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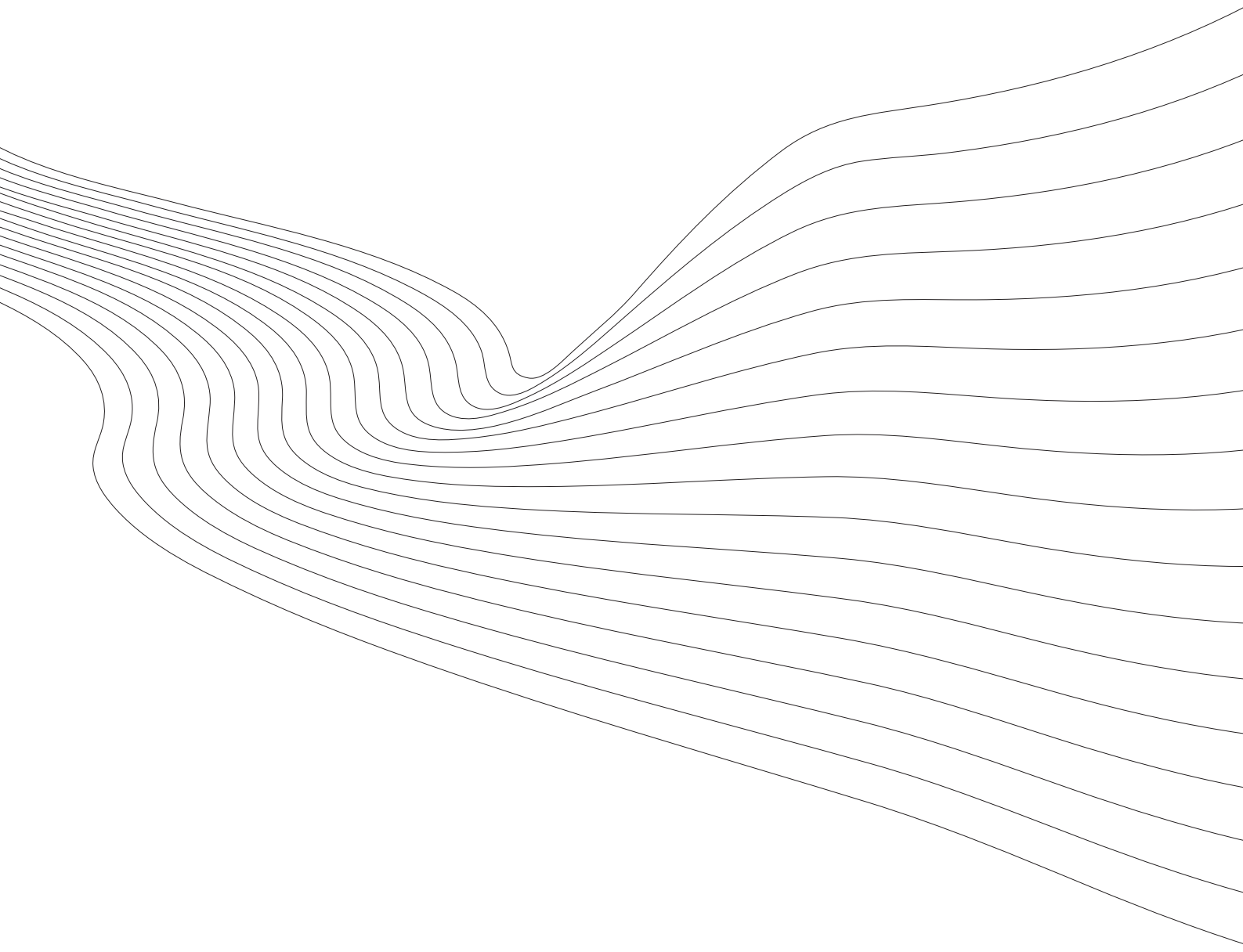

No. 181
November 2007

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Terrorism and Cabinet Duration: An Empirical Analysis

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November 29, 2007

Abstract

We examine the relationship between terrorism and cabinet duration. Our data set includes more than 2,400 cabinets in over 150 countries in the period 1968-2002. We find a small, but significant, effect of terrorism on the probability of government failure. Furthermore, we find that the impact of terrorism depends on the type of attack and is larger in case of more severe attacks. Marginal effect calculations show that the impact of terror on cabinet duration is larger than the impact of economic variables such as economic growth, but less than the impact of a civil war or a government crisis. Our results suggest that cabinets in countries with high levels of terrorism are particularly vulnerable to terrorist attacks.

Keywords: terror, political stability, cabinet dissolution

JEL codes: D72, F59, C25

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1 Introduction

Terrorism puts a burden on societies in many ways. Besides the casualties and immediate physical damage, individuals alter their behavior in the aftermath of a terrorist attack. It is, for instance, widely documented that uncertainty after terrorist attacks leads to less tourism (Enders et al., 1992), staggering investment (Blomberg et al., 2004), lower savings (Fielding, 2003) and lower levels of life satisfaction (Frey et al., 2004).[1]

The aftermath of recent large scale terrorist attacks suggests that terrorism also has political effects. The international 'war on terror' that started after the attacks on September 11, 2001 (9/11), and the replacement of the Partido Popular after the Madrid train bombings on March 11, 2004 (3/11) illustrate this. Protection against terrorism has become a prime issue on the political agenda in many countries ever since.

