario is robust to the use of different data on conflicts, the consideration of multiple levels of violence, different samples, the inclusion of further controls (like investments, life expectancy, government spending and trade-share) and the consideration of interactions between democratization and other potentially relevant reforms like trade openness, financial liberalization and country specific characteristics that might interact with democratization, like ethnic-fractionalization.

The results have relevant implications and shed new light on the interpretation of the available evidence. The omission of violent conflicts might result in a distorted evaluation of the effects of democratization. Most importantly, the transition scenario, rather than the mere transition to democracy, appears crucial for the prospects of emerging democracies. This result has relevant implications from a purely technical point of view, since in the presence of heterogeneous effects, the interpretation of the point estimate of the average growth effect of democratization is problematic and potentially misleading, as the average effect crucially depends on sample composition. That the growth effect of democratization might depend on the transition scenario also has far reaching policy implications, since it issues a warning concerning the modes of regime transitions as well as the risks of policies aimed at actively pushing democratization, even at the cost of triggering violent conflicts.

The paper is organized as follows. Section II describes the data and estimation strat-

egy. Section III presents the results, and Section IV concludes.

II Data and Empirical Strategy

Data

The benchmark analysis relies on annual cross-country panel data from 166 countries over the period 1960-2003 and exploits information about the years of democratization of the countries that democratized during the “third wave” after 1970. The coding of democratic transition is based on relevant changes in political freedom, regarding participation in free and contested elections. The classification follows the conceptualization of Munck and Verkuilen (2002) and Przeworski et al. (2000) and uses sizable changes in the Freedom House or Polity indicators together with information from political, historical and election databases. The main information on democratization events and the year of democratization is taken from Papaioannou and Siourounis (2008) who, based on these data sources, constructed a binary indicator of transitions from an improved coding of democratization. The coding focuses attention on permanent transitions to democracy by imposing a five-year stability condition that essentially rules out short term reversals in the political regime.⁶

The analysis makes use of the data provided by the UCDP/PRIO Armed Conflict Dataset version 4 (2010) for the period 1946-2009 as benchmark information for civil conflicts and violence during the democratic transition. This data has been assembled by

⁶We refer to Papaioannou and Siourounis (2008) for a detailed description of the methodology used for the classification. A detailed chronology of democratization events can be found in their Table 1.

Gleditsch et al. (2002), and has been updated by Harbom and Wallensteen (2010).⁷ The data contains information on the incidence of violent conflicts, as well as on the number of fatalities, the type of conflict and its goals.⁸ The least restrictive definition is whether there has been any incident of armed conflict leading to more than 25 battle-related deaths. There are 782 country-year observations (14.5%) with any type of conflict incidence in the data set. An alternative definition confines conflicts to be internal (without intervention from other states) or internationalized internal armed conflicts, disregarding extra-systemic or interstate armed conflicts. A third definition focuses on the reason for the conflict, restricting attention to conflicts about government (rather than territory). This last definition constitutes a strict subset of internal conflicts. The data contains 432 country-year observations (8%) with internal conflict about the government.

The transition scenario is coded as violent or peaceful, depending on whether an incidence of a conflict is observed in the year of democratization or in the year before.⁹ For the purpose of robustness, the role of conflict intensity is also investigated, defining high intensity as conflicts with more than 1,000 battle-related deaths in a given year.

The PRIO Data on civil conflicts do not provide specific information about violent struggles for democratization. An alternative classification of violent regime transition is available from a publication of Freedom House (Karatnycky et al., 2005), which documents the democratic transitions of the Third Wave, according to the driving forces behind the

⁷See http://www.pcr.uu.se/research/UCDP/data_and_publications/datasets.htm.

⁸A detailed discussion of the UCDP/PRIО alternative definitions of armed conflicts is available at http://www.pcr.uu.se/database/definitions_all.htm.

⁹The share of violent democratization events in total in the sample varies from around 10% for the more restrictive conflict definition that refers to internal conflicts about the government only, to approximately 20% for the broadest conflict definition, referring to any incidence of conflict.

transition, and the level of violence that accompanied the democratization event. The coding classifies democratic transitions according to an indicator of the level of violence that can take four values: no violence, little violence, significant violence and high violence. This allows us to focus attention on violence that was explicitly related to the transition to democracy, and to examine the robustness of the results with respect to the use of an alternative data source.¹⁰

The data on GDP per capita, as well as on additional controls like trade shares, investment, government consumption, and life expectancy are from the World Bank’s World Development Indicators. Additional controls also include years of schooling taken from Barro and Lee (2001), openness to trade constructed by Wacziarg and Welch (2003), ethnic fragmentation from Montalvo and Reynal-Querol (2005), and financial liberalization from the data set constructed by Abiad et al. (2008).

Estimation Strategy

The effect of democratization and violent conflict on growth is identified by exploiting within-country variation in political institutions. The estimation framework is given by

$$g_{i,t} = \delta Democ_{i,t} + \zeta Conflict_{i,t} + \alpha_i + \eta_t + X'_{i,t-1} \Gamma + \varepsilon_{it}, \quad (1)$$

where the dependent variable $g_{i,t}$ is the growth rate of annual real per capita GDP in percent between year $t-1$ and t in country i .¹¹ The specification includes country and year

¹⁰In order to obtain comparable results, we construct a binary indicator of the observation of significant or high violence compared to no or little violence, or a binary indicator of high violence, respectively. According to the Freedom House classification, about 40% of the countries in the data set experience democratic transitions with at least a significant level of violence, and about 17% of the countries observed democratic transitions with a high level of violence.

