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The economic impact of political instability and mass civil protest

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The Economic Impact of Political Instability and Mass Civil Protest

by

Samer Matta, Simon Appleton and Michael Bleaney

Abstract

Previous work has investigated whether political instability has a negative effect on economic growth, with mixed results, largely because political instability can take various forms. Using synthetic control methodology, which constructs a counterfactual in the absence of political instability, we estimate the output effect of 38 regime crises in the period 1970-2011. A crucial factor is whether crises are accompanied by mass civil protest. In the crises accompanied by mass civil protest, there is typically an immediate fall in output which is never recovered in the subsequent five years. In crises unaccompanied by protest, there are usually no significant effects.

JEL Classification: C23, F43, P16.

Keywords: Political Instability, Economic Recovery, Synthetic Control Method.



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1. Introduction

It has been established that major “disruptive events”, such as unusually deep recessions or currency crises, cause permanent output losses: although growth eventually springs back to its previous rate, output remains permanently below its pre-crisis trend (Cerra et al., 2013; Cerra and Saxena, 2008; Hong and Tornell, 2005). Civil conflict and politically motivated violence such as assassinations and coups have been widely shown to depress growth (Barro, 1991; Bleaney and Nishiyama, 2002). What about other, less drastic forms of political instability? Here the evidence is somewhat less clear. Aisen and Veiga (2013), Alesina and Perotti (1996) and Jong-A-Pin (2009) find a negative impact of political instability on growth, but they all use somewhat different measures of political instability. Leadership changes in less democratic regimes can also affect the growth rate, either positively or negatively (Collier and Hoeffler, 2015; Jones and Olken, 2005).

The contribution of the present paper is two-fold: (1) It makes use of the recently developed synthetic control methodology (SCM) to estimate the output effect of political instability events over the ensuing five years; and (2) it shows that significant non-violent regime crises typically have negative output effects only if accompanied by mass civil protest. This is an entirely new result.

To obtain a robust measure of political instability, we draw on the work of Jong-A-Pin (2009), who has trawled cross-country data bases for no fewer than 25 different indicators of political instability, and distilled them into a few major dimensions using Exploratory Factor Analysis. These dimensions consist of: (a) politically motivated violence (civil conflict, revolutions and assassinations); (b) mass civil protest (riots, demonstrations or strikes); (c) structural instability of the political regime (factors such as ethnic diversity, frequency of elections or how often the largest party is out of office), and (d) regime crises (changes of chief executive, cabinet ministers or the political regime, or major government crises). Jong-A-Pin finds that only (d), his factor for regime crises, has robust and significant negative effects on economic growth. We too focus on regime crises. Since such events are typically accompanied by mass civil protest (for example the “Arab Spring” in Egypt and Tunisia in 2011), we distinguish between regime crises with and without mass civil protest. We also modify the definition of regime crises to exclude cabinet changes that do not fulfil any of the other criteria, because these may be rather minor events.¹

We estimate the output effects of these disruptive events up to a five-year horizon using SCM, which yields estimates not only of the immediate impact but also of the cumulative output effects for each subsequent year for each country. The essential idea of SCM is to compare the post-crisis performance of a country with that of a synthetic alternative consisting of a weighted average of other countries, the weights having been chosen in such a way that the synthetic alternative closely tracks the economic performance of the country before the crisis. The estimated instability effect is then calculated as the post-crisis difference

¹ The standard government change variable includes “changes that do not involve substantial turnover of leadership” (Alesina, Özler, Roubini, & Swagel, 1996, p. 193).

between the actual output performance of the country and that of its synthetic counterpart. Applying this technique to all countries that have experienced disruptive events of a particular type yields estimates not only of the average effect across countries on their GDP per capita but also of the dispersion about this mean, a significant advantage over the conventional panel econometric models used in the applied political-economy literature (Aisen and Veiga, 2006, 2013; Jong-A-Pin, 2009). Another attractive feature of SCM is that it estimates reliable counterfactuals that capture global economic shocks in the post-treatment period, hence improving on earlier studies that relied on pre-shock forecasts (ESCWA, 2016) or output levels (Calvo et al., 2006; Cerra and Saxena, 2005; Reinhart and Rogoff, 2014) as counterfactuals.

We are careful to discard cases where other disruptive events, such as armed conflict or an economic crisis, might have affected the result, which leaves us with 29 episodes of regime crises accompanied by mass civil protest, and a further 9 of regime crises without mass civil protest. We find striking differences between these two cases. Regime crises accompanied by mass civil protest cause an immediate drop in output, which, on average, is not recovered in the following five years. In the absence of mass civil protest, by contrast, regime crises tend to have negligible adverse effects on the path of output.

The remainder of the paper is structured as follows. Section 2 provides a brief summary of existing literature on the economic effects of political instability. Section 3 discusses our data and our definition of political instability events. Section 4 describes the empirical method, including the covariates used to construct synthetic controls for each country's GDP per capita. Section 5 presents the findings, while section 6 reports the results for individual countries. Finally, section 7 concludes.

2. Literature

Early work on the economic impact of political instability used cross-country regressions to investigate the effect of violent events such as revolutions, coups and assassinations (Alesina and Perotti, 1996; Barro, 1991; Fosu, 2001). Carmignani (2003) provides a useful survey of this literature. More recently researchers have attempted to explore the effect of other forms of political instability, making use of the rich Cross-National Time Series data set (Banks and Wilson (2015); hereinafter CNTS), which was originally launched in 1979 by Arthur Banks.

However, political scientists have argued that instability is a latent and multidimensional concept that reflects different events: institutional change, political violence, armed conflicts, civil protest, riots, instability of the political regime, among other things (Hibbs, 1973; Rummel, 1963; Tanter, 1966). It is inevitable, therefore, that researchers have defined and measured this construct somewhat differently.

Jong-A-Pin (2009) has made the most comprehensive effort to address the multidimensionality of political instability by applying an Exploratory Factor Analysis (EFA) on 25 measures of instability previously used in the literature (see Table A.1 in the appendix

for details).² He found that political instability indicators could be grouped into four major categories: “politically motivated violence”, “mass civil protest”, “instability of the political regime” (structural factors such as ethnic diversity) and “instability within the regime” (various forms of regime crisis). We follow this classification to examine the effects of mass civil protest and political regime crises. In particular, we investigate whether these events have an immediate cost in lost output, and whether this loss is subsequently recovered to a significant degree.

These issues have been addressed in relation to other types of what might be called “disruptive events”. Cerra and Saxena (2005, 2008) and Cerra et al. (2013) have investigated the long-term effects of deep recessions.³ Kang and Meernik (2005) and Flores and Nooruddin (2009) have examined why certain economies recover faster than others in the aftermath of armed conflicts, while Hong and Tornell (2005) and Cavallo et al. (2013) do the same for currency crises and severe natural disasters respectively. Only the last of these uses the synthetic control methodology (SCM) that we employ here. Matta et al. (2016) use SCM in a detailed analysis of the uprisings in Tunisia that initiated the Arab Spring, but that is only a single case.

3. Data

Because the effects of politically motivated violence have already been extensively investigated by economists,⁴ and also because such violence often lasts for a considerable length of time, thus making it less suitable for analysis by the method used here, we focus on other forms of political instability. Based on the findings of Jong-A-Pin (2009) discussed above, we consider two types:

- i) Regime crisis: in a given year there was a coup, a major constitutional change and/or a major government crisis.⁵
- ii) Mass civil protest: one (or more) of the following three indicators pass a threshold value: strikes, riots and demonstrations.

Precise definitions are given in Table A.2 in the appendix. To identify all these events that happened between 1970 and 2011,⁶ we use the 2015 version of the CNTS, which compiles

² All tables that start with an “A” are in the appendix.

³ Deep recessions in this context are ones in which output actually falls in at least one year.

⁴ For an extensive review, refer to Blattman and Miguel (2010).

⁵ In contrast to Jong-A-Pin (2009), we did not include cabinet changes as part of the significant change in the regime crisis component because these events do not necessarily represent instability, since they occur frequently as part of normal political cycle. For instance, the standard government change variable includes “changes that do not involve substantial turnover of leadership” (Alesina et al., 1996, p. 193).

⁶ We start from 1970 in order to allow for at least 10 years prior to any political instability event in order to construct a robust counterfactual for each country that was affected by political instability events. More details regarding the construction of counterfactuals will be presented in section 4. Our sample ends at

political instability indicators based on the daily editions of the New York Times.⁷ More often than not, a regime crisis occurred against the background of mass civil protest. Therefore, we analyse the output effects of such a regime crisis both with and without mass civil protest.

In certain cases, however, episodes of political instability were preceded by economic crises which also led to output losses (e.g. Greece in 2011). To accurately capture the economic impact of political instability and minimize potential biases, we exclude these episodes. In addition, we omit cases where political turmoil occurred in the midst of a large-scale armed conflict and/or was followed by natural disasters (floods, earthquakes, hurricane), because it is hard to disentangle their economic impact from that of other large non-economic exogenous shocks that brought havoc to their respective economies (e.g. Guatemala in 2009). We also exclude Myanmar and Qatar because of data limitations: Myanmar did not have real GDP per capita data, while Qatar's GDP per capita series started in 2000, five years after the coup has happened. Overall, we omit 28 episodes. Table A.3 in the appendix lists these events and provides a brief explanation of why we excluded them. Consequently, our final set of episodes of regime crisis consists of 38 events presented in Table 1, of which 29 are accompanied by mass civil protest (panel I), while 9 are not (panel II).

2011 because we set the minimum number of post-instability years to three, meaning that we exclude countries that were subjected to mass political instability after 2011 (more details in section 4).

⁷ To ensure that the political instability events identified using the CNTS database are accurate, we cross-checked using information from international institutions (IMF and World Bank) and news outlets (BBC and CNN), among others.

Table 1: Episodes of Significant Change in the Political Regime

| Country | Year | Event | Mass popular protest | | | Significant change in the political regime | | |
|--|------|--|----------------------|---------|---------------|--|---------------|------|
| | | | Riots | Strikes | Demonstration | Gov. Crisis | Const. Change | Coup |
| Panel I - <i>With</i> mass popular protests | | | | | | | | |
| Albania | 1997 | The government resigned after violent protests | yes | no | yes | yes | no | no |
| Bahrain | 2011 | Uprisings against the regime | yes | no | yes | yes | no | no |
| Bolivia | 2003 | The president resigned after weeks of violent protests | yes | yes | yes | yes | no | no |
| Chile | 1973 | The president was overthrown by a military coup | yes | yes | yes | yes | yes | yes |
| Egypt | 2011 | The president was ousted as part of the Arab Spring uprisings | yes | yes | yes | yes | yes | yes |
| Fiji | 2005 | A group of armed men invaded the parliament | no | no | yes | yes | yes | yes |
| Georgia | 2003 | The president was overthrown following the rose revolution | yes | no | yes | yes | yes | yes |
| Guinea | 2007 | Violent protests followed by a military coup | yes | yes | yes | yes | no | no |
| Haiti | 2004 | The president was forced out of power | yes | yes | yes | yes | no | yes |
| Honduras | 2009 | President was ousted in a Coup | no | no | yes | no | no | yes |
| Iran, Islamic Rep. | 2009 | Green revolution | yes | no | yes | yes | no | no |
| Italy | 1992 | Corruption scandal which dominated political parties | no | yes | yes | yes | no | no |
| Jordan | 2011 | The government was replaced following demonstrations | yes | no | yes | yes | yes | no |
| Kenya | 1997 | Nationwide protests demanding democratic reforms | yes | yes | yes | yes | no | no |
| Kyrgyz Republic | 2005 | The first tulip revolution | no | no | yes | yes | yes | no |
| Morocco | 2011 | Constitutional reform following protests | yes | no | yes | no | yes | no |
| Nigeria | 1993 | General Abacha takes over power by a military coup | yes | yes | yes | yes | yes | yes |
| Pakistan | 1999 | The army ousted the civilian president | yes | yes | yes | yes | yes | yes |
| Paraguay | 1999 | President resigned following impeachment proceedings | yes | no | yes | yes | no | no |
| Peru | 2000 | President resigned following political and financial scandals | yes | yes | yes | yes | no | no |
| Philippines | 1984 | The Yellow revolution | yes | no | yes | no | yes | no |
| Portugal | 1975 | The Carnation Revolution | yes | yes | no | yes | yes | yes |
| Spain | 1978 | Change of political regime to a parliamentary monarchy | yes | no | yes | no | yes | no |
| Thailand | 2006 | The army ousted the president following protests | no | no | yes | no | yes | yes |
| Togo | 2005 | Political crisis following the president's death | yes | no | yes | yes | no | no |
| Tunisia | 2011 | The Jasmine revolution | yes | yes | yes | yes | yes | no |
| Turkey | 2007 | Clash between seculars and islamists and fears of political coup | no | no | yes | yes | no | no |
| Ukraine | 2005 | The Orange revolution that lead to a new government | no | no | yes | yes | no | no |
| Yemen, Rep. | 2011 | Yemeni revolution as part of the Arab Spring | yes | yes | yes | yes | no | no |

Source: Political instability starting dates are taken from the CNTS database and cross-checked with online news sources.

