

Bullying or Buying?

State Extractive Capacity, Public Spending, and Civil Peace, 1961–2001

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Abstract:

We identify two grand visions of state capacity: First, the ‘strong state’ vision that captures aspects of structural capacity for social regulation and the enforcement of the will of the state - the extractive capacity of the state. Second, the degree to which the state is able to buy compliance and harmony through the provision of public goods and redistribution. Our results show conclusively that higher government spending buys peace. The results are robust to specification and sample size, and the substantive effects are relatively large, even when compared with the effects of per capita income, a catch-all for state capacity, and a measure of contract intensive money, a gauge of trust in state institutions. Our results suggest that governments can budget for peace, and that state failure and breakdown is less likely when peace is ‘co-produced’ by society and states, rather than just supplied by a Hobbesian Leviathan that simply monopolizes the use of force. High government spending discourages rebellion by raising the costs of insurgency. This finding is cause for optimism—there is no trade off between achieving peace by building strong governments that provide high levels of public goods relative to building social control via extractive institutions.

Governments are more able to carry out their policies when they achieve quasi-voluntary compliance—that is compliance motivated by a willingness to cooperate but backed by coercion. This requires that subjects and citizens receive something from government in return for the extractions governments take from them (Levi 2006: 4).

1. Introduction

State capacity enjoys a prominent place in explanations of governance and peace (Arbetman and Kugler 1997; Fearon and Laitin 2003; Herbst 2000; Levi 2006; Rotberg 2004; Wade 1992). Strong governments are apparently necessary for managing economic and political adjustment to shifting circumstances, for social control, and efficient allocation of resources (Evans 1992; Feng 2006). In the globalization debate, too, it is suggested that social harmony is dependent on how states are able to compensate those segments of society that will be exposed to the ups and downs of a global trading system - the so-called ‘compensation hypothesis’ (Kaldor and Luckham 2001; Rodrik 1997).¹ In spite of the central place of state capacity in explanation of social progress, however, few have explicitly identified what exactly it is (Levi 2006). Nor have empirical studies tested competing measures of this central phenomenon directly in studies of state failure and civil war in order to make policy-relevant conclusions about how to develop state capacity. In fact, per capita income, which many find correlates with civil peace, is taken to be a proxy for state capacity, despite the fact that per capita income is a broad, catch-all measure that could signify just about anything.² This ambiguity is not helpful for policy that aims to target specific policy arenas for bringing about peace and post-Conflict reconstruction. Are states that avoid losing the monopoly on the use of force better at social control, or is it the case that some states avoid challenge despite the lack of similar capacities? Colombia and Sri Lanka, after all, face bloody civil war, while poorer Bhutan and Honduras largely avoid it. Should global governance mechanisms, such as aid policy, simply supply states with the means of greater social control (a Leviathan), or should they focused also on legitimacy-building activities for enhancing the possibility of peace?

In this paper, we identify two grand visions of good state capacity: The first is the ‘strong state’ vision that captures aspects of structural capacity for social regulation and the enforcement of the will of the state - the extractive capacity of the state. Second, we capture the degree to which the state might buy legitimacy and peace through the provision of public goods. Margaret Levi (2006), in her presidential address to the American Political Science Association, has

¹ Others have argued, however, that globalization raises the premium on competition for markets, driving up public goods spending, rather than social compensation (Garrett 1998).

² Two recent studies have very different explanations for the correlation between income and peace. For some, it captures the opportunity costs of individuals for rebelling against a state (Collier and Hoeffler 2004). For others, it’s an indicator of the taxable income available for crushing rebellion (Fearon and Laitin 2003).

referred to the first vision as Hobbesian, and as the quote above suggests, the second vision is referred to as ‘quasi-voluntary compliance,’ where citizen’s cooperation is necessary for achieving objectives. In the first equilibrium, the state secures the compliance of societal groups by means of regulation and control, in the other, states rule without having to face dissent because it shares the benefits with a population, stemming dissent and raising the costs of insurgency. According to many observers of state building in Europe, these elements came together in the successful European state-building experience (e.g Tilly 1985; Olson 1993) However, where resources are scarce, governments face a potential trade off between investing in structural capacity for extracting social compliance, or investing in broad redistribution through public goods and social transfers. The latter is clearly the less wasteful equilibrium, where more resources are used for redistribution. The question is whether this also is an efficient strategy for states to avoid civil war?

Using a widely-used measure of the extractive capacity of states as a proxy for structural strength of a state, namely, the measure of Relative Political Capacity (RPC) (Arbetman and Kugler 1997), a measure of good state institutions captured by the notion of ‘Contract Intensive Money’ (CIM) (Clague 1997; Knack and Keefer 1995), and the level of government consumption, a common proxy for the level of public goods provision (Alesina and Wacziarg 1998; Bueno de Mesquita et al. 2000; Garrett 1998), we find that it is public goods provision that is most strongly correlated with civil peace. The weakest effect is from RPC, or the extractive capacity of states. These results suggest that institutional capacity for extracting resources from society in the form of taxes might not be the most critical dimension when it comes to states’ ability to control dissent. Instead, our results suggest that government policy may co-opt the citizenry into compliance through higher levels of public goods provision. States, therefore, might effectively buy peace by budgeting for it, a result that supports those that have used government expenditure on schooling (Thyne 2006). We examine the arguments about state capacity and peace in greater detail below, present our data and methodology, discuss results, and conclude.

