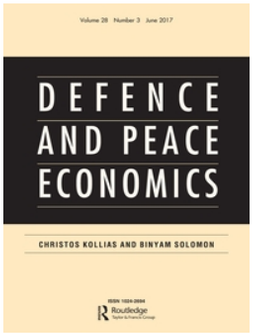

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THE EFFECTS OF LOCAL ELECTIONS ON NATIONAL MILITARY SPENDING: A CROSS-COUNTRY STUDY

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In this paper, we study the domestic political determinants of military spending. Our conceptual framework suggests that power distribution over local and central governments influences the government provision of national public goods, in our context, military expenditure. Drawing on a large cross-country panel, we demonstrate that having local elections will decrease a country's military expenditure markedly, controlling for other political and economic variables. According to our preferred estimates, a country's military expenditure is on average 20% lower if its state government officials are locally elected, which is consistent with our theoretical prediction.

Keywords: Military spending; Local election; Central and local governments; Public goods

JEL Codes: H41, H56, H70

1. INTRODUCTION

Military spending varies substantially across countries. Why do some countries have persistently high-military expenditure while some others maintain almost zero defence budget?[1] As military spending has implications on many aspects of political economy, it is important to understand the determinants of military spending. The existing literature documents various political and economic factors as determinants of military spending[2] such as the international security environment (Nordhaus, Oneal, and Russett 2012), external and civil wars (Dunne and Perlo-Freeman 2003; Collier and Hoeffler 2007), democracy (Fordham and Walker 2005), military involvement in politics (Bove and Nisticò 2014), alliance (Murdoch and Sandler 1984), trade flows (Acemoglu and Yared 2010) and their interplay (Maizels and Nissanke 1986).

In this paper, we study the effects of local elections on military spending. Figure 1 illustrates our motivating fact. We divide the 95 countries, for which we have both military spending data and local election information, into three groups. The first group are countries whose state legislatures and executives are locally elected. The second group are countries

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[1]For example, military spending exceeds 10% of GDP in Oman and Saudi Arabia, while Costa Rica and Panama maintain the lowest military expenditure close to zero (SIPRI 2013).

[2]An earlier survey of the demand of military spending can be found in Smith (1995).

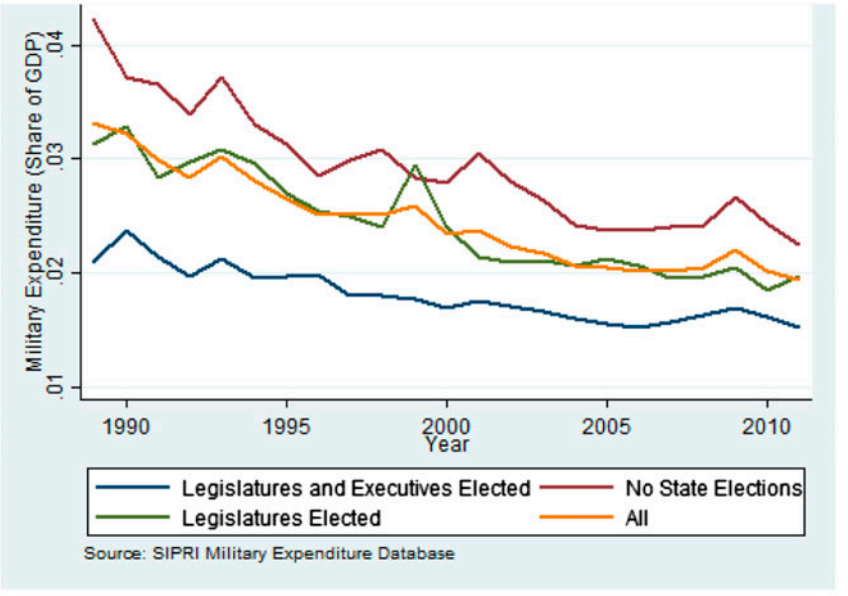

FIGURE 1 Average military expenditure

where only state legislatures are locally elected. The last group are countries without local elections. According to Figure 1, the average military spending of the first group is constantly lower, while that of the last group is the highest for most of sample periods. A first glance of cross-country data suggests a systemic relationship between military spending and local elections.

To demonstrate the effects of local elections on military spending, we formalize a specific channel through which local elections influence national military spending. In our conceptual framework, we compare military spending under two political regimes: centralized and decentralized regimes. Under the centralized regime, local government officials are directly appointed by the central government. The central government decides how much to spend on military and civilian goods. On the other hand, if there are local elections, public good provision will be determined by each local government as well as the central government. As local public goods are civilian goods, each local government will spend its entire fiscal budget on civilian good. Due to this inherent asymmetry between local and national public goods, military spending tends to be lower under decentralized regime.

We confront our theory with data. Drawing on a large cross-country panel data, we empirically demonstrate that local elections have negative effects on a country's military spending, controlling for a variety of political and economic variables. The effects of local elections are statistically significant and economically sizable. The results are robust to sample selection, inclusion of different conflict and alliance variables, regional fixed effects and alternative measures of local-election conditions as well as military spending. According to our preferred estimates, a country's military expenditure, measured by the share of GDP, is on average about 0.48 percentage point lower if its state executives are locally elected. This reduction is substantial as the average share of military spending only accounts for 2.4% of GDP.

The paper is organized as follows. In the next section, we review the related literature on military spending and political decentralization. In Section 3, we offer a simple conceptual framework that generates the main testable implication. In Section 4, we discuss the data

used, specify our econometric model and present our empirical results. We provide concluding remarks in Section 5.

2. LITERATURE REVIEW

Our paper is directly related to studies that both theoretically and empirically investigate the determinants of military spending. In particular, our results contribute to a fast-growing literature on the domestic political factors that shape military spending. Whitten and Williams (2011) argue that government ideology in terms of welfare and foreign policy has intriguing effects on defense spending and the traditional right–left dichotomy is too simplistic to be capable of explaining the complex pattern of military spending across advanced industrial democracies. They empirically demonstrate interaction effects between ideology and international security environment on military spending. Based on a cross-country study, Albalate, Bel, and Elias (2012) document institutional determinants of military spending. They find that presidential democracies tend to have higher military spending than parliamentary democracies. This is evidence that institutions may have differential impacts on public-good provision. In a recent study, Bove and Nisticò (2014) further investigates the role of military involvement in policy-making process on shaping a country's defence budget. Their empirical results indicate that a higher degree of military participation is associated with larger military budget as a share of GDP.