Various studies examine the political consequences of terrorism. For example, Frey and Luechinger (2003) and Anderton and Carter (2005) examine the strategic interaction between terrorists and politicians, whereas Siqueira and Sandler (2007) also include voting decisions of the electorate in their analysis. Several studies find that the presence of terrorism may alter electoral preferences (Chari, 2004; Berrebi and Klor 2006; Gassebner et al., 2008). These studies are based on the idea that a terrorist attack changes the electorate's perception of the quality of the incumbent government and its implemented policies. However, these changed preferences may also affect the position of the cabinet in the absence of elections. In this paper, we aim to address this issue and ask whether terrorism may help explaining why some governments remain in office longer than others.

There are several models that provide guidance why there may be a relationship between terrorism and cabinet duration. However, these models result in contradicting propositions. On the one hand, Lupia and Strøm (1995) argue that critical events (such as terrorism) affect public opinion thereby causing a shift in the power distribution of political parties,

[1] For an overview of empirical assessments on the costs of terrorism, see Frey et al. (2007).

which may bring about early elections. On the other hand, it is widely believed that the electorate starts to 'rally around the flag' when national security is at stake (Mueller, 1970).

We examine the impact of terrorism on cabinet duration using a panel of more than 2,400 cabinets in over 150 countries in the period 1968-2002. Our measure for cabinet duration is taken from Databanks International (2005), while we construct different terror indicators on the basis of information provided by the MIPT Terrorism Knowledge Base. In our analysis we take into account the possibility that not every terrorist attack is identical and, therefore, distinguish between different types of terrorism and different intensities. Finally, since some studies suggest that terrorism may have different effects for different country groups (e.g., Blomberg et al., 2004; Tavares, 2004), we examine the presence of sample heterogeneity.

Our main finding is that terrorism has a small but significant impact on the probability of cabinet failure. That is, terrorism shortens cabinet duration. Besides, we find that the impact of terrorism depends on the type of terrorism and the severity of the attack. In particular, we find that assassinations targeted at government representatives and suicide attacks have a larger impact than other types of terror. Furthermore, the impact of terror on cabinet duration is larger than the impact of economic variables such as economic growth, but smaller than the impact of a civil war or a government crisis. Finally, we find evidence for sample heterogeneity. Terrorism increases the probability of government failure especially in countries with high levels of terrorism.

The remainder of this paper is organized as follows. In section 2, we discuss the literature on cabinet duration from which we derive our main hypothesis. In section 3, we describe our data and the empirical model. We present our estimation results in section 4 and deal with the importance of terrorism incidence and severity as well as sample heterogeneity in section 5. Section 6 concludes the paper.

2 Related Literature

There are many studies that examine the question of why some cabinets last longer than others. Surveys on the determinants of cabinet duration are provided by Warwick (1994) and Grofman and van Roozendaal (1997). The latter provide a typology of five different groups of variables that affect cabinet duration.

The first category consists of characteristics of party strength in the legislature and variables measuring attributes of the cabinet related to party balance. Variables that fall into this category are, for example, party fractionalization, cabinet size and the effective number of parties in a cabinet. The second category refers to the ideological structure of party competition and cabinet composition. Ideological polarization between cabinet members and dominant central parties in a cabinet belong to this category. The third category refers to the institutional framework in which the political process takes place. Institutional features that are particularly relevant are constitutional procedures and aspects of legislative organization. The fourth group of variables that affect cabinet instability are time dependent factors external to the cabinet and the legislature. Variables in this category are, among others, (shocks in) inflation and unemployment. Finally, the fifth group consists of factors related to the anticipated consequences of dissolution such as the probability of winning the next election.

We consider terrorist attacks as events external to the cabinet and the legislature (also known as critical events). Lupia and Strøm (1995) develop a theoretical model that relates critical events to cabinet terminations.[2] Their model starts from the premise that three parties bargain over a cabinet formation. Once a cabinet is installed, some unexpected event occurs that alters the power distribution in the coalition through a public opinion shock. If a coalition member perceives the marginal costs of remaining in the coalition to

[2]See also Browne et al. (1984).

be higher than the marginal benefits, it is optimal to end coalition participation.[3] When one coalition party decides to opt out, several scenarios are feasible. It is possible that the former coalition partners renegotiate and form a new coalition. Likewise, part of the former coalition forms a new coalition with the opposition party. Finally, it is possible that new elections are held. In any case, changes in the composition of the cabinet are a likely consequence of the critical event.

Terrorism affects public opinion (Downes-Le Guin and Hoffmann, 1993). As terrorists strive for maximum publicity and mainly target civilians, public opinion regarding the current government may alter in the aftermath of an attack. However, a priori it is not clear in which direction public opinion will shift. Hetherington and Nelson (2003), for instance, document that after the 9/11 terrorist attacks, the Gallup Poll approval ratings for U.S. President Bush improved from 51 percent on September 10 to 86 percent on September 15. According to Mueller (1970), this so called 'rally around the flag' phenomenon occurs when events happen that: (1) are international, (2) involve the United States and in particular the U.S. President and (3) are specific, dramatic and sharply focused. More recent studies suggest that these effects are not specific to the United States, but also occurred in, for instance, Great Britain (Lai and Reiter, 2005) and Israel (Arian and Olzaeker, 1999). Although rally effects are mostly observed in cases of international (armed) conflict, there is some recent evidence that they may also occur in the aftermath of terrorist attacks (Chowanietz, 2007). However, it is also possible that public opinion shifts away from the incumbent government. Gassebner et al. (2008) point out that national security is arguably one of the most important public goods. Hence, the electorate may perceive

[3]Although the Lupia-Strøm model refers to multi-party systems with an explicit cabinet coalition, we argue that the ruling party in a two-party system consists of implicit coalitions. These implicit coalitions are formed between the different wings that operate within the party. Upon a Lupia-Strøm critical event the power of these different groups within the party changes. To maintain unity within the party, party leaders are likely to dissolve the cabinet and/or replace cabinet members according to the demands of the interest groups whose power has increased after the critical event. Hence, for the purpose of this paper, we do not need to differentiate between two-party and multi-party systems.

a successful terrorist attack as a failure of government (Holmes, 2001). This view can be traced back to the models of Barro (1973) and Ferejohn (1986), in which the electorate holds the incumbent government accountable for the (lack of) provision of public goods. Focusing on cabinet changes in election years, Gassebner et al. (2008) conclude that the probability of a government being ousted from office increases by approximately 14 percent after a terrorist attack.