Table 1 (Continued): Episodes of Significant Change in the Political Regime

| Country | Year | Event | Mass popular protest | | | Significant change in the political regime | | |
|---|------|--|----------------------|---------|---------------|--|---------------|------|
| | | | Riots | Strikes | Demonstration | Gov. Crisis | Const. Change | Coup |
| Panel II - Without mass popular protests | | | | | | | | |
| Angola | 2010 | Change of constitution in favor of the president | no | no | no | no | yes | no |
| Australia | 1975 | Constitutional crisis | no | no | no | yes | no | no |
| Ecuador | 2010 | Failed attempted coup | no | no | no | yes | no | no |
| Estonia | 2002 | PM resigns falling out among the three parties of the ruling coalition | no | no | no | yes | no | no |
| Gambia | 1994 | President Jawara was ousted in a coup led by Yahya Jammeh | no | no | no | no | yes | yes |
| Ghana | 1979 | President Akuffo deposed in a coup led by Lieutenant Jerry Rawlings | no | no | no | no | yes | yes |
| Malaysia | 1988 | 1988 judicial crisis | no | no | no | yes | no | no |
| Niger | 2010 | Military coup ousts president Mamadou Tandja | no | no | no | no | yes | yes |
| Slovak Republic | 2011 | Ruling Coalition Collapses After EU Bailout Vote | no | no | no | yes | no | no |

Source: Political instability starting dates are taken from the CNTS database and cross-checked with online news sources.

4. Empirical Method

Synthetic Control Methodology (SCM), which is considered by Athey and Imbens (2016) to be the most important innovation in the programme evaluation literature over the last decade, has been widely used in various social science disciplines over the past few years. It has been used to evaluate the impact on economic activity of terrorism (Abadie and Gardeazabal, 2003), counterinsurgencies (Singhal and Nilakantan, 2016), civil wars (Bove et al., 2016), trade openness (Nannicini and Billmeier, 2011), economic liberalization (Billmeier and Nannicini, 2013), natural resource discoveries (Smith, 2015), inflation targeting (Lee, 2011), natural disasters (Cavallo et al., 2013) and fiscal consolidation (Kleis and Moessinger, 2016).

The SCM is a generalization of the matching and difference-in-difference (DiD) techniques conventionally employed in large microeconomic data sets. It is particularly suited for macroeconomic applications where the cross-section dimension of the data is limited, so that credible untreated observations required by other matching methods are hard to find. The SCM solves this problem by using weighted averages of other units as the counterfactual.⁸ This requires a reasonable number of pre-treatment observations in order to select an appropriate counterfactual, but in macroeconomic applications the time series is usually long enough for that. Moreover, this technique has several advantages over the conventional panel econometric models. First, it captures the effects of time-changing unobservable variables, unlike DiD and fixed effects models which only accounts for time-invariant effects (Abadie et al., 2010). Second, it enables us to examine the causal impact of political instability on output over time, in contrast to system-GMM, which only allows for evaluating the average treatment effect for the whole sample. Third, it allows for a country-by-country assessment of the impact of a shock, a feature that is very useful in providing further insights into the heterogeneous effects of political instability.

In what follows we briefly describe the application of the synthetic control method in a general context. Let r denote a unit (country, state or region) that was exposed to an exogenous treatment (in our case a political regime crisis) at time T , and $c \in \mathcal{C}$ denote a potential control unit that was not exposed to the treatment. In addition, we indicate by \mathbf{X} a $(x \times 1)$ vector of observed covariates that are likely to influence the outcome variable Y . Under certain assumptions (no anticipation, no interference, large pre-treatment period, and structural similarity),⁹ Abadie et al. (2010) have shown that the outcome and covariates of the treated unit can be approximately matched by a weighted average of control units, called synthetic control (or counterfactual), such that

$$Y_{r,t} = \sum_{c=1}^{\mathcal{C}} w_c^* Y_{c,t} \quad \text{for } t < T \quad (1)$$

and

⁸ A counterfactual is how a unit's outcome would have evolved had it not been affected by a treatment.

⁹ Matta et al. (2016) explain in details the assumptions of SCM.

$$X_{r,t} = \sum_{c=1}^C w_c^* X_{c;t} \quad \text{for } t < T \quad (2)$$

In equations (1) and (2), $w_{c \in C}^*$ are the optimal weights assigned to each unit c in the constructed synthetic control. They satisfy the following conditions: (i) $w_{c \in C}^* \geq 0$ and (ii) $\sum_{c=1}^C w_c^* = 1$.

In our case, we apply SCM for each of the episodes listed in Table 1. Our outcome variable is real GDP per capita as reported in the April 2016 version of the World Development Indicators (WDI) published by the World Bank. The data period is 1960 to 2015. In our analysis, the set of potential control units includes the universe of economies that were not subjected to mass political turmoil and/or impacted by another exogenous shock (natural disaster, war, etc.) during the corresponding post-treatment year. The selection of a large number of control countries keeps the weights assigned to each donor control as much data-driven as possible, hence ensuring the transparency of our study (Costalli et al., 2017). More importantly, and in contrast to Abadie et al. (2015) and Hope (2016), we cannot limit our controls to neighbouring countries, which tend to have similar cultural, economic and social fundamentals as the treated one, because of spillover effects whereby political turmoil in a certain country might impact others within the same geographical region (Murdoch and Sandler, 2002). In addition, we impose a relatively long pre-treatment period of 20 years, allowing us to have a robust synthetic control.¹⁰ In many instances, countries initially impacted by political instability were later exposed to other distinct exogenous shocks. Hence, to avoid any double treatment problem, which will bias our results, our post-political instability assessment period will, in these cases, stop the year before the second exogenous shock has occurred.¹¹

Our set of covariates consists of the following variables: investment, consumption, exports, imports (all as a ratio of GDP), which are the components of our variable of interest, real GDP per capita;¹² the percentage of secondary school enrolment which is a key driver of economic growth (Barro, 1991); net fuel exports as a ratio of GDP which captures a country's energy dependence

¹⁰ In the cases of Chile, Haiti, Portugal, Spain, Estonia and Ghana, we had to content ourselves with shorter pre-instability periods because the real GDP per capita series was not available for the whole 20 year-period time span.

¹¹ The case of Iran illustrates this point clearly. Iran was exposed, in 2009, to mass civil protests, in particular large demonstrations, in the wake of the presidential elections. Hence, we consider these events as a treatment in our analysis. However, three years later, the U.S and the EU imposed additional sanctions on the financial and energy sectors which pushed the economy into a recession (International Monetary Fund, 2014). Consequently, if we apply SCM with 2009 being the treatment year without taking into account for the fact that in 2012 the Iranian economy was hit by another major shock, we would be overestimating the impact of the political instability. As a solution, we stop our post-political instability assessment period the year before the sanctions were imposed (i.e. 2011).

¹² We also intended to control for fiscal policy using the fiscal balance, in addition to the variables that compose the supply side of GDP (industry, agriculture and services). However data for these variables were missing for many countries in our dataset. In cases where data were available, we experimented with different sets of covariates and the results were almost unchanged.

(Matta et al., 2016);¹³ money supply as a ratio of GDP to control for the depth of the financial sector (Klein and Olivei, 2008); and the Polity2 score to account for different institutional factors (Aidt and Leon, 2016; Huang, 2010) that might affect the economy (Acemoglu et al., 2001; Góes, 2016). For each of these variables, we account for possible different underlying trends by dividing the pre-instability period by half and then taking the decadal average over each sub-period as a covariate. Nonetheless, because data for secondary school enrolment, net fuel exports, money supply and the polity2 index are not available for all countries at all periods, we do not include, in certain cases, all the covariates.¹⁴ Finally, and in order to maximize the match between the outcome variable of the treated country and its synthetic counterpart during the pre-political turmoil period, we add four-year period averages of per capita GDP to our set of covariates. Table A.4 provides the definition, unit and source of each variable.