We propose a new channel of central–local relationship through which domestic politics may affect military spending. We argue that military spending is lower under a decentralized political regime, because local governments have more incentives to provide local public goods and thereby increase civilian-good provision. Given a fixed budget, military spending is effectively reduced under decentralized regime. Complement to previous studies that mainly focus on the central government's decision, we empirically demonstrate that government structure also plays an important role of determining defence spending.[3]

Our paper is also related to a very large literature of fiscal decentralization (Montinola, Qian, and Weingast 1995; Prud'Homme 1995; Inman and Rubinfeld 1997; Bardhan and Mookherjee 2000; Rodden 2002; Hooghe and Marks 2003; Arzaghi and Henderson 2005; Enikolopov and Zhuravskaya 2007; Weingast 2014, among others). This strand of literature mainly focuses on the causes, mechanism and economic efficiency of fiscal federalism. For example, Enikolopov and Zhuravskaya (2007) study how fiscal decentralization affects efficiency of governance, public-good provision and economic growth. Their empirical work reveals that the effects of fiscal decentralization depend on the strength of the party system as well as administrative subordination. Using a Bayesian model averaging approach, Asatryan and Feld (2014) confirm that there is no robust relationship between fiscal federalism and economic growth. In a more recent study, Asatryan, Feld, and Geys (2015) use a novel data-set including all OECD countries to investigate the relationship between fiscal decentralization and sub-national government fiscal discipline. They document that greater revenue share by sub-national governments is associated with more responsible sub-national government budgeting. Their empirical finding echoes earlier theoretical work (Oates 1972; Brennan and Buchanan 1980; Hettich and Winer 1988). In contrast, we focus on the effects of decentralization on military spending. Our minimalist model can be viewed as an example of the indirect consequence of decentralization that is overlooked by previous studies.

[3]In a somewhat related context, Jia and Liang (2013) study the relationship between decentralization and military coups and find a non-monotonic relationship.

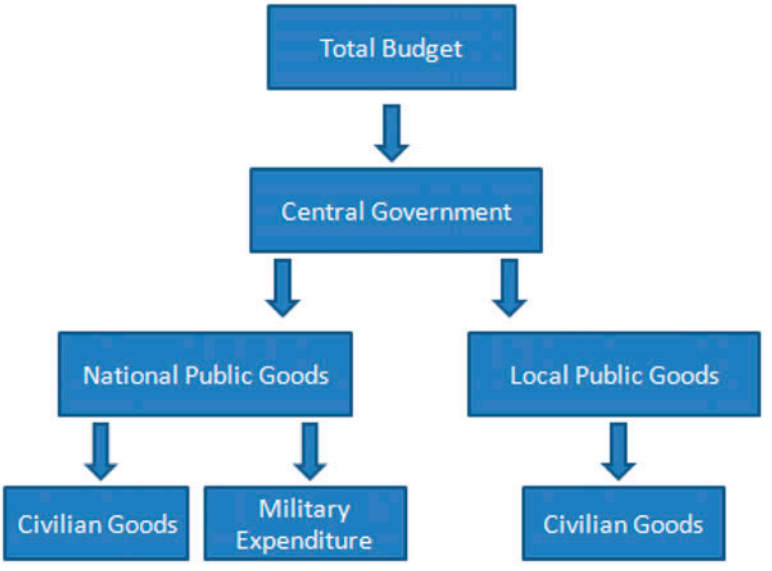

FIGURE 2 Centralized regime

Our theory hinges on the notion of local public goods (Tiebout 1956; Bewley 1981; Stiglitz 1984). We assume that local public goods do not have externalities across different districts, and therefore, local and central governments have differential incentives on local (civilian) and national (military) public-good provision. Therefore, our conceptual framework is also related to the literature of local public-good provision (Zhuravskaya 2000; Knight 2002; Besley and Coate 2003; Calabrese et al. 2006; Knight 2008, among others). The novel feature of our framework is to put national military spending into play and show that increase of local public-good provision in a decentralized system 'crowds out' military spending.

3. CONCEPTUAL FRAMEWORK

In this section, we present a very simple conceptual framework that yields the main testable implication.[4] We compare the government incentive of providing military and civilian goods under two regimes: a centralized regime and a decentralized regime.

A centralized regime is illustrated by Figure 2. Under this regime, the central government allocates a fixed amount of total budget across different public goods. Public goods are categorized into national public goods (e.g. defence, environmental protection and national health care programme) and local public goods (e.g. local infrastructure and state education system). Furthermore, national public goods include civilian and military spending,[5] while local public goods are purely civilian goods. Optimal military expenditure is determined by the central government's tradeoff between different categories of public-good provision.

[4]A minimalist formal model is presented in the Appendix 1.

[5]As is pointed out by one of our referees, military spending also has international spillover. A growing literature analyses the implication of transnational public goods (Sandler and Hartley 2001). Theoretical studies predict that military spending can be heavily influenced by various forms of alliances. In our empirical setup, we also confirm our findings by controlling for effects of alliances.

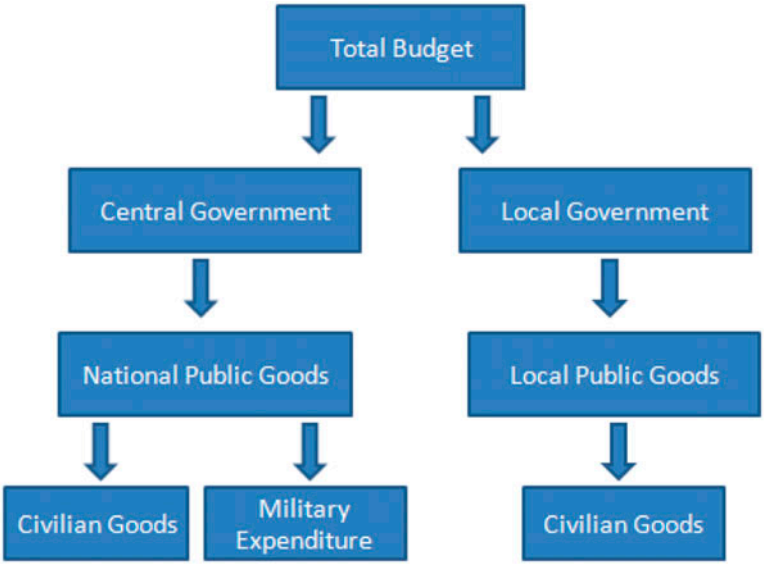

FIGURE 3 Decentralized regime

Therefore, public-good provision boils down to a social planner's problem (Barro and Sala i Martin 1992; Chu and Lai 2012). A decentralized regime is illustrated by Figure 3. Under this regime, both central and local governments[6] obtain a certain proportion of the total budget (Ter-Minassian 1997; Oates 1999). The share of fiscal budget can be either determined by a common set of rules or intergovernmental bargaining processes (Oksenberg and Tong 1991). The central government spends its budget on national public goods including defence spending, while each local government spends the budget exclusively on civilian goods.

