How to Keep Officers in the Barracks?

Causes, Agents, and Types of Military Coups

Abstract

What are the most efficient strategies to prevent coups d'état? The answer depends on whether the coup is attempted by elite officers or by lower ranking combat officers. Elite officers and lower ranking combat officers have different incentives, opportunities, and capacities to perpetrate a coup. As a result, the success of coup-proofing critically depends on coup agency. Using original data on coup agency, public spending and officer salaries in the Middle East and North Africa, we find counter-balancing and higher shares of defense spending to be effective for preventing elite officer coups. Combat officer coups are best prevented by increasing social spending. Political liberalization has an ambivalent effect on military agents, decreasing coup risk for combat officer, but making elite officer coups more likely. Our findings suggest the necessity to differentiate between specific coup types and rethink coups as purely elite-led power grabs to fully explore the rationale of junior coup plotters.

On the night of 22 July 1952, a small group of young, mid-ranking army officers around Gamal Abdel Nasser, Abdel Hakim Amer, and Khaled Mohey Eddin seized power in Egypt. In a surprise move, the coup plotters used an artillery unit and a battalion of ground forces under their command to arrest the military leadership and seize control of the military headquarters and other strategic buildings and locations in Egypt's capital Cairo. By the early hours of the following day, tanks in the streets and the speed with which the operation was executed, secured the success of a coup plot that later came to be narrated as the "1952 Revolution." Apart from the revolution narrative, and of course the take-over of political power by military personnel, Nasser's 1952 coup d'état does not have much in common with another military intervention in Egypt almost six decades later: the take-over of the Supreme Council of Armed Forces (SCAF), on 11 February 2011. SCAF represented the regime's military leadership, led by then-minister of defense Mohamed Hussein Tantawi and chief-of-staff Sami Annan, and took over power in response to an Arab Spring-type uprising that saw masses of Egyptians demand the ousting of president Hosni Mubarak. The military's power grab was made public on TV through the forced abdication of Mubarak and his chosen would-be successor, vice president Omar Suleiman. No single shot was fired, and no arrests were made in what essentially turned out to be the establishment of a military junta ruling the country through its immediate post-Arab Spring transition period.

These two episodes in Egyptian politics represent essentially different types of military coups. The 1952 coup d'état was executed by a group of junior and mid-ranking officers who, at the time of their take-over, had not been members of the political elite coalition and who have been in opposition to their own military leadership as much as the state's political incumbency. The episode marks what we conceptualize as a *combat officer coup* (COC). The 2011 episode saw high-ranking officers take over power who had already been part of the political elite; we conceptualize these coups as *elite officer coups* (EOC).

We maintain that these two coup types are fundamentally different in some theoretically intriguing ways. While all these officers obviously share a strong motivation to taking over political power, major differences pertain to their *incentives* and *opportunities* to execute coup plots. The top-brass of the officer corps are members of political elite coalitions in authoritarian regimes. Those officers attempt coups d'état whenever their position within the elite coalition is compromised and when they have the capacities to coordinate among each other. By contrast, combat officer coups in the vast majority of cases feature junior and mid-ranking officers.

Those officers look at military service as a job with a regular income, rather than a stake in political power. Weapons and their direct command over enlisted men endow them with the coercive force to overpower, typically in a surprise move, both political incumbents as well as their commanding officers. Concerning their incentive environment, the state's ability to provide them with social welfare and the absence of rights and liberties figure more prominently as drivers of military coups.

The distinction between elite officer coups and combat officer coups can best be studied through a systematic comparison of the factors that keep these different coup plotters in the barracks. Variation in the effectiveness of coup-proofing measures offers empirical support for our treatment of different coup types and their different causal underpinnings. We account for four different measures, all of which are assumed to have coup-proofing effects: military spending, social spending, counter-balancing, and political opening through liberalization. Drawing on original data on coups d'état, state budgets, and officer salaries in the Middle East and North Africa (MENA), we test the impact of those policies with regards to their assumed effects for coup-proofing using quantitative methods. Employing MENA data is particularly promising because in this region coup-proofing has effectively reduced the number of coup incidents in the absence of democratization. By contrast, the decline of coup incidents in other world regions often coincided with the transition to democracy. Hence the focus on the MENA region allows us to study the effects of coup-proofing under broadly similar conditions: coup-proofing as part of an authoritarian tool-set applied to keep autocrats in power.