2. Theory

Two Visions of State Capacity

The compliance of society with the wishes of a state apparently comes about when people find representation for deciding how their taxes are spent (Moore et al. 1999). The American revolution was sparked with the rallying cry, ‘no taxation without representation,’ when the

colonial government decided to raise taxes without the peoples' consent, a people that had largely begun to question how their taxes were being spent by the authorities far away in London. The insight from the American revolutionary era is twofold; firstly, states that are able to extract taxes from a society without facing rebellion might be viewed as being strong—it gains compliance even as it extracts from society. Secondly, the act of trying to extract from society can go awry if in fact the people desist, such as was the case that sparked the American revolution, or led to the curtailment of the absolute power of British monarchs, who tried to raise revenue (North 2005). Yet, several studies of civil war, using ambiguous proxies, such as per capita wealth, suggest that what matters for peace is a state's ability to monopolize the use of force, an ability indirectly measured by a state's extractive capacity. So called 'weak states' are ineffective at countering the threat of insurgency, since these states contain weak institutions and bureaucracies and they do not allow a sufficient degree of penetration of society required for managing dissent. Weak states act like Mancur Olson's (1988; 1993) 'roving bandits,' who invariably undermine their own capacity for progress and survival because their 'taxable income' shrinks as the costs of collection rise. Weak states can be thought of as being 'predatory.' We are primarily interested in examining two distinctively qualitative aspects of strong states—those who extract and those who provide. In Mancur Olson's stylized scheme, a smart roving bandit become a 'stationary bandit' by offering the 'future tax base' the public good of peace for an optimal tax rate since total production shrinks when the tax rate is arbitrary. In this situation, the stationary bandit also has an incentive to provide public goods that increase total wealth, making everyone better off, compared with the world of roving banditry. In the world of Olson (1988; 1993), a stationary bandit has an 'encompassing interest' in investing in the social good due to the increased expected returns.

The powerful logic of the 'encompassing interest' suggests that governments and society are in a contract where the stationary bandit provides the public goods (most importantly peace) and citizens enjoy the fruits of their labor. Motivated by rational self-interest, stationary bandits cannot afford to be predatory since citizens can withdraw their end of the bargain—hide their wealth. However, in the classic strong state argument, states can be autonomous from societal interests and extract from society, usually because of the institutionalization of instruments of extraction, such as bureaucracies and other state machineries. Given these instruments, states could be independent agents that advance the governmental agenda, where political elites may enjoy considerable leeway to implement their goals (Arbetman and Kugler, 1997). According to Arbetman and Kugler (1997: 1), 'political capacity is an expression of the political effectiveness of an elite in achieving governmental goals, and *does not imply acceptance or support for the means by which*

goals are achieved (our italics). The dilemma, of course, is that states that are strong enough to protect property rights and monopolize the use of force are also a threat to property and the rights of people, unless they commit themselves credibly to doing good. Governments can do wrong, not only by ‘errors of omissions’, but also by ‘errors of commission’ (Goldsmith 2000: 3). Those holding power can use the state’s capacity for extraction and social control to pursue goals that are not socially optimal, but rather serve their private interests in maximizing political power and converting this power into personal wealth (Bueno de Mesquita and Root; 2001, Bueno de Mesquita et al. 2003). There is, in Hirshleifer’s words ‘a dark side of the force’ (2001:2). Narrow-based rent seeking could lead to social decay where there is no ‘encompassing interest’ of rulers. Such occasions may not necessarily be characterized by feeble institutions, but rather a feeble social contract between governments and governed.

The arguments above suggest that the problem of violent challenges to state authority cannot simply be traced to the absence of institutions of social control, but to the quality of their performance. The critical question might be whether the government, given its level of income is able to signal commitment to the collective interest by visible public investment across a broad specter of society (cf. Azam 2001). If so, could benevolence be a more powerful signal than coercive capacity to prevent violent challenges to state authority?

Institutional capacity and efficient counter insurgency

The government influences the premises for societal peace in a number of ways, but many scholars argue that the most critical of all these dimensions is the government’s ability to project its authority across the territory by means of capable institutions (cf. Herbst, 2000; Fearon and Laitin, 2003). The infrastructural power shapes government’s response to political challenge, it determines the ability of the state to enforce its policies and subdue dissent. Institutional capacities for societal control are critical for governments’ ability to deter, monitor and suppress dissent before it galvanizes into efficient rebel organizations that are able to challenge the state with armed force. Where the state does not have this control over its territory, and are unable to monopolize the use of force, competing suppliers of protection and violence emerge to challenge the state’s authority (Tilly 1985; Job 1992; Skaperdas 2001; Mehlum et al 2002).

Commonly, economic indicators are taken as proxies of state capacity for social control (cf. Collier and Hoeffler, 1998; Fearon and Laitin, 2003). Wealth underpins state capacity because it allows large taxes and investment in socially intrusive institutions. Fearon and Laitin (2003) argue that GDP pc is associated with “the state’s overall financial, administrative, police and

military capabilities” and “will mark more developed countries with terrain more disciplined by roads and rural society more penetrated by central administration”. Due to greater capacity to monitor, deter and suppress nascent insurgencies, richer states are able to avoid civil war. The explanation for the correlation between oil wealth and civil war onset is couched in similar terms: Oil rents lead rulers to under-invest in the state’s infrastructural strength since they have less need for a socially intrusive and elaborate bureaucracy to raise revenue through taxation (Karl 1997; Chaudry 1989). The result is that resource-wealthy countries have weak bureaucracies and other institutions of social control (Fearon 2003, 2005; Moore et al. 1999).