In sum: it is ex ante not clear whether terrorism affects the tenure of cabinets positively or negatively. Therefore, we turn to empirical analysis to find an answer to our research question.

3 Data and Method

To examine whether terrorism can explain why some governments remain in office longer than others, we employ binary time series cross section (BTSCS) data for more than 150 countries over the period 1968-2002. An important issue in the modeling of duration data is to take account of temporal dependence. Therefore, we incorporate the suggestions of Beck et al. (1998) in a conditional fixed effects logit (CFEL) model (see Chamberlain, 1980).[4] Beck et al. (1998) show that panel logit data are identical to grouped duration data and suggest to account for this by adding a series of dummy variables to the model marking the number of years since the previous occurrence of an event (in our case a cabinet change). A drawback of this solution is that (a lot of) degrees of freedom are lost due to the large number of dummy variables. As a solution, Beck et al. (1998) replace the dummy variables with a smooth function based on cubic splines. F-tests and Likelihood Ratio tests reject the null-hypothesis that these duration dependence parameters are zero at the one percent

[4] Our choice for a CFEL model is based on Hausman tests (Hausman, 1978). We test the null-hypothesis that all country fixed effects are equal to zero by comparing the estimates of a CFEL model and an unrestricted (pooled) logit model. The null-hypothesis of no country specific effects is rejected for all model specifications. Hence, CFEL should be preferred.

level for all model specifications.[5] Our model is as follows:

$$P(c_{it} = 1|X_{it}) = h(t|X_{it}) = \frac{1}{1 + e^{-(\alpha_i + X_{it}\beta + \kappa_{t-t0})}}, \quad (1)$$

where c_{it} is a binary variable equal to 1 if the cabinet of country i is replaced in a given year t and 0 if the cabinet of country i in year t remains in office. α_i is a country specific effect that accounts for all characteristics specific to country i, X_{it} is a vector of explanatory variables including terrorism and κ_{t-t0} are the duration dependence parameters.

Our dependent variable is taken from Databanks International (2005). This source provides data on the number of cabinet changes per year defined as a replacement of more than 50 percent of all ministers and/or the replacement of the prime minister (see also Table 1). As the data limits our analysis to yearly observations, we discard multiple cabinet changes per year in our analysis and assume that for those years only one cabinet change has occurred.[6] Figure 1 shows the distribution of the time in office of the cabinets in our data set. As can be seen, there are 2,436 cabinets in our sample of which only 52 percent lasted more than one year. The average duration of a cabinet is 1.9 years (not shown), while the longest duration observed in our sample is the government of Bhutan, which remained in office for 27 years (1971-1998).

We construct different terrorism indicators on the basis of information assembled by the MIPT Terrorism Knowledge Base.[7] This source provides data on trans-national ter-

[5] In addition, we have also estimated other duration models such as a Cox proportional hazard model with time varying covariates. As these results are very similar to the results presented in the next section, we exclude them here (results are available upon request). For a discussion on the equivalence of duration models and the method of Beck et al., see Beck et al. (1998). For a general discussion on duration models, see Kiefer (1988). For a discussion on duration models in the context of cabinet duration, see Carmignani (2002).

[6] In our view, this is only of limited influence on our estimates as only 3.5 percent of all cases exhibit more than one cabinet change per year (208 out of 5,419 observations).

[7] Available at: http://www.tkb.org/. The Terrorism Knowledge Base defines terror as "violence, or the threat of violence, calculated to create an atmosphere of fear and alarm." Terror is used to discourage the adversaries from acting at their free will. The motives for engaging in terror are political while the acts themselves are generally conducted in a way that will achieve maximum publicity, mainly by attacking civilians. Moreover, terrorist acts are mostly intended to create more than immediate physical damage –

rorism – terrorist attacks in which the attacker and/or target are of foreign nationality – for individual countries over the period 1968-2002. As it is very plausible that taking a single hostage has a different impact on public opinion than an event such as 9/11, we construct different indicators that distinguish between different types and intensities of terrorism. Our main indicator is the number of terror events per country per year.[8] The alternative indicators are: the number of terror events with at least one casualty or one person injured, the number of suicide attacks, the number of political assassinations, the number of casualties, the average number of casualties per terrorist attack, and also a dummy variable indicating the presence of terrorism.

Figure 2 shows the variation over time of the different terror indicators for all countries in the sample. It shows an upward trend of terror events in the 1970's and 1980's, followed by a steady decline in the 1990's and – again – a rise from 2001 onwards. Furthermore, it shows that the number of casualties and suicide attacks were relatively stable over time, but increased sharply after 2001.