5. Economic effects of Political Regime Crises

5.1 With Mass Civil Protest

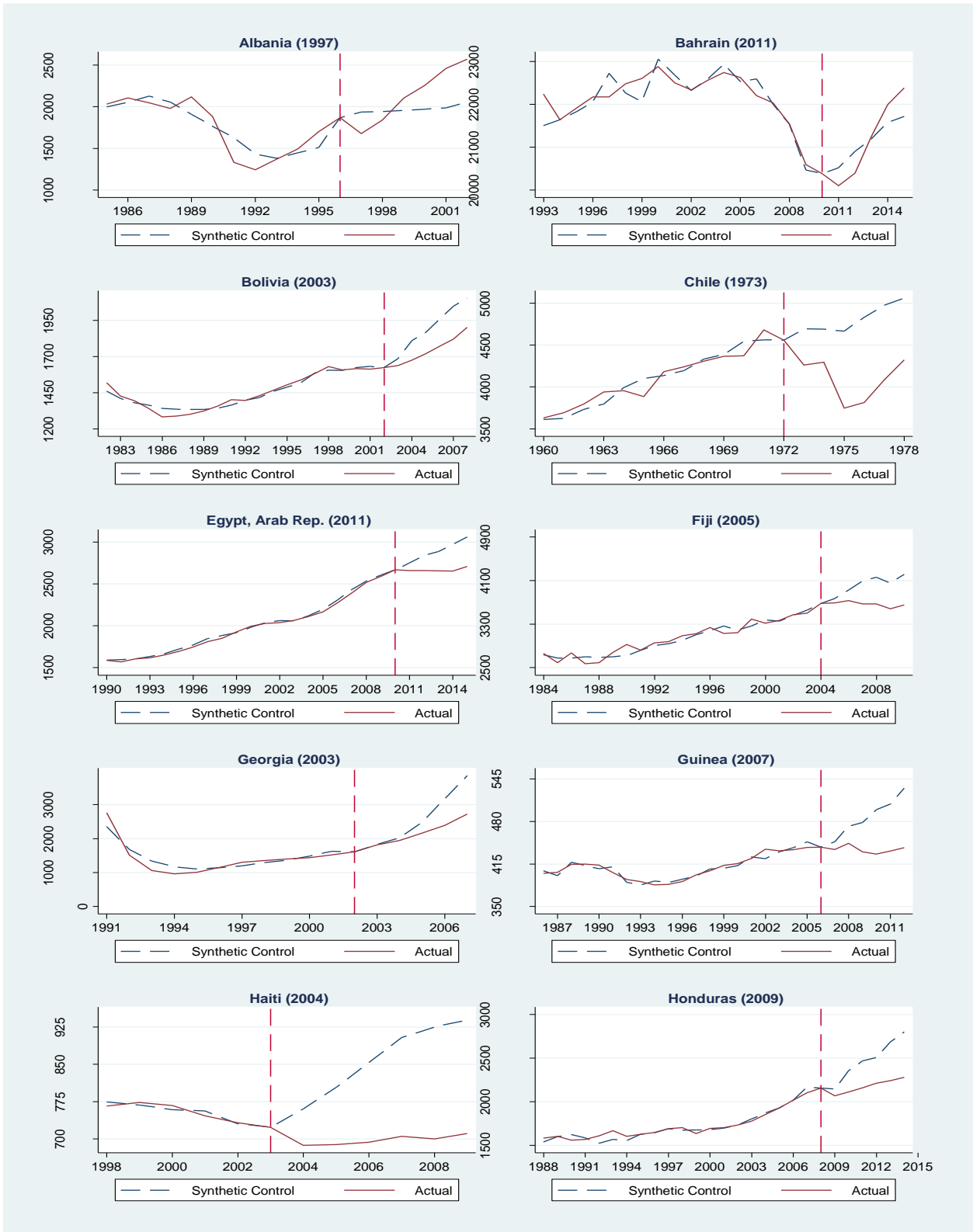
Figure 1 depicts the evolution of the actual and counterfactual real GDP per capita in the 29 countries that experienced a regime crisis accompanied by mass civil protest (which is termed here a “mass political instability event”). In each case, two lines are plotted: a continuous red line showing the actual per capita GDP of the country in question, and a dashed blue line representing the counterfactual estimated using SCM. We can observe that for all the countries (except for Togo which is highlighted in red) the path of the synthetic per capita real GDP follows closely its actual counterpart prior to the political turmoil event. Moreover, the covariate averages of the treated countries and their respective synthetic counterparts, presented in Table A.5 together with the weights of the control countries composing each synthetic control, suggest that the constructed synthetic controls match the actual economies reasonably well.

In the case of Togo we could not find a weighted average of control countries that can accurately reproduce the actual real GDP per capita before the political instability event. In the case of Kenya and Nigeria, while their synthetic GDP per capita had similar overall dynamics to their respective actual counterparts, the two lines did not match accurately in certain episodes during the pre-intervention period: the 1989-1991 period in the case of Kenya and the 1986-1988 period in the case of Nigeria. These cases highlight a weakness of the synthetic control method when it comes to matching extremely volatile outcome variables during the pre-treatment period, making it harder to develop reliable synthetic counterfactuals.

¹³ Net Fuel Exports (as a % of GDP) is the difference between Fuel Exports (as a % of GDP) and Fuel Imports (as a % of GDP). The definitions of these variables are available in Table A.4.

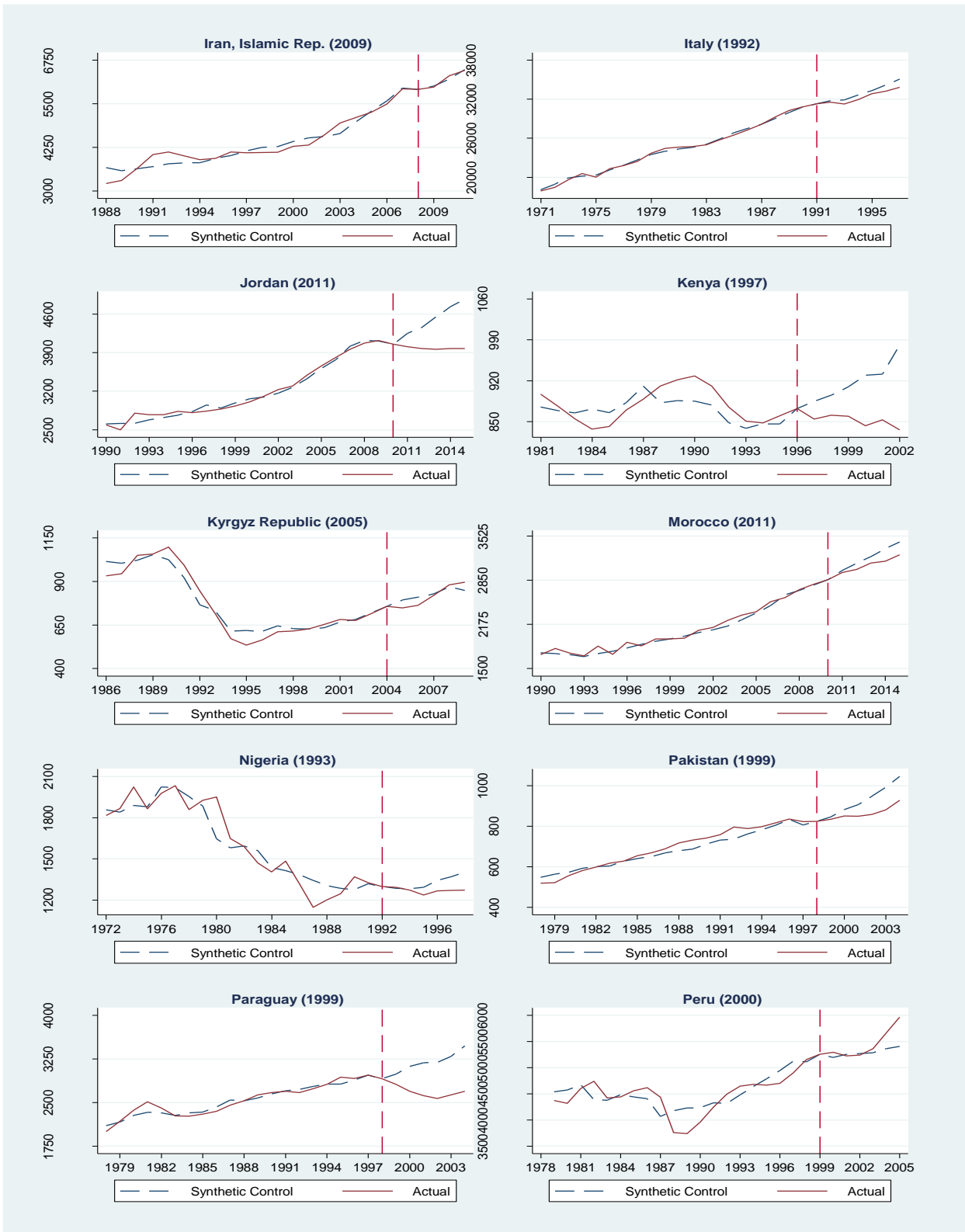
¹⁴ This can be illustrated by the Haiti case which does not have data on net fuel exports, hence we cannot include this variable in our set of covariates.

Figure 1: Treated vs Synthetic Real GDP per Capita, Political Regime Crises With Popular Protest



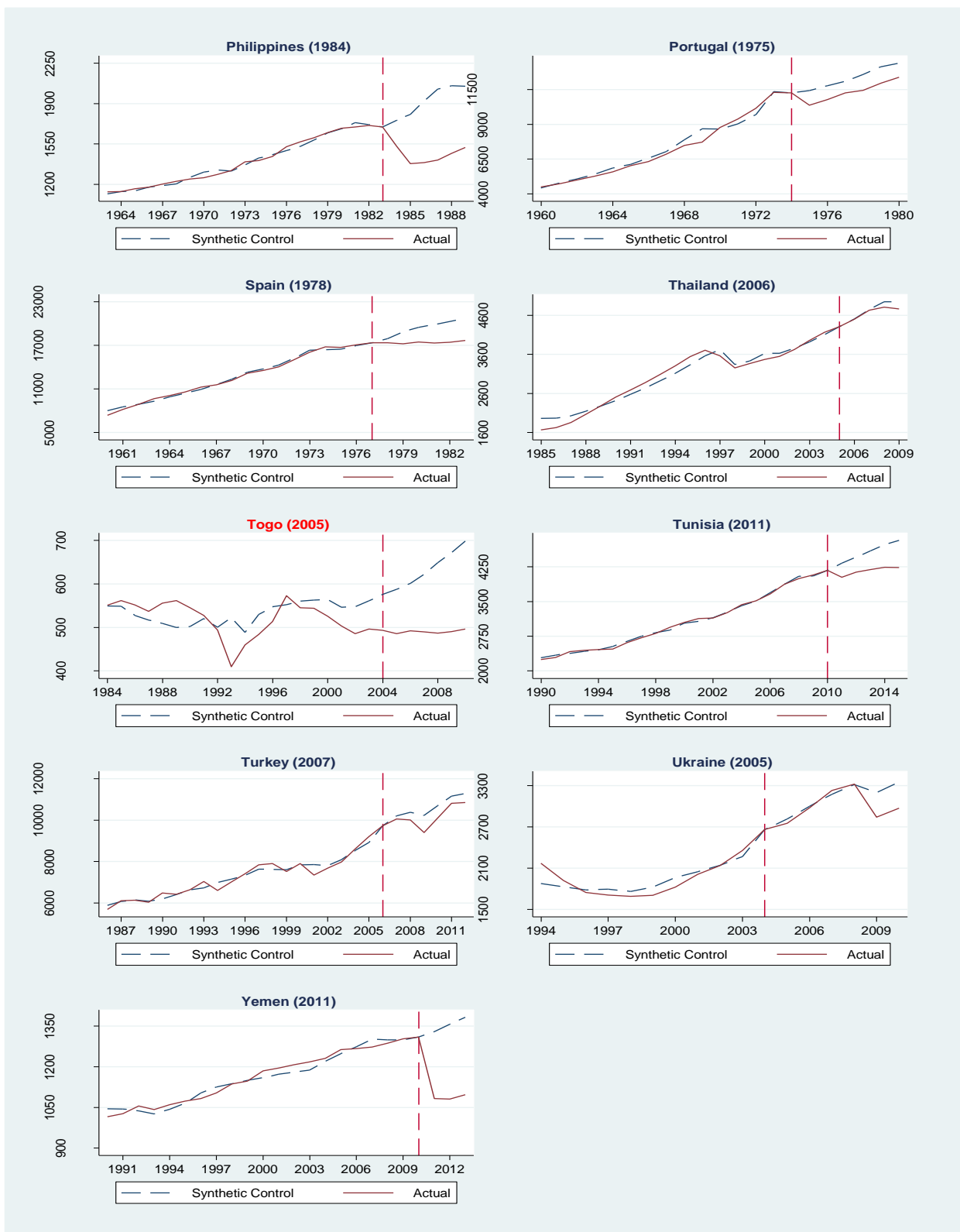
Source: Author's own calculations. Note: Each graph plots the real GDP per capita of the country that experienced political instability and that of its synthetic counterfactual. The dashed vertical line indicates the year preceding the beginning of the political instability period.

Figure 1 (continued): Treated vs Synthetic Real GDP per Capita, Political Regime Crises With Popular Protest



Source: Author's own calculations. Note: Each graph plots the real GDP per capita of the country that experienced political instability and that of its synthetic counterfactual. The dashed vertical line indicates the year preceding the beginning of the political instability period.

Figure 1 (continued): Treated vs Synthetic Real GDP per Capita, Political Regime Crises With Popular Protest



Source: Author's own calculations. Note: Each graph plots the real GDP per capita of the country that experienced political instability and that of its synthetic counterfactual. The dashed vertical line indicates the year preceding the beginning of the political instability period.