¹¹The growth variable is generated as $g_t = (\ln y_t - \ln y_{t-1}) \cdot 100$.

fixed effects, α_i and η_t , respectively, to account for time-invariant country characteristics and for time trends which are common across countries. The variable *Democ* represents a binary indicator that takes value 1 in the year of democratization as well as in all years in which the country remains democratic, and 0 otherwise.

The coefficient of primary interest is δ , which captures the effect of democratization on growth. Due to the inclusion of country and year fixed effects, δ represents the effect of democratization, in the sense of a difference-in-difference estimator that exploits a democratic transition in the respective countries as treatment (first difference) and compares it to countries that do not experience a democratic transition, i.e., that stay democratic or autocratic (second difference). The second coefficient of primary interest is ζ , which estimates the effect of conflict in the respective year and country on growth. The coefficient has again the interpretation of a differences-in-differences estimator. Finally, the vector X includes additional time-varying controls such as lagged income growth and levels, lagged changes and levels in investment, government consumption, and trade openness.¹² In the estimation, errors are robust to clustering on the country-level.

In light of the direct comparability with previous findings in the literature, the relevance of the results does not hinge on a causal interpretation. The results of the difference-in-difference estimator can be interpreted as causal, however, if two critical assumptions are satisfied. Firstly, the reform variable (democratization) has to be exogenous conditional on other control variables that are included in the estimation. The findings available in the literature do not provide robust evidence for reverse causality. The findings by Acemoglu et al. (2008, 2009) suggest that the correlation between income and democracy

¹²Essentially, this specification follows Papaioannou and Siourounis (2008) with the relevant difference that it controls for the occurrence of social conflicts.

essentially disappears once country and year fixed effects are accounted for, i.e., when exploiting within-country variation for identification. Nevertheless, since the modernization hypothesis would predict income or income growth to have an effect on democratization it appears important to control for lagged growth and income realizations, assuaging possible concerns of reverse causality from this direction. Secondly, non-randomness of the year of democratization and different time trends could affect identification and lead to biases in both directions, as discussed in detail by Papaioannou and Siourounis (2008). To account for these potential confounds, the specification of the estimation equation includes country and year fixed effects, past realizations of income growth and income levels, as well as additional controls.

III Results

The Effect of Democratization on Growth

Table 1 presents the estimation results of the empirical model (1) for the baseline specification including income controls (in terms of lagged growth and lagged income levels) as well as for the extended specification that, in addition to lagged growth and income levels, also controls for current and lagged values of investment, life expectancy, government spending and trade share.¹³ The results are obtained using the entire sample of countries.

Table 4 in the Appendix presents the respective results for a reduced sample that only

¹³For comparison, the table also includes the results for specifications that do not explicitly control for violent social conflicts and therefore replicate the respective results from Papaioannou and Siourounis (2008). The results are qualitatively similar in specifications that only include some of these controls and are available upon request.

keeps countries with at least 20 observations for the dependent variable, to minimize the bias due to the joint presence of the lagged dependent variable and country-fixed effects. Former socialist countries are also dropped in this reduced sample since for these countries the quality of income data before the transition might be questionable.

Table 1 about here.

In the full sample, democratization has a positive growth effect of around 1 to 1.2% per year, replicating the findings of Papaioannou and Siourounis (2008). The other columns present estimation results when conflicts in terms of the incidence of any conflict, or any internal conflict concerning the government, respectively, are added as additional control. Throughout all specifications, two main results emerge. Firstly, the incidence of conflict exerts a significant negative effect on growth. Not surprisingly, countries in which violent conflicts take place do not grow as fast as countries without conflicts. This effect is sizable, and about two to three times larger than the effect of democratization. Secondly, the effect of democratization becomes quantitatively smaller when conflicts are accounted for in the estimation. The size of the effect is by about a quarter smaller compared to the benchmark specifications without conflict controls. This difference is not statistically significant. The (average) effect of democratization is, however, statistically weaker when controlling for the incidence of internal conflicts regarding the government. Likewise, compared to the definition of any conflict incidence, internal conflicts regarding the government appear to have the strongest negative effect of -2% to -3% on growth in all specifications. These findings are similar across the different samples and are robust to the inclusion of additional controls.

The estimates of the effect of democratization on income growth might be biased if conflicts are either unduly omitted from the regressions in specifications (1) or (4) of Table 1, or if they are included in the regression while being endogenous to current growth performance, in the remaining specifications of Table 1. If conflicts are less likely in democracies and they affect growth negatively, the omitted variable bias would imply an overestimate of the effect of democratization in specifications (1) or (4) of Table 1. On the other hand, if conflicts affect growth negatively, while democratization reduces the incidence of social conflict, the inclusion of conflict as an endogenous variable implies a downward bias in the other specifications. The true (unbiased) effect of democratization is therefore likely to be bounded by the estimates obtained with and without the inclusion of social conflicts. For instance, the results in Column (4) display a growth effect of democratization of 1.205 when conflicts are not accounted for in the regression. Including conflict reduces the estimate to 0.995 in column (5) (or to 0.947 in column (6)). Hence, the interpretation of the finding of a lower growth effect of democratization once conflicts are included in the estimation is consistent with both interpretations of potential bias and depends on the assumptions about the correct model. However, the result of a positive growth effect of democratization emerges throughout and, under the previously discussed assumptions, the two sets of findings might be interpreted as bounds for the true effect δ . As a basic method to reduce the potential endogeneity bias, we also estimated the model while dropping all observations during the year of democratization from the sample. The results are qualitatively identical, with somewhat smaller growth effects of democratization than in the baseline sample. As a further robustness check, we replicated the analysis for different degrees of democratization (full, partial and borderline democratization, as

well as reverse transitions).¹⁴ Throughout all specifications, the incidence of conflict, or the incidence of internal conflict for government, exhibit significantly negative effects on growth and the inclusion of conflict incidence as a control variable reduces the effect of the democratization event by about one fourth, and also reduces its statistical significance.