Inherent asymmetry between local and national public goods in terms of defence spending gives rise to differential levels of military expenditure under two regimes. Under the decentralized regime, the central government allocates a relatively smaller size of fiscal budget between defence sector and civilian sector. Because local governments never spend on defence sector, other things equal, our hypothesis is that national military expenditure tends to be lower. The key mechanism here is a simple crowd-out effect.[7] Given a fixed amount of fiscal budget, rising expenditure on civilian public-good provision implies a shrinking defence budget.[8]

Therefore, the main testable implication of our discussion above is that the level of military spending tends to be lower under the decentralized regime. Empirically, we proxy the degree of centralization by local elections. We define a country is under decentralized

[6]More precisely, in our empirical implementation, a local government refers to a province- or state-level government.

[7]Nevertheless, this mechanism is largely in accounting sense, so it is slightly different from the traditional crowd-out mechanism discussed in macroeconomics literature (Aschauer 1989).

[8]According to Asatryan, Feld, and Geys (2015), it might be the case that local governments have very high efficiency in delivering local public goods, and as a result, the central government is able to cut its public-good provision in civilian sector under decentralized regime. We argue that as long as this efficiency gains are not too large, our main testable implication stays unchanged.

regime if and only if there are state-level elections. Next we turn to the empirical exploration of this implication.

4. EMPIRICAL TESTING

4.1. Data and Basic Facts

Our baseline sample is an unbalanced panel of 95 countries from 1989 to 2011. Table I lists the coverage of countries. We assemble the data-set from several data sources. Key variables of interest, military spending and local elections, are from Stockholm International Peace Research Institute Military Expenditure Database (SIPRI 2013) and Database of Political Institutions (Beck et al. 2001), respectively. Variables of military conflicts are constructed from UCDP/PRIO Armed Conflict Dataset (Gleditsch et al. 2002). Other control variables including GDP per capita, alliance and polity score are from Penn World Table 8.0 (Feenstra, Inklaar, and Timmer 2011), Correlates of War Formal Alliance dataset (Gibler 2009), and Polity IV Project (Marshall and Jaggers 2013), respectively. Ministates with less than one million citizens are excluded in the baseline sample. To avoid our results to be

TABLE I Country List

Country	Frequency	Country	Frequency	Country	Frequency	Country	Frequency
Albania	21	Angola	15	Armenia	15	Australia	23
Azerbaijan	19	Bahrain	4	Bangladesh	23	Belarus	16
Benin	8	Bolivia	22	Botswana	23	Brazil	22
Bulgaria	19	Burundi	10	Cambodia	1	Canada	23
Cent. Afr. Rep.	11	Chad	16	Chile	23	China	22
Colombia	23	Costa Rica	23	Cote d'Ivoire	8	Denmark	23
Dominican Rep.	23	Ecuador	23	Egypt	23	El Salvador	23
Ethiopia	10	Finland	10	France	23	Gabon	7
Gambia	8	Germany	23	Greece	23	Guatemala	23
Guinea	7	Honduras	11	Hungary	22	India	18
Indonesia	10	Iran	19	Ireland	23	Italy	23
Japan	23	Jordan	23	Korea Rep.	23	Kuwait	20
Kyrgyzstan	13	Laos	19	Lebanon	7	Lithuania	18
Macedonia	15	Madagascar	22	Malawi	21	Mali	20
Mexico	23	Mongolia	18	Morocco	23	Mozambique	22
Nepal	23	Netherlands	23	New Zealand	23	Nigeria	22
Norway	23	Oman	23	Pakistan	17	Panama	23
Peru	21	Philippines	19	Poland	23	Portugal	23
Qatar	4	Romania	20	Rwanda	23	Saudi Arabia	23
Senegal	22	Sierra Leone	18	Singapore	23	Slovakia	18
South Africa	17	Spain	23	Sri Lanka	23	Sweden	23
Switzerland	23	Tajikistan	8	Thailand	23	Togo	8
Tunisia	22	Turkey	23	Turkmenistan	5	United Kingdom	23
United States	23	Venezuela	20	Vietnam	14	TOTAL	1767

driven by a few outliers, we drop observations with exceptionally high-military expenditure (threshold = 30% GDP). Nevertheless, we will also show that our regression results are not sensitive to these sample restrictions.

Table II presents summary statistics of key variables. State legislatures are locally elected for more than half of the sample, and the percentage of local elections for state executives is 28.98%. It should be noticed that state legislatures must be locally elected if state executives are locally elected. In other words, we can compare countries where only state legislatures are locally elected with countries where both state legislatures and executives are locally elected to investigate how military spending varies with different forms of local elections. Percentage of local elections on municipal government officials is higher. Our theoretical framework only considers a single layer of local governments, but we will also use municipal elections in our regression analysis for a robustness check.

According to Table II, average military expenditure, measured by the share of GDP, is about 2.4%. As a general representation of how military expenditure varies across different political regimes in terms of local elections, we plot military expenditure against GDP per capita by groups in Figure 4. Each dot stands for a country-year pair. From the figure, we clearly see military expenditure is lower if there exist local elections of state legislatures or executives, which is consistent with our theoretical prediction. However, as is documented in the literature, there are various determinants of military expenditure, so we have to control for potential omitted-variable bias in a formal econometric model.

4.2. Econometric Specification

Following (Albalate, Bel, and Elias 2012), we specify our benchmark model as

$$\begin{aligned} \text{MILEX}_{it} = {} & \alpha + \beta_1\ \text{LOCAL\_ELECTION}_{it} + \beta_2 \log(\ \text{GDPPC}_{it}) + \beta_3 \log(\ \text{GDPPC}_{it-1}) \\ & + \beta_4 \log(\ \text{POP}_{it}) + \beta_5\ \text{PREV\_WAR}_{it} + \beta_6\ \text{WAR}_{it} + \beta_7\ \text{ALLIANCE}_{it} \\ & + \beta_8\ \text{POLITY}_{it} + \beta_9\ \text{YEAR}_{it} + \varepsilon_{it}, \end{aligned} \tag{1}$$

where subscript i stands for country i and subscript t stands for year t; MILEX is military expenditure; LOCAL_ELECTION is dummy variable of local elections; GDPPC is GDP per capita; POP is population; PREV_WAR is dummy variable of previous war; WAR is

TABLE II Summary Statistics

Locally elected	Frequency	Percentage (%)
State executive	512	28.98
State legislature	1070	60.55
Municipal executive	992	56.14
Municipal legislature	1414	80.02
Variables	Mean	Standard deviation
Military expenditure (share of GDP)	0.024	0.021
Real military expenditure (in 2005 mil. US $)	13029.3	52534.16
Real GDP (in 2005 mil. US $)	561023.9	1512491
Population (in millions)	59.51	177.47
Polity	4.48	6.45
Observation	1767	