The use of such broad economic indicators to test the state capacity argument is problematic since it does not allow us to tease out the importance of capacity for extraction and control, relative to other qualitative dimensions of public authority. Organski and Kugler (1980) presented, what seems to be a purer measure of capacity for social control, called relative political capacity. It captures the government’s ability to extract resources from the population given, the level of economic development (see also Arbetman and Kugler 1997). The political capacity measure is approximated by the ratio of actual revenues obtained by the government over the predicted revenues that could be obtained given economic and demographic characteristics.³ The efficiency of fiscal extraction is argued to determine whether political elites can implement chosen policies, i.e. whether governments can govern efficiently (Benson and Kugler 1998). It does not, as pointed out by Organski and Kugler (1980) make any assumptions as to whether this efficiency is used to pursue socially optimal outcomes: “It is evident to us that highly capable political systems need not be free, democratic, stable, orderly, representative, participatory or endowed with any of the other desiderata” that other measures of state capacity rely on”. Nor does the measure capture whether these resources are extracted by means of persuasion or coercion. Government capacity for social control hence seems to be a purer measure of state capacity. It should facilitate efficient counterinsurgency, i.e. monitoring, deterring and suppressing rebellion before it threatens state authority with violence. From the logic of this argument we derive the following expectation:

H1: The level of relative political capacity is inversely related to the likelihood of the onset of internal armed conflicts.

³ Since great differences in economic endowments exist across states, political extraction can only be measured after one takes into consideration the economic constraints that enhance or inhibit the political effort to raise revenue. See more in data section.

Government performance and the social contract

The counterinsurgency argument assumes that even if strong societal grievances are present, what sets successful countries apart from those that end up in conflict are the capacities of states to deter effective insurgency. How state actions drive motives for insurgency is less relevant. However, there are good reasons to believe that the quality of institutional authority, and not simply extractive capacities, might be important for predicting challenges to states. First, where the government delivers public services, such as health, access to justice, policing, and fiscal institutions, insurgency may not occur because insurgent promises are less credible. Since insurgents compete with governments for labor (Collier 2000), counter insurgency is more effective because of the greater legitimacy of the state raises the costs of rebel labor. In other words, can governments 'buy off' opposition by signaling its commitment to the population with effective provision of public goods? Where state expenditure primarily is tied to the provision of public goods that benefits the population and not the incumbent, the stakes to be gained from overthrowing the government is small. Also, citizens that cooperate with the government will raise many kinds of intangible barriers to potential insurgents, further raising costs of rebellion.

In this view, peace, which is a public good, is not simply produced by states because of its ability to monopolize the use of force. Rather, peace is more effectively 'co-produced' by social and state forces, or in the words of Peter Evans, it's the 'synergy' that matters (Evans 1992; Ostrom 1996). For Levy (2006), effective governments are those that avoid violence by eliciting 'quasi-voluntary compliance.' The provision of public goods, including good institutions, signals the ability of the state to overcome commitment problems vis-à-vis its population – ability to commit to solutions short of violence (Azam, 2001). States are not simply autonomous to act as they will, but rather state autonomy is 'embedded' in society.

Often, such 'good policies' are presented to be endogenous consequences of high state capacity. The use of economic development as the counterpart to state strength in empirical studies of civil war onset is one example (e.g. Fearon and Laitin 2003). Capacity for social control is also conventionally couched in such positive terms, seen as state ability to pursue collective interest in an authoritative manner (e.g. Moore 2004). But state strength can create distortions equally harming for the public good as state weakness. 'Efficiency' could be employed to maximize the returns to the ruler, rather than the collective interest, and as forcefully argued elsewhere, 'bad policies' from the point of view of the population might sometimes be 'good politics' for the leadership (Buono de Mesquita et al. 2001; 2003, Acemoglu et al 2004; Acemoglu 2004). Institutional capacity for extraction and control is thus not sufficient to assume that

governments are benevolent actors. The critical dimension seems to be the state's credibility not to use its extractive capacity against the population. If this is the critical dimension, the exercise of public authority needs not only signify control, but also benign intent.

To test this argument we use Clague, Keefer, Knack and Olson's (1999) measure of contract intensive money i.e. the share of money that is held in saving deposits and in legal paper, not in currency. The measure relates to good governance since it reflects the extent to which people trust state institutions to be efficient and fair third party enforcers of contracts. Protection of property rights is a public good, and its enforcement rests on the coercive capability of the contract enforcer (Olson 2000). However, since this coercive capacity also makes the enforcer the largest probable threat of expropriation, trust in the state not to overstep its boundaries is a critical dimension of secure property rights. Contract intensive money is supposed to reflect such differences in the behavior of government. Where property rights are insecure, economic actors will prefer currency, which is safe from unrestricted expropriation from the government or predation from other groups. Where the share of contract intensive money is high, we take it to indicate that states are perceived as credible guarantors of the social contract.

H2: The level of contract intensive money will be inversely related to the probability of the onset of internal armed conflict.

A more direct indicator of the government's stake in the social contract is government provision of public goods, in this context taken to mean services financed over the state budgets and delivered to broad segments of the population, not as private privileges. Visible investments in public goods, such as education, health, sanitation, and in economic services for the regulation of business, suggest government commitment to the wellbeing of its constituency. The welfare impact of such policies might be partly captured in level of economic development. But for given levels of income, government expenditure on public goods sends a strong signal to the population that the government is trying to improve their lives. Such systems of broad redistribution create links among the political elite and society, as well as within society. Wealth sharing might placate broad segments of the population and secure their cooperation for the co-production of public safety. Where public goods are high, taxation is easier since social compliance necessary for high taxation is more forthcoming, a virtuous equilibrium (Acemoglu 2005). Compliance to the societal contract and a high threshold for violent challenges to state authority might thus rest on broad cooptation, rather than coercion from the government's side. Governments could thus budget for peace through public expenditure.