Democratization and Growth: The Role of the Transition Scenario

The results presented so far investigate the role of democratization and conflict for economic growth while abstracting from the potentially heterogeneous effect of different transition scenarios in terms of violence during the transition, on the subsequent growth performance of democracies. However, the average effect of democratization as reported above may hide substantial and relevant heterogeneity between peaceful and violent regime changes.

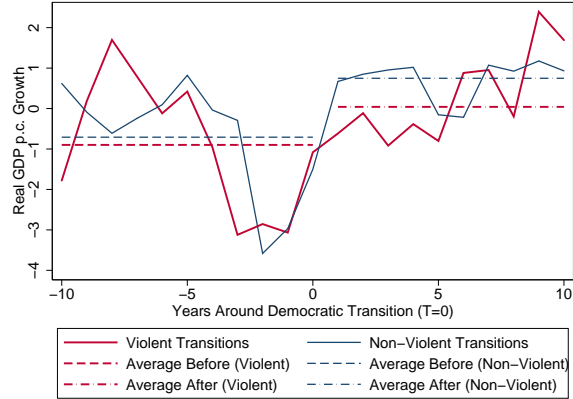
Preliminary Results

As a preliminary investigation of the possible role of the democratization scenario for growth, Figure 1 plots the average yearly growth rate of real GDP per capita in a 20-year window around democratization. The growth rates are demeaned across countries, which eliminates common time trends.

Compared to the average across all countries, growth is slightly slower before the democratization, slows down just before the democratic transition, and increases to a

¹⁴Countries with neither fully democratic nor fully autocratic political institutions are coded as intermediate countries. Partial democratization has even weaker effects on growth and reverse transitions from democracy to non-democratic rule have a negative effect on growth.

Figure 1: Violence and Growth Around the Period of a Permanent Democratic Transition



The figure plots the evolution of time-demeaned levels of growth in real GDP per capita (growth rate in real GDP per capita in a country minus the average level of growth for that year) in the ten years before and after a permanent democratic transition. See Section II for details on the data sources and definitions.

higher growth rate after democratization. The low income growth before democratization appears to be a common feature of both violent and non violent regime transitions, which suggests that the low income growth cannot be simply ascribed to the presence of an ongoing violent conflict. The fact that income growth is particularly low just before democratization is broadly in line with the view that democratization may follow a temporary window of opportunity created by negative income shocks, as documented in the findings of Brückner and Ciccone (2011) reporting a causal increase in the likelihood of democratization after negative income shocks in Sub-Saharan Africa. This preliminary evidence suggests, however, that accounting for past levels of growth and past levels of conflict in the econometric analysis is necessary in order to correctly identify the effects of democratization.

Figure 1 also shows a difference in the growth pattern between countries that experience a violent transition to democracy and countries with a peaceful transition experience. Before democratization, both groups of countries have similar growth rates which

are approximately 0.7% and 0.9% lower than average, respectively. After democratization, countries with a peaceful transition have growth rates that are higher than average (by approximately 0.75%), and are substantially higher than countries with a violent transition, which just grow with the average rate. The figure suggests that countries democratizing violently display lower growth rates in particular in the five years after the transition. Nonetheless the average difference in growth is persistent and appears significant even over a ten-year horizon after democratization. The figure is purely suggestive, however, since except for common time trends, the plots do not control for any other observable differences across the two groups of countries, including differences in past economic performance or contemporaneous conflicts.

Estimation Results

To investigate the hypothesis that the transition scenario is crucial for the subsequent economic development of new democracies more structurally, the growth effect of democratization for violent and non-violent transitions to democracy is estimated in an extended version of model (1) that accounts for potential differences in the growth effects of the different democratization scenarios. The resulting empirical model is

$$g_{i,t} = \beta D_{i,t} + \gamma V_{i,t} + \zeta Conflict_{i,t} + \alpha_i + \eta_t + \Gamma X'_{i,t-1} + \varepsilon_{it} , \quad (2)$$

where $g_{i,t}$ is the growth rate of real per capita GDP (in percent) in year t in country i . The first coefficient of interest in this model is β , the effect of a peaceful democratization, reflected by a binary indicator variable $D_{i,t}$ that takes value 1 in the year of a permanent democratization episode as well as in all following years. The second coefficient of interest is γ , the effect of a democratic transition that was accompanied by

violent conflict, reflected by a binary indicator $V_{i,t}$ that takes value 1 in the year of a permanent democratization episode in which armed conflict was also observed, as well as in all following years. As before, the effect of conflict in the respective year and country is captured by ζ . Country fixed effects α_i and year fixed effects η_t account for time-invariant country characteristics and global time trends, respectively. As in specification (1), the additional time-varying controls, X , include lagged income (growth rates and levels), the level of investment, government consumption, income and trade openness as well as civil conflicts.

