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DEMOCRATIC PEACE
AND ELECTORAL ACCOUNTABILITY

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ABSTRACT

Democratic Peace and Electoral Accountability*

One of the few stylized facts in international relations is that democracies, unlike autocracies, very rarely fight each other. We examine the sustainability of international peace between democracies and autocracies, where the crucial difference between these two political regimes is whether or not policymakers are subject to periodic elections. We show that the fear of losing office can deter democratic leaders from engaging in military conflicts. Crucially, this discipline effect can only be at work if incumbent leaders can be re-elected, implying that democracies in which the executives are subject to term limits should be more conflict prone. To assess the validity of our predictions, we construct a large dataset on countries with executive term limits. Our analysis of inter-state conflicts for the 1816-2001 period suggests that electoral incentives are indeed behind the democratic peace phenomenon: while democratic dyads are in general less likely to be involved in conflicts than any other dyads, this result does not hold for democracies in which the executive faces binding term limits; moreover, the dispute patterns of democracies with term limits depend on whether the executive is in the last or penultimate mandate.

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1 Introduction

One of the few stylized facts in international relations is that democratic states are much less likely to fight wars one another than other pairs of states, although they are not less likely to fight wars in general. This phenomenon is known as the "democratic peace" and, according to an often-quoted statement by Jack Levy (1988), it is "as close as anything we have to an empirical law in international relations." The general argument is that, given the number of wars over the past two centuries, if democracies fought each other as often as any other pair of states, there should have been many wars between democracies. Instead, there have been very few.

The idea that democracies do not fight each other can be traced back to the writings of Kant in his essay "Perpetual Peace" written in 1795. Kant's basic argument was that policymakers in non-democratic states are more likely to engage in war because they are not constrained by electoral accountability. It was not until the work of Doyle (1986) that the idea received its first contemporary articulation. Since then, a rapidly growing literature has found strong empirical support for the democratic peace (e.g., Bremer, 1992; Maoz and Russet, 1993; Maoz, 1998).

The objective of this paper is to shed light on the following question: what is the link between electoral accountability and the likelihood of inter-state conflicts? We contribute to the existing literature both theoretically and empirically. On the theoretical side, we develop a simple model which provides a rationale for the democratic peace based on Kant's original idea that electoral incentives can deter policymakers from starting costly conflicts. However, we show that this discipline effect is reduced if incumbent leaders can serve a fixed number of mandates, suggesting that democracies that impose term limits on their executives should be more conflict prone. On the empirical side, we collect information about different types of executive term limits for a sample of 177 countries over the 1816-2001 period. Combining this information with a large dataset of inter-state conflicts, we then assess the validity of our theoretical predictions. Our results provide strong support for the hypothesis that electoral accountability is indeed behind the democratic peace phenomenon.

Existing theoretical explanations of the democratic peace can be divided into two broad approaches. The first approach emphasizes differences in norms and cultures and contends that democracies are less conflict prone toward one another because they share similar norms of compromise and cooperation within their domestic governments (e.g., Maoz and Russett, 1993; Dixon, 1994; Dixon and Senese, 2002). In essence, these norms mandate nonviolent conflict resolution and negotiation. Because democratic leaders are committed to these norms they try to adopt them in the international arena rather than resorting to violence. To explain conflicts

between democracies and non-democracies, this literature argues that democratic values are applied only when democracies face other democracies and are abandoned otherwise.

This paper falls within the second set of explanations—usually referred to as the institutional or structural approach—which maintains that democracies are peaceful toward one another not because of shared norms, but because of the limits placed upon leaders by government institutions (e.g., Bueno de Mesquita *et al.*, 1999; Levy and Razin, 2004; Jackson and Morelli, 2007). To the best of our knowledge, this is the first paper to provide a rationale for the democratic peace phenomenon based on what is arguably the most distinct institutional difference between democracies and autocracies, i.e. the presence or lack of periodic elections.[1]

Our view of international security relations relies on the idea that, in the absence of a supranational authority with direct powers to punish violations, governments will only refrain from aggressive military behavior if they perceive that doing so is in their interest. We build on the increasingly vast literature on self-enforcing international agreements, which examines how cooperative behavior between countries can be sustained by credible threats among the parties involved when they engage in long-term relationships (e.g., Bagwell and Staiger, 1999; Maggi, 1999; Ederington, 2001). In this paper, we depart from the existing literature, which considers policymakers and their countries to be one and the same, by examining how electoral incentives affect the sustainability of international cooperation, in a setting in which policymakers' objectives are allowed to differ from those of their countries.

In line with an established literature in international relations (starting from Jervis, 1978) and with recent work in the economics literature on military conflicts (see Anderlini *et al.*, 2007), we describe international security relations by means of a repeated prisoners' dilemma game between two countries. This setting reflects the fact that the use of military force is often beneficial in the short-run, but tends to have long-term detrimental consequences: each country can gain by launching an assault on another country to obtain a portion of its wealth and resources; however, once the attacked country responds by defending itself, being in a military

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[1]The explanation put forward by Bueno de Mesquita *et al.* (1999) is based on the idea that political leaders must satisfy their key supporters (their "winning coalition") to remain in power: autocratic leaders, who answer to a small winning coalition, can choose to accept less favorable chances of victory because they can placate supporters with private goods; in contrast, democratic leaders with a large winning coalition are willing to go to war only when they believe they have an excellent chance of winning and thus not hurting their backers. Levy and Razin (2004) provide an explanation based on communication and trust: participation of the public and the open debate send clear and reliable information regarding the intentions of democracies to other states; in contrast, it is difficult to know the intentions of nondemocratic leaders, what effect concessions will have, and if promises will be kept. Jackson and Morelli (2007) consider a model where the political leader's costs and benefits from a war may differ from the population at large; in their framework, dictatorships are more likely to be at war with each other because the preferences of their leaders are more "biased", i.e., different from those of the population at large.

conflict is often costly for all countries involved compared to being at peace.

We examine the sustainability of international peace between democracies and autocracies. The crucial difference between these two forms of governments is that in democracies, unlike in autocracies, policymakers are subject to periodic elections. In this setup, we derive predictions about the likelihood of conflict in different dyads (between autocracies, between democracies, and between democracies and autocracies). We show that electoral incentives can discipline policymakers and explain the lower probability of conflict observed in democratic dyads.[2]

Our explanation of the democratic peace is based on electoral accountability: the threat of losing office can reduce politicians' willingness to break peaceful relations with other countries. From this perspective, *term limits*, which restrict the number of mandates that an individual can serve in office, should hinder peace, since they reduce and can even eliminate the incumbent's payoffs from future periods in office; in turn, this implies that they reduce voters' ability to punish leaders who engage in costly conflicts. Restrictions on the tenure of the executives have important consequences in our model. In particular, our theoretical analysis generates two distinct predictions: democracies in which leaders face binding term limits (i.e., they are in their last possible mandate) should be as likely to be involved in conflicts as autocracies; for democracies in which the executive can only serve two terms, the likelihood of being involved in a conflict should be higher in the executive's last mandate.

Term limits on the executive are found in presidential or semi-presidential political systems. Many countries impose "strong" term limits, which rule out re-election after a *fixed* number of terms. These consist mainly of one-term limits, which rule out the possibility of re-election of the president altogether (e.g., Mexico since 1917) and two-term limits, which only allow for re-election once (e.g., the Unites States since 1951).[3] Other countries impose "weak" term limits, which only restrict the number of *consecutive* terms a person can serve (e.g., Panama since 1920).

Anecdotal evidence seems to suggest that term limits may indeed hinder peace: though conflicts in democratic dyads are rare, there have been several recurrent disputes involving democracies in which the executive could not be re-elected. For example, in recent decades Honduras (one-term limit) has been involved in various conflicts (classified as occupation of

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[2]Surprisingly, little theoretical work has been done on the link between electoral incentives and international conflicts. One notable exception is the paper by Hess and Orphanides (2001), which shows that politicians who are in a difficult domestic political situation can use international conflicts as a rational diversion to improve their electoral success. However, their model gives rise to a prediction which goes against the democratic peace phenomenon, i.e., democracies should actually be more conflict prone than autocracies.

[3]Very few countries adopt three-term limits, allowing the executive to be re-elected twice. For example, Namibia is the only democratic country in our dataset with this type of restriction (introduced in 2001).

Figure 1: Number of Countries by Regime Type and Term Limits
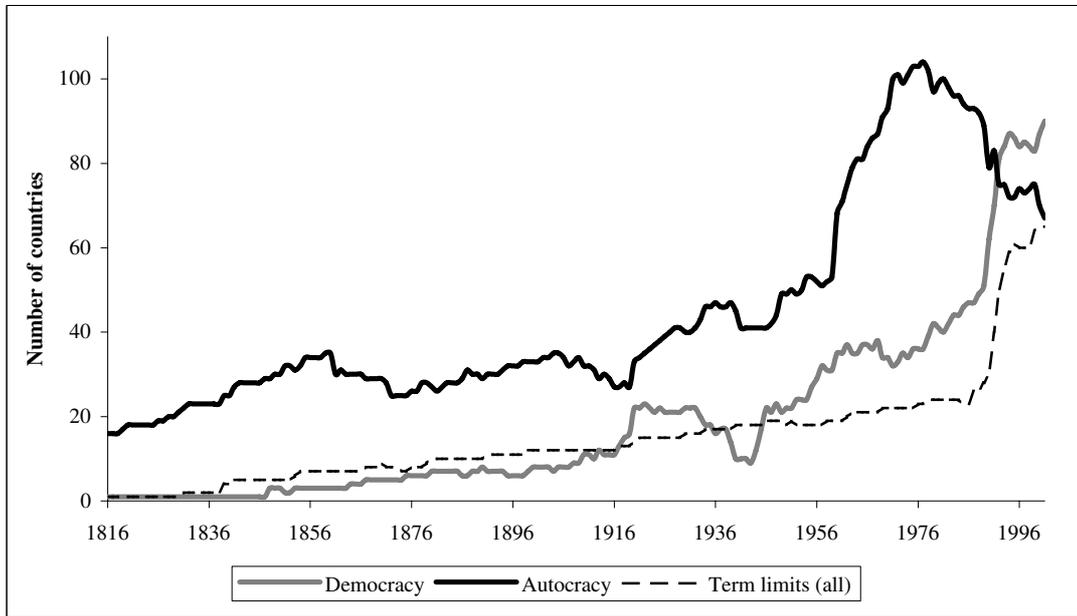
territory, seizures, raids, border violation or fortification) with Nicaragua and El Salvador.[4] However, as remarked by Bueno de Mesquita *et al.* (2003, p. 314), lack of data on term limits has so far prevented any systematic analysis of the effects of constraints on office holding. One of the important contributions of this paper is to construct such data: for each year in the 1816-2001 period, we have collected information about which countries impose restrictions on the tenure of their leaders, as well as on the type of term limits.

Figure 1 above shows the number of countries by regime type for our sample period, where we use the Polity dataset to define democracies and autocracies (see Section 5 for a detailed description). We can observe an increase in the total number of countries in existence, as well as an increase in the number of democracies. However, these trends are subject to various fluctuations (e.g., World War II, independence of colonies in the 1960s, democratization process in the later years of the sample). Notice that as of the 1990s we observe a higher number of democracies than autocracies.

For each year in our dataset, Figure 1 also shows the total number of countries with executive term limits. This includes all types of term limits in all countries. However, in our theoretical

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[4]Other examples of recurrent conflicts between democracies include those between Costa Rica (one-term limit) and Nicaragua, Colombia (one-term limit) and Venezuela, Sri Lanka (two-term limit) and India, or South Korea (one-term limit) and Japan.

Figure 2: One-Term and Two-Term Limits (2001)

Democracies with term limits (26)
Democracies without term limits (68)
Autocracies
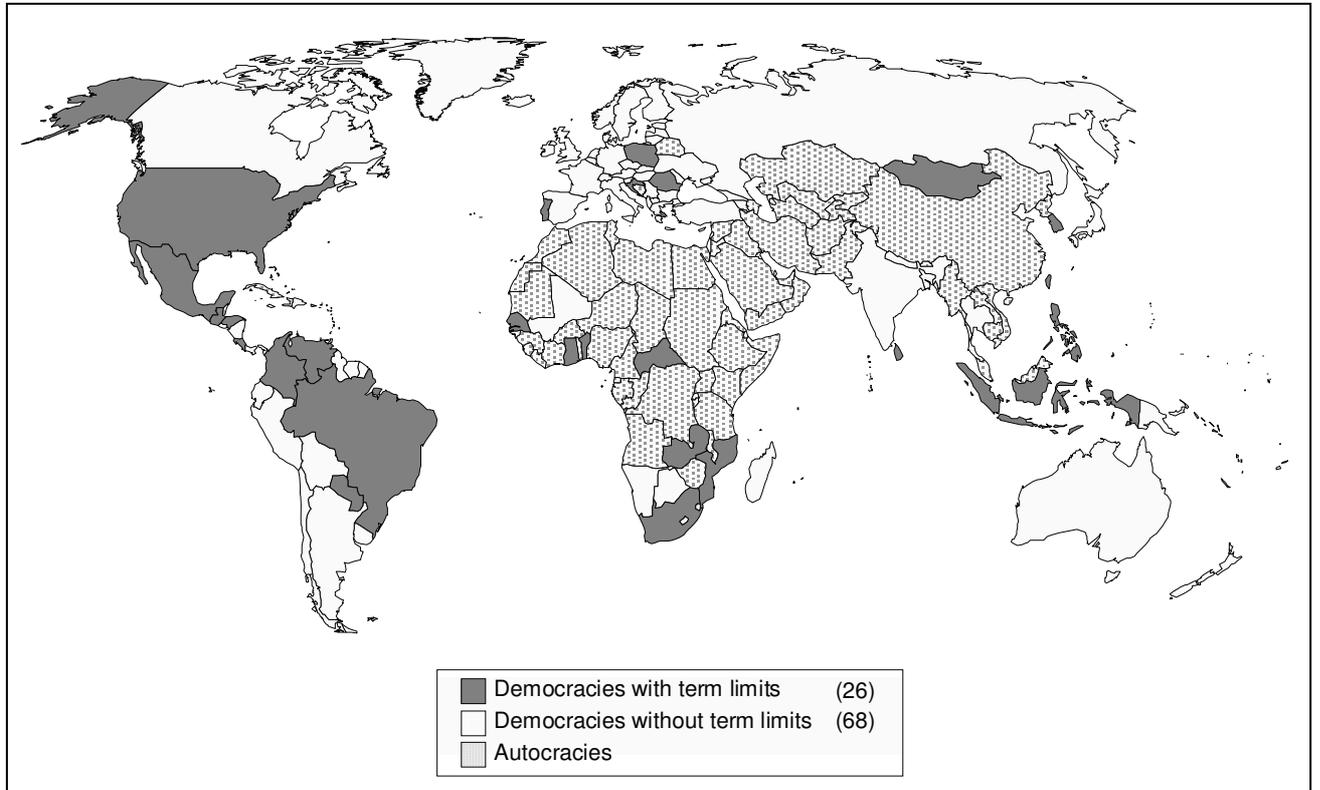
and empirical analysis we will focus on "strong" term limits in countries that are classified as democracies, since these impose clear restrictions on electoral accountability. To examine the impact of re-election motives on the sustainability of international peace, we will compare the conflict patterns of democracies that do not impose any restriction on the number of mandates their leader can serve with those of democracies with one-term or two-term limits. Figure 2 above illustrates in which democratic countries strong term limits were in place in the last year of our sample period.