Standard neo-classical arguments hold that government expenditure to GDP is a dubious measure for such ‘good governance’. It might reflect citizens’ willingness to pay taxes because they like what the government does, but high expenditure on government consumption may also reflect high levels of distortionary taxes, and hence reflect a failure to protect the public from expropriation from the state (Barro 1991). Excessive government might be at the heart of ‘errors of commission’ (Goldsmith 2000). However, previous studies have found that government expenditure is positively associated economic development (Ram 1986; Acemoglu 2005). Contrary to the arguments that link government size to rent-seeking and patrimonial rule, it also seems to be associated with more open political systems, where authority is diffuse, and openness to the global economic system is particularly high (Alesina et al. 1999; Garrett 1998; Rodrik 1997).⁴ Finally, previous studies have found that countries with bigger government consumption are less corrupt, have fewer bureaucratic delays and scores better on indicators of human development, such as infant mortality, literacy and quality of infrastructure and transportation (La Porta et al 1999).

H3: The share of government expenditure to GDP will be inversely related to the probability of the onset of internal armed conflict.

Recent work suggests some connection between the levels of a state’s public goods provision, mainly measures as education spending, and the risk of civil war. Thyne (2006) argues that government investment in education reduces grievances and thereby affects the risk of civil war. While we do not disagree, we think the education link alone is insufficient. In an alternative test of the argument, we test the relative effects of total consumption holding education expenditure constant.

H4: The share of government investment in education holding total consumption constant will be inversely related to the probability of the onset of internal armed conflict.

3. Research Design and Data

⁴ Acemoglu (2005) plots government spending against executive constraints, finding a strong positive relationship. Bueno de Mesquita et al. (2003) find that government spending is positively associated with democratic systems, arguing that voters reward public goods provision over private patronage. Assessing the reach of kleptocratic policies among those holding political office they subtract spending from revenue (ibid: 164).

The dependent variable:

To test the different hypothesis linking state capacity to internal armed conflict, we rely on conflict data from the Uppsala/PRIO armed conflict dataset v.4-2006b (Gleditsch et al. 2002. See also the dataset webpage found at www.ucdp.uu.se). The dataset includes all incidents of armed conflict between the government of a state and an opposition group that caused at least 25 annual battle deaths between 1946 and 2005. The onset of civil war is a discrete variable taking the value '1' if there is an outbreak of conflict in the country year, and '0' otherwise. In addition to the 25 battle-death threshold, we also create one for the 1000 annual battle deaths threshold, which is how most measure civil war (Collier and Hoeffler 2004; Fearon and Laitin 2003). According to the coding rules of the Uppsala/ PRIO data, a country can have only one conflict over government at any time. In case of a discontinuous event, we code a new onset if the conflict falls below the casualty threshold for two consecutive years.

The independent variables:

Relative political capacity is a measure of the structural capacity of government, and captures, according to Kugler and Arbetman (1997) the ability of a government to extract resources from a population, given the level of economic development. This extractive capability captures the degree of success of a governments' efforts to mobilize material resources. The measure assesses the government's ability to extract resources based on economic production characteristics, and contrast this potential extraction with observed level of extraction. For details about how the measure is constructed, please consult Johnson and Arbetman Rabinowitz (2005). To reduce endogeneity problems, the variable is assigned a one-year lag, after which the data covers the years 1961 - 2001.

Contract intensive money (CIM) is a measure of "the enforceability of contracts and the security of property rights" adopted from Clague et al (1999). Contract intensive money is argued to be an objective measure of the quality of governance, since it, in contrast to many governance variables, does not rely on perceptions, but on objective economic data. CIM is defined as the ration of non-currency money to the total money supply, or $(M2-C)/M2$, where M2 is a broad definition of the money supply and C is currency held outside of banks. It ranges between 0 and 1. The measure is constructed according to the intuition that characteristics of third party contract enforcement explain individuals' and firms' preferences regarding the form in which they choose to hold their assets. Thus, the higher the level of paper money (contract intensive money) relative to the total money supply, the higher should be the trust in government

institutions. Again, to reduce endogeneity problems, this variable is lagged one year, after which the data covers the years 1961 - 2001.

Government expenditure/GNI: is adapted from the World Bank's World Development Indicators (2006). The measure includes all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditure on national defense and security, but excludes government military expenditures that are part of government capital formation. The data are reported as share of gross national income, and are available annually from 1965 to 2006. We use the log of government expenditure to reduce the impact of the more extreme values. To reduce endogeneity problems, this variable, too, is assigned a one year lag, after which the data covers the years 1966 - 2001.

Education expenditure/ GNI : is taken from the World Bank's World Development Indicators (2006). These data are part of the net adjusted savings calculations and forms the most comprehensive data series on government spending on education. To reduce endogeneity problems, this variable is assigned a one year lag, after which the data covers the years 1971 - 2001.