Due to the inclusion of country and time fixed effects, this model represents a difference-in-difference setting in which coefficient β reflects the effect of (peaceful) democratization on growth in the “treated” group of countries relative to control countries that remain undemocratic or remain democratic in a particular year. The distinction of violent transitions to democracy as a subgroup of all democratization experiences represents a refinement of the model in terms of an additional difference. The distinction between all transitions to democracy, D , and the subset of transitions that was associated with violent conflict, V , implies a difference-in-difference-in-difference interpretation of the coefficient γ , since V is essentially capturing the interaction between democratization and conflict in the year of democratization. The null hypothesis is that $\gamma = 0$, that is, that democratic transitions which occur in the context of violent conflict do not affect growth any differently than peaceful transitions to democracy. In other words, the null hypothesis is that the transition scenario does not represent an element of relevance from the perspective of the critical junctures hypothesis.

The empirical model (1) is nested as a special case of the empirical model (2). The baseline results, reported in Table 2 can therefore be directly compared to the results in

Table 1 which were obtained without taking the role of the transition scenario into account. The panels of Table 2 present the results for the same sample and specifications reported in Table 1.¹⁵ Columns (1) and (2) present the estimation results for the specification with lagged income and growth controls only, as well as for a more extensive specification that includes investment, life expectancy, government spending and trade share as additional controls, respectively.¹⁶

Table 2 about here.

The results in the remaining columns reveal that the effect of democratization differs across transition scenarios, namely, when accounting for violence during the transition as opposed to peaceful transitions. Democratization has an even larger growth effect when the transition occurs in the absence of violence, but the effect of violent transitions is significantly smaller as implied by the negative coefficient estimate. The specifications in columns (3) and (5) extend the estimation by accounting for the differential effect of peaceful and violent democratization. For instance, the result in column (5) suggests that the average effect of 1.2% results from a (quantitatively larger) positive effect of 1.54% for peaceful transitions to democracy. This effect is reduced by -1.85% in the event of violent transitions. The difference in the growth effects of democratization across transition scenarios is larger when accounting for conflicts for government (and, for instance, in column (10) the respective point estimates are 1.158% and -3.611%). The implied total effect of a violent democratization on income growth is presented at the bottom of each panel and ranges from -0.5% to -2.4%.

¹⁵Table 5 shows the results for the restricted sample that correspond to Table 4.

¹⁶The results in columns (1) and (2) of Table 2 are identical to specifications in columns (1) and (4) of Table 1.

It is worth noting that the effect of violent transitions is different to the effect of violence *per se*. As a matter of fact, the point estimates of the effect of violent conflicts are barely affected by the explicit consideration of the transition scenario. The results in column (5) of Table 1 show an average effect of democratization of about 1%, as well as a negative effect of civil conflict of -1.73%. The corresponding specification that accounts for the transition mode is reported in column (6) of Table 2. The negative direct effect of conflict is essentially the same with -1.75%. Similar results emerge when restricting attention to conflicts for governments and for different sub-samples.

The analysis of the various specifications and samples confirms a different growth effect of violent and of peaceful transitions. A peaceful transition accelerates growth in the range of 1.2-1.5% per year, whilst a violent transition reduces this effect by 1.5-2% per year in the full sample when all conflicts are considered (columns (3)-(6)). This implies that countries that experience incidences of conflict during democratization do not grow faster than the control countries. The result is essentially unchanged when controlling for armed conflicts (columns (4) and (6)). When restricting violent transitions to internal conflicts that concern the government as opposed to territory during the democratization, the detrimental growth effect of violent transitions (and of conflict *per se*) becomes even larger. Compared to peaceful democratization experiences with positive growth effects of 1-1.3%, a violent transition reduces growth by 2-3.8%. Countries democratizing after a civil war aimed at controlling the government do in fact grow significantly less than the control group of countries that do not democratize (or that remain democracies).¹⁷

The results are qualitatively identical, but quantitatively more pronounced and statis-

¹⁷These results are robust to the inclusion of higher order lags for conflicts as additional controls.

Detailed results are available upon request.

tically more significant, when restricting attention to the sample with at least 20 observations per country and excluding former socialist countries in Panel B. Democratization has a significant positive effect on growth if the transition occurs in the absence of conflict. If the transition is accompanied by violence, the effect is negative and growth in these countries is not faster than in control countries, or is even slower. The results are almost unchanged when dropping the year of democratization from the estimation sample as a basic method of ruling out endogeneity in terms of the transition scenario.

In the analysis so far, the effect of democratization has been identified by comparing the growth performance in countries that experience a transition to democracy in a given year to the growth performance in all other countries that do not experience a transition in that year, i.e., those remaining non-democratic or democratic. Results for alternative sample specifications are also presented, since countries in the sample that never democratize or that are democracies throughout the sample period may perhaps have a systematically different data generating process than countries that experience a transition.

The most restrictive sample that can be used in this context only contains countries that democratize during the sample period. Compared to the baseline, this sample excludes countries that are democracies or autocracies throughout the entire sample period. This sample therefore only includes the 63 countries that undergo a transition to democracy during the observation period. With this sample, the growth effect of democratization is identified by contrasting the growth performance in countries that democratize in a given year, to the growth performance in other countries that have democratized or will democratized during the sample period. Table 3 shows the results for this alternative comparison group. The estimates are very similar to those obtained with the full sample

in Table 2. The growth effect of (peaceful) democratization is very similar to that obtained with the largest comparison group. The main difference is that the heterogeneity in the effect of the transition scenario appears to be slightly larger. In particular, the differential effect of violent transitions to democracies tends to be more negative when the reference group is restricted to countries that democratize during the sample period.