The results of our inquiry support our theoretical expectations. Causal underpinnings of elite officer coups are essentially defined by those officers being members of authoritarian elites that would execute coup attempts "from above." In addition to high military budgets, counter-balancing – as a strategy designed to increase barriers for coup plotters' coordination efforts – turns out to be the most effective mechanism undermining elite officer coups. This corroborates previous findings on coups more broadly. We also find support for our broad assumption that elite officers are particularly motivated to execute coups in order to counter, and eventually roll-back, political liberalization efforts. Yet, counter-balancing remains ineffective to ward off combat officer coups. There is substantial empirical support for viewing these combat officers as members of society writ large who rely on the state's welfare provision for their overall well-being. Our findings reveal that social spending and political liberalization

significantly reduce the risk of combat officer coups. Hence their attempted take-overs are coups "from below."

In emphasizing variation among coup agents, this article refines our understanding of the phenomenon of coups d'état and the effective strategies to prevent them. More specifically, while most conventional cross-national datasets have failed to distinguish between different types of coups, accounting for the variation in coup agency is necessary to adequately measure coup-proofing effects. Moreover, by accounting for complexity in officer grievances at various levels of the military hierarchy, we introduce social spending and political liberalization as new instruments in the coup-proofing literature that have so far gone largely unnoticed in systematic accounts of the subject field.

Theorizing Agency in Military Coups

In this section, we review the literature on the causes of coups and mechanisms of coup-proofing with particular emphasis on coup agency. Our guiding assumption is that *Elite Officer Coups* (EOCs) are fundamentally different from *Combat Officer Coups* (COCs) in various theoretically intriguing ways. Our analysis focuses on differences pertaining to the causes and mechanisms of coup plots, while recent scholarship emphasizing variation among coups was primarily concerned with the outcome of coups, such as regime change. Aksoy, Carter and Wright (2015), for instance, distinguish coups reshuffling political leaderships from regime-changing coups. Other recent works explored "democratic coups" as those military take-overs triggering democratic transition (Lehoucq and Perez-Linan 2014; Marinov and Goemans 2014; Tansey 2016).

According to Powell and Thyne, coups d'état are "illegal, overt attempts by the military or other elites within the state apparatus to unseat the sitting executive" (Powell and Thyne 2011, 252). Concerning coup agency, we follow existing scholarship distinguishing between coup plotters as to their position in the military hierarchy (Kandeh 2004; Singh 2014; Albrecht 2015). More specifically, we define an *Elite Officer Coup* as any successful or unsuccessful coup carried out by a country's military leadership, comprising chief-of-staff members, officers in command councils, and commanders of a military's functional units (army, air force, navy). A *Combat Officer Coup* in turn designates any successful and unsuccessful coup plotted by mid- and lower-ranking officers; plotters in the latter category may in some cases include

5

individual higher-ranking officers – such as officers in the rank of general or major – who are not members of the military leadership. The key difference is that *elite officers* are members of authoritarian ruling coalitions; *combat officers* are not.

The term "coup-proofing" refers to strategies aimed at reducing the ability or the incentives of elites to stage a coup (Powell 2012, 1018). Effective measures employed for coup-proofing have long been studied, originally in small-n studies (Brooks 1998; Gaub 2013; Kamrava 2000; Quinlivan 1999). Such measures include the establishment of parallel security apparatuses in the form of "counter-balancing" (Pilster and Böhmelt 2011; Powell 2014; Singh 2014; Carey, Colaresi and Mitchell 2016; Sudduth 2017a; De Bruin 2017); the frequent rotation of officers in their assigned posts and the reorganization of the armed forces (Talmadge 2016); "ethnic stacking" of key positions in the army with co-ethnics deemed most loyal to the power holders (Jenkins and Kposowa 1992; Roessler 2011; Harkness 2016; Bellin 2012; Nepstad 2013); and elite management in the form of purges (Sudduth 2017b) or the institutionalization of political succession (Frantz and Stein 2016).