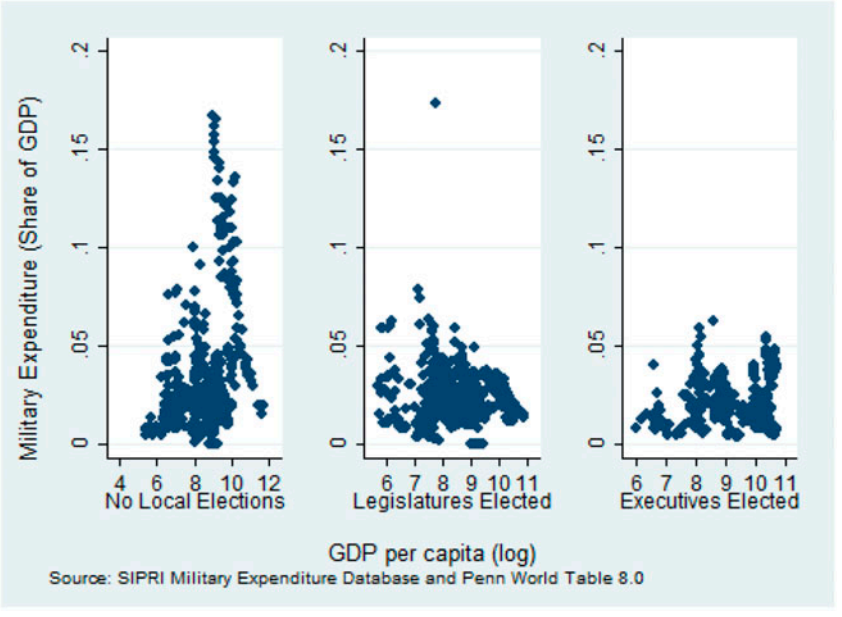

FIGURE 4 Military expenditure vs. GDP per capita

dummy variable of war; ALLIANCE is dummy variable of alliance with United States; POLITY is polity score; YEAR captures the trend effect.

We summarize definitions, measures and data sources of variables used in our econometric models in Table III. A variety of measures are constructed for some key variables so that we can use alternative measures for robustness checks.

4.3. Regression Results

Table IV presents results of our benchmark setting with and without clustering standard errors by country. Local election, in either state or municipal level, is measured by four dummy variables. We use our preferred measure of military expenditure, which is the share of GDP. As our theoretical model predicts, coefficients of local–election dummies are negative and all of them are statistically significant. The first two regressions suggest that military expenditure decreases by about 0.6 percentage point if there is a local election of state executives. It is a substantial reduction as military expenditure accounts for 2.4% of GDP on average in our sample. If we use an alternative measure, local elections of state legislatures, we obtain similar results as is shown by regressions (3) and (4). We also pool different measures of local elections together, and the sign of estimated coefficients is always consistent with our theoretical prediction. Comparing regression (3) with (5), we find that among countries where state legislatures are locally elected, military expenditure is lower if state executives are also elected. It implies that higher degree of decentralization may further constrain national military spending.

Moreover, our results also confirm previous findings in the literature. First, the effects of democracy (captured by polity score) on military spending are significantly negative and economically sizable. A country will reduce its military spending by 0.16% of GDP if its

TABLE III Definition and Data Source of Variables

Variable & Measure	Definition	Data source
Military expenditure		
mili_share	military expenditure as share of GDP	SIPRI (2013)
log(badhbox)	logarithm of real military expenditure	SIPRI (2013)
Local Election		
state_execu	= 1 if state executives are locally elected; = 0 otherwise	Beck et al. (2001)
state_legsl	= 1 if state legislatures are locally elected; = 0 otherwise	Beck et al. (2001)
muni_execu	= 1 if municipal executives are locally elected; = 0 otherwise	Beck et al. (2001)
muni_legsl	= 1 if municipal legislatures are locally elected; = 0 otherwise	Beck et al. (2001)
Political variables		
polity	Polity score ranging from -10 (autocratic) to 10 (democratic)	Marshall and Jaggers (2013)
president	= 1 if presidential or assembly-elected president; = 0 otherwise	Beck et al. (2001)
prob_war	Ex ante probability of being involved in a military conflict	Nordhaus, Oneal, and Russett (2012)
Economic variables		
gdppc	logarithm of GDP per capita	Feenstra, Inklaar, and Timmer (2011)
population	# millions of citizens	Feenstra, Inklaar, and Timmer (2011)
Previous War		
prev. internal conflict	= 1 if there was an internal conflict from year $t-3$ to $t-1$; = 0 otherwise	Gleditsch et al. (2002)
prev. intl. conflict	= 1 if there was an international conflict from year $t-3$ to $t-1$; = 0 otherwise	Gleditsch et al. (2002)
prev. intl. internal conflict	= 1 if there was an internationalized internal conflict from year $t-3$ to $t-1$; = 0 otherwise	Gleditsch et al. (2002)
prev. war	= 1 if there was a war of any kind from year $t-3$ to $t-1$; = 0 otherwise	Gleditsch et al. (2002)
War		
internal conflict	= 1 if there is an internal conflict; = 0 otherwise	Gleditsch et al. (2002)
intl. conflict	= 1 if there is an international conflict; = 0 otherwise	Gleditsch et al. (2002)
intl. internal conflict	= 1 if there is an internationalized internal conflict; = 0 otherwise	Gleditsch et al. (2002)
war	= 1 if there is a war of any kind; = 0 otherwise	Gleditsch et al. (2002)
Alliance		
nonaggression	= 1 if allied with US including a promise of non-aggression; = 0 otherwise	Gibler (2009)
defense	= 1 if allied with US including defense; = 0 otherwise	Gibler (2009)
entente	= 1 if allied with US including an understanding of consultation; = 0 otherwise	Gibler (2009)

(*Continued*)

TABLE III (*Continued*)

Variable & Measure	Definition	Data source
alliance	= 1 if allied with US; = 0 otherwise	Gibler (2009)
Other variables		
Iraq	= 1 if involved in the Iraq war; = 0 otherwise	constructed by authors
Afghanistan	= 1 if involved in the Afghanistan war; = 0 otherwise	constructed by authors
regional Dummies	11 regional dummies: North Africa, Sub-Saharan, Central American and the Caribbean, North America, South America, Central Asia, East Asia, South Asia, Oceania, Europe and Middle East - equals 1 if a country is in that region; = 0 otherwise	constructed by authors

policy score increases by one point (i.e. become more democratic). It is consistent with Fordham and Walker (2005) and Yildirim and Sezgin (2005). Second, a country's military spending is significantly higher if a country is currently involved in an internal or international militarized conflict, and conflicts tend to have lasting effects on military spending. This intuitive result supports the findings of the effects of international security environment by Nordhaus, Oneal, and Russett (2012). As a robustness check, we will also introduce their measure of security environment into our specification. Third, as Albalate, Bel, and Elias (2012) point out, estimated effects of socio-economic variables are sensitive to specification. In our setting, development level, proxied by GDP per capita, has arguably positive effects on military expenditure, while population level is negatively correlated with military expenditure. Fourth, by pooling different types of alliances[9] with the USA together, we find that countries that have alliances with the USA tend to have lower military spending. It suggests that these countries receive defence support from the USA and may have less incentives to spend on their defence sectors. Nonetheless, this result should be explained with caution because it is not quite robust under different specifications and subject to the compositional effect of different alliance types. Last, our estimated coefficient of the trend variable (year) implies a downward trend of military spending that is also evident in Figure 1.