Terrorism is a world wide phenomenon. However, some countries have had many more terrorist attacks than the majority of countries in the sample. That is, the ten countries with the most terrorist attacks account for 48.7 percent of all terrorist attacks in the world, whereas the first twenty countries account for 69.8 percent.[9] Furthermore, there are 57 (27.4 percent) countries in the sample that had no terrorist attack at all. As the incidence of terrorism is skewed toward a small set of countries and there are several studies (e.g., Blomberg et al., 2004; Tavares, 2004) that report sample heterogeneity with respect to the effects of terrorism, we conjecture that there may be sample heterogeneity in the

a long-time situation of fear and intimidation.

[8]Terror in territories is assigned to the country formally governing the territory. Kashmir and the Persian Gulf are excluded as it is not obvious to which country they should be assigned to.

[9]The top twenty countries are (number of events in parenthesis): Israel (818), Lebanon (608), France (537), Germany (471), United States (446), Greece (403), Colombia (379), Iraq (357), Turkey (351), Peru (326), Spain (306), Italy (293), Argentina (282), Chile (219), Pakistan (207), Philippines (180), Great Britain (178), Egypt (119), El Salvador (118) and Afghanistan (117). The total number of recorded events is 9,624.

relationship between terrorism and cabinet duration. Therefore, we also report estimation results for different country groups in our empirical analysis.

We use an extensive set of control variables in our model. The selection of these variables is based on Grofman and van Roozendaal (1997). Before discussing these variables, it is important to note that all our model specifications contain country fixed effects. This implies that we need not include variables that have no variation over time as they are fully absorbed by the country fixed effects.[10]

As a proxy for ideological differences within cabinets we use the polarization variable of the Database of Political Institutions (Beck et al., 2001). This variable indicates to what extent government parties have the same 'political color.' We expect that the more polarized cabinets are, the larger the probability of cabinet failure will be. From the same source, we include a proxy for political coherence, i.e., political fractionalization. As more fractionalization increases the probability of disputes within a coalition, we expect a positive effect on the probability of cabinet failure. Furthermore, we include a variable that measures the number of years that the largest party is part of the cabinet. Since this variable provides some information about the presence of a stable center party, we expect it to be negatively related to cabinet failure.

To control for characteristics of the political regime, we include the Polity IV score and a variable that measures regime duration (Marshall and Jaggers, 2002).[11] The reason for including the former is that cabinets in more democratic settings are more likely to be held

[10] It may be argued that cabinets do not dissolve in the presence of terrorism as such, but that they fall apart only if there is more terrorism than expected by the electorate. The expected level of terrorism ($E(T)$) can be approximated, for instance, by a (five year) moving average of past terrorist attacks. However, in our case a five year moving average is highly collinear with the average level of terrorism (r=0.87) and is, therefore, almost fully absorbed by the fixed effect. It could also be argued that actual terrorism (AT) is a result of a high realization of a stochastic event and need not imply weak government performance. To mitigate this, we could assume that cabinets dissolve if $AT > E(T) + c\sigma$, where c is a constant indicating the tolerance level of the electorate and σ is the standard deviation of $E(T)$, which are both constant and therefore also captured by the fixed effect.

[11] We have run several models using alternative measures for democracy such as the measure by Przeworski et al. (2000) and Vanhanen (2000). It turns out that the results are robust for these alternative measures. All results are available on request.

accountable by the electorate than cabinets installed by a dictator. A different reason is that the Polity IV score is based on criteria that relate to the legislative organization of the political system such as the constraints that are put on the chief executive. We also include the number of years the political regime is in place, since we expect that cabinets in infant political systems are more likely to fall than cabinets in more mature systems as especially new political systems may not yet have accumulated sufficient 'regime' capital to handle the relevant political processes (Persson and Tabellini, 2006).

To take account of the effect of economic variables, we include the inflation rate, GDP per capita and the growth rate of GDP per capita (all taken from World Bank, 2006). We expect that poor economic performance increases the probability of government failure (Carmignani, 2002). To mitigate potential endogeneity problems, we use the first lag of these variables.[12]

Finally, we include other 'critical' events in the model as they are as likely to affect cabinet duration as terrorism is. These variables are: the number of mass (non-violent) demonstrations, the number of strikes and the number of riots. We also control for different political violence variables, i.e., the number of purges, the number of guerrilla warfare attacks (all of the above mentioned variables are taken from Databanks International, 2005) as well as a dummy variable that indicates the presence of a civil war (Gleditsch et al., 2002). Furthermore, we add different 'crisis' variables, i.e., the number of major government crises (from Databanks International, 2005), the presence of a banking crisis (from Caprio and Klingebiel, 1999) and the presence of a currency crisis (from Dreher et al., 2006). Table 1 provides an overview of all variables, their definitions as well as their sources.

[12]The results, however, remain unchanged when we use the contemporaneous values.

4 Estimation Results

Table 2 shows our estimation results. Since our data set is unbalanced, we examine the impact of terrorism on cabinet dissolution in the presence of different explanatory variables in columns 1-6. We have clustered the explanatory variables in different groups and as such the columns show whether the effect of terrorism is robust for the inclusion of variables from a particular group. We distinguish between variables representing economic and political crisis, institutional variables, economic variables, indicators of political violence, indicators reflecting mass civil protest and variables measuring attributes of the incumbent government. It can be seen that no matter what control group is included in the model, the effect of terrorism is always positive and significant. Furthermore, we find that the coefficient of the terrorism variable is hardly affected by the different sets of control variables.

Concerning the other explanatory variables, all variables except inflation have the expected sign and most of them are significant. In fact, every control group has some significant determinants. Furthermore, it is striking that all critical events, but currency crises and strikes, contribute to the explanation of cabinet failure. Nevertheless, according to the Pseudo R-squared (which we find to be small), the large part of the variance remains unexplained.