This body of literature has greatly advanced our understanding of the variable nature of coup-proofing. Yet, we see two major weaknesses: first, there are very few systematic tests of the effectiveness of different coup-proofing strategies, and those that exist have produced inconsistent, at times conflicting findings. Second, and relatedly, the coup-proofing literature has failed to systematically distinguish between different coup agents and thus conflated coups of a distinctive nature.[1] In the following, we propose a more fine-grained account of coup-proofing measures – and by extension coup causes. This is to differentiate between officers' *incentives* and *capacities* to execute coups as well as between elite and combat officers as coup agents. In doing so, we primarily focus on those coup-proofing strategies and coup causes for which it is possible to predict differential effects.

---

[1] Prominent exceptions include Singh (2014), Albrecht (2015), and Albrecht and Ohl (2016) who emphasize agency within military apparatuses. Roessler (2011), Harkness (2016), and Bou Nassif (2015)—among other scholars—highlight ethnic identities within military apparatuses in sub-Saharan Africa and the MENA region. Among the very few scholars distinguishing between specific types of coups, Kandeh's (2004) treatment of coups "from below" comes closest to the approach underlying our contribution.

Incentives for Coups

To begin with the personal incentives of officers to stage a coup, the literature has conceptualized such officer grievances as corporate (Finer 2002; Huntington 1957), with a strong emphasis on the degree to which political decision makers allocate material resources to the armed forces. Endowing the military with economic resources and material benefits would then serve as an effective coup-proofing strategy targeting agents throughout the military hierarchy (Collier and Hoeffler 2007; Conrad, Kim, and Souva 2013; Rittinger and Cleary 2013; Bove and Nistico 2014). Empirically, this has been tested using some indicator of military expenditures, typically measured as a share of GDP or per soldier (e.g., Leon 2014; Powell 2012).

Most accounts in this body of literature, however, fail to emphasize that military spending affects elite officers and combat officers in different ways. For elite officers, the military budget is an instrument to access and control resources to maintain their own patronage networks within the military. These networks are underpinned by a logic of partial dependence and patrimonial loyalty, which links elite to mid-ranking officers within the armed forces. In Egypt, for instance, elite officers use so-called "loyalty allowances" as an important instrument of patronage to ensure the support of lower-ranking officers (Bou Nassif 2013). In addition, elite officers use their available resources to establish patronage networks with non-military actors. In Yemen, the military budget is a key instrument for elite officers to channel funds to tribal elites, thus ensuring their loyalty (Knights 2013). Similarly, Syrian and Algerian generals utilize their resources to establish important business linkages, a process that often plays out among rivalling clans and elite networks (Mora and Wiktorowicz 2003; Aboud 2002). This form of patronage politics is facilitated by the lack of civilian oversight of military budgets in most MENA countries (Chams El-Dine 2013; Sater 2009).

Elite officers also care about the defense budget as it reflects the balance of power vis-à-vis other branches of the administration, including possibly paramilitary units controlled by rivalling elites, such as Interior Ministries. In this sense, the size of a military budget defines elite officer's bargaining power within the regime. Personal enrichment plays a subordinate role in this context, simply because members of authoritarian ruling coalitions enjoy manifold opportunities of self-enrichment regardless of the size of any particular budget. Individually,

they can always cash in on their political influence – either during the time of their military service or, more often than not, once they transfer from military service to lucrative positions in the state apparatus (Sayigh 2012; Bou Nassif 2013).

Combat officers, by contrast, perceive military service primarily as professional employment. They care very little about the size of the military budget relative to other governmental spending. Rather, they experience military spending mainly in form of suitable equipment and a decent salary. As direct superiors of rank-and-file soldiers, their perception is also shaped by their subordinates. Lacking an independent source of patronage, they therefore crucially rely on the state to provide them and their subordinates with decent salaries and equipment. Otherwise, if the army's infrastructure is in a bad shape, they are going to be the ones to suffer in combat. Taken together, we therefore submit the following hypotheses:

H1: High levels of military spending relative to other government agencies reduce the risk of elite officer coups.