While the lines plotted in the graphs are suggestive, our aim is to formally examine the impact of political turmoil on output, particularly whether the initial real GDP per capita losses are recuperated. Thus, to accurately measure economic recovery, we calculate the percentage difference (or output gap) between the actual and synthetic GDP per capita for each country as follows:

$$Diff_{i,t} = \left(\frac{A_{i,t} - S_{i,t}}{A_{i,t}} \right) \times 100 \text{ for } t \leq T + 5. \quad (3)$$

In equation (3), $A_{i,t}$ and $S_{i,t}$ represent respectively the actual and synthetic real GDP per capita for each country i , while T denotes the event year during which political turmoil has happened. Table 2 (below) reports the summary statistics of the percentage difference for each year from $T-2$ to $T+5$. In years $T-2$ and $T-1$, the mean percentage difference was small and statistically insignificant, which confirms the reliability of the constructed counterfactuals in mimicking per capita GDP of the actual countries prior to the mass political instability events. In the year of the event, the actual GDP per capita is, on average, 4.5 percent lower than its counterfactual. Moreover, we find that during the next five years, the percentage difference increases gradually from 6.3 percent in year $T+1$ to 9.6 percent in year $T+5$. Although the gap appears to widen with time, we cannot reject the hypothesis that the difference stays constant over the years $T+1$ to $T+5$,¹⁵ but even that would imply that the initial output loss was, on average, never recovered.

Table 2: Percentage Difference in GDP by Year - Mass Political Instability Events

| | N | mean | sd | min | max |
|-----|------|---------|------|-------|------|
| T-2 | 28.0 | 0.5 | 3.1 | -6.7 | 12.6 |
| T-1 | 28.0 | 0.1 | 0.7 | -0.0 | 3.8 |
| T | 28.0 | -4.5*** | 4.8 | -18.6 | 1.9 |
| T+1 | 28.0 | -6.4*** | 6.0 | -23.6 | 1.5 |
| T+2 | 28.0 | -7.8*** | 8.0 | -27.6 | 7.4 |
| T+3 | 26.0 | -9.0*** | 9.7 | -30.3 | 14.4 |
| T+4 | 25.0 | -9.8*** | 11.7 | -29.3 | 23.8 |
| T+5 | 18.0 | -9.8*** | 12.4 | -25.9 | 25.1 |

Source: Authors' own calculations. Notes: T denotes the year of the political instability event. We exclude Togo from this sample because we could not find a reliable counterfactual. Note: the values in the "mean" column are the average of $Diff_{i,t}$ across the 28 countries. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

These findings are reminiscent of what others have found for other disruptive events such as currency crises, banking crises and exceptionally deep recessions, whatever their cause. Hong and Tornell (2005) find that, although GDP growth recovers to its "normal" rate on average by the second year after a currency crisis, the loss of output (relative to trend) in years T and $T+1$ is never recovered. Cerra and Saxena (2008, p. 456) show that "the large output loss associated with financial crises and some types of political crises is highly persistent...Of the large negative shocks examined, a partial rebound in output is observed only for civil wars. Moreover, the magnitude of

¹⁵ The Wald test for joint significance of the recovery coefficients ($T+1, \dots, T+5$) had a p-value of 0.48.

persistent output loss ranges from around 4 percent to 16 percent for the various shocks.” Cerra et al. (2013) show that growth in the first year of recovery after a period of negative growth tends to be slower than in normal years, and that this is particularly true of recessions associated with banking crises.

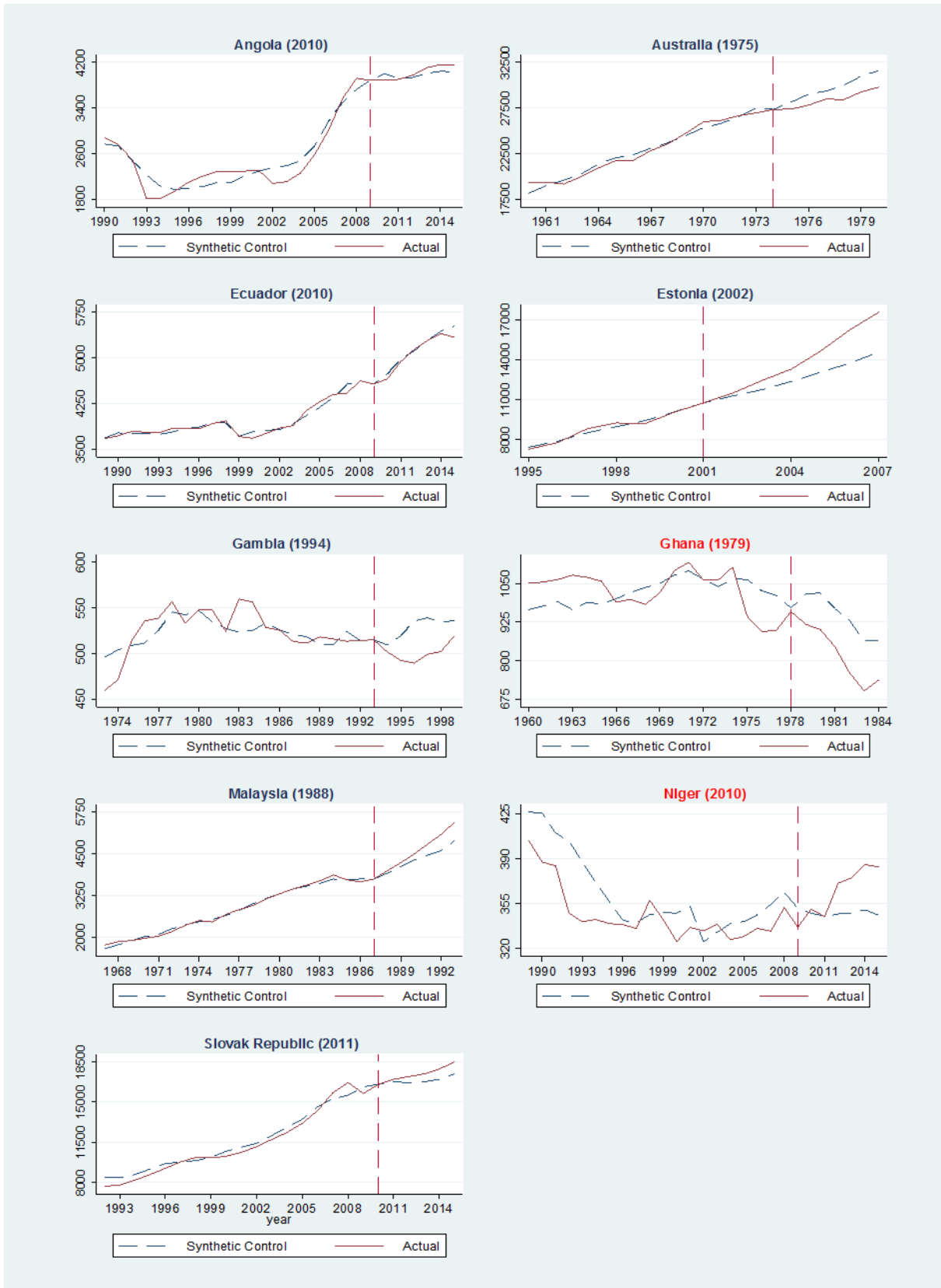
However, the differences in the means in Table 2 do not tell the whole story as the trajectories of the actual and synthetic GDP per capita are not uniform across countries. For instance, the actual GDP per capita of Haiti fell sharply and then remained flat compared to its estimated counterfactual, the one corresponding to Kyrgyzstan fell initially but bounced back to its counterfactual level four years later, whereas that of Thailand was almost unchanged after the bloodless coup. Therefore, our methodology uncovers some degree of heterogeneity in economies’ reactions to political instability events, hence improving on previous studies (Aisen and Veiga, 2013; Alesina and Perotti, 1996; Jong-A-Pin, 2009) that concealed these differences due to their use of panel regression techniques that only estimate the average treatment effect.

5.2 Without Mass Civil Protest

In this section, we test whether the combination of a regime crisis and mass civil protest is more economically damaging than when the regime crisis happens unaccompanied by mass protest. There are three potential reasons that could underlie this hypothesis. First, the protest itself may be directly damaging – for example, if people stop work and/or business is disrupted. Second, mass civil protest may signal that the regime crisis is particularly severe, therefore having larger and/or longer-lasting output effects. Third, mass civil protest may also have a profound effect on future expectations and the level of uncertainty, because mass protests tend to be inherently volatile and unpredictable in ways that conventional politics is not.

To test our conjecture, we apply the SCM used above on the set of nine countries listed in panel II of Table 1 which, according to the CNTS database, experienced major changes in the political regime without being accompanied by mass civil protest. Figure 2 below illustrates the path of the actual and counterfactual real GDP per capita for these countries, while Table A.6 in the appendix reports the covariate averages for the treated and synthetic countries together with the weights composing each counterfactual. It can be seen from Figure 2 that the estimated counterfactuals for Ghana and Niger do not closely mimic the corresponding actual per capita GDP prior to the treatment. Accordingly, we will exclude these two countries from the subsequent analysis to avoid possible biases.

Figure 2: Treated vs Synthetic Real GDP per Capita, Political Regime Crises Without Popular Protest



Source: Author's own calculations. Note: Each graph plots the real GDP per capita of the country that experienced political instability and that of its synthetic counterfactual. The dashed vertical line indicates the year preceding the beginning of the political instability period.

A visual inspection of the graphs in Figure 2 indicates that the average impact of political regime crises not accompanied by mass civil protest is much more muted than when there is mass civil protest. In particular, Table 3 confirms our observation as the estimated output gap between the actual and synthetic per capita GDP is, on average, only minus 0.5 percent during the event year but turns positive thereafter, in stark contrast with the 4.5 percent average drop in the case of mass political instability reported in Table 2. However, the large standard deviations suggest some degree of heterogeneity across countries that only experienced major changes in the political regime, similar to the result found in the cases of mass political instability.

Table 3: Percentage Difference in GDP by Year - Regime Crises without Mass civil protest

| | N | mean | sd | min | max |
|-----|-----|------|------|------|------|
| T-2 | 7.0 | -0.4 | 2.8 | -3.4 | 5.2 |
| T-1 | 7.0 | 0.0 | 0.0 | -0.0 | 0.0 |
| T | 7.0 | -0.5 | 2.2 | -2.9 | 2.0 |
| T+1 | 7.0 | 0.2 | 4.0 | -5.3 | 5.8 |
| T+2 | 7.0 | 0.8 | 5.3 | -8.7 | 7.5 |
| T+3 | 7.0 | 2.0 | 6.9 | -7.4 | 12.0 |
| T+4 | 7.0 | 3.6 | 8.8 | -6.0 | 18.2 |
| T+5 | 6.0 | 3.7 | 10.3 | -5.7 | 20.6 |

Source: Authors' own calculations. Notes: T denotes the year of the political instability event. We exclude Ghana and Niger from this sample because we could not find a reliable counterfactual.

We can statistically test our proposition that political regime crises are more damaging to an economy when they are accompanied by mass civil protest (riots, strikes or demonstrations), by simply regressing the estimated output gap ($Diff_{i,t}$) on a dummy variable that equals 1 if a country experienced a mass political instability event and 0 if it was subjected to a political regime crisis only. The results of that test are reported in Table 4. The estimated coefficient on the mass civil protest dummy is negative and highly significant, hence supporting our claim that in the absence of mass civil protest, the economic effects of a significant change in the political regime are much smaller.