As we have included only one control group in each specification, the results in columns 1-6 may suffer from an omitted variables bias. Therefore, we also follow a different modeling strategy. That is, we estimate a model including all explanatory variables (the general unrestricted model). Next, we drop the least significant variable from the regression specification and estimate the model again. We repeat this so-called general-to-specific procedure until only significant variables remain (see Hendry, 1993). The result of this approach is presented in column 7. Most of the variables that are found to be significant in columns 1-6 also end up in the final model specification. Only the number of demonstrations, guerrilla

warfare, and political fractionalization are not robust. We find that terrorism is significant at the ten percent level, whilst the magnitude of the coefficient is smaller than in previous specifications.

Table 3 shows the estimation results of the models in which we replaced the number of terrorist attacks by alternative terrorism indicators. We use the general-to-specific model specification of column 7 as our benchmark specification. First, we include the lagged number of terrorist attacks as it may take some time before a cabinet reacts to a critical event.[13] Next, we include indicators measuring specific types of terror, i.e., the number of suicide attacks and the number of political assassinations.[14] To examine whether severe terrorist attacks have a larger impact on cabinet duration, we use as explanatory variables: the number of terror events with at least one person killed or injured, the sum of all fatalities due to terrorism in a particular year, the average number of fatalities per event and a dummy indicating the presence of terror. A remarkable pattern stands out, that is, the average number of fatalities and the presence of terror are insignificant, while all the other terrorism indicators are significant. In other words, it is not the presence of terrorism as such, but the severity of terrorism that affects the duration of cabinets. We address this issue in more detail in section 5.

To evaluate the relative magnitude of the effect of terrorism, we calculate the marginal effect of all robust explanatory variables using specification 7 of Table 2 and Table 3. The results are displayed in Table 4.[15] Evaluated at the mean, we find that one additional terror attack increases the likelihood of a cabinet change by one percent. This effect is twice as large when only terrorist attacks are included that involve bodily harm. Fur-

[13] Including lagged values also mitigates potential endogeneity problems.

[14] If the prime minister is assassinated, then by definition this assassination leads to a cabinet change. According to data of the Integrated Network for Societal Conflict Research, available at: http://www.systemicpeace.org/inscr/inscr.htm, there are 20 cases in which the prime minister was assassinated. However, when we exclude those cases from the analysis our results are unaffected.

[15] In order to calculate the marginal effect, all variables are assigned their mean value and the fixed effects are set to zero. The table shows the effect when the marginal effect of the logarithm of the terrorism indicator is transformed to the effect of a one unit change of the underlying variable.

thermore, we find that the marginal effects increase when we only consider suicide attacks and assassinations. It turns out that terrorism has a larger impact on cabinet duration than economic variables such as economic growth. However, other critical events such as government crises or civil wars have a larger impact on cabinet failure than terrorism.

5 Further analysis

To further analyze whether the incidence and severity of terrorism matters for cabinet duration, we construct a series of dummy variables equal to one if the number of terrorist attacks (in a given country and year) is greater or equal to η and 0 otherwise, where $\eta = \{1, 2, \cdots, 10\}$. We choose our threshold such that the final dummy encompasses no less than five percent of all observations. We follow the same procedure for the number of casualties. In this case, the number of casualties in a given year should be equal to or larger than the specified thresholds. Following the same rules as described above we construct dummies until $\eta = 6$. Figure 3 shows the marginal effects (and confidence intervals) for the different dummy variables. The left panel depicts the results of terror event dummies while the right panel displays fatality dummies. The graphs confirm our previous findings. That is, they show that the impact of terrorism on cabinet duration is larger for those cases when the incidence of terrorism is higher and when terrorism is more severe. We can see that in the event case the marginal effect becomes significant for $\eta \geq 3$ and for the casualties case the same is true for $\eta \geq 2$. Not surprisingly, the width of the confidence interval increases for larger η as less and less observations can be used to calculate the marginal effects.

To deal with the issue of sample heterogeneity, we split our sample in different subgroups.[16] Since Tavares (2004) finds that countries with more political rights are less

[16]For the sake of brevity, the results of the sample heterogeneity estimates are suppressed, but are available on request.

vulnerable to terrorist attacks in terms of economic performance, we differentiate between democratic countries and non-democratic countries.[17] We find no evidence for a systematic difference between autocratic and democratic governments as to the impact of terrorist attacks on cabinet duration. However, when we distinguish between OECD countries and non-OECD countries, like Blomberg et al. (2004), we find that terrorism affects cabinet duration particularly in the latter subset of countries.

Apart from these sources of heterogeneity, we also consider whether there are differences between countries that face high levels of terrorism and countries with low levels of terrorism. We distinguish between these groups, because it is likely that electoral preferences are more affected by terrorism when it is a structural feature of the political process. To that end, we first drop those countries from the sample that have had no terrorist attack in the sample period. When we run our benchmark regression again (Table 2, column 7), we find that the results remain virtually identical. Next, we divide the remaining countries in three groups of more or less equal size. The first group consists of countries that had less than 10 terrorist attacks total from 1968-2002. Countries in the second group had at least 10 terrorist attacks but no more than 49 attacks. The last group of countries had 50 terrorist attacks or more in the sample period. In line with our expectations, we find that terrorism affects cabinet duration especially in countries with high levels of terrorism (the corresponding marginal effect is significant at the five percent level).