H2: High levels of military spending per soldier reduce the risk of combat officer coups.

While a corporate perspective of the military is solidly established, non-corporate grievances have remained under-analyzed in the literature, at least in part because it requires disaggregating "the" military and accounting for the interests and demands of individual agents within that organization. This is particularly visible in the total disregard of all non-military public spending and its effect on officers' grievances. A primary function of state spending is the provision of public services to the citizenry in the form of education, health care, housing, and subsidies. While social spending differs from military spending, it is intuitive to assume that different patterns in social spending have discrete consequences for differents agents in the military hierarchy. As Besley and Robinson (2010) rightly point out, officers' preferences for spending on public services are not homogenous. Instead, following Korpi (2006), these preferences depend on officers' socio-economic status and their ability to substitute public welfare provision with private goods. This ability, in turn, varies considerably between elite and combat officers.

Being part of the authoritarian ruling coalition, elite officers enjoy access to numerous sources of income, which places them in a highly privileged economic position. According to military remuneration data we collected for a number of MENA states, their monthly salaries generally exceed the median household income by at least 2.5 and the average monthly salary

by at least 2 times.[2] These ratios can reach up to 87 and 21 times respectively in countries with high agricultural employment and, as a result, a highly skewed income distribution. Morocco serves as a prominent example. What is more, elite officers have access to numerous additional income streams. In the Gulf countries, for instance, elite officers often hail from royal families and thus benefit from the lavish spoils handed out to royals (Lutterbeck 2013; Hertog 2011). In Egypt, senior officers frequently obtain leading positions in government agencies and state-owned enterprises while officially still in active service. They reach monthly salaries ranging from 16,000 to 166,000 USD (Sayigh 2012). Bashar al-Assad in Syria "allowed the military barons of his regime to amass huge wealth by building economic partnerships with prominent businessmen" (Bou Nassif 2015, 269). Elite officers thus receive private health care in European or US institutions, and they can afford to send their offspring to study at elite universities abroad.

The situation is very different for combat officers. According to our remuneration data (Table A3 in online appendix), combat officers are at best members of the middle class. This is certainly true for Algeria, Egypt, Tunisia, and Yemen where the starting salary of a lieutenant is at least 2.5 times the median or 1.2 times the average monthly public sector salary. At worst, combat officers' salaries lie below the median monthly income and/or the average monthly salary. This is the case for lieutenants in Morocco, Lebanon, Saudi Arabia, Syria, and Kuwait. While systematic historical data on combat officer salaries is nearly impossible to obtain, anecdotal references in the literature suggest a similar picture for earlier decades. In the case of the Egyptian Free Officers, whose 1952 coup inspired many other COCs, Aclimandos (2004, 69 and 113) quotes a salary of 18 Egyptian Pounds (EGP) per month for Ahmed Hamroush and 20 EGP for Gamal Abdel Nasser. A second lieutenant earned between 12-15 EGP per month. By comparison, monthly university fees at the time amounted to 5 EGP, that is, roughly the equivalent of 40 percent of a lieutenant's salary. The economic status of combat officers is aptly summarized by an Egyptian officer: "Military ranks struggle like the rest of Egyptians because, like Egyptians society [sic], the wealth is concentrated at the top and does not trickle down" (quoted in Bou Nassif 2015, 264). This means that the ability of combat officers to

---

[2] This assumes that elite officers hold the highest military position in the pay scale. The data generally reflect military salaries in the mid-2000s and early 2010s. See Table A3 in the online appendix (OA) for details (supplementary file).

substitute public services, such as health care and education, for private ones is very limited and, in most cases, simply absent. Combat officers crucially rely on the state to provide social welfare.