To check if our results are robust to alternative measures of alliance and conflict, we include a full set of measures into our baseline regressions. Alliance dummies include three types of alliance with the USA: non-aggression, defence and understanding of consultation. Conflict (and conflict in previous years) dummies include three types of militarized conflicts: internal conflict, international conflict and internationalized internal conflict. Controlling for a full set of alliance and conflict dummies, our central variables of interest, 'state_execu' and 'state_legsl', are still statistically significant and confirm our theoretical prediction. According to Table V, a country's military expenditure is lower by about 0.5 percentage point if state legislatures or executives are locally elected. The estimates are slightly lower than what we have obtained in the baseline regressions, but they are still economically sizable. In regression (5) and (6), we further introduce two dummy variables that govern if a country is involved in Iraq War or Afghanistan War. Our main results are essentially unchanged.

[9]A long literature that studies economics of alliances can be dated back to Olson and Zeckhauser (1966).

TABLE IV Benchmark Regressions

Variables	(1) mili_share	(2) mili_share	(3) mili_share	(4) mili_share	(5) mili_share	(6) mili_share
state_execu	−0.00592***	−0.00592**			−0.00421***	−0.00304**
	(0.00108)	(0.00257)			(0.00116)	(0.00125)
state_legsl			−0.00526***	−0.00526*	−0.00387***	−0.00334***
			(0.000930)	(0.00309)	(0.00100)	(0.00107)
muni_execu						−0.00244**
						(0.00116)
muni_legsl						−0.00326**
						(0.00140)
log(gdppc)	0.0112*	0.0112	0.0144**	0.0144*	0.0127**	0.0124**
	(0.00631)	(0.00886)	(0.00630)	(0.00834)	(0.00629)	(0.00627)
log(gdppc_lag)	−0.00433	−0.00433	−0.00773	−0.00773	−0.00570	−0.00542
	(0.00633)	(0.00858)	(0.00632)	(0.00799)	(0.00632)	(0.00630)
log(population)	−0.000691**	−0.000691	−0.000896***	−0.000896	−0.000526	−0.000624*
	(0.000339)	(0.00130)	(0.000326)	(0.00121)	(0.000340)	(0.000341)
prev_war	0.00450***	0.00450*	0.00441***	0.00441*	0.00449***	0.00381***
	(0.00141)	(0.00236)	(0.00141)	(0.00229)	(0.00140)	(0.00140)
war	0.00476***	0.00476**	0.00496***	0.00496**	0.00481***	0.00544***
	(0.00155)	(0.00200)	(0.00155)	(0.00206)	(0.00154)	(0.00155)
alliance	−0.00382***	−0.00382	−0.00408***	−0.00408	−0.00440***	−0.00380***
	(0.00104)	(0.00272)	(0.00105)	(0.00284)	(0.00105)	(0.00105)
polity	−0.00157***	−0.00157***	−0.00157***	−0.00157***	−0.00152***	−0.00139***
	(8.01e−05)	(0.000529)	(7.97e−05)	(0.000479)	(8.09e−05)	(8.59e−05)
year	−0.000532***	−0.000532***	−0.000528***	−0.000528***	−0.000543***	−0.000544***
	(0.000137)	(0.000127)	(0.000136)	(0.000133)	(0.000136)	(0.000136)
Constant	1.039***	1.039***	1.034***	1.034***	1.061***	1.065***
	(0.273)	(0.251)	(0.273)	(0.262)	(0.272)	(0.271)

Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Clustered	No	Yes	No	Yes	No	No
Observations	1767	1767	1767	1767	1767	1767
R^2	0.345	0.345	0.346	0.346	0.351	0.358

Note: Standard errors in parentheses. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

TABLE V Robustness Check: Alliance and Conflict Dummies

Variables	(1) mili_share	(2) mili_share	(3) mili_share	(4) mili_share	(5) mili_share	(6) mili_share
state_execu	−0.00476***	−0.00476*			−0.00482*	
	(0.00110)	(0.00266)			(0.00266)	
state_legsl			−0.00549***	−0.00549*		−0.00560*
			(0.000926)	(0.00313)		(0.00316)
log(gdppc)	0.0105*	0.0105	0.0133**	0.0133	0.0102	0.0132
	(0.00626)	(0.00860)	(0.00623)	(0.00814)	(0.00869)	(0.00821)
log(gdppc_lag)	−0.00389	−0.00389	−0.00669	−0.00669	−0.00356	−0.00672
	(0.00629)	(0.00838)	(0.00625)	(0.00781)	(0.00850)	(0.00790)
log(population)	−0.00133***	−0.00133	−0.00145***	−0.00145	−0.00129	−0.00141
	(0.000352)	(0.00135)	(0.000331)	(0.00122)	(0.00136)	(0.00123)
polity	−0.00162***	−0.00162***	−0.00160***	−0.00160***	−0.00163***	−0.00161***
	(8.00e−05)	(0.000527)	(7.91e−05)	(0.000475)	(0.000526)	(0.000477)
year	−0.000499***	−0.000499***	−0.000498***	−0.000498***	−0.000494***	−0.000508***
	(0.000136)	(0.000124)	(0.000135)	(0.000130)	(0.000133)	(0.000141)
Afghanistan					−0.000358	0.000586
					(0.00197)	(0.00196)
Iraq					0.00291	0.00288
					(0.00212)	(0.00216)
Constant	0.977***	0.977***	0.977***	0.977***	0.966***	0.997***
	(0.271)	(0.245)	(0.270)	(0.256)	(0.264)	(0.279)
Alliance Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Conflict Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Prev. Conf. Dum.	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Clustered	No	Yes	No	Yes	Yes	Yes
Observations	1767	1767	1767	1767	1767	1767
R^2	0.359	0.359	0.365	0.365	0.360	0.366

Note: Standard errors in parentheses. *$p<0.1$, **$p<0.05$, ***$p<0.01$.