Control variables: We control for spurious relationship by including control variables that, based on previous research, could be antecedent third factors that bring about a correlation between our main independent and dependent variables of interest (see Ray, 2003: 4). Previous empirical studies have proxied state strength using GDP pc, finding a strong and significant positive relationship to civil war onset. Our main variables, which we suggest disaggregate the concept of state capacity, also have a positive correlation with economic development. To parse out the effect of income from the effect of our governance variables, we control for GDP using data from Fearon and Laitin (2003) measured as thousands of 1985 US dollars. Also, as discussed above, the exportation of oil relates to the strength and quality of institutions. Thus, we control for oil exports, also taken from Fearon and Laitin (2003), and it is measured as a dummy variable that is assigned the value of 1 if the state has more than 1/3 of its exports earnings from oil, and 0 otherwise. To control for political regime, we use dummy variables for democratic and autocratic systems from the Polity IV project (Gurr, Jagers and Moore 1989). Countries with values 6 or above on the polity scale are considered democracies, -6 or below are coded as autocracies. Inconsistent regimes, with scores between -5 and 5, are the reference category. We control for population size, which proxies also for conditions favorable for insurgency among other factors. These data are from the World Development Indicators. Lastly we control for ethnic fractionalization and its squared term. The ethnolinguistic fractionalization index (ELF) is also taken from Fearon and Laitin (2003) and denotes the probability that two randomly drawn

persons in the country belong to the same group. Previous studies have linked ethnic fractionalization both to lower level of public goods provision (Easterly and Levine 1997; Alesina and LaFerrara 2005) as well as armed conflict (Cederman and Giardin, 2007). We include its squared term to model arguments about ethnic polarization and dominance (Collier and Hoeffler 2004; Reynal-Querol 2002). Table 1 shows descriptive statistics for all variables:

To test the hypothesis that links state capacity to civil war, we use logit regression and report estimates with robust standard errors clustered on countries. All models include a decay function of the time since the last onset of armed conflict, or the first year of independence (entry of new country) in the dataset, so as to model country specific temporal dependence between observations. The decay function is suggested by Raknerud and Hegre (1997) and equals $2^{-(y/5)}$. The functional form implies that the influence of an armed conflict decays over time with a half-life of five years. We also follow Fearon and Laitin (2003) by testing the onsets of conflict including a lagged dependent variable (lagged incidence of war).

4. Empirical analysis

We start by examining the argument that capacity for social control reduces the probability of armed conflict (see Table 1). There is little evidence linking relative political capacity to the onset of civil war, although the result is close to statistical significance at the 10% level ($z = 1.6$) in both methods of testing (with LDV and decay function). The sign of the coefficient is negative in both equations. High extractive capacity as measured by the RPC seems to have little predictive power in terms of the onset of civil wars. The control variables support prevailing theories of the empirical determinants of internal armed conflict. Economic development reduces the probability of an outbreak of internal armed conflict. Larger countries have a higher risk of experiencing armed conflict. We also find evidence for a curvilinear relationship between ethnic fractionalization and the onset of armed conflict. As Figure 1 demonstrates the risk of conflict rises from low levels of fractionalization to roughly the middle of the scale and then drop dramatically. High extractive capacity of state, however, seems to have low impact on the probability that armed conflict breaks out. The reader should be aware, however, that the RPC score is only available for roughly 110 countries, and many cases with conflict are likely to be missing from this sample.

In Table 2, we investigate the relationship between contract intensive money and the onset of internal armed conflict. We expect that good institutions are peace promoting. The estimates are negative and significant at the .05 levels, both for armed conflicts with a 25 annual battle deaths threshold, and for civil wars with a 1000 battle death threshold, and when estimated

with both methods. In order to interpret the results substantively, we compute a baseline hazard with all variables at their mean values and then raise our variables of interest by a standard deviation above the mean to gauge the difference on the observed baseline hazard. Raising CIM by a mean plus a standard deviation reduces the baseline hazard by 33%, whereas the same exercise with RPC yields a reduction in the baseline hazard by 20-percent. These results are roughly $\frac{1}{2}$ the effect of doing the same exercise using per capita income (raising income by a standard deviation above the mean reduces the baseline hazard by 60-percent).

There are some reasons to be somewhat cautious about the results linking low levels of contract intensive money to high intensity conflict. The anticipation of armed conflict should have an impact on people's perceptions about the future, which means that people will prefer greater liquidity if they fear social stability will break down. Armed conflicts can linger for a long period of time before they reach the intensity level of 25 or 1000 annual battle deaths. This issue probably causes severe endogeneity problems, but the fact that the substantive impacts are not that much greater than for RPC allow us to be quite confident that simultaneity is not that great a factor, since RPC should not be similarly affected. With regard to the result on minor armed conflicts, we feel more confident that the causal relation does indeed go from good institutions to lower risk of conflict. For this specific sample, the substantive effect of increasing CIM by a standard deviation above the mean value, changes the baseline hazard by 25%, and compared with a similar increase for income, which is 38%, suggests that CIM's effect is not that small compared with one of the most prominent measures of state capacity discussed in the literature.

In Table 3, we estimate the relationship between public goods provision, proxied by government expenditure relative to GDP, and the likelihood of armed conflict. When we examine the empirical correlates of all internal conflicts, government spending has a negative sign, but is far from significant. For large civil wars, on the other hand, the effect of government expenditure is negative and strongly significant. The higher the stakes the government has in the social contract, the lower is the probability of civil war breaking out. Holding all variables at their means and raising government consumption by a mean plus a standard deviation changes the baseline predicted probability 42%, whereas doing the same for this model with income only changes the baseline hazard by 60-percent. Thus, the substantive impact of per capita wealth is not that much greater than government consumption's. This suggests that net of the level of wealth and all the good things that wealth signifies, governments can have a substantial impact on peace by budgeting for it. This variable is also unlikely to be affected negatively by war (endogeneity), since government expenditure should increase with conflict. The fact that it does not correlate well with small conflicts may support this.