Table 3 about here.

An alternative sample only includes countries that are not already democratic at the beginning of the sample period. With this comparison group, the growth effect of democratization is identified by contrasting the growth performance in countries that democratize in a given year, to the growth performance in other countries that started out non-democratic, and that do not democratize in that year, but that might have democratized earlier during the sample period, that might democratize later during the sample period, or that might never democratize during the sample period. Table 6 shows the results for this alternative comparison group. The estimated effects are qualitatively identical.

Robustness

Before concluding, we briefly comment on the results of some further robustness checks.¹⁸

Conflict Intensity. When solely considering armed conflict with high intensity (more than 1,000 battle-related casualties), the incidence of conflict slows down growth by 2-3%. Violent transitions that involve a high intensity conflict exhibit a more negative growth effect. When distinguishing high and intermediate intensity conflicts (where intermediate

¹⁸The results of these further checks are not reported for space reasons, but are available upon request.

intensity includes conflicts with at least 25, but not more than 1,000 battle-related casualties), a similar picture emerges. While democratic transitions with intermediate conflicts involve a total effect on growth which is essentially zero, the democratic transitions involving a high intensity of conflict have a significant negative effect on growth. As one might expect, the higher the intensity of conflict the more negative is the direct effect of conflict on growth.

Alternative data on violence during democratization. The baseline results have been based on a classification of regime transitions that corresponds to an interaction effect between democratization and a violent conflict in the year of democratization, irrespective of whether the violent conflict is the result of a revolt against a non-democratic regime and attempts of repression, or of some other cause. The conflict measure is based on the number of battle-related deaths exceeding a conventional threshold. The use of an alternative data set from the Freedom House (Karatnycky et al., 2005) that contains information on the level of violence associated with the democratic transition allows us to test the robustness of the previous results with respect to a definition of conflicts that is specifically related to democratization and that uses different gradings for the extent of violence. The incidence of any type of civil conflict (which is not necessarily related to democratization) from the PRIO dataset specifications is still included as additional control. The results confirm the findings and document a significant difference in the growth effects between peaceful and violent democratization transitions, with peaceful transitions to democracy exhibiting a significant positive growth effect, whereas violent transitions have no or even a negative effect on growth.

Different Income Processes. One possible confound for the results is that the heterogeneous effect of the different democratization scenarios picks up the effect of different

income processes (in terms of either income levels or growth) even before democratization. To test this possibility we have extended the specification by allowing that past income growth (lagged one and two periods) and lagged income levels to differ, depending on whether a country (eventually) democratized violently. The results do not reveal any statistically significant heterogeneous effect of either lagged income growth or lagged income levels. Since income growth is the main variable of interest we also allow for the possibility that the effect of past income growth on future income growth differs depending on the democratization scenario only *after* democratization.¹⁹ The results suggest that the effect of past growth on current growth is significantly larger after democratization in countries that democratize violently. Conclusively, the results of this analysis suggest that violent democratization has a negative effect on income growth and may additionally make the effects of income changes (or shocks) more persistent (as documented by an increased autocorrelation between current and past growth rates after violent democratization).

Further Controls and Interactions with other Reforms. The findings by Giavazzi and Tabellini (2005) suggest that economic liberalization, reflected by greater openness to trade, that occurs along with democratization might be responsible for part of the growth effect of democratization. The specifications so far included trade-openness as additional control, but it might even be that democratization triggers economic liberalization, or that economic liberalization is particularly beneficial for growth in countries that are already open to trade. Unreported results for regressions with openness as dependent variable indeed suggest that democratization has a positive effect. This is not the case, however, in regressions with trade shares as dependent variable. Most important is that the main

¹⁹This is done by interacting income growth with either a dummy that takes value one in a country after a peaceful democratization or value one after a violent democratization, respectively.

results are robust to the inclusion of trade reforms (and openness) as further controls as well as to the consideration of interactions between democratization and openness.

Following a similar reasoning, financial liberalization spurs growth, and political liberalization and democratization may cause, or at least accompany, financial liberalization.²⁰ To the extent that the transition scenario to democracy might conceal different degrees of financial liberalization, the differential effects of peaceful and violent democratization might reflect differences in financial liberalization. Besides reducing sample size by about a half and rendering the main effect of peaceful transitions statistically insignificant, the results show no effect of democratization on financial reform in regressions with the latter as outcome variable. The results also confirm the main findings of a significant heterogeneous effect of peaceful and violent transitions to democracy. The effect of peaceful transitions is smaller and less significant once financial liberalization and an interaction with democratization is included, which could suggest that some of the positive effect of democratization might indeed work through financial liberalization.