TABLE VI Robustness Check: Full Sample and Alternative Measure of Military Expenditure

Variables	(1) mili_share	(2) mili_share	(3) mili_share	(4) l_real_mili	(5) l_real_mili	(6) l_real_mili
state_execu	−0.00626***		−0.00444**	−0.178***		−0.186***
	(0.00197)		(0.00213)	(0.0435)		(0.0471)
state_legsl		−0.00562***	−0.00417**		−0.0449	0.0176
		(0.00170)	(0.00184)		(0.0382)	(0.0412)
log(gdppc)	−0.0487***	−0.0461***	−0.0475***			
	(0.0105)	(0.0105)	(0.0105)			
log(gdppc_lag)	0.0566***	0.0538***	0.0555***	−0.0692	−0.152	−0.0632
	(0.0105)	(0.0105)	(0.0105)	(0.256)	(0.256)	(0.256)
log(gdp)				1.455***	1.524***	1.449***
				(0.255)	(0.256)	(0.255)
log(population)	−0.00126**	−0.00143**	−0.00106*	−0.484*	−0.569**	−0.478*
	(0.000606)	(0.000586)	(0.000611)	(0.256)	(0.257)	(0.257)
prev_war	0.00806***	0.00794***	0.00804***	0.207***	0.204***	0.207***
	(0.00258)	(0.00258)	(0.00257)	(0.0567)	(0.0569)	(0.0567)
war	0.00556*	0.00575**	0.00560**	0.0840	0.0903	0.0837
	(0.00284)	(0.00284)	(0.00284)	(0.0623)	(0.0626)	(0.0624)
alliance	−0.00466**	−0.00496***	−0.00530***	0.0314	0.0466	0.0340
	(0.00191)	(0.00192)	(0.00193)	(0.0425)	(0.0430)	(0.0430)
polity	−0.00172***	−0.00171***	−0.00166***	−0.0191***	−0.0217***	−0.0193***
	(0.000143)	(0.000143)	(0.000145)	(0.00323)	(0.00324)	(0.00328)
year	−0.000523**	−0.000519**	−0.000535**	−0.0275***	−0.0268***	−0.0275***
	(0.000250)	(0.000249)	(0.000249)	(0.00559)	(0.00561)	(0.00559)
Constant	1.016**	1.011**	1.040**	47.56***	46.32***	47.46***
	(0.499)	(0.499)	(0.499)	(11.17)	(11.22)	(11.18)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Full Sample	Yes	Yes	Yes	No	No	No
Observations	1,792	1,792	1,792	1,731	1,731	1,731
R^2	0.197	0.197	0.199	0.908	0.907	0.908

Note: Standard errors in parentheses. *$p<0.1$, **$p<0.05$, ***$p<0.01$.

Table VI presents the second set of robustness checks. In regression (1)–(3), we include ministates and observations with exceptionally high0military spending. Compared with results of our baseline regressions, the magnitude of effects of local elections is marginally larger. In regression (4)–(6), we use an alternative measure of military spending: the logarithmic value of real military spending.[10] The dummy variable that governs local elections of state executives remains statistically significant. It implies that military expenditure will decrease by 17.8% if state executives are locally elected. Given the average military expenditure, this reduction is equivalent to $0.178 \times 2.4 \approx 0.43$ percentage point of GDP,

[10]This measure is less preferred because we have to first control the positive correlation between level of real military spending and country size. We use the level of GDP as a control variable and indeed it is statistically and economically significant. However, GDP and military expenditure are collected from different data sources (SIPRI and Penn World Table, respectively), which may introduce measurement error because of discrepancy of cross-country adjustment and deflators used. On the other hand, our preferred measure of military spending as a share of GDP directly comes from SIPRI database, which is internally consistent. We further compare our preferred measure with a calculated ratio of real military spending to real GDP and detect substantial difference between these two measures.

TABLE VII Robustness Check: Regional Fixed Effects and More Control Variables

Variables	(1) mili_share	(2) mili_share	(3) mili_share	(4) mili_share	(5) mili_share	(6) mili_share
state_execu	−0.00320***		−0.00212**	−0.00233**	−0.00115	−0.00168
	(0.000989)		(0.00106)	(0.00106)	(0.00166)	(0.00169)
state_legsl		−0.00323***	−0.00258***	−0.00262***	−0.00298**	−0.00296**
		(0.000843)	(0.000903)	(0.000910)	(0.00135)	(0.00137)
log(gdppc)	0.00413	0.00603	0.00541	0.00505	−5.05e−05	−0.00197
	(0.00549)	(0.00549)	(0.00549)	(0.00576)	(0.00801)	(0.00875)
log(gdppc_lag)	−0.000746	−0.00278	−0.00194	−0.00131	0.00624	0.00854
	(0.00549)	(0.00548)	(0.00550)	(0.00576)	(0.00801)	(0.00874)
log(population)	−0.00176***	−0.00184***	−0.00164***	−0.00157***	−0.00442***	−0.00427***
	(0.000335)	(0.000321)	(0.000337)	(0.000338)	(0.000598)	(0.000604)
prev_war	0.00381***	0.00377***	0.00380***	0.00380***	0.00432**	0.00412**
	(0.00122)	(0.00122)	(0.00121)	(0.00122)	(0.00176)	(0.00178)
war	0.00285**	0.00301**	0.00294**	0.00257*	0.00113	0.000887
	(0.00135)	(0.00135)	(0.00134)	(0.00136)	(0.00196)	(0.00198)
alliance	0.00307***	0.00328***	0.00304***	0.00309***	0.00675***	0.00687***
	(0.00116)	(0.00116)	(0.00116)	(0.00117)	(0.00184)	(0.00186)
polity	−0.000802***	−0.000789***	−0.000772***	−0.000733***	−0.00109***	−0.00103***
	(8.56e−05)	(8.57e−05)	(8.61e−05)	(9.00e−05)	(0.000138)	(0.000143)
year	−0.000564***	−0.000563***	−0.000569***	−0.000584***	−0.000414*	−0.000451*
	(0.000118)	(0.000118)	(0.000118)	(0.000118)	(0.000235)	(0.000236)
president				0.00179		0.00277
				(0.00122)		(0.00197)
prob_war					0.0290***	0.0266***
					(0.00725)	(0.00737)
Constant	1.114***	1.114***	1.125***	1.149***	0.792*	0.860*
	(0.236)	(0.236)	(0.235)	(0.236)	(0.469)	(0.471)

Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Regional Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1767	1767	1767	1757	919	911
R^2	0.518	0.519	0.520	0.521	0.581	0.581

Note: Standard errors in parentheses. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

thus comparable to our baseline results. Though 'state_legsl' becomes statistically insignificant, the sign of the estimated coefficient is still consistent with our theoretical prediction in regression (5). Estimates of socio-economic variables and alliance dummy differ substantially from what we obtain in baseline regressions, which is consistent to the discussion in Albalate, Bel, and Elias (2012).

We report our last set of robustness checks in Table VII. In all six regressions, we include regional fixed effects.[11] According to the results of regression (1)–(3), our results remain highly significant though the magnitude of estimated coefficients becomes smaller. In regression (4), we further include an institutional variable and find that presidential democracies tend to increase military spending, which echoes earlier findings by Albalate, Bel, and Elias (2012) and Bove and Nisticò (2014). As aforementioned, Nordhaus, Oneal, and Russett (2012) argue that international security environment has important effects on national military expenditures. In particular, they find that *ex ante* probability of a country to be involved in militarized conflicts has strong explanatory power on a country's military spending. Therefore, we also include their estimated probability of conflicts in regression (5) and (6). The negative effects of local elections on military spending are unchanged, and estimates of state_legsl remains statistically significant. Because there might be simultaneity between military expenditure and probability of conflict,[12] we also rerun our regressions using a country's remoteness[13] as an instrumental variable for ex ante probability of conflict and our key coefficients of interest remain significantly negative.