There is no readily available explanation why the inverse relationship between government expenditure and armed conflict only holds for the high-intensity conflicts. One might suspect that military investment is what is driving our results, as the priorities of government expenditure shift into the military sector—i.e., increased coercion reduces conflict. Fortunately, most studies find that increased military expenditure does not buy peace (Collier and Hoeffler 2002). Running our government consumption with military expenditure only yielded an R^2 of 0.12, or roughly 12% of the variance (we dropped two outliers - Kuwait and Nicaragua). Thus, very little of the government expenditure we estimate relates to military spending. We are confident that the relationship we observe in model 1 & 2 suggest that broad provision of public goods does not conclusively prevent small challenges, but that governments may in fact stave off large conflicts by raising the costs of insurgency, where peace is co-produced with ‘bought-support’ from the broader population. In other words, governments maybe able to buy off peace when some insurgencies start, preventing all out civil war.

In an effort to tease out the dimensions of public spending that matters to reduce armed conflict, we look specifically at government investment in education in Table 4. Unfortunately disaggregated data on public spending, such as on health, are only spottily available, and education expenditure is one of the few categories where a longer and more complete time series (1971 - 2001) is available. Education spending is thought to be an area where opportunities for rent-seeking are low, but it maybe an area where urban bias may be a factor. Investment in education, however, comes close to being a pure public good. However, the results do not support the view that education expenditure buys peace. Looking at all onsets, the coefficient is negative as we expect, and is significant at the 10% level when estimating the model with the LDV. It is not statistically significant when using the decay function. In the civil war model it has the right sign, but is far from statistical significance. Our results fail to find support for Thyne’s (2006) contention that education spending relates to civil peace. When we look at column 3 and 4 where we enter both education spending and total government spending, total government shows a strong negative relationship with the onset of civil wars. We regressed total government consumption with education expenditure and obtained an R^2 of 0.43, or roughly 40% of the variance, thus collinearity is not a problem. It seems that total spending trumps education spending, an issue that is worth pursuing in future research, perhaps with more disaggregated data.

In Table 5, we look at the relative effects of all our theoretically interesting variables. In Model 1 & 2, we contrast the relative impacts of relative political capacity, contract intensive money and government spending for both 25 deaths and above and 1000 deaths and above. The variables maintain their signs but are all statistically not significant, in contrast with the GDP per capita. However, of all the variables, government consumption comes closest to statistical significance for civil wars ($z = 1.5$). The reader should be aware that the sample drops dramatically due to the availability of the RPC variable. However, the fact that income per capita retains its sign and level of significance shows that it is a robust predictor of state capacity. However, the results suggest that governments can solidify support by investing in the welfare of large segments of the population. Looking beyond the individual findings, the results do corroborate the notion that managing civil peace is not simply about ‘extractive capacity’ and institutions for societal control. Our results suggest that the presence of impartial and credible government institutions, as proxied by our measure of contract intensive money, has a significant negative impact of the probability that insurgencies will mobilize and challenge state authority through force.

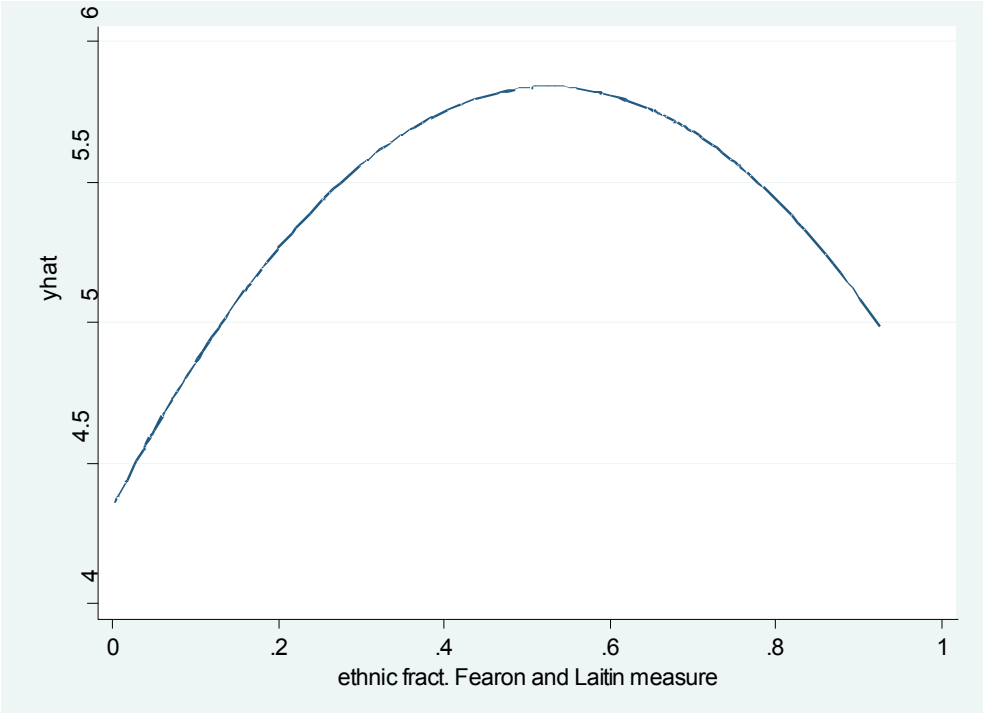
Our strongest (substantively) and most consistent finding across all models is the pacifying effect of government expenditure. Notably, this effect is pronounced even when controlling for the usual suspects that could produce a spurious relationship; economic development, level of democracy and population size. The substantive impact of it is almost as strong as per capita wealth’s effect. This suggests that large governments that make a political effort to redistribute are able to stave off large scale violence. The lack of disaggregated time-series data on government spending does not allow us to identify which dimensions of government spending matters most. Future research may pursue the various aspects of government spending, so as to pinpoint where the peace effect actually comes from. Our results, nevertheless, provide some evidence for propositions that suggest that state capacities are not just based on the structural factors that allow rules autonomy, but that social factors that drive the legitimacy of states might be also a factor that raises the costs of insurgency. In other words, peace is not just the monopoly of the use of force by a state, but that peace can be effectively co-produced through the ‘quasi-voluntary cooperation.’ If high levels of government consumption signified kleptocracy, as some theories are wont to view it, then its correlation with peace is somewhat of a mystery, neither do these results change when we control for economic growth in our models. It seems that our results vindicate those who use government spending as a proxy for good public goods provision (see e.g. Bueno de Mesquita et al 2003). Our results fit the picture provided by La Porta et al (1999) that links government size to good policy outcomes