Taken together, non-military government spending has different effects on the grievances of different agents within the military hierarchy. Combat officers typically hail from the middle class and perceive military service as a professional job and an opportunity of upward social mobility, with higher levels of education and a prestigious position in formal employment (Mora and Wiktorowicz 2003; Droz-Vincent 2007; Bou Nassif 2013; Boehmelt, Pilster and Tago 2017). Yet, they proportionally benefit much more from, and have to rely more on, social spending than elite officers. Hence our third hypothesis:

H3: Social spending reduces the risk of combat officer coups and has no effect on elite officer coups.

Apart from military spending, authoritarian incumbents make decisions that more indirectly impact on officer incentives to stage coup attempts. In association with broader accounts of regime type (Hiroi and Omori 2013; Johnson, Slater and McGowan 1984), the literature on structural causes of coups pointed to vibrant civil societies (Putnam 1967; Fossum 1967; Powell 2012) and the establishment of constitutional procedures in consolidated democracies (Perkins 2013) as important deteminants of coup risk. While the link between democracy and coups is well-established, it does not help us much when assessing the effectiveness of coup-proofing strategies in autocracies. Although establishing a liberal democracy would substantially decrease, if not eliminate, coup risk, in practice this does not constitute a viable coup-proofing strategy designed for autocrats to stay in power.

However, political liberalization, while falling short of erecting liberal-democratic governance, has been applied by some regimes as an authoritarian survival strategy (Albrecht and Schlumberger 2003; Heydemann 2007). While political liberalization works to expand opportunities for civil society and possibly civilian regime members as well, it remains potentially risky for elite officers. Political liberalization typically entails the establishment of civilian institutions regulating state-society relations, including political parties, elections, and parliaments. Such institutionalized political arrangements tend to compromise officers' position in the ruling elite in that they impose more scrutiny on the army's organization and

budget. They also decrease officers' influence in favour of civilian authorities or rivalling centres of power.

By contrast, we expect combat officers' preferences for liberalization to be similar to those of ordinary citizens. Liberalization should assuage the political grievances they experience living under an authoritarian system. Roll-back coups against such processes of political openings should witness attempted take-overs by elite officers, while combat officer would stay in the barracks. Indeed, the Algerian political opening in the early 1990s highlights the potential dangers of liberalization, triggering an elite officer coup to terminate the process. Thus, our fourth hypothesis reads as follows:

H4: Political liberalization increases the risk of elite officer coups and decreases the risk of combat officer coups.

Finally, economic crises and shocks have been shown to increase coup likelihood in that they compromise capacities of authoritarian governments to sustain spending levels relevant for coup-proofing. The research program on the interplay of economic development and coups identified commodity price crashes, sudden policy changes, structural adjustment, or environmental impact on the production of agricultural goods as factors increasing the probability of coups (Hiroi and Omori 2013; Kim 2014; Casper 2015; O'Kane 1981). More broadly, low levels of economic development are believed to affect the likelihood of coups (Collier and Hoeffler 2005; Johnson, Slater, and McGowan 1984; Londregan and Poole 1990; Hiroi and Omori 2013), although more recent cross-national studies cast doubt on explanations drawing on economic wealth (Powell 2012; Singh 2014; Svolik 2013). While we acknowledge these factors, it is unclear how their impact would be different for elite and combat officers: GDP per capita raises the costs of coups for both groups, just as economic crises negatively affect spending relevant to both groups and are likely to increase societal support for a coup in general. The same holds true for arguments about "ethnic stacking" (Jenkins and Kposowa 1992; Roessler 2011; Harkness 2016; Bellin 2012; Nepstad 2013) as filling the officer ranks with co-ethnics is likely to increase the "loyalty norm" (Bueno de Mesquita et al. 2003) for both elite and combat officers.