In a nutshell, we find strong empirical support for our theory: local elections have negative effects on national military spending. Our empirical finding is robust to a variety of alternative settings. According to our regression results, a country's military spending is lower by 0.3–0.6 percentage point of GDP if its state executives are locally elected. Considering that the military spending on average accounts for about 2.4% of GDP in our sample, the effects are indeed economically sizable.

5. CONCLUSION

In this paper, we propose a simple conceptual framework of how military expenditure is determined by domestic political regime. When there are both local and national public goods, local and central governments may have differential preferences over public-good provision. As local governments have more incentives to supply local public goods, i.e. civilian goods, the intergovernmental conflict of interest arises. We argue that national public goods, in our context, military goods, tend to be undersupplied in the presence of local elections. Furthermore, we bring our testable implications into data. Using a large cross-country panel for the post-cold war period, we present robust empirical evidence on the negative relationship between military expenditure and local elections. This result suggests that government structure is also an important determinant of military spending.

[11]Because the regime of local elections is quite stable in most countries, a model with country fixed effects has identification problem of the effects of local elections. Among 95 countries in our baseline sample, only eight countries changed their election rules of state executives and five countries changed their election rules of state legislatures over the sample period. We partially solve this identification problem by introducing a model with regional fixed effects. Though not a perfect fix, we claim to have been able to capture substantial variation across countries by including 11 regions.

[12]We thank one of our referees to point out this issue.

[13]Following Bravo-Ortega and Di Giovanni (2006), we define a country's remoteness as the distance between a country and the center of world trade.

A natural extension of our paper is to rationalize our empirical findings in the framework of Besley and Coate (2003). The effects of local elections may also be contributed by alternative channels that are not captured by our theory, so it will be fruitful to develop a full-fledged model with details of political decision-making. In our framework, political regimes are introduced exogenously. Another direction for future research is to understand the effects of decentralization on military spending by endogenizing political regimes. On the empirical side, our results shed light on how military spending is affected by the underlying political structure in domestic politics. We envisage more future work on domestic political determinants of military spending.

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References

Acemoglu, Daron, and Pierre Yared. 2010. "Political Limits to Globalization." *American Economic Review* 100 (2): 83–88.

Albalate, Daniel, Germà Bel, and Ferran Elias. 2012. "Institutional Determinants of Military Spending." *Journal of Comparative Economics* 40 (2): 279–290.

Arzaghi, Mohammad, and J. Vernon Henderson. 2005. "Why Countries are Fiscally Decentralizing." *Journal of Public Economics* 89 (7): 1157–1189.

Asatryan, Zareh, and Lars P. Feld. 2014. "Revisiting the Link between Growth and Federalism: A Bayesian Model Averaging Approach." *Journal of Comparative Economics*.

Asatryan, Zareh, Lars P. Feld, and Benny Geys. 2015. "Partial Fiscal Decentralization and Sub-national Government Fiscal Discipline: Empirical Evidence from OECD Countries." *Public Choice* 163 (3–4): 307–320.

Aschauer, David Alan. 1989. "Does Public Capital Crowd Out Private Capital?" *Journal of Monetary Economics* 24 (2): 171–188.

Bardhan, Pranab, and Dilip Mookherjee. 2000. "Capture and Governance at Local and National Levels." *American Economic Review* 90 (2): 135–139.

Barro, Robert J., and Xavier Sala i Martin. 1992. "Public Finance in Models of Economic Growth." *The Review of Economic Studies* 59 (4): 645–661.

Beck, Thorsten, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh. 2001. "New Tools in Comparative Political Economy: The Database of Political Institutions." *The World Bank Economic Review* 15 (1): 165–176.

Besley, Timothy, and Stephen Coate. 2003. "Centralized versus Decentralized Provision of Local Public Goods: A Political Economy Approach." *Journal of Public Economics* 87 (12): 2611–2637.

Bewley, Truman F. 1981. "A Critique of Tiebout's Theory of Local Public Expenditures." *Econometrica: Journal of the Econometric Society* 49 (3): 713–740.