Our analysis of the determinants of inter-state conflicts during the 1816-2001 period provides strong support for the predictions of our theoretical model. In line with the existing empirical literature on the democratic peace, we show that democratic dyads are significantly less likely to be in conflict than mixed or autocratic dyads, even when we include all the standard controls used in the empirical literature on the democratic peace. Crucially, however, we find that this result does not hold for democracies where executives cannot be re-elected, which are as likely

to be involved in conflicts as autocracies. Thus the presence of binding term limits invalidates the democratic peace result. Moreover, we show that the likelihood of conflicts in democracies with term limits depends on whether the executive is in the penultimate or the last possible mandate.

The remainder of the paper is organized as follows. In Section 2, we describe a simple model of international conflict and cooperation between two countries run by policymakers who care about remaining in office. Section 3 shows that electoral accountability can explain the democratic peace phenomenon. Section 4 examines the impact of term limits on the likelihood of inter-state conflicts. Sections 5 describes our dataset, while Section 6 presents our empirical methodology and results. Finally, Section 7 concludes.

2   International Cooperation and Conflicts

The aim is of this section is to present a simple model of international cooperation or conflicts to generate the main insights concerning the disciplining role of electoral incentives. The key feature of the model presented below is the interaction between a country's domestic institutions—and in particular whether or not policymakers are subject to periodic elections—and its leader's incentives to engage in military conflicts. Our analysis rests on the fundamental assumption that, in the absence of supranational authority with direct punishment power, international agreements cannot be binding, so peaceful relations between states must be sustained by credible threats of punishments.

2.1   A repeated prisoner's dilemma

Our model is closely related to the idea of "security dilemma" developed by the international relations literature (Jervis, 1978). This literature stresses that attacking another country is tempting, since it can lead to obtain a portion of its wealth and resources; however, once the attacked country reacts by defending itself, the military conflict that ensues is often costly for all countries compared to a situation of peace.

In particular, we assume the following: each country i has wealth of W_i; independently of the outcome of the conflict, waging a war[5] costs a country a fraction $K > 0$ of its wealth; a

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[5]The term "war" should be interpreted broadly, to include conflicts of different degree of hostility. In line with the existing literature on the democratic peace, our empirical analysis will indeed focus on different types of Militarized Interstate Disputes (MIDs), including threats of use of force, border violations, military attacks, and wars (see Section 5 for a detailed description of the MIDs dataset from the Correlates of War Project).

country's probability of winning depends on the military strength it deploys relatively to that of its opponent; if a country wins the war, it gains a fraction $G > 0$ of the other country's wealth. The parameter G captures the extent of the spoils obtained from attacking the other country,[6] while the parameter K captures the extent of the military costs, including the loss of lives and the military expenses occurred during a conflict.

Our setup is close to that described by Jackson and Morelli (2007). In their paper, military conflicts are also driven by the desire to appropriate a portion of the other country's wealth, and the probability of winning a war depends on the countries' respective wealth levels. Crucially, however, Jackson and Morelli (2007) rule out the possibility of costly stalemates, assuming that wars are always desirable for one of the two countries involved. We allow instead for the possibility that being involved in a military conflict can be costly for both countries compared to being at peace.

International security relations can thus be described by means of a repeated prisoners' dilemma game between two countries, 1 and 2. As in any standard prisoners' dilemma game, each country can choose between two strategies, either cooperate (C), i.e., not using military force against the other country, or defect (D), i.e., deploying military force. In a peaceful situation (when both countries play C), each country i keeps all its wealth, without wasting any resources on deploying military forces, achieving a payoff of $\Pi_i^C = W_i$. If country i breaks peace, playing D while country j plays C, the attacking country obtains a payoff equal to $\Pi_i^D = (1-K)W_i + GW_j$, while the other country gets $\Pi_j^P = (1-G)W_j$. In a war situation (in which both countries play D), the probability that a country wins a fraction of the other country's resources increases in its military strength and decreases in the other country's military strength.

Since we are interested in examining how domestic political institutions—rather than countries' relative power—affect the likelihood of conflicts, we shall focus on two countries that have the same initial wealth and access to the same technology. In this symmetric setup, countries' payoffs are given in Table 1 below. Assuming $G > K$, each country is tempted to attack the other to obtain a portion of its wealth and resources. However, both countries find it desirable to be at peace rather than being involved in a war, in which they simply waste a fraction K of their wealth, without gaining any resources from the other country. This implies that the following inequalities must hold: $\Pi^D > \Pi^C > \Pi^N > \Pi^P$.

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[6]Jervis (1978) argues that the extent of the "gains from exploitation" may depend on the availability of raw materials and whether or not the occupied territories are inhabited by people of the same ethnic groups.

Table 1: Prisoners' Dilemma—Countries' Payoffs

		1	
		C	D
2	C	$\Pi^C = W$ $\Pi^C = W$	$\Pi^D = (1-K+G)W$ $\Pi^P = (1-G)W$
	D	$\Pi^P = (1-G)W$ $\Pi^D = (1-K+G)W$	$\Pi^N = (1-K)W$ $\Pi^N = (1-K)W$

The prisoners' dilemma described above constitutes the stage game, which is repeated indefinitely. We denote the current period by t, $(t = 0, 1, 2, ..., \infty)$ and the actions taken at period t by $a^t = (a_1^t, a_2^t)$, where $a_i^t \in A = \{C, D\}$. The payoffs to country i are the stage payoffs of the stage game and are denoted $\Pi_i^t(a_i^t, a_{-i}^t)$, where a_{-i}^t refers to the action taken at time t by the other country. We assume the payoffs are the same for each country and are time invariant. The payoffs are summarized by the vector $\Pi = (\Pi^D, \Pi^C, \Pi^N, \Pi^P)$ defined above.

Our model of war and peace is thus a repeated standard prisoners' dilemma game between two countries. The main novelty of our framework is that the actual players at each date are the active leaders of the countries rather than the countries themselves.[7]

2.2 Policymakers' objectives and electoral process

To examine how being subject to periodic elections affects policymakers' incentives to sustain international cooperation, we must first describe the objectives of the policymakers and the electoral process.

Previous studies that provide normative explanations of the democratic peace assume that democratic leaders have different preferences than autocratic leaders (e.g., Maoz and Russett, 1993; Dixon, 1994). In a way, democratic leaders are "good", while autocratic leaders are "bad". The problem with this approach is that it trivially explains the democratic peace, without providing any understanding of why and when different norms arise.

The existing literature on self-enforcing international agreements, on the other hand, assumes that policymakers' payoffs always coincide with those of their countries (e.g., Bagwell and Staiger,

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[7]Our analysis presents some similarities with the existing literature on repeated games between overlapping generations of players, which has examined the sustainability of cooperation between organizations run by agents with finite but overlapping tenures (e.g. Crémer, 1986; Salant, 1991; Kandori, 1992; Smith, 1992). Compared to this literature, the fundamental novelty of our paper is that we allow for agents' re-election, so that the life spans of the agents are *endogenously determined* rather than exogenously fixed.

1999; Maggi, 1999; Ederington, 2001). This implies that all policymakers are are equally "good", since they only care about maximizing their countries' welfare. The problem with this approach is that the presence or lack of periodic elections plays no role: independently of the type of political regime they are in, politicians should choose what is optimal for their countries.

To focus on the role of electoral incentives, we assume instead that all policymakers have the same preferences and abilities, so there is no intrinsic difference between democratic and autocratic leaders. In particular, all policymakers are semi-benevolent: they care about their countries' welfare independently of whether or not they are in office, but they also care about the rents they receive while being in power.

To incorporate the fact that countries are run by policymakers whose identity may change overtime, we assume that in each country there is a pool of identical politicians. We denote by k_i^t the identity of the policymaker in power in country i at time t, with $k_i \in K_i = \{1, 2, 3...\}$. The payoff of policymaker k of country i can be written as

$$U_i^k = \sum_{t=0}^{\infty} \delta^t \Pi_i^t \left(a_i^t, a_{-i}^t \right) + \sum_{\substack{t=0 \\ k_i^t = k}}^{\infty} \delta^t Z, \tag{1}$$

where δ is the factor by which politicians discount future payoffs and Z represents the rents they obtain from holding office, which could be interpreted as rewards associated with high social status and power.[8]

Notice that in our formulation of policymakers' incentives we make no normative assumptions about differences in values or goals of democratic leaders compared to authoritarian leaders. All politicians are opportunistic and rent-seeking, and also care about national interests. The crucial difference is that democratic policymakers are subject to "contract renewal" through re-election, while autocratic leaders are not. Our analysis will show that the fear of losing office and the rents associated with it can explain why democratic leaders tend to be less conflict-prone. The general argument is that democratic leaders risk removal from office after costly wars and that this risk is much lower for autocratic leaders.[9]

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[8]Country leaders thus derive fixed per-period "ego rents" from being in office. This is a common assumption in the literature on office-motivated politicians (see Rogoff, 1990, among many others). Notice that there is a priori no reason to believe that a cooperative (or belligerent) behavior vis-à-vis the foreign country would affect the extent of the "ego rents" in a clear direction.

[9]Rosato (2003) has disputed this idea, arguing that a democratic leader is no more accountable than an autocratic leader "who is unlikely to lose office but can expect to be punished severely in the unlikely event that he is in fact removed". However, the evidence reported by Rosato to support his claim has been criticized by Kinsella (2005).

We introduce a recursive electoral process that defines which policymaker is in power in a given country at any point in time. This electoral process is described by an electoral rule p that generates a vector of electoral results e. We denote by $e^t = (e_1^t, e_2^t)$ the vector of electoral results at time t. The result $e_i^t = 0$ corresponds to a situation in which the identity of the policymaker in power in country i at time t does not change, either because there is no election in that period, or because the incumbent is re-elected. The result $e_i^t = 1$ corresponds instead to situations in which there is an election and the incumbent k loses office and is replaced by policymaker $k_i^t + 1$. We thus have

$$
\begin{aligned}
e_i^t &= 0, \text{ then } k_i^{t+1} = k_i^t \\
e_i^t &= 1, \text{ then } k_i^{t+1} = k_i^t + 1.
\end{aligned}
$$

The changes in the identity of the policymakers result from an electoral rule that is exogenously given. We thus do not explicitly model voters as players of the game, who choose actions to optimize their payoffs. However, we do allow the voting process to depend on the history of the game and to implicitly reflect different voting behaviors.

Let us denote with $h^t = (a^0, a^1, a^2, ..., a^t; e^0, e^1, e^2, ..., e^t)$ the history of the game up to time t. The space of all possible histories at time t is given by H^t and the space of all histories is $H = \cup_{t \geq 1} H^t$. The electoral rule in country i at time t is described by the function $p_i^t : H^t \times A^2 \to [0, 1]$. This means that, for each possible history up to time t and given the actions in that period, the electoral rule gives the probability that the incumbent policymaker is re-elected ($e_i^t = 0$).

A strategy of the policymaker of country i is a function $\sigma_i : H \to A$. Note that there is no explicit mention of the identity of the policymaker playing at each period in the strategies. This is not necessary, since the recursive formulas take into account the election results which are incorporated in the history. Hence, the strategies take into account the identity of the policymakers, which depend on histories.[10]

In the subsequent sections, we will examine the sustainability of international peace in different dyads, under alternative assumptions about the electoral process in democratic regimes.

2.3 Equilibrium

A repeated game with elected players is thus defined by: the two sets of policymakers K_i and K_j, the prisoners' dilemma stage game $\Gamma = (A, \Pi)$, the rents Z, and an electoral rule p. We study

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[10]This also implies that policymakers who enter the game observe and remember everything that happened in the past. The role of memory in a repeated "game of conflict" is considered by Anderlini *et al.* (2007).

subgame-perfect equilibria in which each policymaker chooses a strategy σ_i so as to maximize his payoff, taking as given the electoral rule and the strategy of the other country's policymaker.