These results differ from those of other authors who did not use the SCM method. Jong-A-Pin (2009) used measures of political instability similar to ours in a panel regression based on five-year average growth rates of real per capita GDP over the period 1974-2003. He finds that political regime crises have a significant negative effect on growth, but that mass civil protest has no effect, in marked contrast to our results. Aisen and Veiga (2013) estimate a similar panel regression with five-year averages of growth over the period 1960-2004. Their principal result is that cabinet changes, as reported in the CNTS data base, have a significant negative effect on growth. They do not report any results for mass civil protest.

Table 4: Regression of Percentage Difference in GDP on a Mass civil protest Dummy

| | Dependent Variable: $Diff_{i,t}$ | | | | | |
|--------------------|----------------------------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|
| | T | T+1 | T+2 | T+3 | T+4 | T+5 |
| Mass Civil Protest | -3.989*** (1.261) | -6.541*** (1.884) | -8.623*** (2.488) | -11.046*** (3.150) | -13.174*** (3.969) | -13.491*** (4.918) |
| Constant | -0.506 (0.846) | 0.191 (1.504) | 0.795 (1.975) | 2.038 (2.607) | 3.624 (3.263) | 3.723 (4.073) |
| Observations | 35 | 35 | 35 | 33 | 32 | 24 |

Bootstrapped standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

6. Results for individual countries

In this section we report the results of time series regressions for the individual countries. We regress the estimated percentage difference between actual and synthetic GDP ($Diff_{i,t}$) on two dummy variables: the first ($Event_{i,t}$) takes the value 1 only in the year of the political instability event, while the second ($Post_{i,t}$) takes the value 1 in each of the subsequent five years. More specifically, we estimate the following regression for each of the 35 countries that suffered from major political regime crises:¹⁶

$$Diff_{i,t} = c + \beta_1 \cdot Event_{i,t} + \beta_2 \cdot Post_{i,t} + \varepsilon_{it}. \quad (4)$$

The sample is from the beginning of the data set until five years after the political instability event, so the intercept c is a measure of the average difference before the event. Our coefficients of interest are β_1 and β_2 : the former can be interpreted as the economic impact of political turmoil during the instability year, while the latter captures the average effect in the next five years. In particular, a significantly negative β_1 implies that the economy lost output because of political instability, while a significantly negative β_2 suggests that, on average, the initial adverse impact is persistent over time (i.e. there is a less than full recovery compared to the pre-instability period).

Table 5 reports the estimation results for each model: the magnitude and t-statistic corresponding to β_1 and β_2 and the number of observations. Panel I (II) represents the findings for the countries that experienced major political crises with (without) mass civil protest. In panel I, out of the 28 cases, 22 (78.6 percent) had a significantly negative β_1 coefficient, implying that these countries were considerably damaged by mass political instability during the event year. Moreover, in 18 cases (64.3 percent) the β_2 coefficients remain largely negative, indicating that the actual GDP per capita did not recover its initial output loss. In panel II, on the other hand, only Australia and Gambia had significantly negative β_1 and β_2 (i.e. two out of 7 cases). In summary, these findings

¹⁶ 28 were accompanied by mass civil protest, while 7 were not. As mentioned earlier, we exclude from our sample Togo, Ghana and Niger, because the SCM did not yield suitable counterfactuals that accurately measure how the real GDP per capita of these countries would have performed in the absence of political instability, hence not satisfying the parallel trend assumption of DiD.

imply that the negative effects of political regime crises estimated by SCM are typically statistically significant if accompanied by mass civil protest, whereas in the absence of such protests, the adverse effects are much more muted.

Table 5: Time Series Regressions for Individual Countries

| Country | β_1 | | β_2 | | Obs. |
|--|-----------|-----------|-----------|-----------|------|
| | Coeff. | t-stat | Coeff. | t-stat | |
| Panel I - <i>With</i> mass popular protests | | | | | |
| Albania | -13.17 | -4.88*** | 13.32 | 2.17** | 18 |
| Bahrain | -2.18 | -6.66*** | 0.58 | 0.5 | 23 |
| Bolivia | -2.93 | -6.67*** | -9.14 | -11.96*** | 27 |
| Chile | -9.34 | -12.99*** | -16.43 | -7.1*** | 19 |
| Egypt, Arab Rep. | -2.47 | -13.53*** | -8.36 | -7.44*** | 26 |
| Fiji | -2.37 | -2.74** | -1.20 | -1.19 | 22 |
| Georgia | 2.01 | 0.6 | -14.94 | -2.35** | 17 |
| Guinea | -2.60 | -8.6*** | -11.98 | -6.14*** | 27 |
| Haiti | -9.59 | -24.28*** | -20.65 | -10.36*** | 12 |
| Honduras | -4.07 | -7.22*** | -14.31 | -9.11*** | 27 |
| Iran, Islamic Rep. | -0.44 | -0.38 | 0.57 | 0.42 | 24 |
| Italy | -0.70 | -2.64** | -2.31 | -5.33*** | 27 |
| Jordan | -6.01 | -10.51*** | -14.35 | -7.13*** | 26 |
| Kenya | -4.28 | -6.18*** | -9.23 | -4.75*** | 22 |
| Kyrgyz Republic | -4.68 | -3.25*** | 1.06 | 0.41 | 24 |
| Morocco | -2.33 | -4.28*** | -5.64 | -6.33*** | 26 |
| Nigeria | 0.62 | 0.41 | -5.36 | -2.67** | 27 |
| Pakistan | -2.68 | -3.2*** | -9.78 | -5.96*** | 27 |
| Paraguay | -6.19 | -9.36*** | -18.92 | -12.36*** | 27 |
| Peru | 2.76 | 2.28** | 4.13 | 1.77* | 27 |
| Philippines | -12.90 | -33.33*** | -27.29 | -23.71*** | 27 |
| Portugal | -7.78 | -7.43*** | -6.75 | -6.01*** | 21 |
| Spain | -2.82 | -4.18*** | -11.81 | -9.17*** | 24 |
| Thailand | 0.70 | 0.53 | -1.53 | -0.97 | 25 |
| Tunisia | -6.81 | -25.03*** | -9.53 | -9.24*** | 26 |
| Turkey | -1.50 | -2.27** | -4.88 | -4.48*** | 27 |
| Ukraine | -1.96 | -0.95 | -4.09 | -1.17 | 17 |
| Yemen, Rep. | -18.78 | -50.38*** | -20.74 | -53.75*** | 24 |
| Panel II - <i>Without</i> mass popular protests | | | | | |
| Angola | -1.78 | -0.97 | 2.92 | 1.5 | 26 |
| Australia | -2.76 | -4.36*** | -4.36 | -5.9*** | 21 |
| Ecuador | -1.70 | -5.39*** | -5.39 | -1.16 | 27 |
| Estonia | 1.73 | 1.89* | 1.89 | 4.11*** | 13 |
| Gambia, The | -1.86 | -2.4** | -2.40 | -5.44*** | 27 |
| Malaysia | 1.78 | 3.05*** | 3.05 | 4.19*** | 27 |
| Slovak Republic | 3.82 | 4.17*** | 4.17 | 6.35*** | 24 |

Source: Author's own calculations. Note: The Coeff. and t-stat are the estimated coefficients and t-statistics for β_1 and β_2 resulting from the regressions in equation (4). *, **, *** indicate significance levels of 10%, 5%, and 1%, respectively. Robust standard errors are used.

7. Conclusion

We have used synthetic control methodology to estimate the effects of certain types of political instability up to a five-year horizon. In particular, we have focused on mass political instability events, defined as regime crises accompanied by mass civil protest, and compared them with regime crises where mass civil protest was absent. We identified these events based on the 2015 Cross-National Time database and Jong-A-Pin's (2009) classification of different dimensions of political instability, and we were careful to filter out cases where other types of disruptive events such as economic crises and armed conflicts occurred during the relevant period.

Our unambiguous finding is that regime crises accompanied by mass civil protest result, on average, in a significant fall in output that is not recovered over the subsequent five years. This is similar to what happens after other major disruptive events, such as an exceptionally deep recession or a currency crisis. Analysis of a somewhat smaller sample of regime crises where mass civil protest was absent tend to show that there are no such negative output effects in these cases. These results are substantially different from those previously obtained by different methodologies, such as panel growth regressions.

There are several potential reasons why mass civil protest makes the impact of regime crises worse. One possibility is that the protests themselves have direct negative effects (for example, output loss due to strikes or closures of business). However, this is questionable given that Jong-A-Pin found no direct effect of his factor for mass civil protest alone. Moreover, it is not obvious why such effects would persist for many years after the instigating event. A second possibility is that mass protests tend to be associated with more severe and profound regime crises. Here we are limited by our data, which records crises as simple binary events, with no measure of severity. A third related possibility is that mass protest tends to signify events that cause a more profound increase in political uncertainty. The prospect of people coming onto the streets again in the future may introduce a new, potentially uncontrollable element of uncertainty about a country's future direction and thus have a more negative effect on business confidence and investment. Further research is required to distinguish between these hypotheses.

Appendix

Table A.1: Classification of Political Instability Events According to Jong-A-Pin (2009)

| Indicator | Definition | Source | Category |
|-------------------------|---|--------------------------------|---|
| Assassinations | Any politically motivated murder or attempted murder of a high government official or | Databanks International | Politically Motivated Violence |
| Cabinet changes | The number of times in a year that a new premier is named and/or 50% of the cabinet posts are occupied by new ministers | Databanks International (2005) | Instability of the Political Regime |
| Civil war | Dummy variable, 1 if at least 1000 battle related deaths per year in a conflict between the government of a state and internal opposition groups without foreign intervention | Gleditsch et al. (2002) | Politically Motivated Violence |
| Coups d'etat | The number of extraconstitutional or forced changes in the top government elite and/or its effective control of the nation's power structure in a given year. | Databanks International (2005) | Instability of the Political Regime |
| Major government crises | Any rapidly developing situation that threatens to bring the downfall of the present regime, excluding situations of revolt aimed at such overthrow. | Databanks International (2005) | Instability of the Political Regime |
| Demonstrations | Any peaceful public gathering of at least 100 people for the primary purpose of displaying or voicing their opposition to government policies or authority, excluding demonstrations of a distinctly anti-foreign nature. | Databanks International (2005) | Mass Civil Protest |
| Ethnic tensions | An assessment of the degree of tensions within a country which is attributable to racial, nationality or language divisions. | ICRG (2005) | Instability Within the Political Regime |
| Executive changes | The number of times in a year that effective control of the executive changes hands. | Databanks International | Instability Within the Political Regime |
| Fractionalization | The probability that two deputies picked at random from the legislature will be of different | Beck et al. (2001) | Instability Within the Political Regime |
| Government stability | An assessment of the governments ability to carry out its declared programs and its ability to stay in office. | ICRG (2005) | Instability Within the Political Regime |
| Guerilla warfare | Any armed activity, sabotage, or bombings carried on by independent bands of citizens or irregular forces and aimed at the overthrow of the present regime. | Databanks International (2005) | Politically Motivated Violence |
| Internal conflicts | An assessment of political violence in the country and its actual or potential impact on gov | ICRG (2005) | Instability Within the Political Regime |
| Major constitutional | The number of basic alterations in a state's constitutional structure, the extreme case being the adoption of a new constitution that significantly alters the prerogatives of the | Databanks International (2005) | Instability of the Political Regime |

Source: Jong-A-Pin (2009).