Capacities and Opportunities

Arguably one of the most influential approaches in the study of coup risk and coup-proofing emphasizes the need for coup plotters to coordinate among each other. To develop this point, we draw on those works that explain coups as coordination games (Casper and Tyson 2014; Little 2017; Marcum and Brown 2014; Singh 2014; Svolik 2013; Bueno de Mesquita and Smith 2015). Coordination is important to learn about the individual preferences of fellow coup plotters and eventual adversaries, but also about the likely reactions of other regime elites and broader society. Casper and Tyson (2014) argue that large-scale public protests provide a public signal of the incumbent's weakness to coup plotters, which can serve as a focal point for coordination in addition to signaling likely popular support for the coup (Galetovic and Sanhueza 2000; Johnson and Thyne 2016).[3]

Since a military coup is a form of collective action, both elite officers and combat officers will need to coordinate among themselves to execute a plot. That said, there exist significant differences concerning the incumbent's ability to increase coordination obstacles for elite officers and combat officers. Elite-officer coup plotters coordinate among themselves *horizontally*, that is, across larger military units. This is to accumulate what Naunihal Singh (2014) calls "soft power", including the ability to gather information about what is happening inside the armed forces, control over news made public, and the position of forces outside of the military organization, such as regime elites, social movements, and international players with a strategic interest in the country's politics. The way elite officer coups are planned and conducted thus means they are generally not meant for exercising physical violence during the plot's execution. Rather, they seek to establish a *fait accompli* through their commanding position in the military hierarchy to render fighting unnecessary. This is why the vast majority of EOCs in the Middle East (70 percent) occurred without any casualties among coup plotters as well as their potential adversaries.[4]

Combat officers, in turn, generally lack the institutionalized networks to coordinate and the power to have their decisions translated through the military hierarchy. Instead, they rely on their "hard power" (Singh 2014, 35-37) – access to weapons and direct command over

---

[3] Wig and Rod (2016) make a similar point about incumbents' weak electoral performance. Piplani and Talmadge (2016) argue that periods of interstate conflict also undermine officer coordination.

[4] See Table A4 in the OA for casualty data on MENA coups (supplementary file).

enlisted men – when they make surprise moves on strategically and symbolically important locations in the country's capital city. In order to prepare for a coup, combat officers coordinate *vertically* with their rank-and-file soldiers for they rely on the fire power of their soldiers. Fighting other units in this scenario is thus not uncommon as strategic locations need to be secured. In fact, 60 percent of all COCs in the Middle East have entailed casualties, which provides evidence for a crucial difference between elite and combat officer coups regarding the mechanisms underlying coup attempts.

To give but a few examples of the salience of elite-officer coordination, military take-overs amid mass protests in Egypt, in 2011 and 2013 respectively, have been made possible through close coordination of the top officers in the Supreme Council of Armed Forces (SCAF). This council represents all branches of the military. Hence, the coups were staged by the military as a corporate organization. The crucial importance of coordination among the officers' top brass in the SCAF for a successful coup appears in Abdel Fattah al-Sisi's stunning announcement, 48 hours prior to the 2013 coup, that the military would intervene should then-president Mohammed Morsi not step down. In a similar vein, the 1992 coup in Algeria was prepared by an unofficial council comprising all officers in the Algerian army in the rank of general, then referred to by Algerians as "le pouvoir".

Combat officer coups, follow a different script. Similar to the 1952 take-over of power in Egypt by Gamal Abdel Nasser, the military coup in Turkey in 1960 was orchestrated by a small group of mid-ranking officers led by a colonel, Alparslan Türkeş. That coup unfolded in an overnight move and was made public through a radio announcement on the early morning of 27 May 1960. What is more, combat officers need to deploy rank-and-file soldiers for a show of physical force in order to make the coup attempt successful. The military coup in North Yemen in 1962 was successful primarily because coup plotters employed the few armored vehicles available to the Yemeni army at the time, which secured victory in a short fight with loyalist forces. Underlining their difficulty to coordinate horizontally, most combat officer coups were thus carried out by particular army units, typically from the ground forces: Iraq's 1958 coup plotters relied exclusively on the 19th and 20th Army Brigade; the Libyan coup plotters in 1969 mostly hailed from the Signal Corps; and the 1971 coup attempt in Morocco was carried out by the cadets under Commander Ababouh.