The main idea of sustaining cooperation in repeated games is that, when players are patient enough, short-run opportunism is more than compensated by the long-run gains of maintaining peaceful relationships. It is well known that in repeated games many equilibria are possible. In what follows, we examine the sustainability of the efficient equilibrium, along which the two countries are always at peace with each other. By comparing conditions under which international peace can be sustained in different political regimes, we will show that electoral incentives can provide a simple theoretical explanation for the fact that democracies almost never fight each other.

Equilibrium strategies must satisfy incentive constraints that involve a comparison between short-run defection gains and long-run punishment losses. The easiest way to enforce the cooperative equilibrium is to punish deviations as harshly as possible. In the context of a prisoners' dilemma, maximal punishments take a simple form: they correspond to the infinite repetition of the static Nash equilibrium. In the next two sections, we thus focus on Nash-reversion punishment strategies.[11]

3   Democratic Peace: the Role of Electoral Incentives

The goal of this section is to show that the electoral accountability can explain the democratic peace phenomenon. For autocratic and democratic political regimes, we compute the critical discount factor for which cooperation can be sustained as a subgame perfect equilibrium in trigger strategies. A political environment with a higher critical discount factor can be interpreted as less conducive to cooperation and peace.

We examine first the conditions under which international peace can be sustained between autocratic leaders. We define autocracies as regimes in which policymakers are not subject to periodic elections. In the framework described above, this is equivalent to a setting in which incumbent policymakers are re-elected with certainty, i.e.,

Assumption 1 *Autocracies:* $p_i^t(h^t, a^t) = 1$ *for any* h^t, a^t *and* $i = 1, 2$.

In Appendix A.1, we show that, in the case of autocracies, international peace can be supported by Nash-reversion punishment strategies as long as the following incentive constraint is

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[11]Starting from Dixit (1987), these strategies have been studied extensively in the context of self-enforcing international cooperation.

satisfied:

$$\Pi^D - \Pi^C \leq \delta \frac{\Pi^C - \Pi^N}{1 - \delta}. \tag{2}$$

From (2) we can derive the critical discount factor, δ_A, which allows autocratic leaders to sustain international peace. This represents a measure of the difficulty to sustain international cooperation: the lower is δ_A, the less weight policymakers need to attach to future periods for the efficient cooperative equilibrium to be sustainable.

It is straightforward to show that larger costs of deploying military force and smaller benefits from attacking the other country make it easier to sustain peace ($\partial \delta_A / \partial K < 0$, $\partial \delta_A / \partial G > 0$); the sustainability of peace between autocracies does not depend instead on the extent of the office rents derived from being in office ($\partial \delta_A / \partial Z = 0$). It follows that

Result 1 *The critical discount factor δ_A above which peace can be sustained between autocracies decreases with the military costs, increases with the spoils of war, and is not affected by the extent of the office rents.*

Proof: see Appendix A.1.

Therefore, when policymakers are not subject to re-election, the extent of their opportunism does not affect their incentives to enter a military conflict. As shown below, this is not the case for democratically-elected leaders, who can lose office and the associated rents.

Next, we examine the sustainability of peace between democratic countries, in which the leaders are subject to periodic elections. In general, mandates can last several periods. For simplicity, we will focus on the case in which policymakers are subject to re-election every period, though our analysis can be readily extended to more general electoral calendars. In this section, we focus on democracies in which incumbent policymakers can always be re-elected; the case of democracies in which the executive faces term limits is considered in the next section.

We shall consider scenarios in which the chances that incumbent policymakers retain office are endogenously determined by their foreign policy actions.[12] In particular, we will focus on the case in which voting is implicitly forward looking. By this we mean that the voters in the two countries commit to reward peaceful behavior and punish aggressive behavior, thus making it more costly for policymakers to break peace. This implies that the re-election chances of a policymaker who has played cooperatively in the previous term ($\bar{p}$) are higher than the re-election chances of a policymaker who has defected ($\underline{p}$):[13]

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[12]It is straightforward to show that, if the probability that a policymaker retains office does not depend on his or her actions, electoral incentives cannot provide an explanation for the democratic peace phenomenon.

[13]As discussed below, Appendix A.2 shows that the main results of our analysis carry through in the case of

Assumption 2 *Democracies with forward-looking voting:*

$$p_i^t\left(h^t,(C,\cdot)\right) \equiv \overline{p} > p_i^t\left(h^t,(D,\cdot)\right) \equiv \underline{p}.$$

In Appendix A.1, we show that the incentive constraint of democratically elected politicians can be written as

$$\Pi^D - \Pi^C \leq \delta\left\{\frac{\Pi^C - \Pi^N}{1 - \delta} + Z\left(\frac{\overline{p}}{1 - \overline{p}\delta} - \frac{\underline{p}}{1 - \underline{p}\delta}\right)\right\}. \tag{3}$$

This yields a critical discount factor, δ_D, above which democratic leaders can sustain peace. It can be shown that, as in the case of autocracies, higher costs of deploying military force and gains to be achieved from attacking another country make it easier to sustain peace between democracies ($\partial\delta_D/\partial K < 0$, $\partial\delta_D/\partial G > 0$). However, the incentives of democratic leaders to break peace depend crucially on the extent of the office rents ($\partial\delta_D/\partial Z < 0$). Hence, policymakers' opportunism can actually help to sustain peace between democracies: the more politicians are attached to power, the less tempted they will be to face the risk of being removed from office as a result of costly conflicts. Thus

Result 2 *The critical discount factor δ_D above which peace can be sustained between democracies increases with the spoils of war, and decreases with the military costs and with the extent of the office rents.*

Proof: see Appendix A.1.

Comparing the incentives constraints of autocratic leaders—who are not subject to the threat of losing office—with those of democratic leaders—who face periodic elections—we obtain the following result:

Result 3 *The critical discount factor above which peace can be sustained between democracies (δ_D), is lower than the corresponding discount factor for autocracies (δ_A).*

Proof: see Appendix A.1.

Therefore, if the electorate rewards "good deeds" and punishes "bad deeds", implying that policymakers who have behaved cooperatively have higher chances of retaining office than policymakers who have behaved noncooperatively, the threat of being dismissed acts as a discipline device, deterring democratic policymakers from triggering military conflicts.

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retrospective voting, in which the chances that incumbent policymakers get re-elected depend of the economic benefits they managed to bring to their constituencies during their previous terms in office.

Result 3 directly implies that, everything else being the same, conflicts between pairs of democratic countries (democratic dyads) should be less likely than conflicts between non-democratic countries (autocratic dyads). If we consider pairs of democratic and autocratic countries (mixed dyads), our analysis suggests that autocrats will always be more tempted to trigger a military conflict, so their incentive constraint will always be the binding one. Under the assumption of perfect information, country leaders would always start a conflict simultaneously. In turn, this implies that conflicts in mixed dyads should be as likely as conflicts in autocratic dyads. We can thus state the following:

Proposition 1 *The Democratic Peace: conflicts in democratic dyads are less likely than conflicts in autocratic and mixed dyads.*

Therefore, our analysis generates predictions which are in line with the two key empirical findings of the existing literature on the democratic peace (e.g., Bremer, 1992; Dixon, 1994; Maoz, 1998): first, democracies almost never fight other democracies; second, democracies regularly fight non-democracies. Our theoretical model provides a simple rationale for these findings based on Kant's original idea that electoral accountability can act as a discipline device. Compared to alternative institutional explanations of the democratic peace (e.g., Bueno de Mesquita *et al.*, 1999; Levy and Razin, 2004; Jackson and Morelli, 2007), the main appeal of our model rests on the fact that it is based on the essential institutional difference between democratic and autocratic political regimes, i.e., the presence or lack of periodic elections.

In the Appendix, we consider a series of extensions to our basic model. First it could be argued that, if voters are not forward looking, electoral incentives might be detrimental to peace, rather than acting as a discipline device. In particular, Hess and Orphanides (2001) have shown that politicians who are in a difficult domestic political situation can use international conflicts as a diversion, so as to improve their electoral success. To address this criticism, in Appendix A.2 we consider the case of retrospective voting, in which the likelihood that a policymaker is re-elected depends of the economic benefits he managed to bring to his constituency during his previous term in office. In line with Hess and Orphanides (2001), our analysis shows that *short-run* electoral incentives can be detrimental to peace, since attacking a foreign country can increase the chances of immediate re-election. However, even in this case, electoral incentives can help sustaining peace, since costly military conflicts reduce policymakers' *long-run* chances to hold on to power.

Second, Proposition 1 is derived under the assumption of trigger strategies, whereby a defection from peace leads to an infinite reversion to the non-cooperative equilibrium. Although

Nash reversion represents a credible threat—since playing noncooperatively indefinitely is always an equilibrium strategy in the continuation game—it may be considered implausible: if players can support a more efficient equilibrium, then, following an act of defection, why would they not choose to forgo punishment and instead re-coordinate to an equilibrium of the continuation game that gives them all a higher continuation payoff? In Appendix A.3, we show that, even under renegotiation-proof punishment strategies, electoral incentives can have a discipline effect and can thus help to explain the democratic peace phenomenon.

Finally, the basic model presented above predicts that, in equilibrium, two countries will always be either at war or at peace with each other. However, as shown in Appendix A.4, by introducing a stochastic component in the countries' payoffs, we can reproduce the democratic peace result, while at the same time generating the possibility of fluctuations between war and peace along the equilibrium path.

4   Term Limits and Inter-State Conflicts

In the previous section, we have shown that re-election incentives can provide a simple rationale for the well-established empirical observation in international relations that democratic regimes rarely wage war against each other, while conflicts involving non-democratic regimes are much more common.

Our explanation of the origin of the democratic peace phenomenon is based on the discipline that periodic elections impose on incumbent policymakers. Electoral accountability drives democratic leaders toward peaceful action. Notice that, since this discipline effect works through the threat of losing power, it could be limited or could even be eliminated by the presence of executive term limits. In this section, we thus consider the case of democracies in which the leaders face restrictions on the number of mandates they can serve, and examine the effect of different types of term limits on the likelihood of conflicts in different dyads. This will allow us to derive predictions that can be brought to the data to verify whether electoral accountability is indeed behind the democratic peace phenomenon.

As mentioned in the introduction, many countries impose legal restrictions on the number of terms a person may serve in a particular elected office. Term limits on the executive are found in presidential and semi-presidential systems[14] and usually take one of these three forms:

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[14]Countries with a parliamentary system of government are less likely to employ executive term limits. This is because their leaders often do not have set "terms"; rather, they serve as long as they have the confidence of the parliament.

some countries rule out the possibility of re-election altogether (one-term limits); others allow for re-election only once (two-term limits); in other countries, there exists only a restriction on the number of consecutive terms a person can serve.[15]

In our theoretical and empirical analysis, we will compare the conflict behavior of democracies leaders who face no term limits with that of democratic leaders who are subject to "strong" term limits (one-term or two-terms limits). This will allow us to evaluate the effects of electoral incentives on the sustainability of peace between countries.[16]

Consider first a scenario in which the executive faces a binding term limit. Let us denote with T the last period in which the executive can be in office. Notice that leaders of countries with one-term limits are always, by definition, at T; so are the leaders of democratic countries with two-term limits during their second mandate. The incentive constraint of a democratic leader at T can be written as

$$\Pi^D - \Pi^C \leq \delta \Omega_D^T, \tag{4}$$

where

$$\Omega_D^T = \frac{\Pi^C - \Pi^N}{1 - \delta}. \tag{5}$$

Comparison of (4) with (2) reveals that the punishment faced by democratic policymakers at T coincides with that faced by autocratic leaders. This implies that the critical discount factor above which a democratic leader at the end of his last mandate is able to sustain peace is equal to $\delta_D^T = \delta_A$. Hence, a democratic leader in his final period in office has the same incentives to break international peace as an autocratic leader. The intuition behind this result is that in both cases incumbent politicians are not accountable to the electorate: autocratic leaders, no matter what they do, will remain in office and continue to receive rents Z; democratic leaders at T, no matter what they do, will lose office and the associated rents. We can thus state the following:

Proposition 2 *Democracies in which the executive faces binding term limits should be as likely to be involved in conflicts as autocracies.*

Consider next the case of democracies with two-term limits. In this scenario, our analysis suggests that the patterns of inter-state conflicts should depend on whether the executive is in his first or second mandate.

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[15]Various countries ban "immediate re-election", allowing an individual to serve again after an interruption of one or two terms.

[16]We do not consider the case of democracies with "weak" term limits—which allow for re-election after a period of interruption—since this is somewhat intermediate between scenarios with no term limits and scenarios with "strong" term limits.

The incentive constraint at $T - 1$ can be written as

$$\Pi^D - \Pi^C \leq \delta \Omega_D^{T-1}, \tag{6}$$

where

$$\Omega_D^{T-1} = \frac{\Pi^C - \Pi^N}{1 - \delta} + \delta Z(\overline{p} - \underline{p}). \tag{7}$$

Comparing (7) with (5), it is straightforward to verify that $\Omega_D^{T-1} > \Omega_D^T$. It follows that country leaders who can be re-elected once should be less tempted to break international peace than leaders who cannot be re-elected at all. It follows that

Proposition 3 *Democracies with term limits should be more likely to be involved in conflicts in the executive's last mandate.*

Term limits have thus very distinct consequences in our model. It should be stressed that the predictions contained in Propositions 2 and 3 could not be generated by alternative theoretical explanations of the democratic peace that are not based on electoral accountability. For example, according to the model of Levy and Razin (2004), in which democratic peace is the consequence of communication between the leaders and the population, there should be no link between military conflicts and the electoral calendar; similarly, the model of Jackson and Morelli (2007) does not allow to draw clear conclusions about the effect of term limits on the likelihood of military conflicts in different dyads.