6 Concluding remarks

Why do some cabinets last longer than others? According to Grofman and van Roozendaal (1997), one reason is the occurrence of time dependent events external to the cabinet and legislature. In this paper, we examine whether terrorism fits in this framework using a

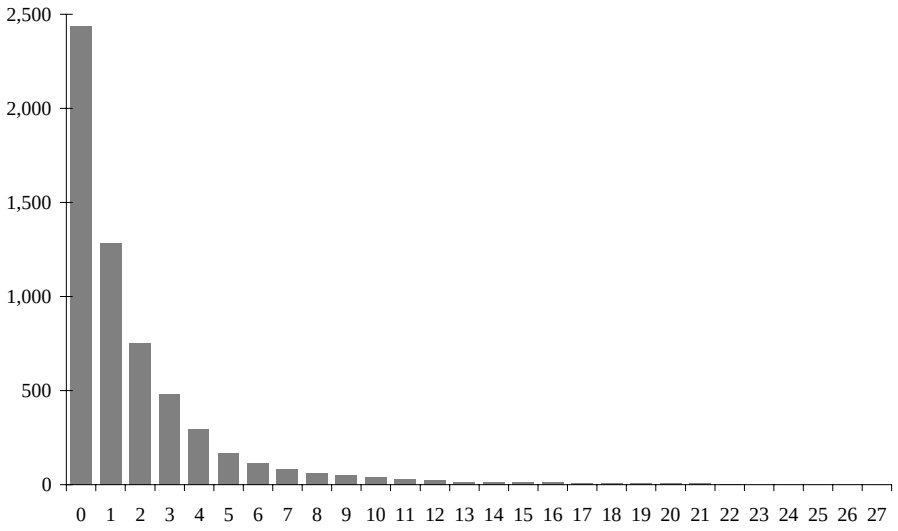
[17] The categorization is based on the Przeworski et al. (2000) democracy indicator and excludes countries that have switched from regime type during our sample period.

data set on more than 2,400 cabinets in over 150 countries in the period 1968-2002.

We find that terrorism increases the probability of cabinet failure and, hence, decreases cabinet duration. In general, the impact of terrorism on cabinet duration is small. However, it is larger the more severe a terrorist attack is. Moreover, we find that the effect of terrorism depends on the type of terrorist attack and the incidence of terrorism. When we evaluate the relative magnitude of terrorism, we find that the effect is larger than the impact of, e.g., inflation and economic growth, but smaller than the effect of a government crisis or a civil war. Finally, we find evidence for sample heterogeneity, that is, in countries where terrorism is a structural feature of the political process, cabinets are more vulnerable to acts of terror than cabinets in countries where terrorists only strike incidentally.

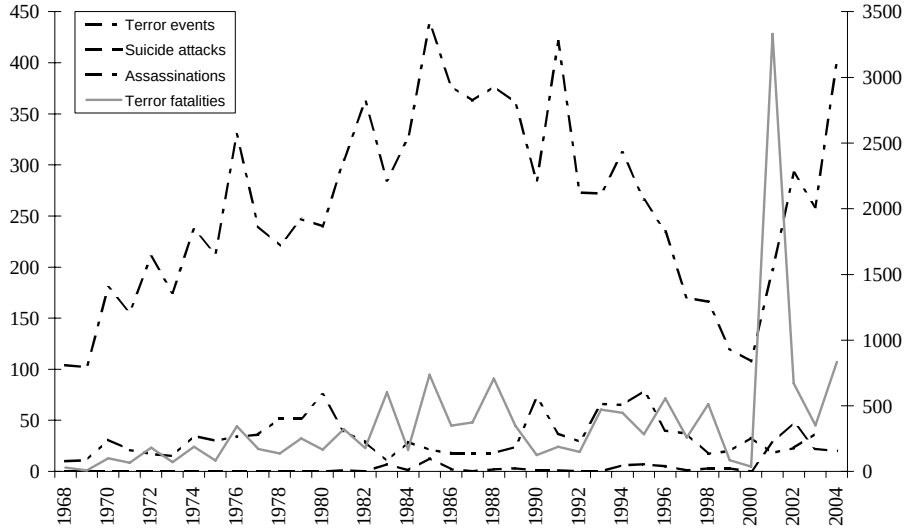
There are, of course, a number of limitations to our study. Firstly, our analysis only focuses on the net effect of terrorism on cabinet duration. In other words, we cannot distinguish between competing theoretical models that may explain the relationship between terrorism and structural variables. Secondly, the source from which we extract our terrorism data provides only sufficient time series information on acts of trans-national terrorism. Data on domestic terrorism is available only from 1998 onwards and this time span is too short to be useful for duration analysis. We acknowledge that domestic terrorism may also affect public opinion and hence cabinet duration. It is even probable in our view that the impact of terrorism is larger and more pronounced when data on national terrorism could be included in the analysis as the rally effect is likely to be smaller for domestic terrorism. A final limitation concerns the quality of the data. We rely on the information provided by the MIPT Terrorism Knowledge Base but are well aware of the fact that collecting terror data is a cumbersome task, which might result in some measurement error. Improving upon these limitations, provides a natural agenda for future research.