Table A.1 (Continued): Classification of Political Instability Events According to Jong-A-Pin (2009)

| Indicator | Definition | Source | Category |
|---------------------------------|---|--------------------------------|---|
| Medium civil conflicts | Dummy variable, 1 if there are more than 25 battle related deaths per year and a total conflict history of more than 1000 battle related deaths, but fewer than 1000 per year (between the government of a state and internal opposition groups without foreign | Gleditsch et al. (2002) | Politically Motivated Violence |
| Minor civil conflicts | Dummy variable, 1 if there are at least 25 battle related deaths per year for every year in the period in a conflict between the government of a state and internal opposition | Gleditsch et al. (2002) | Politically Motivated Violence |
| Number of elections | The number of elections held for the lower house of a national legislature in a given year. | Databanks International (2005) | Instability Within the Political Regime |
| Polarization | Maximum polarization between the executive party and the four principle parties of the le | Beck et al. (2001) | Instability Within the Political Regime |
| Years of ruling party in office | Number of years that the party of the chief executive has been in office. | Beck et al. (2001) | Instability Within the Political Regime |
| Purges | Number of systematic repressions (or eliminations) by jailing or execution of political opposition within the rank of the regime or the opposition. | Databanks International (2005) | No Category |
| Regime changes | Dummy variable, 1 if the variable "durable" is 0 in the polity IV dataset, which means that a new regime has started or that the state is in anarchy, 0 otherwise. | Marshall and Jagers (2002) | Instability of the Political Regime |
| Religious tensions | An assessment of the degree of tensions within a country which is attributable to religious | ICRG (2005) | Politically Motivated Violence |
| Revolutions | Any illegal or forced change in the top governmental elite, any attempt at such a change, or any successful or unsuccessful armed rebellion whose aim is independence | Databanks International (2005) | Politically Motivated Violence |
| Riots | Any violent demonstration or clash of more than 100 citizens involving the use of physical | Databanks International (2005) | Mass Civil Protest |
| Number of veto players who drop | The percent of veto players that drop from the government given the senate does not cha | Beck et al. (2001) | Instability Within the Political Regime |
| Strikes | Any strike of 1,000 or more industrial or service workers that involves more than one employer and that is aimed at national government policies or authority. | Databanks International (2005) | Mass Civil Protest |

Source: Jong-A-Pin (2009).

Table A.2: Definition of Political Instability Components

| Variable | Definition |
|--------------------------------|---|
| General Strikes | Any strike of 1,000 or more industrial or service workers that involves more than one employer and that is aimed at national government policies or authority. |
| Riots | Any violent demonstration or clash of more than 100 citizens involving the use of physical force. |
| Anti-government Demonstrations | Any peaceful public gathering of at least 100 people for the primary purpose of displaying or voicing their opposition to government policies or authority, excluding demonstrations of a distinctly anti-foreign nature. |
| Coups d'État | Whether an extraconstitutional or a forced change in the top government elite and/or its effective control of the nation's power structure has taken place in a given year. The term "coup" includes, but is not exhausted by, the term "successful revolution". |
| Major Constitutional Changes | Whether basic alterations in a state's constitutional structure, the extreme case being the adoption of a new constitution that significantly alters the prerogatives of the various branches of government, have happened in a given year. Examples of the latter might be the substitution of presidential for parliamentary government or the replacement of monarchical by republican rule. |
| Major Government Crises | Any rapidly developing situation that threatens to bring the downfall of the present regime - excluding situations of revolt aimed at such overthrow. |

Source: CNTS database.

Table A.3: Excluded Episodes of Regime Crisis

| Country | Year | Reason for Exclusion |
|--|------|---|
| Panel I - <i>With</i> mass popular protests | | |
| Algeria /1 | 1992 | Military coup that was followed by a civil war up till 1998 |
| Argentina /2 | 2001 | Riots were the result of an economic crisis that started in 2001 |
| Bulgaria /3 | 1997 | Mass protests over an economic crisis that started in 1996 |
| Cote D'Ivoire /4 | 2000 | Political instability evolved into a civil war in 2002 |
| Ecuador /5 | 2000 | Riots were the result of a financial crisis that started in 1999 |
| Greece /6 | 2011 | Large protests due to an economic crisis |
| Guatemala /7 | 2009 | Political crisis followed by natural disasters in 2010 and 2011 |
| Indonesia /8 | 1998 | Riots were the result of the Asian financial crisis that started in 1997 |
| Iran, Islamic Rep. /: | 1978 | Followed by the war with Iraq that started in 1980 |
| Latvia /10 | 2009 | Violent protests following a balance-of-payments crisis |
| Lebanon /11 | 2005 | Followed by the 2006 war with Israel |
| Libya /12 | 2011 | Political instability evolved into an armed conflict since 2012 |
| Myanmar | 1988 | No real GDP per capita data to evaluate the Impact of the 8-8-88 movement |
| Nepal /13 | 2002 | Happened during the 1996-2006 civil war |
| Panama /14 | 1987 | Panama was invaded by the U.S. in 1989 |
| South Africa /15 | 1990 | South Africa experienced a banking crisis in 1989 |
| Venezuela /16 | 1991 | This was preceded by an IMF program in 1989 |
| Panel II - <i>Without</i> mass popular protests | | |
| Afghanistan /17 | 1979 | Soviet army invades and props up communist government |
| Azerbaijan /18 | 1993 | Coup d'etat that happened during the Nagorno-Karabakh conflict which ended in 1994 |
| Bangladesh /19 | 1991 | Constitutional change which coincided with a cyclone that caused large economic losses |
| Bhutan /20 | 2005 | Constitutional change in the midst of a guerilla war with Indian rebels |
| Chad /21 | 1982 | Government crisis including a coup that was followed by armed conflicts |
| Colombia /22 | 1989 | Government crisis during the war with the FARCS |
| Ireland /23 | 2008 | Government crisis resulting from the economic downturn following the 07-08 crisis |
| Japan /24 | 1993 | Government crisis that was followed by a 1995 financial crisis |
| Qatar | 1995 | Sheikh Khalifa deposed by his son in a bloodless coup; however GDP per capita started in 2000 |

/1 <http://www.bbc.co.uk/news/world-africa-14118852>

/2 <https://www.imf.org/external/np/pdr/lessons/100803.pdf>

/3 <http://www.case-research.eu/en/node/55404>

/4 <http://www.globalsecurity.org/military/world/war/ivory-coast-2002.htm>

/5 <https://www.imf.org/external/pubs/ft/wp/2004/wp0412.pdf>

/6 <https://www.theguardian.com/business/2011/oct/31/eurozone-debt-crisis-greece-crisis-timeline>

/7 <https://www.fas.org/sgp/crs/row/R42580.pdf>

/8 <http://www.ieo-imf.org/ieo/files/completedevaluations/BP043.pdf>

/9 http://www.iranchamber.com/history/iran_iraq_war/iran_iraq_war1.php

/10 <http://www.nytimes.com/2009/01/14/world/europe/14iht-latvia.4.19364643.html>

/11 <https://www.imf.org/external/np/dm/2007/012507.htm>

/12 <https://www.imf.org/external/pubs/ft/scr/2013/cr13150.pdf>

/13 <https://www.lindenwood.edu/jigs/docs/volume1Issue1/essays/114-131.pdf>

/14 <http://andromeda.rutgers.edu/~hbf/panama.htm>

/15 <http://pdfproc.lib.msu.edu/?file=/DMC/African%20Journals/pdfs/transformation/tran009/tran009003.pdf>

/16 http://www-wds.worldbank.org/external/default/WDSCContentServer/WDSP/IB/1999/08/15/000009265_3970701170011/Rendered/PDF/multi0page.pdf

/17 <http://www.bbc.co.uk/news/world-south-asia-12024253>

/18 <http://www.bbc.co.uk/news/world-europe-18270325>

/19 <http://link.springer.com/article/10.1007/BF00690911>

/20 <https://www.theguardian.com/world/2003/dec/20/randeepramesh>

/21 <http://www.globalsecurity.org/military/world/war/chad.htm>

/22 <http://globalstudies.washington.edu/wp-content/uploads/2015/01/v2n1-Lopez.pdf>

/23 https://www.imf.org/external/np/seminars/eng/2014/ireland/pdf/Eichengreen_IrishCrisisEU.pdf

/24 <http://www.brie.berkeley.edu/publications/WP%2085.pdf>

Table A.4: Data Variables, Definition and Sources

| Covariate | Unit | Definition | Source |
|------------------------------|--|---|-------------------|
| Consumption | % of GDP | Final consumption expenditure (formerly total consumption) is the sum of household final consumption expenditure (private consumption) and general government final consumption expenditure (general government consumption). This estimate includes any statistical discrepancy in the use of resources relative to the supply of resources. | WDI |
| Gross Capital Formation | % of GDP | Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and "work in progress." According to the 1993 SNA, net acquisitions of valuables are also considered capital formation. | WDI |
| Imports | % of GDP | Imports of goods and services represent the value of all goods and other market services received from the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments. | WDI |
| Exports | % of GDP | Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments. | WDI |
| Fuel Exports | % of Merchandise Exports | Fuels comprise SITC section 3 (mineral fuels). | WDI |
| Fuel Imports | % of Merchandise Imports | Fuels comprise the commodities in SITC section 3 (mineral fuels). | WDI |
| Secondary School Enrollement | % | Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Secondary education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialized teachers. | WDI |
| Broad Money | % of GDP | Broad money (IFS line 35L.ZK) is the sum of currency outside banks; demand deposits other than those of the central government; the time, savings, and foreign currency deposits of resident sectors other than the central government; bank and traveler's checks; and other securities such as certificates of deposit and commercial paper. | WDI |
| Polity2 | Score between -10 (strongly autocratic) and 10 (strongly democratic) | The Polity conceptual scheme is unique in that it examines concomitant qualities of democratic and autocratic authority in governing institutions, rather than discreet and mutually exclusive forms of governance. This perspective envisions a spectrum of governing authority that spans from fully institutionalized autocracies through mixed, or incoherent, authority regimes (termed "anocracies") to fully institutionalized democracies. | Polity IV Project |

Table A.5: Real GDP Characteristics of Countries that Experienced Mass Political Instability

| Albania | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 1,835.0 | 1,745.9 |
| Consumption | 97.0 | 88.8 |
| GCF | 22.3 | 24.0 |
| Exports | 13.8 | 23.1 |
| Imports | 33.0 | 35.9 |
| School Enrollment | 81.3 | 56.2 |
| Polity2 | -1.9 | 0.6 |

Synthetic Control: Bulgaria (0.007); Burundi (0.291); Georgia (0.096); Mongolia (0.352); Peru (0.254).

| Bahrain | | |
|--|----------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 21,914.3 | 21,794.2 |
| Consumption | 63.2 | 67.9 |
| GCF | 21.9 | 26.3 |
| Exports | 77.9 | 62.7 |
| Imports | 62.9 | 56.8 |
| Net Fuel Exports | 16.2 | 17.2 |
| School Enrollment | 100.1 | 85.2 |
| M2 | 68.6 | 56.4 |
| Polity2 | -7.8 | -3.6 |

Synthetic Control: Azerbaijan (0.13); Belarus (0.255); Malaysia (0.174); Oman (0.088); Saudi Arabia (0.074); Switzerland (0.087); United Arab Emirates (0.192).

| Bolivia | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 1,489.3 | 1,496.5 |
| Consumption | 89.1 | 88.8 |
| GCF | 16.2 | 16.3 |
| Exports | 21.4 | 27.4 |
| Imports | 26.6 | 32.4 |
| Net Fuel Exports | 3.2 | 2.6 |
| School Enrollment | 78.0 | 44.4 |
| M2 | 36.7 | 32.5 |
| Polity2 | 8.9 | 2.3 |

Synthetic Control: El Salvador (0.243); Ghana (0.106); Madagascar (0.171); Nigeria (0.164); Panama (0.01); Philippines (0.266); Togo (0.04).

| Chile | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 4,181.5 | 4,191.2 |
| Consumption | 82.9 | 82.9 |
| GCF | 17.7 | 17.7 |
| Exports | 13.2 | 13.2 |
| Imports | 13.8 | 13.8 |
| Net Fuel Exports | -0.8 | 1.4 |
| School Enrollment | 52.8 | 27.0 |
| M2 | 16.7 | 20.5 |
| Polity2 | 5.7 | 1.7 |

Synthetic Control: Australia (0.035); Chad (0.219); Ecuador (0.021); Ghana (0.111); India (0.352); Madagascar (0.007); Mauritania (0.077); Senegal (0.01); United States (0.074); Venezuela, RB (0.094).