5 Dataset and Variables

We now move to the empirical analysis, in which we assess the validity of the predictions of our theoretical model. In this section, we describe our dataset and the variables used in our analysis; the empirical methodology and results are presented in the next section.

Conflicts

The data on inter-state conflicts come from the Correlates of War project (COW hereafter). This makes available (at http://cow2.la.psu.edu/) a very large array of datasets related to armed conflicts and country characteristics over the last century. The original dataset from Jones *et al.* (1996) records whether a given country is engaged in a Militarized Interstate Dispute (MID) in a given year. In our model, the incentive to be aggressive depends on the regime type of each

pair of countries. Hence, we use the dyadic form of the data from Maoz (2005), which records if a given country-pair is in conflict in a given year for the period 1816-2001. Since our theory does not address the duration of conflicts, we drop all dyad-year pairs corresponding to ongoing disputes.

Each MID is coded with a hostility level ranging from 1 to 5 (1=No militarized action, 2=Threat to use force, 3=Display of force, 4=Use of force, 5=War). In the COW project, war is defined as a conflict with at least $1,000$ deaths of military personnel. By this standard, around 100 interstate wars have been fought in the period 1816-2001. Since the small number of warring country pairs inhibits the creation of truly robust estimates of the determinants of wars, we follow the practice common in the empirical literature to analyze the determinants of conflicts using a broader definition—which includes display of force, use of force and war itself. Examples of display of force (level 3 of a MID) include a decision of mobilization, a troop or ship movement, a border violation or a border fortification. These are government-approved and non-accidental decisions. Examples of use of force (level 4 of a MID) include blockades, seizures, occupation of territory or attacks.

Table 2: Number of conflicts by dyads

	Full Sample
Non-fighting dyads	545,027
Fighting dyads	2,945
Hostility:	
3: Display of force	725
4: Use of force	1,855
5: War	365
Total	547,972

Notes: the number of observations excludes years of ongoing conflicts; sample period: 1816-2001.

Our dependent variable is MID_{ijt}, which is equal to 1 (and zero otherwise) if a MID of hostility level 3, 4 or 5 occurs at date t between countries i and j.[17] Our sample consists, for each year in the 1816-2001 period, of all country pairs in existence. As it appears from Table 2 above, it contains 547,972 observations, out of which 2,945 (0.54%) are in conflict according to

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[17]Our theoretical analysis suggests that the likelihood of conflicts in different dyads should indeed be the relevant variable of interest—rather than who initiates the conflict. This is because, if country leaders know each other's incentive constraints, they would always start a conflict simultaneously. The COW dataset provides some information about conflict initiation (see Reiter and Stam, 2003), though the use of this variable is notoriously problematic (see Gowa, 1999, for a discussion).

our definition. The data in our sample comprise an unbalanced panel, in that not all dyads are observed for the same number of years due to missing data or entry and exit from the system.[18]

Political regimes

Data on regime characteristics are from the Polity dataset by Monty and Jaggers (2002). This dataset provides a composite index that ranks each country on a -10 to $+10$ scale in terms of democratic institutions, where 10 represents the highest score for a democracy. The latest version, Polity IV, contains coded annual information on regime characteristics for all independent states (with a population greater than 500,000) and covers the years 1800-2004.

Since in our theoretical model the definition of a democracy is based on the presence of periodic and open elections, in our baseline specification we define a country as being democratic if it has a Polity index higher than 4;[19] countries with lower scores will be considered as being autocratic. In various robustness checks we will experiment with alternative definitions of democracies.

Since we distinguish between two types of regimes, we have three possible dyad types: two autocracies (AA), two democracies (DD), and mixed dyads (AD). Independently of how restrictive the definition of democracy is, Table 3 below shows that democratic dyads (i.e., DD) are a minority: they account for 13.54 percent or 9.25 percent of all dyads, depending on whether democracies are defined as those countries with a Polity score above 4 or above 6, respectively. Instead, AA and AD dyads account for a very similar share of our observations. The summary statistics in Table 3 are already suggestive of the democratic peace phenomenon, since the likelihood of conflicts within DD dyads is less than half (i.e., 0.28) than the corresponding probability for dyads which include at least one autocratic regime.[20]

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[18]A total of 177 countries are included in our dataset. However, the number of countries can change year by year, often as a result of countries breaking up (e.g., the Soviet Union, Yugoslavia) or gaining independence (e.g., former colonies).

[19]For example, following our definition, Britain becomes a full democracy only in 1880. Before that date, Britain had a Parliament, but even after the Great Reform Act of 1832, only about 200,000 people were allowed to vote, and those who owned property in multiple constituencies could vote multiple times. In the Polity dataset, Britain has an index of -2 before 1836, an index of 3 from 1837 till 1879, and an index of 7 from 1880.

[20]Notice that, if democracies are identified by a Polity index above 4, a randomly selected pair of countries should be a DD at war with a probability of 0.073. Given that there are 207 conflicts between democracies out of a total of $547,972$ observations, the actual probability of two democracies being in conflict out of the full sample is 0.038, roughly half of the theoretical probability based on uniform distribution of conflicts among dyads.

Table 3: Countries and conflicts by regime type

		(1) Polity > 4	(2) Polity > 6
DD	% dyads	13.54	9.25
	% conflicts	0.28	0.31
AD	% dyads	42.77	40.27
	% conflicts	0.58	0.58
AA	% dyads	43.69	50.48
	% conflicts	0.58	0.54
Total	% dyads	100.00	100.00
	% conflicts	0.54	0.54

Notes: statistics based on 547,972 observations; conflicts defined as $MID_{ij} > 2$; sample period: 1816-2001.

Term limits

One of the important contributions of this paper is the construction of a dataset on executive term limits. This allows us to perform a systematic analysis of the impact of term limits on inter-state conflicts and assess the validity of Propositions 2 and 3 of our theoretical model.

We collect information on the existence of term limits for all the 177 countries in our dataset. However, in our empirical analysis we restrict our attention to the effects of term limits in democracies, which impose clear restrictions on electoral accountability.[21]

We proceed in four steps:

1. For all countries included in our sample for the period 1816-2001, we identify those classified as being democratic in a given year, based on the Polity dataset described above.

2. We then identify those democracies which are presidential or semi-presidential. To collect this information, we use the dataset provided by Golder (2005), supplemented by other sources for the years before 1946.

3. We then verify which of these countries has term limits and of which type (one-term or two-term limits). Information on term limits comes from various sources (e.g., countries' constitutions and various amendments).[22]

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[21]In some instances, countries that are classified as being autocratic according to the Polity dataset officially restrict the number of mandates that the executive can serve, but these term limits are often ignored. For example, Paraguay introduced two-term limits in 1940. General Alfredo Stroessner came to power in a coup d'état in 1954 and remained in power until 1989, after eliminating term limits in 1967. He was re-elected eight times, appearing alone on the ballot on some occasions, and winning by implausibly high margins in others. During his entire tenure, the Polity index of Paraguay ranges between -9 and -5.

[22]As an illustration, South Korea is recorded as democratic since 1988; two-term limits were introduced in 1963 and removed altogether in 1973; since 1987, the executive is subject to one-term limit.

4. Finally, for those countries with two-term limits, we determine whether, in a given year, the executive is in his first or second mandate. To this end, we collect information about the identity of the executives in a given year and the length of their tenure.[23]

Table 4 below provides some summary statistics on democratic countries. In particular, our dataset includes 112 countries that are classified as democratic for at least one year during the sample period. Within this set, 60 countries have had a presidential or semi-presidential regime during their democratic experience. As shown in Table 4, 11 countries prohibited at some point in time their president to stand for more than one term, while a larger number of democracies (i.e., 24) limited the time in office to two terms. The residual category ("Others") consists of various arrangements. Most often, it refers to the possibility of multiple, but not consecutive, terms in office (e.g., a third term is allowed after skipping one or two terms). Notice though, that the same country may be counted in more than one of these categories since provisions concerning term limits can change over time.[24]

Table 4: Number of democracies and term limits

Democracies	112
Presidential/semi-presidential democracies	60
Presidential/semi-presidential democracies with term limits	
One-term limit	11
Two-term limit	24
Others	24

Notes: democracy defined as Polity > 4; statistics based on 547,972 observations; sample period: 1816-2001; a country may be counted more than once if political system/term limits change over time.

On the basis of the information collected, we construct two term-limit variables. The first variable, denoted with $Term_{it}^{T}$, is a dummy variable which takes a value of 1 if the executive of country i is in his last possible mandate in office in year t. Notice that for countries that do not allow the executive to be re-elected, this variable always takes the value of 1; in the case of countries with two-term limits, $Term_{it}^{T}$ takes a value of 1 only for the executives who are in their second mandate. We also construct a variable denoted by $Term_{it}^{T-1}$, which takes a value of 1 if country i's executive is in his penultimate mandate.

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[23]For example, in the case of Unites States, two-term limits were introduced in 1951, when the Twenty-second Amendment of the U.S. Constitution was ratified in Congress. Since then, only four presidents have served two four-year terms: Dwight D. Eisenhower, Ronald Reagan, Bill Clinton, and George W. Bush.

[24]For example, Panama never allowed immediate re-election of its president, and since 1994 it requires that two terms be skipped before an outgoing president can stand for election again.

We then combine these term-limit variables with the definition of dyad types, to construct the following dummy variables: the variable DD_{ijt}^T, which takes the value of 1 for democratic dyads in which at least in one of the two countries the executive faces binding term limits at time t; and the variable DD_{ijt}^{T-1}, which is equal to 1 for democratic dyads in which at least one of the two executives is in his penultimate term in office.

Other controls variables

In our empirical analysis, we include all the standard controls used in the empirical literature on the democratic peace. A first set of these variables is available for the entire period of our sample (1816-2001) and is mostly taken from the COW dataset (see Table 5 for a detailed description of the variables and sources):

Since geographic factors are known to play an important role in conflicts, we include the log of the distance between capital cities, *Ln distance*, as well as a dummy variable, *Border*, which indicates whether the country pair shares a common border.

Major powers may have a big incentive to engage in MIDs, if they think they can escape retaliation. We thus include the dummy variable *Major power*, which equals one if at least one of the two countries in a dyad is a major power, as defined by the COW.[25]

An imbalance of military power may also foster conflicts. To capture the difference in military capabilities between countries, we use the variable *Military balance*. This is given by the absolute difference between the military capability of the two countries in each dyad. Military capability is a composite of six indicators (i.e., military expenditure, military personnel, energy consumption, iron and steel production, urban population, and total population) and is constructed by Singer (1987).

We also include the dummy variable *Alliance*, which is equal to 1 if two countries are formally allied by a non-aggression or neutrality treaty. This variable is also taken from the COW dataset.

In some regressions, we also include a second set of controls commonly used in the literature. Unfortunately, since these variables are only available on a large scare for the period 1950-2000, their inclusion substantially reduces our dataset:

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[25]These include the United States (1898-2001), the United Kingdom (1816-2001), France (1816-1940, 1945-2001), Germany (1816-1918, 1925-1945, 1991-2001), Austria (1816-1918), Italy (1860-1943), Russia (1816-1917, 1992-2001), USSR (1922-1991), China (1950-2001), and Japan (1895-1945, 1991-2001).

Table 5: Definition of variables and sources

Variable	Definition	Source
MID_{ijt}	Dummy variable equal to 1 if Militarized Interstate Dispute greater than 2	Maoz (2005)
DD_{ijt}	Dyad composed of two democracies. A country is democratic if it has a Polity IV score higher than 4 (on the -10/+10 scale); autocratic otherwise	Monty and Jaggers (2002)
DD_{ijt}^{T}	Dummy equal to 1 if at least one executive is in last mandate	Various sources
DD_{ijt}^{T-1}	Dummy equal to 1 if at least one executive is in penultimate mandate	Various sources
AD_{ijt}	Dyad composed of one democracy and one autocracy	As for DD_{ijt}
Ln distance$_{ij}$	Log of one plus the great circle distance between capital cities	Gleditsch and Ward (2001) and other sources
Border$_{ijt}$	Dummy equal to 1 if the countries share a common border	Stinnett *et al.* (2002)
Major power$_{ijt}$	Dummy equal to 1 if at least one country is a major power	Major power defined by COW (2005)
Military balance$_{ijt}$	Log of absolute difference of National Capability scores	Singer (1987)
Alliances$_{ijt}$	Dummy equal to 1 if the countries are in an alliance	Gibler and Sarkees (2004)
GDP_{ijt}	Absolute difference of GDP per capita	Barbieri (2002) and WDI
Trade$_{ijt}$	Minimum of ratios of bilateral trade (i.e., sum of bilateral imports) over GDP	Barbieri (2002) and IMF DOT statistics
Colony$_{ij}$	Dummy equal to 1 if countries have ever been in a colonial relationship	CEPII
Oil$_{ij}$	Dummy equal to 1 if at least one country is an oil exporter	IMF
Presidential$_{ijt}$	Dummy equal to 1 if at least one democracy is (semi) presidential	Golder (2005) and other sources

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In order to take into account the level of development of the countries, we include the variable GDP, defined as the absolute difference in their per capita GDP.

Since various studies have emphasized the importance of trade in deterring recourse to force (e.g., Martin *et al.*, forthcoming), we include the variable $Trade$ to capture the extent of trade flows between country pairs. This variable is defined as the lower between the two ratios of bilateral trade over GDP.

It is also well known that colonial relationships are particular important. Thus, we include the dummy variable $Colony$ that takes the value of 1 if the country pair has ever been involved in a colonial relationship.

Finally, since the likelihood of inter-state conflicts should increase with the extent of the "exploitation gains"(captured by the parameter G in our model), we include the dummy variable Oil, which takes a value of one if at least one country in the dyad is an oil exporter, as defined by the IMF (i.e., 11 countries for the post 1949 period).