Figure 1: Distribution of cabinet duration



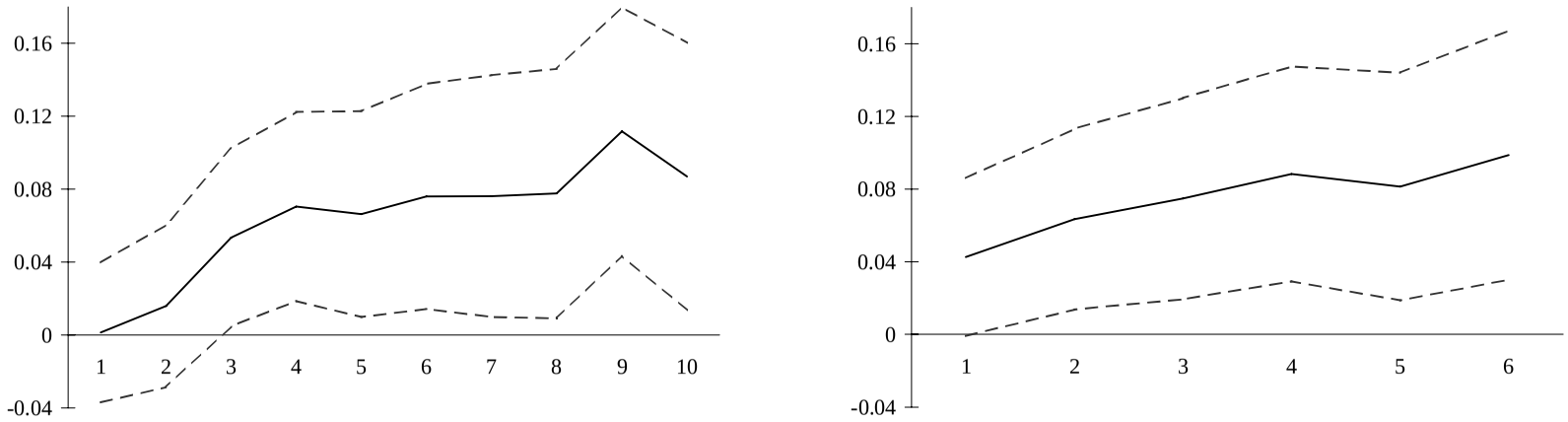
Notes: The figure gives the empirical distribution of the time in office (measured in years) of the cabinets for our sample (N=5,419 observations).

Figure 2: Transnational terror events and fatalities



Notes: The figure visualizes our measures of terror from 1968 to 2004. The left hand scale quantifies the number of transnational terror events, the number of transnational suicide events and the number of assassinations. The right hand scale measures fatalities caused by transnational terror attacks.

Figure 3: Marginal effects of the dummy variable estimations



Terror events

Terror fatalities

Notes: The figure depicts the results of including dummy variables in specification 7 of Table 2. Each data point represents the marginal effect using a dummy which takes the value of one if the underlying variable has a value of greater or equal to x. Each point is the result of one estimation. The marginal effects are calculated assigning all variables their mean value and setting the fixed effects to zero. The left panel uses terror events while the right panel incorporates fatalities from terror attacks. In both cases we construct dummies until a cut-off level of 95% of the distribution. The solid line represents the marginal effect while the dashed lines depict the 90%-confidence interval.

Table 1: Variables – definitions and sources

Variable	Definition	Source
Cabinet change	Replacement of the prime minister and/or the replacement of at least half of the ministers in the cabinet.	Databanks International (2005)
Terror events	Number of transnational terror events per country and year.	MIPT Terrorism Knowledge Base
Suicide attacks	Number of transnational terror events involving suicide attackers.	MIPT
Assassinations	Any politically motivated murder or attempted murder of a high government official or politician.	Databanks International (2005)
Terror events w/o 0	Number of severe terror events. Excluding events in which neither persons were killed nor injured.	MIPT
Sum of fatalities	Number of persons killed by terrorist attacks.	MIPT
Fatalities per event	Number of persons killed divided by the number of terror events.	MIPT
Terror dummy	Dummy variable taking on the value 1 if at least one transnational terror event occurred.	MIPT
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)
Currency crisis	Dummy variable, 1 if currency index value exceeds mean by one standard deviation.	Dreher et al. (2006)
Banking crisis	Dummy variable, 1 if in a period of systemic banking crisis.	Caprio and Klingebiel (1999)
Democracy	Polity IV score, represents the difference between a countries democracy and autocracy score. Ranges from -10 to 10, higher numbers indicate more democracy.	Marshall and Jaggers (2002)
Regime duration	The number of years that a political regime is in place.	Marshall and Jaggers (2002)
Economic growth per capita	Annual percentage growth rate of GDP per capita based on constant local currency.	World Bank (2006)
GDP per capita	GDP (in constant 2000 US$) divided by midyear population.	World Bank (2006)

continued on next page...

Variable	Definition	Source
Inflation	GDP deflator.	World Bank (2006)
Civil war	Dummy variable, 1 if at least 1,000 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)
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)
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)
Riots	Any violent demonstration or clash of more than 100 citizens involving the use of physical force.	Databanks International (2005)
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)
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)
Political fractionalization	The probability that two deputies picked at random from the legislature will be of different parties.	Beck et al. (2001)
Polarization	Maximum polarization between the executive party and the four principle parties of the legislature.	Beck et al. (2001)
Years of party in government	Number of years that the party of the chief executive has been in office.	Beck et al. (2001)

Table 2: Results conditional fixed effects logit – dependent variable: cabinet change

Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Terror events (log)	0.173	0.184	0.223	0.219	0.240	0.196	0.111
	(2.68)***	(3.30)***	(3.85)***	(4.01)***	(4.47)***	(2.72)***	(1.78)*
Major government crises	0.957						0.629
	(9.80)***						(7.66)***
Currency crisis	0.080						
	(0.72)						
Banking crisis	0.278						
	(2.44)**						
Democracy		0.038					0.047
		(4.78)***					(5.19)***
Regime duration		-0.013					-0.009
		(3.76)***					(2.45)**
Lagged economic growth			-0.015				-0.013
per capita			(2.79)***				(2.18)**
Lagged inflation			-9.3E-05				-1.1E-04
			(1.66)*				(1.96)*
Lagged GDP per capita (log)			-0.186				
			(1.44)				
Civil War				0.589			0.603
				(3.55)***			(3.23)***
Purges (log)				0.416			0.565
				(2.71)***			(2.93)***
Guerilla warfare (log)				0.269			
				(2.16)**			
Riots (log)					0.239		0.312
					(2.62)***		(3.56)***
Strikes (log)					0.058		
					(0.45)		
Demonstrations (log)					0.328		
					(4.09)***		
Political fractionalization						1.270	
						(5.05)***	
Polarization						0.008	
						(0.10)	
Years of party in government						0.001	
						(0.25)	
Observations	4,246	4,784	4,789	5,344	5,835	3,170	4,099
Countries	175	157	175	170	191	152	152
Pseudo R^2	0.04	0.01	0.01	0.01	0.02	0.02	0.05

Notes: The estimation technique used is conditional fixed effect logit. All specifications include the years since the last cabinet change and three temporal splines to account for duration dependence in the data. */**/*** indicates significance at the 10/5/1-% level; absolute value of z-statistics is given in parentheses.

Table 3: Results alternative terror measures – dependent variable: cabinet change

Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Major government crises	0.637	0.640	0.618	0.628	0.630	0.634	0.635
	(7.74)***	(7.77)***	(7.49)***	(7.63)***	(7.66)***	(7.71)***	(7.72)***
Democracy	0.047	0.047	0.046	0.047	0.047	0.047	0.048
	(5.16)***	(5.10)***	(5.04)***	(5.18)***	(5.15)***	(5.19)***	(5.22)***
Regime duration	-0.009	-0.010	-0.009	-0.009	-0.010	-0.010	-0.010
	(2.40)**	(2.74)***	(2.48)**	(2.46)**	(2.57)**	(2.58)***	(2.56)**
Lagged economic growth	-0.013	-0.014	-0.013	-0.013	-0.014	-0.014	-0.014
per capita	(2.14)**	(2.20)**	(2.08)**	(2.18)**	(2.22)**	(2.22)**	(2.21)**
Lagged inflation	-1.2E-04	-1.1E-04	-1.1E-04	-1.1E-04	-1.1E-04	-1.1E-04	-1.1E-04
	(2.01)**	(1.93)*	(1.99)**	(1.93)*	(1.93)*	(1.93)*	(1.94)*
Civil War	0.584	0.643	0.569	0.602	0.605	0.629	0.640
	(3.13)***	(3.48)***	(3.03)***	(3.23)***	(3.25)***	(3.39)***	(3.45)***
Purges (log)	0.558	0.567	0.536	0.567	0.568	0.567	0.569
	(2.89)***	(2.94)***	(2.75)***	(2.94)***	(2.95)***	(2.94)***	(2.95)***
Riots (log)	0.314	0.328	0.284	0.316	0.321	0.323	0.323
	(3.59)***	(3.75)***	(3.22)***	(3.62)***	(3.68)***	(3.70)***	(3.70)***
Terror events (log), t-1	0.166						
	(2.66)***						
Suicide attacks (log)		1.038					
		(2.47)**					
Assassinations (log)			0.388				
			(3.43)***				
Terror events w/o 0 (log)				0.204			
				(2.35)**			
Sum of fatalities (log)					0.113		
					(2.10)**		
Fatalities per event (log)						0.088	
						(1.10)	
Terror dummy							0.006
							(0.06)
Observations	4,099	4,099	4,099	4,099	4,099	4,099	4,099
Countries	152	152	152	152	152	152	152
Pseudo R^2	0.05	0.05	0.05	0.05	0.05	0.05	0.04

Notes: The estimation technique used is conditional fixed effect logit. All specifications include the years since the last cabinet change and three temporal splines to account for duration dependence in the data. 'w/o 0' indicates that all terror events in which neither fatalities nor injuries occurred are excluded.
*/**/*** indicates significance at the 10/5/1-% level; absolute value of z-statistics is given in parentheses.

Table 4: Marginal effects – dependent variable: cabinet change

Variable	**Marginal Effect**	**p-value**	**Mean**
Terror events	0.010	0.073	0.497
Terror events, t-1	0.014	0.007	0.496
Suicide attacks	0.149	0.013	0.007
Assassinations	0.050	0.001	0.114
Terror events w/o 0	0.023	0.018	0.234
Sum of fatalities	0.012	0.035	0.262
Fatalities per event	0.011	0.270	0.131
Terror dummy	0.001	0.953	0.114
Major government crises	0.155	0.000	0.177
Democracy	0.012	0.000	0.789
Regime duration	-0.002	0.017	22.643
Economic growth per capita, t-1	-0.003	0.030	1.358
Lagged inflation	-2.8E-05	0.051	64.832
Civil War	0.140	0.000	0.053
Purges	0.078	0.003	0.039
Riots	0.037	0.000	0.184

Notes: The table contains the marginal effects for our estimation results. All marginal effects of logarithmized variables are calculated to represent a one unit change of the respective variable. For the non-terror measures the conditional fixed effects logit regressions of specification (7) of Table 2 are used. The marginal effect is calculated for the value of each independent variable set to its mean and the fixed effects set to zero. The column 'Mean' reports the mean of the respective terror variable that is used to calculate the marginal effect. 'w/o 0' indicates that all terror events in which neither fatalities nor injuries occurred are excluded.

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