Another potential explanation or confound for the findings is that democratization affects growth differently in countries with different levels of ethnic fragmentation or polarization, see, e.g., Rodrik and Wacziarg (2005). This might explain the interaction findings, since rifts between ethnicities are one of the main determinants of recurrent social conflicts. Controlling for country fixed effects and conflict incidence as in the above specifications should account for part of this effect, but an interaction between democratization

²⁰Bekaert et al. (2005) estimate the growth effect of financial liberalization, while Bonfiglioli (2008) investigates the channels through which financial integration affects economic performance. Campos and Coricelli (2009) investigate the relationship between democratization and financial reform and find evidence for a non-linear relationship.

and ethnic polarization might have been omitted. The results obtained when accounting for such an interaction effect between democratization and ethnic fragmentation or polarization do not provide evidence for such an effect, but confirm the differential effect of peaceful and violent democratization. In all cases we could not detect any significant further interaction with democratization.

The regression analysis confirms that the differential effect of democratization is persistent and robust to the explicit consideration of several controls. To interpret these findings, recall that the sample is restricted to permanent democratic transitions. Violent transitions being less likely to consolidate and stabilize into successful democracies, the episodes of violent movements towards democracy might be under-represented in the sample. If this is the case then the estimated impact of violence during democratization is likely to be a conservative estimate of the differential negative effect of violence.

IV Concluding Remarks

This paper provides new evidence on the interactions between violence, democratization and economic performance using data from the third wave of democratization. The effect of democratization appears smaller in magnitude and tends to lose statistical significance once conflicts, which were omitted in the previous literature, are controlled for in the empirical specification. Conflicts about the government, in particular, have a first order negative effect on economic growth. The scenario under which the democratization takes place has important implications for the future prospects of democracies. In line with the view that the moment of democratization might represent a critical juncture for the subsequent development path, the results document that peaceful transitions have

significant and robust positive effects on growth while the effect is absent or even negative in countries that experience a violent transition to democracy.

The results complement, and substantially qualify, previous findings by highlighting the importance of controlling for violent conflicts and the transition scenario when gauging the effects of democratization since their omission may result in a distorted evaluation of the effects of regime transitions and since the average effect crucially depends on sample composition in terms of violent and non violent democratization. Civil conflict might matter also for the likelihood of a successful transition, the stability of the emerging democracies, and the volatility of economic performance, rather than its level. The focus on the effect of permanent democratization for economic growth therefore constitutes a first, and conservative, way of estimating the effects of violence in the process of democratization.

The evidence is also suggestive regarding the future prospects of emerging democracies in the context of the recent experience in several Arab countries. The scenarios of regime change and, in particular, the levels of violence involved in the transition to democracy, differ substantially across these countries. Taking the evidence from the third wave seriously, one may expect very different economic prospects for the emerging democracies in the region.

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Table 1: The Effect of Democratization and Conflicts on Income Growth

| Type of Armed Conflict: | (1) | All (2) | Government (3) | (4) | All (5) | Government (6) |
|-------------------------|--------------------|----------------------|----------------------|--------------------|----------------------|----------------------|
| Democratization | 1.060** [0.415] | 0.800* [0.406] | 0.655 [0.428] | 1.205** [0.477] | 0.995** [0.465] | 0.947** [0.469] |
| Armed Conflict | | -2.332*** [0.526] | -3.085*** [0.888] | | -1.729*** [0.447] | -2.082*** [0.482] |
| Income Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Additional Controls | No | No | No | Yes | Yes | Yes |
| Country Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 5,144 | 5,144 | 5,144 | 4,689 | 4,689 | 4,689 |
| R-squared | 0.289 | 0.298 | 0.300 | 0.334 | 0.34 | 0.339 |

Notes: Fixed effects estimates, robust standard errors clustered at the country level in brackets. All specifications include a full set of country and year dummies. *, **, *** denote significance at the 10-, 5-, 1-Percent level, respectively. The sample includes all countries ($N=166$).

Democratization is a binary indicator that takes value 1 in the year of a transition to democracy and all years after in which the country stays democratic. The “Income controls” include lagged growth (1 and 2 lags), three-year lagged income level, and region-specific time trends. Specifications with “Additional Controls” include current and lagged changes as well as two-year lagged levels of investment, life expectancy, government spending and trade share; income controls only include lagged growth (1 lag) and two-year lagged income level in these specifications.

Table 2: The Effect of the Democratization Transition Scenario on Income Growth

| Type of Armed Conflict: | All | | | | | | Internal Conflict for Government | | | |
|---|--------------------|--------------------|---------------------|----------------------|---------------------|----------------------|----------------------------------|----------------------|---------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Democratization | 1.060** [0.415] | 1.205** [0.477] | 1.367*** [0.471] | 1.120** [0.450] | 1.541*** [0.558] | 1.351** [0.531] | 1.223*** [0.430] | 0.895** [0.419] | 1.383*** [0.493] | 1.158** [0.468] |
| Democratization × Violence | | | -1.543** [0.689] | -1.607* [0.826] | -1.851** [0.916] | -1.975* [1.020] | -1.981* [1.058] | -3.130** [1.410] | -2.798* [1.670] | -3.611* [1.925] |
| Armed Conflict | | | | -2.339*** [0.528] | | -1.750*** [0.448] | | -3.221*** [0.916] | | -2.229*** [0.513] |
| Income Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Additional Controls | No | Yes | No | No | Yes | Yes | No | No | Yes | Yes |
| Country Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Violent Democratization (Total Effect) | | | -0.175 [0.560] | -0.487 [0.729] | -0.310 [0.710] | -0.624 [0.861] | -0.758 [0.997] | -2.235 [1.386] | -1.415 [1.579] | -2.452 [1.868] |
| Observations | 5,144 | 4,689 | 5,144 | 5,144 | 4,689 | 4,689 | 5,144 | 5,144 | 4,689 | 4,689 |
| R-squared | 0.289 | 0.334 | 0.289 | 0.298 | 0.335 | 0.341 | 0.289 | 0.301 | 0.335 | 0.341 |