6 Empirical Methodology and Results

Our theoretical model gives rise to the following predictions (Propositions 1-3 above):

1) Conflicts in democratic dyads should be less likely than conflicts in other dyad types;

2) Democracies in which the executive faces binding term-limits (i.e., no possible re-election) should be as likely to be involved in military conflicts as autocracies;

3) In democracies with term limits, the likelihood of being involved in a military conflict should be higher in the executive's last mandate.

6.1 The Democratic Peace

The objective of this section is to illustrate the well-established result of the democratic peace literature, i.e., that democratic pairs of countries are more likely to maintain peaceful relations with each other than any other pairs of countries.[26]

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[26]Various studies have examined the possibility of a reverse causality from peace to democracy. Reiter (2001) shows that the transition from autocracy to democracy is not influenced by the fact that a country may have been involved in recent conflicts, while a country's level of economic development and the democratization of its neighboring countries significantly increase the probability of such transition. The possibility of reverse causality

We estimate the probability that a militarized dispute occurs in a pair of countries i and j, in a given year t. In particular, we use the following logit regression model:[27]

$$Pr(MID_{ijt} = 1) = G\left(\beta_0 + \beta_1 DD_{ijt} + \beta_2 AD_{ijt} + \beta_3 \mathbf{X}_{ijt} + \beta_4 \mathbf{M}_{ij}\right), \tag{8}$$

where G is the logistic distribution. The omitted category is the dyad type AA, $\mathbf{X}_{ijt}$ is a matrix of dyad-specific and time-varying controls (e.g., *Major power*, *Military balance*, *Alliance*, *Border*, *Trade*, *GDP*), and $\mathbf{M}_{ij}$ is a matrix of dyad-specific but time-invariant controls (e.g., *Ln distance*, *Colony*, *Oil*); and the βs are the parameters to be estimated. Propositions 1 of our model predicts that the coefficient β_1 should be negative and significant, reflecting the discipline effect of electoral accountability in democratic countries.

Table 6 reports the results of alternative specifications of (8). Column (1) presents our baseline specification. The first prediction of the theoretical model is clearly confirmed in the data, as the estimated coefficient for β_1 is negative and significant at 1 percent level. Notice that this result carries through in all the alternative specifications reported in columns (2)-(8). In columns (2)-(4), we include dyad fixed effects, year fixed effects, or both. We also experiment with alternative definitions of what constitutes a democracy, using both a more stringent definition (column (5)), and a less stringent definition (column (6)).[28] Finally, in column (7), we included the variables *GDP*, *Trade*, *Colony* and *Oil* to our baseline set of controls; notwithstanding the fact that we lose many observations since the sample is now restricted to the years 1950-2000, the estimated coefficient for democratic dyads remains negative and highly significant. Therefore, in line with what has been documented by previous empirical studies on the democratic peace, we find that democratic dyads are significantly less conflict prone than autocratic or mixed dyads.

The democratic peace result holds in a series of other regressions that we have performed, as in alternative specifications suggested in the literature.[29] In particular, the coefficient on democratic dyads remains negative and highly significant when we use a more stringent definition of military conflicts, focusing only on MIDs which are coded with a hostility level of 5 (i.e., wars).

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is also excluded by Mousseau and Shi (1999): they argue that the reversal would only occur if countries tend to become autocratic in preparation for wars, and they verify that this is not the case. Reuveny and Li (2003) show evidence consistent with simultaneous causation, but confirm that the empirical relevance of the democratic peace is not the result of spurious correlation, as it is robust to the treatment of potential endogeneity problems.

[27]To take into account the fact that MIDs, even when defined more broadly than wars, are rare events, we have also tried using a relogit regression model (see King and Zeng, 2001). The qualitative results of our analysis remained unchanged.

[28]In the specification reported in column (5), a country qualifies as a democracy if it has a Polity index higher than 6; for the results presented in column (6), democracies are characterized by a Polity index above 2.

[29]These results were not reported to save space, but are available upon request.

The results of our baseline regression are also unchanged when we exclude dyads involving the United States, when we consider only "politically relevant" dyads (i.e., involving contiguous states or major powers), or when we exclude "seizures" (i.e., the capture by one state of another state's material goods or personnel, which often consist of disputes related to fishing areas). In order to account for the possible temporal dependence of conflicts within dyads, following Beck *et al.* (1998), we also tried adding a cubic spline of the number of years since the last conflict occurred. With the exception of the alliance variable which becomes insignificant, we find no qualitative change in our results.[30]

We can now move to the discussion of other regression results reported in Table 6. Notice that our model of self-enforcing peace predicts that the democratic peace should be a dyadic rather than a monadic phenomenon: while democracies should rarely fight each other, conflicts between a democracy and an autocracy should not be less likely than conflicts between autocracies. In line with previous studies, we find that the comparison between autocratic and mixed dyads is not very robust: the estimated coefficient for β_2 is insignificant in some specifications, and significantly positive or negative in others.[31]

The coefficients for the main set of controls are all significants and have the expected signs: countries that are contiguous and closer in distance tend to fight more; the likelihood of a military conflict between two countries increases if at least one of the two is a major power; similar military capabilities and joint membership in a military alliance tends to reduce the likelihood of a military conflict. Of the remaining controls, only *Oil* is significant; its positive coefficient suggest that oil-rich countries might frequently be the target of military attacks and that appropriation motives might drive many inter-state conflicts.

When it comes to the economic significance, calculating the marginal effects reveals that the estimated coefficient for β_1 in the baseline specification of Table 6 implies a 60 percent decrease in the average predicted probability of conflict for a democratic dyad (DD) in comparison to an autocratic dyad (AA). If compared to some of the control variables included in the same specification, this impact is double than the role played by alliances, but much smaller, in absolute terms, than the effect of two countries sharing a border or of one of them being a major power, which lead to a seven-fold and a 225 percent increase in the probability of conflict, respectively.

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[30]With respect to some other concerns raised in the literature (e.g., Gowa, 1999), we also find the democratic peace result to hold when we restrict our analysis to the period before 1939 or after 1989 (post Cold War), and when we exclude "general wars".

[31]Even when the β_2 coefficient is negative and significant (see column (4)), it is statistically different from β_1, showing that democratic pairs are always less conflict prone than both autocratic and mixed dyads.

Table 6: Results for the Democratic Peace

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Baseline	Dyad FE	Year FE	Dyad & Year FE	Polity > 6	Polity > 2	1950-2000
DD_{ijt}	-0.779***	-0.440***	-1.062***	-0.760***	-0.736***	-0.542***	-0.913***
	(0.169)	(0.105)	(0.203)	(0.125)	(0.183)	(0.155)	(0.264)
AD_{ijt}	0.392***	0.093	0.200*	-0.144**	0.431***	0.436***	0.554***
	(0.101)	(0.063)	(0.106)	(0.073)	(0.102)	(0.102)	(0.144)
Ln distance$_{ij}$	-0.541***		-0.658***		-0.539***	-0.532***	-0.722***
	(0.054)		(0.063)		(0.055)	(0.054)	(0.095)
Border$_{ijt}$	2.149***	0.239	2.126***	0.125	2.157***	2.171***	2.476***
	(0.166)	(0.177)	(0.170)	(0.177)	(0.167)	(0.165)	(0.238)
Major power$_{ijt}$	1.295***	0.867***	1.528***	0.617***	1.261***	1.314***	1.482***
	(0.171)	(0.124)	(0.174)	(0.129)	(0.171)	(0.171)	(0.287)
Military balance$_{ijt}$	4.367***	1.565***	4.028***	0.588	4.511***	4.136***	4.386**
	(0.867)	(0.579)	(0.913)	(0.608)	(0.856)	(0.869)	(1.959)
Alliance$_{ijt}$	-0.333**	-0.456***	-0.587***	-0.877***	-0.331**	-0.333**	-0.562**
	(0.135)	(0.071)	(0.138)	(0.079)	(0.133)	(0.134)	(0.200)
GDP$_{ijt}$							0.006
							(0.009)
Trade$_{ijt}$							0.000
							(0.000)
Colony$_{ij}$							0.184
							(0.388)
Oil$_{ij}$							1.545***
							(0.405)
Dyad fixed effects	no	yes	no	yes	no	no	no
Year fixed effects	no	no	yes	yes	no	no	no
Observations	547,972	58,450	546,248	58,450	547,972	547,972	335,828
Log likelihood	-14,531.04	-8,707.14	-13,812.64	-8106.38	-14,552.78	-14,544.68	-6,575.90
Pseudo R^2	0.21	0.25	0.25	0.30	0.21	0.21	0.26
χ^2	1,598.76***	159.33***	4,041.49***	1360.85***	1,473.89***	1,535.29***	1,580.51***

Notes: dependent variable =1 if $MID_{ijt}>2$ and 0 otherwise; standard errors clustered by dyad in parenthesis; *** denotes significance at 1% level; ** 5% level; * 10% level.

6.2 The Impact of Term Limits

We now turn to the core of our empirical analysis, in which we focus on democracies where electoral accountability is limited by the existence of executive term limits.

We first want to assess the validity of Proposition 2 above, according to which democracies in which executive face binding term-limits (i.e., no possible re-election) should be as likely to be involved in conflicts as autocracies. To this purpose, we estimate the following logit model:

$$Pr(MID_{ijt} = 1) = G\left(\gamma_0 + \gamma_1 DD_{ijt} + \gamma_2 DD_{ijt}^T + \gamma_3 \mathbf{X}_{ijt} + \gamma_3 \mathbf{M}_{ij}\right), \tag{9}$$

where the omitted category comprises all dyads including an autocracy. The matrices $\mathbf{X}_{ijt}$ and $\mathbf{M}_{ij}$ include all the controls used in our estimation of (8).

The results of our estimations are presented in Table 7. Notice that our democratic peace result (Proposition 1) still holds, since the estimated coefficient for γ_1 is always negative and significant at the 1 percent level.

For Proposition 2 to hold, democracies in which leaders cannot be re-elected should be as likely to be involved in a military dispute as autocracies and mixed dyads; in turn, this implies that the estimate for the coefficient γ_2 should be positive and the sum of the coefficients γ_1 and γ_2 should not be statistically different from zero. For each specification in Table 7, γ_2 is positive and significant (at least at the 5 percent level) and the χ^2 test is not significant. This shows that binding term limits completely eliminate the democratic peace result, suggesting that the threat of losing office is what deters politicians' from breaking peaceful relations with other countries. This finding provides strong empirical support for Proposition 2 above, and also indirectly for our theoretical explanation of the democratic peace.

This result holds not only in our baseline specification (column (1)), but also when we introduce dyads and year fixed effects (columns (2)-(4)), and when we perform our estimation on the reduced dataset, including the second set of controls (column (5)). Notice that all the controls included in our baseline specification—*Border*, *Ln distance*, *Majorpower*, *Military balance*, and *Alliance*—are always significant and have the expected sign.

Let us next turn our attention to the last prediction of our theoretical model (Proposition 3), according to which the dispute patterns of democracies with strong term limits should depend on whether the executive is in his last or penultimate mandate. To assess the empirical validity of this prediction, we estimate the following logit model:

$$Pr(MID_{ijt} = 1) = G\left(\lambda_0 + \lambda_1 DD_{ijt} + \lambda_2 DD_{ijt}^T + \lambda_3 DD_{ijt}^{T-1} + \lambda_4 \mathbf{X}_{ijt} + \lambda_5 \mathbf{M}_{ij}\right), \tag{10}$$

Table 7: Results for term limits (final mandate)

	(1) Baseline	(2) Dyad FE	(3) Year FE	(4) Dyad & Year FE	(5) 1950-2000
DD_{ijt}	-1.062***	-0.588***	-1.312***	-0.716***	-1.452***
	(0.167)	(0.104)	(0.196)	(0.112)	(0.268)
DD_{ijt}^T	0.848***	0.417**	1.061***	0.513**	1.340***
	(0.267)	(0.207)	(0.288)	(0.207)	(0.363)
Ln distance$_{ij}$	-0.533***		-0.671***		-0.741***
	(0.054)		(0.064)		(0.105)
Border$_{ijt}$	2.104***	0.234	2.092***	0.136	2.325***
	(0.165)	(0.177)	(0.168)	(0.177)	(0.237)
Major power$_{ijt}$	1.323***	0.839***	1.567***	0.637***	1.577***
	(0.174)	(0.123)	(0.176)	(0.128)	(0.326)
Military balance$_{ijt}$	4.193***	1.370**	3.990***	0.636	4.892**
	(0.901)	(0.570)	(0.924)	(0.607)	(2.225)
Alliance$_{ijt}$	-0.397***	-0.458***	-0.633***	-0.877***	-0.588**
	(0.136)	(0.071)	(0.139)	(0.079)	(0.200)
GDP$_{ijt}$					-0.001
					(0.010)
Trade$_{ijt}$					0.000
					(0.000)
Colony$_{ij}$					0.312
					(0.398)
Oil$_{ij}$					1.357
					(0.410)
Dyad fixed effects	no	yes	no	yes	no
Year fixed effects	no	no	yes	yes	no
χ^2 test: $DD_{ijt}+DD_{ijt}^T = 0$	0.89	0.83	1.12	1.09	0.03
Observations	547,972	58,450	546,248	58,450	335,828
Log likelihood	-14,531.04	-8,706.32	-13,813.39	-8,105.51	-6,680.19
Pseudo R^2	0.21	0.25	0.25	0.30	0.25
χ^2	1,598.76***	160.97***	3,983.22***	1,362.59***	1,007.97***

Notes: dependent variable =1 if $MID_{ijt}>2$ and 0 otherwise; standard errors clustered by dyad in parenthesis; *** denotes significance at 1% level; ** 5% level; * 10% level.