such as low child mortality, high literacy, infrastructural quality, low corruption and less bureaucratic delays.

5. Conclusion

Despite the central role enjoyed by the concept of state capacity for predicting peace, few studies have systematically addressed what exactly state capacity is, an issue that is particularly thorny for policymakers. We situate good state capacity along two grand visions of it - extractive capacity of states and high public goods provision - and empirically test measures that capture these visions in models of civil war, contrasting their effects with the favorite state capacity measure in the literature—per capita income. Our results are easy to summarize. Relative to the extractive capacity of states, government spending of that extracted wealth is what seems to matter. The effect of spending works net of those factors closely allied with high government consumption, such as economic wealth, democracy etc. Moreover, the substantive impact of government spending is not very much smaller than that of income's effects in many of the models. Relative to other factors also often tested in models of civil war, we do find that both contract intensive money (CIM), which proxies good institutions, and the relative capacity of states (RPC), which proxies the degree of autonomy enjoyed by state elites for extracting from society, both contribute towards explaining some portion of the variance in models of civil war. However, their effects relative to government consumption are weaker. Our results suggest that governments can budget for peace, and that countering rebellion is activity that is co-produced rather than simply supplied by strong states that are able to manipulate their citizens. Our results support those who argue that good governance is obtained by states that are able to elicit 'quasi-voluntary cooperation' from society by credibly committing to providing collective goods (Levi 2006).

Figure 1. The relationship between ethnic fractionalization and the risk of civil war



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Table 1. Relative Political Capacity and the onset of civil war, 1961–2001

	(1)LDV model	(2)LDV model	(3)Decay model	(4)decay model
	All onsets	War onsets	All Onsets	War Onsets
Lagged all	-0.118 (0.44)			
Lagged War		0.022 (0.05)		
RPC lagged	-0.243 (0.86)	-0.587 (1.60)	-0.223 (0.89)	-0.593 (1.64)
Gdpen1	-0.186 (3.81)***	-0.289 (3.20)***	-0.174 (3.85)***	-0.281 (3.20)***
Ldem	0.099 (0.41)	-0.744 (1.79)*	0.077 (0.34)	-0.760 (1.84)*
Laut	-0.144 (0.54)	-0.642 (1.74)*	-0.114 (0.45)	-0.640 (1.75)*
Loil	0.489 (1.51)	0.259 (0.73)	0.468 (1.57)	0.256 (0.73)
Llnpop	0.372 (4.65)***	0.346 (3.86)***	0.344 (4.85)***	0.343 (3.87)***
ethfrac	5.140 (3.38)***	5.966 (2.68)***	4.802 (3.51)***	5.877 (2.73)***
ethfrac2	-4.479 (2.59)***	-5.616 (2.42)**	-4.237 (2.74)***	-5.544 (2.49)**
decay2_onset2			0.492 (1.29)	
decay5_war onset				0.308 (0.72)
Constant	-9.737 (7.28)***	-9.574 (5.42)***	-9.358 (7.75)***	-9.563 (5.49)***
Observations	3742	3742	3742	3742

Robust z-statistics in parentheses

- significant at 10%; ** significant at 5%; *** significant at 1%

Table 2. Contract Intensive Money and the Onset of Civil War, 19

	(1)LDV model	(2)LDV model	(3)Decay model	(4)decay model
	All onsets	War onsets	All onsets	War onsets
Lagged all	-0.141 (0.59)			
Lagged War		-0.251 (0.51)		
CIM	-1.688	-2.154	-1.539	-2.107
Lagged	(2.22) **	(2.27) **	(2.29) **	(2.28) **
Gdpen1	-0.134 (2.74) ***	-0.173 (2.04) **	-0.125 (2.67) ***	-0.174 (2.07) **
Ldem	-0.006 (0.03)	-0.752 (1.97) **	-0.028 (0.13)	-0.740 (1.94) *
Laut	-0.347 (1.39)	-0.903 (2.34) **	-0.308 (1.27)	-0.907 (2.35) **
Loil	0.541 (1.57)	0.367 (0.87)	0.525 (1.66) *	0.378 (0.88)
Llnpop	0.422 (5.97) ***	0.428 (4.70) ***	0.385 (6.44) ***	0.424 (4.63) ***
ethfrac	3.798 (2.68) ***	4.443 (1.96) *	3.420 (2.71) ***	4.397 (1.94) *
ethfrac2	-3.062 (2.00) **	-3.827 (1.59)	-2.758 (2.05) **	-3.784 (1.59)
decay2_onset2			0.525 (1.48)	
decay5_war onset				-0.151 (0.35)
Constant	-9.428 (7.53) ***	-9.904 (5.92) ***	-8.985 (8.03) ***	-9.850 (5.85) ***
Observations	3641	3641	3641	3641