Notes: Fixed effects estimates, robust standard errors clustered at the country level in brackets. All specifications include a full set of country and year dummies. *, **, *** denote significance at the 10-, 5-, 1-Percent level, respectively. The sample includes all countries ($N=166$). Democratization is a binary indicator that takes value 1 in the year of a transition to democracy and all years after in which the country stays democratic. Democratization × Violence represents a binary indicator that takes value 1 in the year of a transition to democracy and all years after in which the country stays democratic, if there was an incidence of conflict in the year of, or the year before, democratization. “Income controls” include lagged growth (1 and 2 lags), three-year lagged income level, and region-specific time trends. Specifications with “Additional Controls” include current and lagged changes as well as two-year lagged levels of investment, life expectancy, government spending and trade share; income controls only include lagged growth (1 lag) and two-year lagged income level in these specifications.

Table 3: The Effect of the Transition Scenario on Growth: Restricted Sample

| Type of Armed Conflict: | Only Countries that Democratize during 1960-2003, $N = 63$ | | | | | | | | | |
|---|--|--------------------|----------------------|----------------------|---------------------|----------------------------------|---------------------|----------------------|---------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | All | | | | | Internal Conflict for Government | | | | |
| Democratization | 0.998** [0.487] | 1.244** [0.520] | 1.314** [0.576] | 1.260** [0.569] | 1.604** [0.611] | 1.557** [0.597] | 1.185** [0.531] | 1.068** [0.520] | 1.426** [0.558] | 1.318** [0.534] |
| Democratization×Violence | | | -1.949** [0.865] | -2.038** [0.983] | -2.046** [0.880] | -2.109** [0.976] | -2.526** [1.075] | -3.694** [1.591] | -2.966** [1.404] | -4.108** [1.907] |
| Armed Conflict | | | -2.013*** [0.735] | -1.959*** [0.674] | | | | -3.011*** [0.929] | | -2.601*** [0.711] |
| Income Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Additional Controls | No | Yes | No | No | Yes | Yes | No | No | Yes | Yes |
| Country Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Violent Democratization (Total Effect) | | | -0.635 [0.606] | -0.778 [0.746] | -0.442 [0.657] | -0.552 [0.797] | -1.341 [0.884] | -2.626* [1.460] | -1.539 [1.241] | -2.790 [1.793] |
| Observations | 1,841 | 1,768 | 1,841 | 1,841 | 1,768 | 1,768 | 1,841 | 1,841 | 1,768 | 1,768 |
| R-squared | 0.327 | 0.408 | 0.329 | 0.338 | 0.411 | 0.418 | 0.329 | 0.340 | 0.411 | 0.418 |

Notes: Fixed effects estimates, robust standard errors clustered at the country level in brackets. All specifications include a full set of country and year dummies. *, **, *** denote significance at the 10-, 5-, 1-Percent level, respectively. The sample only includes countries that democratized during the observation period and excludes all countries that are already democracies at the beginning of the observation period and stay democracies throughout, as well as countries that are autocracies at the beginning of the observation period and remain autocracies throughout ($N=63$). Democratization is a binary indicator that takes value 1 in the year of a transition to democracy and all years after in which the country stays democratic. Democratization×Violence represents a binary indicator that takes value 1 in the year of a transition to democracy and all years after in which the country stays democratic, if there was an incidence of conflict in the year of, or the year before, democratization. “Income controls” include lagged growth (1 and 2 lags), three-year lagged income level, and region-specific time trends. Specifications with “Additional Controls” include current and lagged changes as well as two-year lagged levels of investment, life expectancy, government spending and trade share; income controls only include lagged growth (1 lag) and two-year lagged income level in these specifications.

A Appendix: Robustness

Table 4: The Effect of Democratization and Conflicts on Income Growth: Restricted Sample

| Restricted Sample (at least 20 obs., no socialist, $N=125$) | | | | | | |
|--|---------------------|----------------------|----------------------|--------------------|----------------------|----------------------|
| Type of Armed Conflict: | (1) | All (2) | Government (3) | (4) | All (5) | Government (6) |
| Democratization | 0.959*** [0.308] | 0.753** [0.316] | 0.533 [0.351] | 0.833** [0.355] | 0.698* [0.358] | 0.583 [0.360] |
| Armed Conflict | | -1.967*** [0.509] | -3.154*** [0.968] | | -1.176*** [0.366] | -1.920*** [0.488] |
| Income Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Additional Controls | No | No | No | Yes | Yes | Yes |
| Country Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 4,555 | 4,555 | 4,555 | 4,183 | 4,183 | 4,183 |
| R-squared | 0.23 | 0.237 | 0.243 | 0.297 | 0.300 | 0.302 |

Notes: Fixed effects estimates, robust standard errors clustered at the country level in brackets. All specifications include a full set of country and year dummies. *, **, *** denote significance at the 10-, 5-, 1-Percent level, respectively. The sample excludes countries with less than 20 observations or former socialist countries ($N=125$). Democratization is a binary indicator that takes value 1 in the year of a transition to democracy and all years after in which the country stays democratic. The “Income controls” include lagged growth (1 and 2 lags), three-year lagged income level, and region-specific time trends. Specifications with “Additional Controls” include current and lagged changes as well as two-year lagged levels of investment, life expectancy, government spending and trade share; income controls only include lagged growth (1 lag) and two-year lagged income level in these specifications.