Bove, Vincenzo, and Roberto Nisticò. 2014. "Military in Politics and Budgetary Allocations." *Journal of Comparative Economics* 42 (4): 1065–1078.
Bravo-Ortega, Claudio, and Julian Di-Giovanni. 2006. *Remoteness and Real Exchange Rate Volatility*. IMF Staff Papers, 115–132.
Brennan, Geoffrey, and James M. Buchanan. 1980. *The Power to Tax: Analytic Foundations of a Fiscal Constitution*. New York: Cambridge University Press.
Calabrese, Stephen, Dennis Epple, Thomas Romer, and Holger Sieg. 2006. "Local Public Good Provision: Voting, Peer Effects, and Mobility." *Journal of Public Economics* 90 (6): 959–981.
Chu, Angus C., and C.-C. Lai. 2012. "On the Growth and Welfare Effects of Defense R&D." *Journal of Public Economic Theory* 14 (3): 473–492.
Collier, Paul, and Anke Hoeffler. 2007. *Military Spending and the Risks of Coups d'Etat*. Working Paper, Oxford University.
Dunne, J. Paul, and Sam Perlo-Freeman. 2003. "The Demand for Military Spending in Developing Countries: A Dynamic Panel Analysis." *Defence and Peace Economics* 14 (6): 461–474.
Enikolopov, Ruben, and Ekaterina Zhuravskaya. 2007. "Decentralization and Political Institutions." *Journal of Public Economics* 91 (11): 2261–2290.
Feenstra, Robert C., Robert Inklaar, and Marcel Timmer. 2011. *The Next Generation of the Penn World Table*. Davis, CA: Working paper at the University of California.
Fordham, Benjamin O., and Thomas C. Walker. 2005. "Kantian Liberalism, Regime Type, and Military Resource Allocation: Do Democracies Spend Less?" *International Studies Quarterly* 49 (1): 141–157.
Gibler, Douglas M. 2009. *International Military Alliances, 1648–2008*. Thousand Oaks, CA: CQ Press.
Gleditsch, Nils Petter, Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg, and Håvard Strand. 2002. "Armed Conflict 1946–2001: A New Dataset." *Journal of Peace Research* 39 (5): 615–637.
Hettich, Walter, and Stanley L. Winer. 1988. "Economic and Political Foundations of Tax Structure." *The American Economic Review* 78 (4): 701–712.
Hooghe, Liesbet, and Gary Marks. 2003. "Unraveling the Central State, But How? Types of Multi-level Governance." *American Political Science Review*. 97 (2): 233–243. Cambridge University Press.
Inman, Robert P., and Daniel L. Rubinfeld. 1997. "Rethinking Federalism." *The Journal of Economic Perspectives* 11 (4): 43–64.
Jia, Ruixue, and Pinghan Liang. 2013. "Decentralization and Military Coups." *Contributions to Conflict Management, Peace Economics and Development* 20: 149–170.
Knight, Brian. 2002. "Endogenous Federal Grants and Crowd-out of State Government Spending: Theory and Evidence from the Federal Highway Aid Program." *American Economic Review* 118 (532): 71–92.
Knight, Brian. 2008. "Legislative Representation, Bargaining Power and the Distribution of Federal Funds: Evidence from the US Congress*." *The Economic Journal* 118 (532): 1785–1803.
Maizels, Alfred, and Machiko K. Nissanke. 1986. "The Determinants of Military Expenditures in Developing Countries." *World Development* 14 (9): 1125–1140.
Marshall, Monty G., and Keith Jaggers. 2013. *Polity IV project: Political Regime Characteristics and Transitions, 1800–2012*. Technical Report.
Montinola, Gabriella, Yingyi Qian, and Barry R.Weingast. 1995. "Federalism, Chinese Style: The Political Basis for Economic Success in China." *World Politics* 48 (1): 50–81.
Murdoch, James C., and Todd Sandler. 1984. "Complementarity, Free Riding, and the Military Expenditures of NATO Allies." *Journal of Public Economics* 25 (1): 83–101.
Nordhaus, William, John R. Oneal, and Bruce Russett. 2012. "The Effects of the International Security Environment on National Military Expenditures: A Multi-country Study." *International Organization* 66 (3): 491–513.
Oates, Wallace E. 1972. *Fiscal Federalism: The Harbrace series in business and economics*. San Diego, CA: Harcourt Brace Jovanovich Press.
Oates, Wallace E. 1999. "An Essay on Fiscal Federalism." *Journal of Economic Literature* 37 (3): 1120–1149.
Oksenberg, Michel, and James Tong. 1991. "The Evolution of Central–Provincial Fiscal Relations in China, 1971–1984 the Formal System." *The China Quarterly* 125: 1–32.
Olson, Mancur, and Richard Zeckhauser. 1966. "An Economic Theory of Alliances." *The Review of Economics and Statistics* 48 (3): 266–279.
Prud'Homme, Remy. 1995. "The Dangers of Decentralization." *The World Bank Research Observer* 10 (2): 201–220.
Rodden, Jonathan. 2002. "The Dilemma of Fiscal Federalism: Grants and Fiscal Performance around the World." *American Journal of Political Science* 46 (3): 670–687.
Sandler, Todd, and Keith Hartley. 2001. "Economics of Alliances: The Lessons for Collective Action." *Journal of Economic Literature* 39 (3): 869–896.
SIPRI (Stockholm International Peace Research Institute). 2013. *SIPRI Military Expenditure Database* http://www.sipri.org/databases.
Smith, Ron. 1995. "The Demand for Military Expenditure." *Handbook of Defense Economics* 1: 69–87.
Stiglitz, Joseph E. 1984. *The Theory of Local Public Goods Twenty-five Years After Tiebout: A Perspective*. NBER Working Paper #954.
Ter-Minassian, Teresa. 1997. *Fiscal Federalism in Theory and Practice (EPub)*. Washington, DC: International Monetary Fund.

Tiebout, Charles M. 1956. "A Pure Theory of Local Expenditures." *The Journal of Political Economy* 64 (5): 416–424.
Weingast, Barry R. 2014. "Second Generation Fiscal Federalism: Political Aspects of Decentralization and Economic Development." *World Development* 53: 14–25.
Whitten, Guy D., and Laron K. Williams. 2011. "Buttery Guns and Welfare Hawks: The Politics of Defense Spending in Advanced Industrial Democracies." *American Journal of Political Science* 55 (1): 117–134.
Yildirim, Julide, and Selami Sezgin. 2005. "Democracy and Military Expenditure: A Cross-country Evidence." *Transition Studies Review* 12 (1): 93–100.
Zhuravskaya, Ekaterina V. 2000. "Incentives to Provide Local Public Goods: Fiscal Federalism, Russian Style." *Journal of Public Economics* 76 (3): 337–368.

APPENDIX

Consider a country consisting of two districts, 1 and 2. A representative consumer's utility $U_i(\cdot,\cdot)$ in district i (= 1,2) is given by

$$U_1(L_1,N) = \alpha\log(L_1) + (1-\alpha)\log(N); \tag{A1}$$

$$U_2(L_2,N) = \alpha\log(L_2) + (1-\alpha)\log(N), \tag{A2}$$

where L_i is civilian spending in district i, and N is military spending. For simplicity, we assume the same weight $\alpha \in (0,1)$ for civilian spending in both districts. The key assumption embedded in consumer's utility is on the nature of civilian and military goods: military goods are assumed to be national public goods, while civilian goods are local public goods. Specifically, we assume that military spending has positive externalities all over the country, but civilian spending has no externalities across districts.

There is a budget of size A, exogenously given, to be divided into L_1, L_2 and N, i.e. $L_1 + L_2 + N \leq A$. In the centralized regime, the central government tries to maximize a weighted average of consumers' utility in the two districts

$$\begin{aligned}\max_{L_1,L_2,N} U(L_1,L_2,N) \equiv \frac{1}{2}U_1(L_1,N) + \frac{1}{2}U_2(L_2,N) = \frac{1}{2}\alpha\log(L_1) + \frac{1}{2}\alpha\log(L_2) + (1-\alpha)\log(N)\\ \text{s.t.}\, L_1 + L_2 + N \leq A.\end{aligned} \tag{A3}$$

This decision problem yields the optimal military expenditure chosen by the central government

$$N^* = (1-\alpha)A.$$

We now consider the decentralized regime.[14] A common set of rules apply to each district. Suppose each local government only cares about local public-good provision. They will spend all tax revenue allotted to them on local civilian public goods. Denote by L_{l1} and L_{l2} level of civilian goods provided by each local government. We have

$$L_{l1} = L_{l2} = \gamma A,$$

where γ is the share of total tax revenue each local government gets.

Once the local government chooses the level of local public-good provision, the central government will decide its civilian-good provision and military expenditure. Its decision problem is given by

$$\begin{aligned}\max_{L_{c1},L_{c2},N} U(L_1,L_2,N) \equiv \frac{1}{2}U_1(L_{l1}+L_{c1},N) + \frac{1}{2}U_2(L_{l2}+L_{c2},N)\\ \text{s.t.}\;\; L_{l1} + L_{c1} + L_{l2} + L_{c2} + N \leq A.\end{aligned} \tag{A4}$$

[14]We thank one of our referees for pointing out this modelling strategy.

We can show that optimal military expenditure under this decentralized regime, N^{**}, is always weakly less than N^{*}. Moreover, if $\gamma \geq \alpha/2$, military expenditure under decentralized regime is strictly less than that under centralized regime (N^{**}).

The main testable implication of our exercise above is the relationship between the level of military spending and existence of local elections (comparison of two regimes). Our model implies that a country's military spending tends to be lower under the decentralized regime.