Table A.5 (continued): Real GDP Characteristics of Countries that Experienced Mass Political Instability

Egypt, Arab Rep.

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 2,116.8 | 2,139.3 |
| Consumption | 85.5 | 85.6 |
| GCF | 19.8 | 19.9 |
| Exports | 23.4 | 23.5 |
| Imports | 28.7 | 28.8 |
| Net Fuel Exports | 2.3 | 0.5 |
| School Enrollment | 75.7 | 42.6 |
| M2 | 85.9 | 54.4 |
| Polity2 | -5.1 | -0.6 |

Synthetic Control: Bolivia (0.177); Canada (0.01); Central African Republic (0.239); China (0.213); Djibouti (0.031); Guinea-Bissau (0.099); Kazakhstan (0.01); Oman (0.026); Rwanda (0.086); Zimbabwe (0.11).

Georgia

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 1,484.1 | 1,536.0 |
| Consumption | 101.4 | 96.1 |
| GCF | 20.1 | 20.9 |
| Exports | 27.9 | 34.4 |
| Imports | 49.3 | 51.3 |
| Net Fuel Exports | -5.0 | 6.5 |
| School Enrollment | 81.3 | 81.2 |
| M2 | 8.4 | 23.8 |
| Polity2 | 4.7 | -1.2 |

Synthetic Control: Armenia (0.409); Azerbaijan (0.554); Mozambique (0.038).

Fiji

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 3,167.8 | 3,174.1 |
| Consumption | 84.2 | 87.3 |
| GCF | 17.9 | 16.8 |
| Exports | 56.3 | 39.6 |
| Imports | 58.4 | 43.7 |
| Net Fuel Exports | -6.3 | -1.6 |
| School Enrollment | 78.0 | 42.4 |
| M2 | 46.8 | 43.2 |
| Polity2 | 4.5 | 3.2 |

Synthetic Control: Canada (0.009); El Salvador (0.175); Malaysia (0.153); Namibia (0.322); Senegal (0.113); Sierra Leone (0.228).

Guinea

| Averages of GDP per capita Characteristics | | |
|--|--------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 409.7 | 409.6 |
| Consumption | 82.5 | 90.9 |
| GCF | 19.5 | 18.9 |
| Exports | 26.9 | 18.5 |
| Imports | 28.8 | 28.2 |
| Net Fuel Exports | -3.7 | -3.7 |
| School Enrollment | 17.5 | 26.9 |
| Polity2 | -3.2 | 1.1 |

Synthetic Control: Burkina Faso (0.045); Nepal (0.54); Niger (0.369); Papua New Guinea (0.008); Tajikistan (0.038).

Table A.5 (continued): Real GDP Characteristics of Countries that Experienced Mass Political Instability

| Haiti | | |
|--|--------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 747.1 | 758.7 |
| Consumption | 95.3 | 95.3 |
| GCF | 27.1 | 24.5 |
| Exports | 12.5 | 13.3 |
| Imports | 35.0 | 33.3 |
| M2 | 39.1 | 39.0 |
| Polity2 | 0.2 | 0.2 |

Synthetic Control: Argentina (0.042); Bangladesh (0.171); Bhutan (0.013); Eritrea (0.136); Mozambique (0.264); Uganda (0.373).

| Iran, Islamic Rep. | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 4,670.4 | 4,719.6 |
| Consumption | 65.1 | 63.1 |
| GCF | 65.1 | 63.1 |
| Exports | 21.0 | 24.7 |
| Imports | 20.8 | 20.7 |
| Net Fuel Exports | 14.6 | 10.2 |
| School Enrollment | 70.5 | 59.8 |
| M2 | 43.8 | 81.7 |
| Polity2 | -3.0 | -3.0 |

Synthetic Control: Algeria (0.278); Australia (0.03); China (0.493); India (0.052); Sudan (0.051); Venezuela, RB (0.097).

| Honduras | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 1,770.4 | 1,776.9 |
| Consumption | 83.1 | 78.1 |
| GCF | 28.8 | 28.3 |
| Exports | 45.6 | 39.6 |
| Imports | 57.6 | 46.1 |
| Net Fuel Exports | -8.0 | -2.7 |
| School Enrollment | 47.9 | 48.6 |
| M2 | 41.9 | 40.9 |
| Polity2 | 6.4 | -0.3 |

Synthetic Control: Bhutan (0.259); China (0.089); Gambia (0.187); Guatemala (0.039); Malaysia (0.021); Moldova (0.13); Paraguay (0.274).

| Italy | | |
|--|----------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 25,818.5 | 25,862.6 |
| Consumption | 76.6 | 76.2 |
| GCF | 76.6 | 76.2 |
| Exports | 19.3 | 18.8 |
| Imports | 19.5 | 18.9 |
| Net Fuel Exports | -3.2 | -1.5 |
| School Enrollment | 72.2 | 80.0 |
| Polity2 | 10.0 | 6.3 |

Synthetic Control: France (0.356); Ghana (0.179); Japan (0.237); Norway (0.134); United States (0.054); Uruguay (0.04).

Table A.5 (continued): Real GDP Characteristics of Countries that Experienced Mass Political Instability

| Jordan | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 3,429.8 | 3,469.8 |
| Consumption | 98.7 | 86.6 |
| GCF | 27.5 | 27.6 |
| Exports | 50.1 | 60.6 |
| Imports | 76.3 | 74.7 |
| Net Fuel Exports | -10.2 | -9.3 |
| School Enrollment | 86.0 | 67.9 |
| M2 | 118.5 | 81.9 |

Synthetic Control: Synthetic Control: China (0.138); Djibouti (0.21); Grenada (0.086); Guyana (0.356); Hong Kong SAR, China (0.045); Moldova (0.13); Zimbabwe (0.035).

| Kyrgyz Republic | | |
|--|--------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 744.3 | 755.4 |
| Consumption | 93.1 | 94.5 |
| GCF | 19.9 | 19.3 |
| Exports | 35.7 | 32.4 |
| Imports | 46.0 | 46.3 |
| School Enrollment | 91.4 | 35.3 |
| M2 | 15.9 | 23.0 |
| Polity2 | -3.0 | 0.0 |

Synthetic Control: Chad (0.127); Equatorial Guinea (0.004); Gambia (0.348); Lesotho (0.009); Moldova (0.237); Rwanda (0.065); Togo (0.21).

| Kenya | | |
|--|--------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 872.1 | 873.4 |
| Consumption | 82.0 | 85.4 |
| GCF | 82.0 | 85.4 |
| Exports | 27.5 | 27.2 |
| Imports | 31.0 | 34.4 |
| M2 | 32.0 | 22.9 |
| Polity2 | -6.2 | -6.1 |

Synthetic Control: Bhutan (0.247); Botswana (0.016); Cameroon (0.152); Honduras (0.062); Mauritania (0.066); Philippines (0.016); Saudi Arabia(0.003); Sierra Leone (0.363); Togo (0.076).

| Morocco | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 2,259.8 | 2,255.3 |
| Consumption | 76.9 | 76.8 |
| GCF | 29.2 | 29.2 |
| Exports | 27.0 | 26.9 |
| Imports | 33.1 | 33.0 |
| Net Fuel Exports | -4.8 | -1.8 |
| School Enrollment | 44.3 | 47.6 |
| M2 | 76.5 | 62.0 |
| Polity2 | -6.5 | -0.1 |

Synthetic Control: Algeria (0.026); Bhutan (0.169); China (0.146); Djibouti (0.036); India (0.306); Moldova (0.012); Mozambique (0.01); Rwanda (0.004); Suriname (0.059); Switzerland (0.009); Togo (0.092); Zimbabwe (0.13).

Table A.5 (continued): Real GDP Characteristics of Countries that Experienced Mass Political Instability

Nigeria

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 1,511.3 | 1,541.1 |
| Consumption | 72.6 | 84.6 |
| GCF | 22.8 | 18.5 |
| Exports | 23.8 | 24.5 |
| Imports | 17.3 | 27.7 |
| Net Fuel Exports | 29.3 | -0.3 |
| School Enrollment | 18.9 | 15.3 |
| M2 | 23.6 | 23.6 |
| Polity2 | -3.0 | -6.7 |

Synthetic Control: Argentina (0.036); China (0.031); Cote d'Ivoire (0.332); Gabon (0.003); Iran, Islamic Rep. (0.086); Niger (0.511).

Pakistan

| Averages of GDP per capita Characteristics | | |
|--|--------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 713.9 | 711.9 |
| Consumption | 88.7 | 87.3 |
| GCF | 18.8 | 18.8 |
| Exports | 13.9 | 14.3 |
| Imports | 21.3 | 20.5 |
| Net Fuel Exports | -3.6 | -1.8 |
| School Enrollment | 19.9 | 23.3 |
| M2 | 42.7 | 29.7 |
| Polity2 | 1.2 | -2.6 |

Synthetic Control: Bangladesh (0.456); Benin (0.113); China (0.159); Gambia (0.061); Japan (0.006); Sierra Leone (0.204).

Paraguay

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 2,624.7 | 2,634.7 |
| Consumption | 73.4 | 86.7 |
| GCF | 21.0 | 20.9 |
| Exports | 55.1 | 40.0 |
| Imports | 49.6 | 47.7 |
| Net Fuel Exports | -3.0 | -2.5 |
| School Enrollment | 33.7 | 35.0 |
| M2 | 24.1 | 26.9 |

Synthetic Control: Belize (0.174); Ecuador (0.012); Gambia (0.552); Iceland (0.045); Indonesia (0.18); Panama (0.037).

Peru

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 4,606.5 | 4,639.9 |
| Consumption | 75.6 | 76.4 |
| GCF | 32.3 | 29.9 |
| Exports | 71.9 | 66.2 |
| Imports | 79.7 | 72.4 |
| Net Fuel Exports | -4.7 | -3.3 |
| School Enrollment | 60.3 | 64.1 |
| M2 | 48.6 | 60.9 |
| Polity2 | 1.5 | -1.1 |

Synthetic Control: Fiji (0.003); Gabon (0.169); Guyana (0.629); Honduras (0.128); Indonesia (0.004); New Zealand (0.028); Norway (0.006); Oman (0.002); Peru (0.032).

Table A.5 (continued): Real GDP Characteristics of Countries that Experienced Mass Political Instability

Philippines

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 1,390.3 | 1,459.6 |
| Consumption | 76.2 | 85.1 |
| GCF | 26.0 | 19.3 |
| Exports | 20.6 | 22.0 |
| Imports | 22.9 | 26.3 |
| Net Fuel Exports | -3.8 | -2.7 |
| School Enrollment | 54.7 | 48.6 |
| M2 | 24.3 | 25.5 |
| Polity2 | -3.1 | 3.8 |

Synthetic Control: Ghana (0.125); India (0.063); Korea, Rep. (0.08); Peru (0.1); Sri Lanka (0.59); Uruguay (0.042).