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Table 8: Results for term limits (penultimate and final mandate)

	(1) Baseline	(2) Dyad FE	(3) Year FE	(4) Dyad & Year FE	(5) 1950-2000
DD_{ijt}	-1.067***	-0.535***	-1.333***	-0.683***	-1.478***
	(0.187)	(0.111)	(0.217)	(0.117)	(0.303)
DD_{ijt}^{T}	0.850***	0.380*	1.067***	0.488**	1.415***
	(0.270)	(0.209)	(0.291)	(0.210)	(0.376)
DD_{ijt}^{T-1}	0.038	-0.307	0.172	-0.209	0.151
	(0.269)	(0.237)	(0.287)	(0.240)	(0.356)
Ln distance$_{ij}$	-0.533***		-0.671***		-0.742***
	(0.054)		(0.064)		(0.105)
Border$_{ijt}$	2.104***	0.233	2.092***	0.136	2.326***
	(0.165)	(0.177)	(0.168)	(0.177)	(0.237)
Major power$_{ijt}$	1.323***	0.847***	1.569***	0.642***	1.583***
	(0.174)	(0.123)	(0.176)	(0.128)	(0.330)
Military balance$_{ijt}$	4.189***	1.376**	3.971***	0.643	4.835**
	(0.905)	(0.569)	(0.931)	(0.607)	(2.270)
Alliance$_{ijt}$	-0.397***	-0.455***	-0.634***	-0.875***	-0.589**
	(0.136)	(0.071)	(0.138)	(0.079)	(0.200)
GDP$_{ijt}$					-0.001
					(0.008)
Trade$_{ijt}$					0.000
					(0.000)
Colony$_{ij}$					0.312
					(0.398)
Oil$_{ij}$					1.357***
					(0.410)
Dyad fixed effects	no	yes	no	yes	no
Year fixed effects	no	no	yes	yes	no
χ^2 test: DD_{ijt}^{T}=DD_{ijt}^{T-1}	6.87***	5.42**	7.72***	5.49**	11.54***
Observations	547,972	58,450	546,248	58,450	335,828
Log likelihood	-14,568.18	-8,705.43	-13,813.09	-8,105.12	-6,680.04
Pseudo R^2	0.21	0.25	0.25	0.30	0.25
χ^2	1,614.13***	162.74***	4,001.44***	1,363.37***	1,015.32***

Notes: dependent variable =1 if $MID_{ijt}> 2$ and 0 otherwise; standard errors clustered by dyad in parenthesis; *** denotes significance at 1% level; ** 5% level; * 10% level.

where, as in the model described by equation (9), the omitted category comprises both autocratic and mixed dyads. The results for this set of estimations are reported in Table 8.

Proposition 3 implies that democracies in which executives can be re-elected once should be less conflict prone than democracies in which leaders face binding term limits. If this is the case, the coefficients λ_2 and λ_3 should be different from each other, with $\lambda_2 > \lambda_3$. For all specifications of Table 8, the point estimate of λ_2 is always positive and larger than the estimates for λ_3, and the results of the χ^2 test reject the null hypothesis that $\lambda_2 = \lambda_3$, at least at the 5 percent significance level.

Table 8 thus provides strong support for the prediction of Proposition 3. This suggests that the relationship between term limits and conflicts is not spurious. If our empirical results were due to an omitted variable, driving both the fact that a country adopts term limits and that it is more belligerent, the likelihood of conflicts should not vary between the executive's penultimate and last mandate.[32]

6.3   Robustness Checks

In what follows, we present the results of a series of additional estimations to assess the robustness of our empirical results on term limits.

Since our main goal is to examine whether electoral accountability can explain the democratic peace phenomenon, we have included all dyad types in our analysis of inter-state conflicts. This has allowed us to verify that democratic pairs of countries are indeed much less likely to engage in conflicts compared to other autocratic dyads and mixed dyads, but only if their leaders are not subject to binding term limits. We have also tried to examine the effects of term limits in conflicts in democratic dyads only. The results of our analysis, reported in columns (1) and (2) of Table 9 below, confirm that conflicts involving democracies in which the leader cannot be re-elected are significantly more likely than conflicts between democracies with no term limits.

It has been suggested that "anocracies", i.e. countries that have moved from an autocratic to a partially democratic political regime, might be particularly prone to violence (see Mansfield and Snyder, 2002). To make sure that our results are not driven by conflict involving these type of countries, we have estimated models (9) and (10) using a more stringent definition of democratic countries (i.e., having a Polity index higher than 6) and eliminating conflicts involving recent

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[32]The results reported in Table 8 also suggest that voters are not easily "fooled" by their policymakers. This is in line with previous studies on the use of military force abroad (e.g., Gowa, 1998), which have found evidence consistent with rational voting behavior. Appendix A.3 shows that, if voters behaved retrospectively, we should expect conflicts to be more likely in the penultimate (rather than the last) mandate.

Table 9: Robustness Checks

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Democratic dyads only		Polity > 6		Old democracies		Presidential	
DD_{ijt}			-0.990***	-1.023***	-1.641***	-1.727***	-1.202***	-1.102***
			(0.183)	(0.207)	(0.266)	(0.293)	(0.181)	(0.196)
DD_{ijt}^{T}	0.728***	0.734**	0.796***	0.808***	1.462***	1.487***	0.814***	0.814***
	(0.290)	(0.299)	(0.314)	(0.318)	(0.371)	(0.367)	(0.266)	(0.271)
DD_{ijt}^{T-1}		0.063		0.253		0.675		0.004
		(0.277)		(0.288)		(0.414)		(0.277)
Ln distance$_{ij}$	-0.853***	-0.858***	-0.527***	-0.527***	-0.490***	-0.491***	-0.537***	-0.537***
	(0.121)	(0.124)	(0.054)	(0.054)	(0.055)	(0.055)	(0.054)	(0.054)
Border$_{ijt}$	1.353***	1.350***	2.106***	2.106***	2.066***	2.067***	2.104***	2.104***
	(0.378)	(0.383)	(0.166)	(0.166)	(0.173)	(0.173)	(0.165)	(0.165)
Major power$_{ijt}$	0.205	0.209	1.294***	1.296***	1.394***	1.397***	1.327***	1.327***
	(0.380)	(0.383)	(0.175)	(0.175)	(0.174)	(0.174)	(0.174)	(0.175)
Military balance$_{ijt}$	7.338***	7.299**	4.387***	4.366***	3.890***	3.850***	4.125***	4.125***
	(2.253)	(2.322)	(0.891)	(0.896)	(0.914)	(0.921)	(0.899)	(0.901)
Alliance$_{ijt}$	-0.010	-0.014	-0.390***	-0.392***	-0.392***	-0.399***	-0.401***	-0.401***
	(0.304)	(0.305)	(0.135)	(0.135)	(0.145)	(0.146)	(0.137)	(0.137)
Presidential$_{ijt}$							0.095	0.095
							(0.146)	(0.147)
Dyad fixed effects	no	no			no	no	no	no
Year fixed effects	no	no			no	no	no	no
χ^2 test: $DD_{ijt}+DD_{ijt}^{T}=0$			0.49		0.30		1.40	
χ^2 test: $DD_{ijt}^{T}=DD_{ijt}^{T-1}$		4.29**		2.66*		3.77*		6.93***
Observations	74,215	74,215	547,972	547,972	424,022	58,450	547,972	547,972
Log likelihood	-1,174.64	-1,174.60	-14,603.51	-14,602.98	-12,266.04	-8,105.12	-14,566.37	-14,566.37
Pseudo R^2	0.18	0.18	0.20	0.20	0.20	0.30	0.21	0.21
χ^2	277.18***	318.85***	1,503.22***	1,518.50***	1,485.16***	1,363.37***	1,609.65***	1,616.13***

Notes: dependent variable =1 if $MID_{ijt} > 2$ and 0 otherwise; standard errors clustered by dyad in parenthesis; *** denotes significance at 1% level; ** 5% level; * 10% level. Old democracies defined as countries that have been democratic for more than ten years.

democracies (i.e., less than 10 years since the transition from autocracy to democracy). The results of these specifications, reported in columns (3)-(6), confirm our previous results on the effects of term limits on inter-state conflicts.

Finally, since term limits are only present in countries with presidential or semi-presidential political systems, one might be concerned that our finding that democracies with term limits are more conflict prone may be driven by the centralization of power in the hands of the executive, rather than to by the fact that the executive is not accountable. Columns (7) and (8) report the results of specifications in which we included the variable $Presidential_{ijt}$, which is equal to 1 if at least one of the two countries in a democratic dyad has a presidential or semi-presidential political system. Notice that term limits continue to have the effects predicted by our theoretical model, even after controlling for the type of political regime in which they arise.

We have also performed a series of other robustness checks, which are not reported in Table 9. As in the case of Table 6, we have experimented with various permutations of the baseline regressions in Tables 7 and 8. For example, we have tried excluding dyads involving the United States, focusing only on politically relevant dyads, excluding events classified as seizures, excluding general wars, and adding a spline function to correct for possible autocorrelation. The main results were not affected.

7   Conclusions

This paper provides a simple theoretical rationale for the fact that democracies never or very rarely fight one-another, based on Kant's original idea that electoral incentives can act as a discipline device. Our empirical analysis provides strong support for the predictions of our theoretical model, emphasizing the importance of electoral accountability in deterring recourse to force.

The general result that emerges from our paper is that domestic political institutions can have a crucial impact on international security relations, since they determine how leaders gain and retain office. In democracies without term limits, periodic elections provide the means by which the electorate can hold opportunistic political leaders accountable for their foreign policy decisions. Conversely, in autocracies and democracies with term limits, where there is no option of "contract renewal", politicians are freer to adopt unpopular policies, knowing that this will have no repercussion on whether or not they are able to stay in power. Some caution is clearly warranted in interpreting the results of this paper. Though our analysis shows that political systems in which the leaders are subject to re-election are good for peace, this should not be

taken to imply that democratization of dictatorships will lead to peace, as often argued by politicians.[33]

Many issues remain to be addressed to fully understand the links between domestic politics and conflicts. In this paper, we have focused on the role of term limits. An interesting avenue for further research is the comparison between different types of political systems. From a theoretical point of view, it is far from clear whether presidential or majoritarian parliamentary systems—which tend to be characterized by a strong executive—may be more or less conflict prone than proportional parliamentary systems—which tend to be more fractionalized. Examining this issue would require extending the framework described in this paper to consider situations in which political parties—rather than country leaders—are the crucial actors. Empirically, one would also need to collect more information on different types of political systems.[34] More attention should also be devoted to study how the information available to the public can affect policymakers' incentives to sustain international cooperation. In this respect, it would be interesting to explore the impact of media coverage of conflicts on electoral accountability.

Finally, the type of analysis carried out in this paper can be applied to other policy dimensions. In particular, our dataset on term limits could be used to investigate the impact of electoral accountability on fiscal policy (e.g., government spending), trade policy (e.g., the level of protection), or environmental policy (e.g., pollution taxes).

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[33]For example, in his 1994 State of the Union address, former President Bill Clinton stated that "the best strategy to ensure our security and to build a durable peace is to support the advance of democracy elsewhere. Democracies don't attack each other." More recently, President George W. Bush argue that "the reason why I'm so strong on democracy is democracies don't go to war with each other. And the reason why is the people of most societies don't like war, and they understand what war means.... I've got great faith in democracies to promote peace. And that's why I'm such a strong believer that the way forward in the Middle East, the broader Middle East, is to promote democracy" (White House Press Release "President and Prime Minister Blair Discussed Iraq, Middle East", November 12, 2004).

[34]Available datasets on political systems, including Golder (2005) and Perrson and Tabellini (2003), are quite incomplete. Golder's dataset covers the years 1946-2000, but information is missing for many countries; the dataset by Perrson and Tabellini (2003) only considers 60 countries for an even shorter period (i.e., 1960-1998).

Appendix

A.1 Sustainability of Peace in Different Dyads

Consider first the case of **autocratic leaders** who face no re-election incentives (Assumption 1). From their point of view, the value of sustaining international peace corresponds to the sum of discounted cooperative payoffs Π^C:

$$V_A^C \equiv \sum_{t=0}^{\infty} \delta^t \left(\Pi^C + Z \right) = \frac{\Pi^C + Z}{1 - \delta}, \tag{A1}$$

where the subscript A refers to autocratic leaders. The continuation value of being in a conflict is instead given by

$$V_A^N \equiv \sum_{t=0}^{\infty} \delta^t \left(\Pi^N + Z \right) = \frac{\Pi^N + Z}{1 - \delta}. \tag{A2}$$

Under the assumption of Nash-reversion punishment strategies, a surprise attack at time t yields deviation gains equal to $\Pi^D - \Pi^C$ in that period, but leads to reversion to the non-cooperative payoffs equilibrium Π^N forever after. The punishment associated with Nash reversion is the long-term loss of the gains associated with cooperation and can be written as

$$\Omega_A \equiv V_A^C - V_A^N = \frac{\Pi^C - \Pi^N}{1 - \delta}. \tag{A3}$$

A common choice of C can be supported by Nash-reversion punishment strategies as long as the following incentive constraint is satisfied:

$$\Pi^D - \Pi^C \leq \delta \Omega_A. \tag{A4}$$

Proof of Result 1

From A4, we can derive the critical discount factor that allows autocratic leaders to sustain peace over time:

$$\delta_A = \frac{\Pi^D - \Pi^C}{\Pi^D - \Pi^N}, \tag{A5}$$

which represents a measure of the difficulty to sustain international cooperation by autocratic leaders.