Table 5: The Effect of the Democratization Transition Scenario on Income Growth: Restricted Sample

| Type of Armed Conflict: | Restricted Sample (At least 20 observations per country and No Socialist), N = 125 | | | | | | | | | |
|---|--|--------------------|----------------------|---------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Democratization | 0.959*** [0.308] | 0.833** [0.355] | 1.224*** [0.343] | 1.042*** [0.343] | 1.076*** [0.402] | 0.968** [0.392] | 1.091*** [0.312] | 0.742** [0.319] | 1.011*** [0.355] | 0.798** [0.338] |
| Democratization × Violence | | | -1.200** [0.559] | -1.314* [0.690] | -1.197* [0.718] | -1.34 [0.812] | -2.049** [0.922] | -3.592** [1.452] | -2.783** [1.386] | -3.727** [1.623] |
| Armed Conflict | | | -1.979*** [0.513] | | | -1.200*** [0.369] | | -3.315*** [1.007] | | -2.097*** [0.523] |
| Income Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Additional Controls | No | Yes | No | No | Yes | Yes | No | No | Yes | Yes |
| Country Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Violent Democratization (Total Effect) | | | 0.024 [0.482] | -0.272 [0.624] | -0.121 [0.624] | -0.372 [0.740] | -0.958 [0.895] | -2.851* [1.469] | -1.773 [1.353] | -2.929* [1.619] |
| Observations | 4,555 | 4,183 | 4,555 | 4,555 | 4,183 | 4,183 | 4,555 | 4,555 | 4,183 | 4,183 |
| R-squared | 0.23 | 0.203 | 0.23 | 0.238 | 0.297 | 0.300 | 0.230 | 0.245 | 0.298 | 0.305 |

Notes: Fixed effects estimates, robust standard errors clustered at the country level in brackets. All specifications include a full set of country and year dummies. *, **, *** denote significance at the 10-, 5-, 1-Percent level, respectively. The sample excludes countries with less than 20 observations or formerly socialist countries. Democratization is a binary indicator that takes value 1 in the year of a transition to democracy and all years after in which the country stays democratic. Democratization × Violence represents a binary indicator that takes value 1 in the year of a transition to democracy and all years after in which the country stays democratic. Democratization × Violence incidence of conflict in the year of, or the year before, democratization. "Income controls" include lagged growth (1 and 2 lags), three-year lagged income level, and region-specific time trends. Specifications with "Additional Controls" include current and lagged changes as well as two-year lagged levels of investment, life expectancy, government spending and trade share; income controls only include lagged growth (1 lag) and two-year lagged income level in these specifications.

Table 6: The Effect of the Transition Scenario on Growth: Restricted Sample, Only Non-Democracies

| Type of Armed Conflict: | Only Countries that Are Non-Democracies (for at least one year in 1960-2003), N = 141 | | | | | | | | | |
|---|---|---------------------|---------------------|----------------------|----------------------|---------------------|---------------------|----------------------|---------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Democratization | 1.012** [0.435] | 1.300*** [0.496] | 1.363*** [0.490] | 1.091** [0.469] | 1.654*** [0.581] | 1.434** [0.553] | 1.188*** [0.452] | 0.818* [0.441] | 1.476*** [0.515] | 1.208** [0.488] |
| Democratization×Violence | | | -1.802** [0.718] | -1.905** [0.873] | -1.983** [0.926] | -2.114** [1.040] | -2.210** [1.115] | -3.420** [1.492] | -2.972* [1.696] | -3.857* [1.983] |
| Armed Conflict | | | | -2.463*** [0.536] | -1.873*** [0.458] | | | -3.375*** [0.949] | | -2.385*** [0.517] |
| Income Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Additional Controls | No | Yes | No | No | Yes | Yes | No | No | Yes | Yes |
| Country Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Violent Democratization (Total Effect) | | | -0.439 [0.597] | -0.814 [0.782] | -0.329 [0.711] | -0.680 [0.877] | -1.021 [1.051] | -2.602* [1.468] | -1.497 [1.597] | -2.648 [1.924] |
| Observations | 4,247 | 3,861 | 4,247 | 4,247 | 3,861 | 3,861 | 4,247 | 4,247 | 3,861 | 3,861 |
| R-squared | 0.289 | 0.331 | 0.290 | 0.300 | 0.332 | 0.338 | 0.290 | 0.303 | 0.332 | 0.339 |

Notes: Fixed effects estimates, robust standard errors clustered at the country level in brackets. All specifications include a full set of country and year dummies. *, **, *** denote significance at the 10-, 5-, 1-Percent level, respectively. The sample excludes all countries that are already democracies at the beginning of the observation period and stay democracies throughout (N=141).

Democratization is a binary indicator that takes value 1 in the year of a transition to democracy and all years after in which the country stays democratic. Democratization×Violence represents a binary indicator that takes value 1 in the year of a transition to democracy and all years after in which the country stays democratic, if there was an incidence of conflict in the year of, or the year before, democratization. “Income controls” include lagged growth (1 and 2 lags), three-year lagged income level, and region-specific time trends. Specifications with “Additional Controls” include current and lagged changes as well as two-year lagged levels of investment, life expectancy, government spending and trade share; income controls only include lagged growth (1 lag) and two-year lagged income level in these specifications.