Spain

| Averages of GDP per capita Characteristics | | |
|--|----------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 13,491.5 | 13,515.0 |
| Consumption | 74.3 | 74.3 |
| GCF | 28.2 | 29.1 |
| Exports | 10.7 | 17.6 |
| Imports | 13.1 | 20.5 |
| Net Fuel Exports | -1.7 | -1.9 |
| School Enrollment | 63.3 | 73.9 |
| Polity2 | -5.7 | 4.0 |

Synthetic Control: Ecuador (0.062); Finland (0.238); Indonesia (0.003); Japan (0.267); Korea, Rep. (0.13); Norway (0.065); Portugal (0.236).

Portugal

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 7,698.4 | 7,758.6 |
| Consumption | 77.5 | 52.7 |
| GCF | 28.7 | 19.6 |
| Exports | 19.5 | 25.2 |
| Imports | 24.3 | -1.4 |
| Net Fuel Exports | -1.5 | 32.7 |
| School Enrollment | 42.0 | 0.0 |
| Polity2 | -8.6 | 5.0 |

Synthetic Control: Algeria (0.006); Congo, Rep. (0.082); Israel (0.102); Japan (0.351); Korea, Rep. (0.304); Malaysia (0.149); Thailand (0.007).

Thailand

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 3,317.6 | 3,314.2 |
| Consumption | 67.7 | 66.5 |
| GCF | 31.3 | 29.4 |
| Exports | 46.1 | 48.4 |
| Imports | 45.1 | 44.3 |
| Net Fuel Exports | -3.8 | 4.3 |
| School Enrollment | 48.0 | 52.3 |
| M2 | 90.3 | 78.1 |
| Polity2 | 6.7 | -1.0 |

Synthetic Control: China (0.156); Ghana (0.005); Guinea-Bissau (0.046); Indonesia (0.449); Malaysia (0.339); Papua New Guinea (0.005).

Table A.5 (continued): Real GDP Characteristics of Countries that Experienced Mass Political Instability

| Togo | | |
|--|--------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 514.2 | 540.8 |
| Consumption | 94.5 | 93.6 |
| GCF | 16.1 | 17.0 |
| Exports | 36.0 | 25.5 |
| Imports | 46.6 | 36.0 |
| Net Fuel Exports | -6.5 | -2.7 |
| School Enrollment | 26.0 | 25.6 |
| M2 | 31.1 | 19.7 |
| Polity2 | -3.9 | -1.2 |

Synthetic Control: Benin (0.003); Burundi (0.007); Congo, Rep. (0.023); Ghana (0.142); Jordan (0.004); Malawi (0.756); Senegal (0.066).

| Tunisia | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 3,287.7 | 3,298.7 |
| Consumption | 78.3 | 78.2 |
| GCF | 25.2 | 25.1 |
| Exports | 43.5 | 43.5 |
| Imports | 47.0 | 46.9 |
| Net Fuel Exports | -0.7 | 1.4 |
| School Enrollment | 71.3 | 66.0 |
| M2 | 51.3 | 53.3 |
| Polity2 | -3.7 | 5.2 |

Synthetic Control: Belarus (0.041); Bhutan (0.072); Bolivia (0.188); Botswana (0.059); Congo, Rep. (0.054); Guinea-Bissau (0.037); Honduras (0.081); India (0.067); Malaysia (0.02); Mauritius (0.232); Mozambique (0.001); Sri Lanka (0.007); Swaziland (0.001); Trinidad and Tobago (0.027); Zimbabwe (0.049).

| Turkey | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 7,665.3 | 7,625.7 |
| Consumption | 80.3 | 79.7 |
| GCF | 21.8 | 21.2 |
| Exports | 19.7 | 20.9 |
| Imports | 21.8 | 21.8 |
| Net Fuel Exports | -2.7 | 1.6 |
| School Enrollment | 66.1 | 72.0 |
| M2 | 33.2 | 33.3 |
| Polity2 | 7.6 | 7.0 |

Synthetic Control: Argentina (0.214); China (0.007); Colombia (0.474); Guinea-Bissau (0.052); India (0.007); Korea, Rep. (0.108); Moldova (0.048); Sweden (0.032); Trinidad and Tobago (0.035); Venezuela, RB (0.023).

| Ukraine | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 2,095.2 | 2,051.8 |
| Consumption | 76.1 | 77.1 |
| GCF | 22.5 | 23.0 |
| Exports | 51.2 | 47.5 |
| Imports | 49.8 | 47.4 |
| Net Fuel Exports | -13.5 | 1.8 |
| School Enrollment | 100.2 | 66.7 |
| M2 | 22.2 | 24.2 |
| Polity2 | 6.5 | 2.4 |

Synthetic Control: Congo, Rep. (0.149); India (0.251); Mongolia (0.087); Russian Federation (0.172); Tajikistan (0.342).

Table A.5 (continued): Real GDP Characteristics of Countries that Experienced Mass Political Instability

Yemen

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 1,183.9 | 1,181.6 |
| Consumption | 86.6 | 91.3 |
| GCF | 19.2 | 19.3 |
| Exports | 30.7 | 26.2 |
| Imports | 36.6 | 36.7 |
| M2 | 36.8 | 29.9 |
| Polity2 | -2.3 | -1.8 |

Synthetic Control: Algeria (0.002); Cameroon (0.074); Mozambique (0.131); Norway (0.003); Pakistan (0.218); Rwanda (0.013); Sudan (0.015); Swaziland (0.122); Tanzania (0.275); Togo (0.074); Zimbabwe (0.074).

Table A.6: Real GDP Characteristics of Countries that Only Experienced Political Regime Crises

Angola

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 2,689.8 | 2,712.1 |
| Consumption | 67.8 | 74.2 |
| GCF | 22.2 | 22.6 |
| Exports | 68.9 | 47.4 |
| Imports | 58.9 | 44.1 |
| School Enrollment | 16.1 | 53.7 |
| M2 | 23.3 | 23.5 |
| Polity2 | 25.9 | 24.6 |

Synthetic Control: Azerbaijan (0.378); Congo, Rep. (0.28); Djibouti (0.093); Niger (0.179); Nigeria (0.034); Oman (0.037).

Australia

| Averages of GDP per capita Characteristics | | |
|--|----------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 23,706.5 | 23,905.3 |
| Consumption | 68.8 | 68.8 |
| GCF | 31.7 | 29.0 |
| Exports | 13.1 | 27.4 |
| Imports | 13.6 | 25.4 |
| School Enrollment | 80.8 | 74.2 |
| M2 | 46.2 | 46.3 |
| Polity2 | 10.0 | 9.4 |

Synthetic Control: Israel (0.009); Japan (0.016); Norway (0.301); Sweden (0.458); Venezuela, RB (0.216).

Ecuador

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 4,049.8 | 4,052.2 |
| Consumption | 78.8 | 78.8 |
| GCF | 22.2 | 22.2 |
| Exports | 24.6 | 24.8 |
| Imports | 25.7 | 25.9 |
| Net Fuel Exports | 8.0 | 5.0 |
| School Enrollment | 58.8 | 63.5 |
| M2 | 22.0 | 32.4 |
| Polity2 | 7.4 | 6.0 |

Synthetic Control: Argentina (0.006); Bangladesh (0.001); Colombia (0.508); Congo, Rep. (0.052); Gabon (0.059); India (0.146); Madagascar (0.049); Mexico (0.031); Moldova (0.022); Mozambique (0.041); Ukraine (0.085).

Estonia

| Averages of GDP per capita Characteristics | | |
|--|---------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 4,181.5 | 4,191.2 |
| Consumption | 82.9 | 82.9 |
| GCF | 17.7 | 17.7 |
| Exports | 13.2 | 13.2 |
| Imports | 13.8 | 13.8 |
| Net Fuel Exports | -0.8 | 1.4 |
| School Enrollment | 52.8 | 27.0 |
| M2 | 16.7 | 20.5 |
| Polity2 | 5.7 | 1.7 |

Synthetic Control: Bulgaria (0.27); Congo, Rep. (0.059); Equatorial Guinea (0.037); Ireland (0.129); Jordan (0.011); Lithuania (0.182); Malaysia (0.119); Panama (0.192).

Table A.6 (continued): Real GDP Characteristics of Countries that Only Experienced Political Regime Crises

| Gambia | | |
|--|--------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 524.2 | 522.3 |
| Consumption | 94.0 | 89.4 |
| GCF | 17.6 | 19.8 |
| Exports | 42.5 | 24.9 |
| Imports | 54.1 | 34.1 |
| Net Fuel Exports | -4.3 | -3.2 |
| School Enrollment | 15.2 | 15.8 |
| M2 | 22.4 | 25.6 |
| Polity2 | 7.6 | -6.6 |

Synthetic Control: Burundi (0.256); Egypt, Arab Rep. (0.059); Guyana (0.013); Malawi (0.388); Papua New Guinea (0.078); Sierra Leone (0.084); Togo (0.12).

| Malaysia | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 2,957.3 | 2,980.7 |
| Consumption | 71.4 | 79.2 |
| GCF | 25.3 | 25.4 |
| Exports | 49.7 | 42.2 |
| Imports | 46.5 | 46.9 |
| Net Fuel Exports | 3.2 | 2.6 |
| M2 | 75.1 | 33.6 |
| Polity2 | 4.3 | 2.1 |

Synthetic Control: Algeria (0.087); China (0.02); India (0.031); Indonesia (0.163); Singapore (0.127); Sri Lanka (0.522); Trinidad and Tobago (0.068).

| Ghana | | |
|--|---------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 1,014.5 | 1,014.6 |
| Consumption | 89.1 | 93.6 |
| GCF | 13.5 | 11.1 |
| Exports | 18.9 | 16.9 |
| Imports | 21.4 | 21.6 |
| Net Fuel Exports | -2.0 | -1.3 |
| School Enrollment | 38.3 | 16.8 |
| M2 | 22.0 | 18.1 |
| Polity2 | -5.8 | -2.2 |

Synthetic Control: Guyana (0.033); Madagascar (0.853); Peru (0.114).

| Niger | | |
|--|--------|-------------------|
| Averages of GDP per capita Characteristics | | |
| | Actual | Synthetic Control |
| Real GDP per capita | 345.2 | 361.2 |
| Consumption | 94.8 | 99.9 |
| GCF | 15.0 | 15.1 |
| Exports | 16.8 | 15.6 |
| Imports | 26.5 | 30.6 |
| Net Fuel Exports | -3.3 | -3.2 |
| School Enrollment | 7.9 | 15.3 |
| M2 | 14.1 | 21.3 |
| Polity2 | 2.5 | 2.7 |

Synthetic Control: Burundi (0.519); Madagascar (0.417); Senegal (0.064).

Table A.6 (continued): Real GDP Characteristics of Countries that Only Experienced Political Regime Crises

Slovak Republic

| Averages of GDP per capita Characteristics | | |
|--|----------|-------------------|
| | Actual | Synthetic Control |
| Real GDP per capita | 12,595.0 | 12,428.9 |
| Consumption | 75.3 | 73.6 |
| GCF | 28.6 | 27.5 |
| Exports | 63.6 | 58.9 |
| Imports | 67.4 | 60.4 |
| Net Fuel Exports | -4.4 | 1.9 |
| School Enrollment | 89.8 | 85.5 |
| M2 | 59.7 | 60.7 |
| Polity2 | 8.7 | 8.6 |

Synthetic Control: Bulgaria (0.001); Czech Republic (0.487); Guyana (0.14); Hungary (0.001); Lesotho (0.044); Malaysia (0.054); Mauritius (0.001); Sweden (0.006); Trinidad and Tobago (0.262).

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