It is straightforward to show that larger costs of deploying military force and smaller benefits from attacking the other country make it easier to sustain peace. To verify this, note that $\partial \delta_A / \partial K = -1/G < 0$, while $\partial \delta_A / \partial G = K/G^2 > 0$. Also notice that $\partial \delta_A / \partial Z = 0$, implying that the sustainability of peace does not depend on the extent of the rents that policymakers derive from being in office. ∎

Consider next **democratic leaders** whose re-election chances reflect forward-looking voting behavior (Assumption 2). From their perspective, the value of sustaining international peace is

given by

$$V_D^C \equiv \frac{\Pi^C}{1-\delta} + \frac{Z}{1-\overline{p}\delta}, \tag{A6}$$

where the subscript D refers to democratic regimes. Indefinite reversion to a military conflict yields a continuation payoff of

$$V_D^N \equiv \frac{\Pi^N}{1-\delta} + \frac{Z}{1-\underline{p}\delta}. \tag{A7}$$

Comparing (A6) and (A7) with (A1) and (A2), we can see that, for $\overline{p}$ and $\underline{p}$ smaller than unity, both continuation values are lower for democratic leaders than for autocrats. International peace can be supported by Nash-reversion punishment strategies as long as the following incentive constraint is satisfied:

$$\Pi^D - \Pi^C \le \delta\Omega_D, \tag{A8}$$

where

$$\Omega_D \equiv \frac{\Pi^C - \Pi^N}{1-\delta} + Z\left(\frac{\overline{p}}{1-\overline{p}\delta} - \frac{\underline{p}}{1-\underline{p}\delta}\right). \tag{A9}$$

Proof of Result 2

Equation (A8) above yields a critical discount factor δ_D above which democratic leaders subject to re-election under forward-looking voting can sustain peace. As in the case of autocracies, it can be shown that higher costs of deploying military force smaller resources to be gained by attacking another country make it easier to sustain peace. To verify this, notice that $\partial\delta_D/\partial K < 0$ and $\partial\delta_D/\partial G > 0$.[35] However, unlike in the case of autocratic leaders, the punishment that follows a defection from peace is affected by size of the political rents:

$$\frac{\partial\Omega_D}{\partial Z} = \frac{\overline{p} - \underline{p}}{(1-\delta\overline{p})(1-\delta\underline{p})} > 0, \tag{A10}$$

implying that in democratic regimes peace should be easier to sustain the larger are the rents that policymakers derive from being in power. Therefore policymakers' "opportunism" can be good in democracies: the more politicians are attached to power (the higher is Z), the less tempted they will be to face the risk of being removed from office as a result of costly wars. Notice that, when Z tends to infinity, Ω_D tends to infinity and δ_D tends to zero, implying that a democratically-elected leader will never be tempted to defect from peace. ∎

Proof of Result 3

We now move to the comparison of the incentives of autocratic leaders—who are not subject to the threat of losing office—with those of democratic leaders—who face periodic elections. Since re-election probabilities have no effect on the short-run deviation gains (equal to $\Pi^D - \Pi^C$ in both

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[35]The one-shot gains from defecting from peace decrease in K and increase in G: $\partial(\Pi^D - \Pi^C)/\partial K = -W < 0$, $\partial(\Pi^D - \Pi^C)/\partial G = W > 0$; the severity of Nash-reversion punishment increases with K and does not depend on G: $\partial\Omega_D/\partial K = W/(1-\delta) > 0$, $\Omega_D/\partial G = 0$.

cases), we can focus on the comparison between the punishment faced by defecting policymakers in the two regimes. Rearranging (A3) and (A9), we can write the following:

$$\Omega_D = \Omega_A + Z \left(\frac{\overline{p}}{1 - \overline{p}\delta} - \frac{\underline{p}}{1 - \underline{p}\delta} \right).$$

(A.11)

Assumption 2, according to which $\overline{p} > \underline{p}$, implies $\Omega_D > \Omega_A$. Therefore, the long-run punishment following a defection from peace is always more severe for democratic leaders who are concerned about losing the rents from being in office than for autocrats who are not subject to periodic elections. We can then conclude that $\delta_D < \delta_A$, i.e., the critical discount factor above which democratic leaders are willing to cooperate is smaller than the corresponding discount factor for autocratic leaders.[36] ∎

A.2 Retrospective voting

The analysis carried out in Sections 3-4 assumed that voters behave in a forward-looking manner, so as to deter their leaders from engaging in costly conflicts (Assumption 2). As pointed out by a vast empirical literature in political science (e.g., Fiorina, 1981; Besley and Case, 1995; Lewis-Beck and Stegmaier, 2000), voters may simply decide whether or not to re-elect incumbent policymakers based on the economic benefits they managed to bring to their constituencies during their previous mandate. In what follows, we show that the democratic peace result can be obtained even if voters behave retrospectively. In our framework, retrospective voting can be introduced by assuming that the probability that an incumbent policymaker gets re-elected at period t is strictly increasing in the payoff obtained by his country during that period:

Assumption 3 *Democracies with retrospective voting:*

$$p_i^t \left(h^t, (D, C) \right) > p_i^t \left(h^t, (C, C) \right) > p_i^t \left(h^t, (D, D) \right) > p_i^t \left(h^t, (C, D) \right)$$

Notice that the assumption of retrospective voting implies that, by defecting at the end of his mandate, a policymaker can increase his chances of immediate re-election. However, cheating on the foreign partner today implies a reversion to non-cooperation forever after, implying lower chances to retain office in the future. To simplify notation, let us define $p^D \equiv p_i^t \left(h^t, (D, C) \right)$, $p^C \equiv p_i^t \left(h^t, (C, C) \right)$ and $p^N \equiv p_i^t \left(h^t, (D, D) \right)$.

The value of sustaining cooperation can be written as

$$V_R^C \equiv \frac{\Pi^C}{1 - \delta} + \frac{Z}{1 - p^C \delta},$$

(A.12)

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[36]The best-case scenario for peace is one in which voters always re-elect policymakers who behave cooperatively and dismiss policymakers who behave noncooperatively, since this voting behavior maximizes the punishment for breaking international peace. In this case, re-election probabilities are given by $\overline{p} = 1$ and $\underline{p} = 0$ and the critical discount factor above which a democratic leader can sustain peace is $\delta_D = \frac{\Pi^D - \Pi^C}{\Pi^D - \Pi^N + Z}$.

where the subscript R refers to a democratic political system characterized by a retrospective voting rule. Indefinite reversion to a military conflict yields a continuation payoff of

$$V_R^N \equiv \frac{\Pi^C}{1-\delta} + \frac{Z}{1-p^N\delta}. \tag{A.13}$$

International peace can be supported by Nash-reversion punishment strategies as long as the following incentive constraint is satisfied:

$$\Pi^D - \Pi^C \le \delta\Omega_R, \tag{A.14}$$

where

$$\Omega_R \equiv \frac{\Pi^C - \Pi^N}{1-\delta} + Z\left(\frac{p^C}{1-p^C\delta} - \frac{p^D}{1-p^N\delta}\right). \tag{A.15}$$

The main difference compared with the case of forward-looking voting is that under retrospective voting electoral incentives give rise to a short-term "electoral boost" effect, since attacking the other country at time t increases the probability that the deviating policymaker gets re-elected at the end of that period ($p^D > p^C$). In turn, this implies a higher probability of getting the rents from being in office in period $t+1$. It is as if, while forward-looking voters can punish a policymaker immediately after the deviation, retrospective voters are "fooled" by the short-run economic gains achieved by the deviating policymaker.

In line with Hess and Orphanides (2001), our analysis of the retrospective voting case shows that *short-run* electoral incentives can be detrimental to peace, since attacking another country can increase the chances of immediate re-election. However, even in this case, electoral incentives can help sustaining peace, since costly conflicts tend to reduce policymakers' *long-run* chances to hold on to power. To understand this, we must consider the long-term political consequences of triggering a conflict. Breaking peace at time t implies a reversion to a costly stalemate situation forever after. Under retrospective voting, this lowers the chances of being re-elected from period $t+1$ onwards ($p^N < p^C$). In turn, this implies a loss in terms of expected rents.

For electoral incentives to discipline policymakers, the short-run *electoral boost* must be small enough compared to the long-run *electoral punishment*. Looking at equation (A.15), we can see that this is the case if the expression $\left(\frac{p^C}{1-p^C\delta} - \frac{p^D}{1-p^N\delta}\right)$ is positive. This condition can be written as

$$p^D - p^C \le \delta p^D \frac{p^C - p^N}{1-\delta p^N}, \tag{A.16}$$

where the left-hand side of (A.16) represents the one-time electoral boost generated by attacking the other country. On the right-hand side, the term $p^C - p^N$ captures the electoral punishment endured by the defecting policymaker from $t+1$ onwards, with the term $\frac{p^C-p^N}{1-\delta p^N}$ representing the compounded punishment. Since the electoral punishment starts one period after the defection, this term must be discounted with rate δp^D when we compare it to the electoral boost.

A weaker version of Proposition 1 can thus be derived for the case of retrospective voting, in which re-election incentives *can* act as a discipline device, making it more costly for democratic

leaders to break peace than for autocratic leaders.[37]

Moving to the term-limits results, notice that Proposition 2, according to which the democratic peace result should not be valid for democracies in which leaders face binding term limits, does not depend on the type of voting behavior. The prediction contained in Proposition 3, on the other hand, depends crucially on the assumption that voting is forward looking. Under this assumption, policymakers who can be re-elected once should find it less tempting to break peace compared to policymakers who cannot be re-elected at all. If instead voting is retrospective, conflicts should be more likely in the penultimate rather than in the last term. The intuition behind this result is that, when a policymaker can only be re-elected once and voting is retrospective, starting a conflict gives rise to a short-run electoral boost effect, but does not give rise to a long-run electoral punishment effect.[38] Our empirical analysis provides indirect support for the assumption of forward-looking (rather than retrospective) voting behavior, since democracies in which leaders can be re-elected once are found to be less (rather than more) conflict prone than democracies in which leaders face binding term limits (see discussion of the results reported in Table 8).

A.3 Renegotiation-proof Punishment Strategies

Our analysis of the sustainability of peace in Sections 3-4 follows the bulk of the literature on self-enforcing international agreements by focusing on subgame-perfect equilibria sustained by grim trigger strategies.[39] It can be argued, however, that trigger strategies are not plausible, since players have incentives to jointly renegotiate a switch to different strategies upon entering the punishment phase. In order to deal with this type of objection, Farrell and Maskin (1989) have proposed the notion of renegotiation-proof equilibrium for infinitely repeated games. The argument underlying this refinement is that the only plausible equilibrium strategies are those that yield Pareto-undominated continuation equilibria in all relevant subgames. This means that the only punishment strategies that are plausible are those that give to some of the players a higher continuation payoff, once punishment is triggered, than the payoff they would obtain by

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[37]To verify this, comparing the punishment faced by defecting policymakers in the two regimes as captured by equations (A3) and (A.15), we can write the following

$$\Omega_R = \Omega_A + Z \left(\frac{p^C}{1 - p^C \delta} - \frac{p^D}{1 - p^N \delta} \right).$$

It is straightforward to verify that the punishment for breaking international peace will be more severe for democratic leaders whenever $\left(\frac{p^C}{1-p^C\delta} - \frac{p^D}{1-p^N\delta} \right) > 0$. In turn, this condition implies $\delta_R < \delta_A$.

[38]Under the assumption of retrospective voting, the incentive constraint at $T-1$ can be written as

$$\Pi^D - \Pi^C \leq \delta \Omega_R^{T-1},$$

where

$$\Omega_R^{T-1} = \frac{\Pi^C - \Pi^N}{1 - \delta} + \delta Z(p^D - p^C)$$

and it is straightforward to verify that $\Omega_R > \Omega_D^T > \Omega_R^{T-1}$.

[39]A notable exception is the paper by Conconi and Perroni (2006), which examines the implications of a renegotiation-proof requirement in the repeated interaction between governments and their private sectors.

renegotiating a reversion to cooperation jointly with the defector. Below we show that the result of Proposition 1 still holds if we impose that punishment strategies should be such that the two parties have no incentives to renegotiate in the punishment phase.

In a repeated prisoners' dilemma, it can be shown that the following strategy profile is renegotiation proof (see Van Damme, 1989): each country plays C as long as the other country does the same; if country i defects in a given period (and country j does not), then country j (the punisher) will play D until country i (the defector) reverts to C; as soon as country i has repented by playing C, country j forgives the initial defection and returns to playing C. In what follows, we examine the sustainability of international peace under this strategy profile in autocracies and democracies.

In the case of autocracies, in which policymakers do not face re-election, the conditions for the above strategy to be a subgame perfect, renegotiation-proof equilibrium strategy are:

$$\Pi^D - \Pi^C \leq \delta(\Pi^C - \Pi^P), \tag{A.17}$$

$$\Pi^N - \Pi^P \leq \delta(\Pi^C - \Pi^N), \tag{A.18}$$

$$\Pi^D \geq \Pi^C. \tag{A.19}$$

The first condition states that the one-shot gain from defection must be less than the discounted one-shot punishment cost that will be experienced by the defecting country. The second condition states that reversion to cooperation must be optimal for the defecting country after a single period of punishment, i.e., it must not be tempting to postpone repentance. The last condition states that the punisher must be better off during punishment than under cooperation. This last condition is what especially distinguishes a renegotiation-proof equilibrium and it is trivially satisfied in a prisoners' dilemma game. We can thus restrict our attention to conditions (A.17) and (A.18). Together, they define the minimum discount factor that allows a dictatorship to sustain cooperation:

$$\delta_A = \max\left\{\frac{\Pi^D - \Pi^C}{\Pi^C - \Pi^P}, \frac{\Pi^N - \Pi^P}{\Pi^C - \Pi^P}\right\}. \tag{A.20}$$

Let us now move to the case of democracies and assume that forward-looking voting as defined in Assumption 2. The conditions for a renegotiation-proof equilibrium can then be written as

$$\Pi^D - \Pi^C \leq \delta(\Pi^C - \Pi^P) + \delta R(\overline{p} - \underline{p}), \tag{A.21}$$

$$\Pi^N - \Pi^P \leq \delta(\Pi^C - \Pi^N) + \delta R(\overline{p} - \underline{p}), \tag{A.22}$$

$$\Pi^D \geq \Pi^C. \tag{A.23}$$

As in the case of autocracies, the third condition is not binding.[40] We can thus focus on the comparison of conditions (A.17) and (A.18) with (A.21) and (A.22). The critical discount factor above which democratic leaders can sustain peace under renegotiation-proof punishment

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[40]We are assuming that only the re-election chances of the deviating policymaker are affected during the punishment phase, implying that the policymaker of the "cheated" country does not face a lower re-election probability when playing D in the punishment phase.