Robust z-statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

	(1)LDV model	(2)LDV model	(3)Decay model	(4)decay model
	All onsets	War onsets	All onsets	War onsets
Lagged all	-0.315			
Lagged War		-0.439 (0.76)		
Govt. Spending	-0.250	-1.103	-0.233	-1.103
Lagged	(0.86)	(2.53)**	(0.86)	(2.56)**
Gdpen1	-0.150 (3.01)***	-0.272 (2.88)***	-0.144 (2.95)***	-0.278 (2.89)***
Ldem	0.013 (0.05)	-0.515 (1.26)	0.008 (0.03)	-0.500 (1.21)
Laut	-0.280 (1.02)	-0.639 (1.60)	-0.234 (0.87)	-0.641 (1.59)
Loil	0.700 (2.02)**	0.683 (1.82)*	0.681 (2.08)**	0.702 (1.87)*
Llnpop	0.434 (4.71)***	0.388 (3.33)***	0.406 (4.80)***	0.389 (3.30)***
ethfrac	3.922 (2.59)***	6.917 (2.54)**	3.720 (2.58)***	6.932 (2.54)**
ethfrac2	-2.985 (1.86)*	-6.960 (2.38)**	-2.891 (1.92)*	-7.015 (2.38)**
decay2_onset2			0.141 (0.42)	
decay5_war onset				-0.357 (0.71)
Constant	-10.352 (5.55)***	-8.285 (3.15)***	-9.986 (5.70)***	-8.268 (3.10)***
Observations	3600	3600	3600	3600

Robust z-statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4.

	(1)	(2)	(3)	(4)
	onset2	waronset	onset2	waronset
Lag all war	-0.058		-0.304	
	(0.21)		(0.99)	
Eduexpl	-0.146	-0.116	-0.086	0.091
	(1.70) *	(1.08)	(0.78)	(0.59)
Llingovt			-0.104	-1.387
			(0.25)	(2.38) **
Gdpenl	-0.166	-0.291	-0.138	-0.286
	(2.79) ***	(2.50) **	(2.43) **	(2.25) **
Ldem	0.101	-0.883	-0.003	-0.711
	(0.34)	(1.49)	(0.01)	(1.16)
Laut	-0.057	-0.607	-0.190	-0.445
	(0.19)	(1.54)	(0.58)	(0.92)
Loil	0.939	0.781	0.916	0.685
	(2.88) ***	(2.12) **	(2.55) **	(1.72) *
Llnpop	0.437	0.439	0.431	0.440
	(4.61) ***	(3.32) ***	(4.44) ***	(2.81) ***
Ethfrac	6.518	8.883	4.819	10.317
	(3.69) ***	(2.71) ***	(2.86) ***	(2.76) ***
Ethfrac2	-5.949	-8.901	-3.909	-10.682
	(2.99) ***	(2.51) **	(2.15) **	(2.57) **
Lag war		-0.095		-0.583
		(0.17)		(0.76)
Constant	-10.995	-11.829	-10.655	-9.359
	(6.71) ***	(4.53) ***	(5.49) ***	(2.83) ***
Observations	3261	3261	2902	2902

Robust z-statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5.

	(1)LDV model	(2)LDV model	(3)Decay model	(4)Decay Model
	onset2	waronset	onset2	waronset
Linci	-0.370 (1.38)			
rpc_rpc1_l1	0.036 (0.10)	-0.875 (1.47)	0.043 (0.12)	-0.817 (1.36)
Cimil	-0.865 (0.80)	-1.309 (0.86)	-0.861 (0.82)	-1.287 (0.85)
Llmgovt	-0.447 (1.18)	-0.875 (1.52)	-0.407 (1.10)	-0.886 (1.53)
Gdpenl	-0.118 (2.08)**	-0.205 (1.98)**	-0.114 (2.04)**	-0.211 (2.02)**
Ldem	0.057 (0.21)	-0.458 (0.93)	0.045 (0.17)	-0.439 (0.88)
Laut	-0.231 (0.67)	-0.516 (1.06)	-0.197 (0.58)	-0.517 (1.05)
Loil	0.489 (1.18)	0.217 (0.43)	0.491 (1.25)	0.249 (0.50)
Llnpop	0.444 (5.23)***	0.393 (3.43)***	0.419 (5.22)***	0.398 (3.37)***
ethfrac	3.973 (2.62)***	7.052 (2.28)**	3.850 (2.64)***	7.035 (2.27)**
ethfrac2	-2.966 (1.94)*	-7.322 (2.15)**	-2.932 (2.01)**	-7.350 (2.14)**
Lwarinci		-0.679 (0.97)		
decay2_onset2			-0.034 (0.09)	
decay5_waronset				-0.439 (0.75)
Constant	-9.551 (5.24)***	-7.325 (3.19)***	-9.287 (5.32)***	-7.417 (3.19)***
Observations	2594	2594	2594	2594

Robust z-statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%