Table A.1: Prisoners' Dilemma—Stochastic Countries' Payoffs

	Cooperate	Defect
Cooperate	Π^C, Π^C	$\Pi^P - s, \Pi^D + s$
Defect	$\Pi^D + s, \Pi^P - s$	Π^N, Π^N

strategies is given by

$$\delta_D = \max\left\{\frac{\Pi^D - \Pi^C}{\Pi^C - \Pi^P + R(\overline{p} - \underline{p})}, \frac{\Pi^N - \Pi^P}{\Pi^C - \Pi^P + R(\overline{p} - \underline{p})}\right\}. \tag{A.24}$$

Forward-looking voting implies $\overline{p} > \underline{p}$. Hence, the two terms in (A.20) have the same numerator but a smaller denominator than the corresponding terms in (A.24). In turn, this implies $\delta_A > \delta_D$, i.e., the minimum degree of patience necessary to sustain peace is higher for autocratic leaders than for democratic leaders. We can thus conclude that, even in the case of renegotiation-proof punishment strategies, re-election incentives play a discipling role and help sustaining international peace.

A.4 Stochastic Payoffs

Our baseline model predicts that any pair of countries should always be either at war or at peace. In what follows, we show that, if we introduce a stochastic component into the countries' payoffs, we can reproduce the democratic peace result, while at the same time generating the possibility of fluctuations between war and peace along the equilibrium path.

Let us assume that at every period t, a dyad gets a shock s^t that is added to Π^D and removed from Π^P. This implies that breaking peace is more or less tempting in different periods, since the fraction of resources that can be acquired by attacking the other country varies. The shocks s^t are i.i.d. and drawn from a distribution F in which support is $[0, s^{\max}]$. The stage game is described by Table A.1 below.

We concentrate on the best possible equilibria that can be sustained by the two countries in the presence of such payoff fluctuations.[41]

Cooperation between autocracies

We focus for an equilibrium in trigger strategies of the form

Cooperate in period $t = 0$ if $s^t \leq \bar{s}_A$, where $\bar{s}_A$ is the threshold for cooperation in the autocratic dyad;

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[41]Our analysis is close in spirit to Rotemberg and Saloner (1986), who explore the response of oligopolies to fluctuations in the demand for their products.

Cooperate in period t if $s \leq \bar{s}_A$ and both players have cooperated before whenever $s^t \leq \bar{s}_A$, defect otherwise.

We can compute the expected value of sustaining cooperation from the point of view of autocratic leaders. With probability $F(\bar{s}_A)$, the two countries cooperate, while with probability $(1 - F(\bar{s}_A))$ the shock is high and both countries find it too tempting to defect. The continuation value of cooperation can thus be written as

$$V_A^C \equiv \frac{F(\bar{s}_A)\,\Pi^C + (1 - F(\bar{s}_A))\,\Pi^N + Z}{1 - \delta}, \tag{A.25}$$

while the continuation value of noncooperation is given by

$$V_A^N \equiv \frac{\Pi^N + Z}{1 - \delta}. \tag{A.26}$$

We have a subgame-perfect Nash equilibrium if players have the incentive to cooperate when the shock is low enough and the other player is following the equilibrium strategy. Given the prisoners' dilemma payoffs and the discount factor, we can solve for the maximum $\bar{s}_A$ for which the following condition is satisfied:

$$\Pi^D + \bar{s}_A - \Pi^C \leq \delta(V_A^C - V_A^N), \tag{A.27}$$

with equality if $\bar{s}_A \leq s^{\max}$.

Cooperation between democracies

We are focusing for an equilibrium in trigger strategies of the form

Cooperate in period $t = 0$ if $s^t \leq \bar{s}_D$, where $\bar{s}_D$ is the threshold for cooperation in the democratic dyad;

Cooperate in period t if $s^t \leq \bar{s}_D$ and both players have cooperated before whenever $s \leq \bar{s}_D$, defect otherwise.

As an illustration, let us assume that re-election probabilities are equal to $\bar{p} = 1$ and $\underline{p} = 0$. With probability $F(\bar{s}_D)$, the shock is low enough for the two countries to be able to sustain peace and incumbent policymakers get re-elected; with probability $(1 - F(\bar{s}_D))$ the shock is high, the two countries are at war and incumbent policymakers do not get re-elected. For democratic leaders, the continuation values of cooperation and noncooperation are respectively given by

$$V_D^C \equiv \frac{F(\bar{s}_D)\,\Pi^C + (1 - F(\bar{s}_D))\,\Pi^N + Z}{1 - \delta}, \tag{A.28}$$

and

$$V_D^N \equiv \frac{\Pi^N}{1 - \delta}. \tag{A.29}$$

We have a subgame-perfect Nash equilibrium if each policymaker has the incentive to cooperate when the shock is low enough. For this to be the case, the shock must be low enough so as to satisfy the following condition:

$$\Pi^D + \bar{s}_D - \Pi^C \leq \delta(V_D^C - V_D^N), \tag{A.30}$$

with equality if $\bar{s}_D \leq s^{\max}$. For given countries' payoffs, discount factor δ and office rents R, we can obtain the critical threshold $\bar{s}_D$ below which two democracies will be at peace.

It is straightforward to verify that the punishment following a defection is always larger for democratic leaders who can lose the benefits of holding office (Z) than for autocrats. As a result, $\bar{s}_D$ always weakly exceeds $\bar{s}_A$. It follows that, in line with our baseline model, democratic pairs of countries will be at war less often than autocratic pairs.

References

Anderlini, L., D. Gerardi, and R. Lagunoff (2007). "Social Memory and Evidence from the Past," mimeo, Georgetown University.

Bagwell, K., and R. Staiger (1999). "An Economic Theory of GATT," *American Economic Review* 89, 215-248.

Barbieri, K. (2002). *The Liberal Illusion: Does Trade Promote Peace?*. Ann Arbor: University of Michigan Press.

Beck, N., J. Katz, and R. Tucker (1997). "Taking Time Seriously: Time-Series- Cross-Section Analysis with Binary Dependent Variable," *American Journal of Political Science* 41, 846-878.

Besley, T., and A. Case (1995). "Incumbent Behavior: Vote-Seeking, Tax-Setting, and Yardstick Competition," *American Economic Review* 85, 25-45.

Bremer, S. (1992). "Dangerous Dyads," *Journal of Conflict Resolution* 36, 309-341.

Bueno de Mesquita, B., J. D. Morrow, R. Siverson, and A. Smith (1999). "An Institutional Explanation of the Democratic Peace," *American Political Science Review* 93, 791-807.

Bueno de Mesquita, B., A. Smith, R. M. Siverson, and J. D. Morrow (2003). *The Logic of Political Survival.* Cambridge, MA: MIT Press.

Conconi, P., and C. Perroni (2006). "Do Credible Domestic Institutions Promote Credible International Agreements?," CEPR Discussion Paper No. 5762.

Correlates of War Project (2005). "State System Membership List, v2004.1."

Crémer, J. (1986). "Cooperation in Ongoing Organizations," *Quarterly Journal of Economics* 101, 33-49.

Dixit, A. (1987). "Strategic Aspects of Trade Policy," in Bewley, T. (ed.) *Advances in Economic Theory: Fifth World Congress*, 329-362. Cambridge, MA: Cambridge University Press.

Dixon, W. J. (1994). "Democracy and the Peaceful Settlement of International Conflict," *American Political Science Review* 88, 14-32.

Dixon, W. J., and P. D. Senese (2002). "Democracy, Disputes, and Negotiated Settlements," *Journal of Conflict Resolution* 46, 547-571.

Doyle, M. (1986). "Liberalism and World Politics," *American Political Science Review* 80, 1151-1169.

Ederington, J. (2001). "International Coordination of Trade and Domestic Policies," *American Economic Review* 91, 1580-1593.

Farrell, J., and E. Maskin (1989). "Renegotiation in Repeated Games," *Games and Economic Behavior* 1, 327-360.

Fiorina, M. P. (1981). *Retrospective Voting in American National Elections.* New Haven: Yale University Press.

Gibler, D. M., and M. R. Sarkees (2004). "Measuring Alliances: the Correlates of War Formal Interstate Alliance Dataset, 1816-2000," *Journal of Peace Research* 41, 211-222.

Gleditsch, K. S., and M. D. Ward (2001). "Measuring Space: A Minimum Distance Database," *Journal of Peace Research* 38, 749-768.

Golder, M. (2005). "Democratic Electoral Systems Around the World, 1946-2000," *Electoral Studies* 24, 103-121.

Gowa, J. (1998). "Politics at the Water's Edge: Parties, Voters, and the Use of Force Abroad," *International Organization* 52, 307-324.

Gowa, J. (1999). *Ballots and Bullets: The Elusive Democratic Peace.* Princeton: Princeton University Press.

Hess, G., and A. Orphanides (2001). "War and Democracy," *Journal of Political Economy* 109, 776-810.

Jackson, M., and M. Morelli (2007). "Political Bias and War," *American Economic Review* 97, 1353-1373.

Jervis, R. (1978). "Cooperation Under the Security Dilemma," *World Politics* 30, 167-214.

Jones, S., A. Bremer, and J. D. Singer (1996). "Militarized Interstate Disputes, 1816-1992," *Conflict Management and Peace Science* 15, 163-213.

Kandori, M. (1992). "Repeated Games Played by Overlapping Generations of Players," *Review of Economic Studies* 59, 81-92.

King, G., and L. Zeng (2001). "Explaining Rare Events in International Relations," *International Organization* 55, 693-715.

Kinsella, D. (2005). "No Rest for the Democratic Peace," *American Political Science Review* 99, 453-457.

Levy, J. S. (1988). "Domestic Politics and War," *Journal of Interdisciplinary History* 18, 653-673.

Levy, G., and R. Razin (2004). "It Takes Two: An Explanation for the Democratic Peace," *Journal of the European Economic Association* 2, 1-29.

Lewis-Beck, M. S., and M. Stegmaier (2000). "Economic Determinants of Electoral Outcomes," *Annual Review of Political Science* 3, 183-219.

Maggi, G. (1999). "The Role of Multilateral Institutions in International Trade Cooperation," *American Economic Review* 89, 190-214.

Mansfield, E. D., and J. Snyder (2002). "Incomplete Democratization and the Outbreak of Military Disputes," *International Studies Quarterly* 46, 529-549.

Maoz, Z. (1998). "Realist and Cultural Critiques of the Democratic Peace: a Theoretical and Empirical Reassessment," *International Interactions* 24, 3-89.

Maoz, Z. (2005). Dyadic MID Dataset: http://psfaculty.ucdavis.edu/zmaoz/dyadmid.html.

Maoz, Z., and B. Russett (1993). "Normative and Structural Causes of Democratic Peace," *American Political Science Review* 87, 624-638.

Martin, P., T. Mayer, and M. Thoenig (forthcoming). "Make Trade not War?," *Review of Economic Studies.*

Monty, G. M., and K. Jaggers (2002). Polity IV Data Set. [Computer file; version p4v2004] College Park, MD: Center for International Development and Conflict Management, University of Maryland.

Mousseau, M., and Y. Shi (1999). "A Test for Reverse Causality in the Democratic Peace Relationship," *Journal of Peace Research* 36, 639-663.

Persson, T., and G. Tabellini (2003). *The Economic Effects of Constitutions.* Cambridge, MA: MIT Press.

Reiter, D. (2001). "Does Peace Nurture Democracy?," *Journal of Politics* 63, 935-948.

Reiter, D., and A. C. Stam (2003). "Identifying the Culprit: Democracy, Dictatorship, and Dispute Initiation," *American Political Science Review* 97, 333-337.

Reuveny, R., and Q. Li (2003). "The Joint Democracy-Dyadic Conflict Nexus: A Simultaneous Equations Model," *International Studies Quarterly* 47, 325-346.

Rogoff, K. (1990). "Equilibrium Political Business Cycles," *American Economic Review* 80, 21-36.

Rosato, S. (2003). "The Flawed Logic of Democratic Peace Theory," *American Political Science Review* 97, 585-602.

Rotemberg, J. J., and G. Saloner (1986). "A Supergame-Theoretic Model of Price Wars during Booms," *American Economic Review* 76, 390-407.

Salant, D. (1991). "A Repeated Game with Finitely Lived Overlapping Generations of Players," *Games and Economics Behavior* 3, 244-259.

Singer, J. D. (1987). "Reconstructing the Correlates of War Dataset on Material Capabilities of States, 1816-1985, " *International Interactions* 14, 115-132.

Smith, L. (1992). "Folk Theorems in Overlapping Generations Games," *Games and Economics Behavior* 4, 426-449.

Stinnett, D. M., J. Tir, P. Schafer, P. F. Diehl, and C. Gochman (2002). "The Correlates of War Project Direct Contiguity Data, Version 3," *Conflict Management and Peace Science* 19, 58-66.

Van Damme, E. (1989). "Renegotiation-Proof Equilibria in Repeated Prisoners' Dilemma," *Journal of Economic Theory* 47, 206-217.