To prevent such coups, many incumbents employ counter-balancing, that is, the creation of ground-combat capable paramilitary organizations operating autonomously alongside the regular armed forces (Pilster and Böhmelt 2011; Powell 2014; Singh 2014; Carey, Colaresi and Mitchell 2016; De Bruin 2017). Counter-balancing establishes fragmented security environments, consisting of regular and paramilitary forces. From the plotter's perspective, counter-balancing thus reduces the likelihood of a coup's success and hence increases the costs of a coup plot if it result in military infighting. Coordination among officers is therefore essential in avoiding the possible failure of the coup.

Interestingly, the effect of counter-balancing on coups remains inconclusive. While some authors identify a direct causal link between counter-balancing and coup risk (Powell 2014; Carey, Colaresi and Mitchell 2016), others emphasize the limitations of coup-proofing (Boehmelt and Pilster 2015; De Bruin 2017; Sudduth 2017a). In fact, our intuition is that differentiating between coup agents allows for a more fine-grained analysis of coup-proofing effects. In view of our discussion of coordination, we argue that counter-balancing is particularly effective to fend off elite officer coups. Take a unified security environment, such as in Egypt, as an example. In the absence of independently operating paramilitary forces, elite officers' communication for their intervention in politics is facilitated by the presence of a unified military command, comprising roughly 15-20 officers who would meet on a regular basis to discuss military-related matters. The establishment of parallel combat-ready forces where elite officers would operate alongside the regular military's chain of command would add uncertainty to these commanders' willingness to make military intervention a fact.

What is more, in many Middle Eastern armies, counter-balancing often goes hand in hand with ethnic stacking. In Syria as much as in Libya under Gaddafi, Yemen under Ali Abdullah Saleh, and Iraq during Saddam Hussain's reign, both officers and soldiers in elite units and militias have been recruited from among particularly loyal personnel, tied to the ruler through religious, tribal, or family bonds. Counter-balancing thus creates a crucial obstacle in establishing the *fait accompli*, and elite officers will probably hesitate to move until they have overcome this obstacle.

The situation is different for combat officers. Owing to the fragmentation of military organizations on the level of individual combat units (battalions and brigades), coordinating among all these units for coup attempts remains unrealistic. Where they turn into coup plotters,

combat officers call their own units into action but are likely to face other units not complicit with the coup and potentially loyal to the embattled political incumbent. Combat officers therefore have to overcome the threat of resistance from the armed forces irrespective of the presence of a unified or fragmented military command structures. Whether the presidential palace is guarded by a special force or regular troops, their typically substantial resistance is likely going to be taken into account. In Syria, for example, the 4th Armored Division is an elite unit within the regular Syrian army responsible for defending the Syrian regime from internal threats. As shown by Naunihal Singh (2014), it is combat officers' show of physical force and a surprise move directed at the political incumbency – catching the incumbent "off guard" – that keeps units not involved in the coup in their barracks. This explains significantly higher casualty numbers in combat officer coups compared to elite officer coups (see Table A4 in online appendix, supplementary file). Our fifth hypothesis therefore reads as follows:

H5: Counter-balancing reduces the risk of elite officer coups and has no effect on combat officer coups.


Empirical Analysis

Data and Method

We test our expectations regarding the effectiveness of various coup-proofing strategies using annual data from 18 MENA countries.[5] Our focus on the Middle East and North Africa is particularly valuable for the purpose of our inquiry for two reasons. First, we find that the data to test our theoretical expectations – a dataset distinguishing coup agency and high-quality social spending data – are currently only available for the Middle East. Second, apart from the quality of the empirical material, among all authoritarian regimes the MENA region has been by far the most successful in reducing the number of coups per country since the 1970s (see Figure 1). While other world regions have also witnessed a significant decline in coup numbers, particularly Latin America and South-East Asia, this is in great part the consequence of successful democratization, which has been highlighted as a key mechanism to reduce coup risk (Johnson, Slater and McGowan 1984; Lehoucq and Pérez-Liñán 2014), rather than the success of coup-proofing as an authoritarian power-saving exercise.

---

[5] A list of the all included countries is shown in Table A1 in the OA (supplementary file).

**Figure 1: Average decline of coups per country per decade**
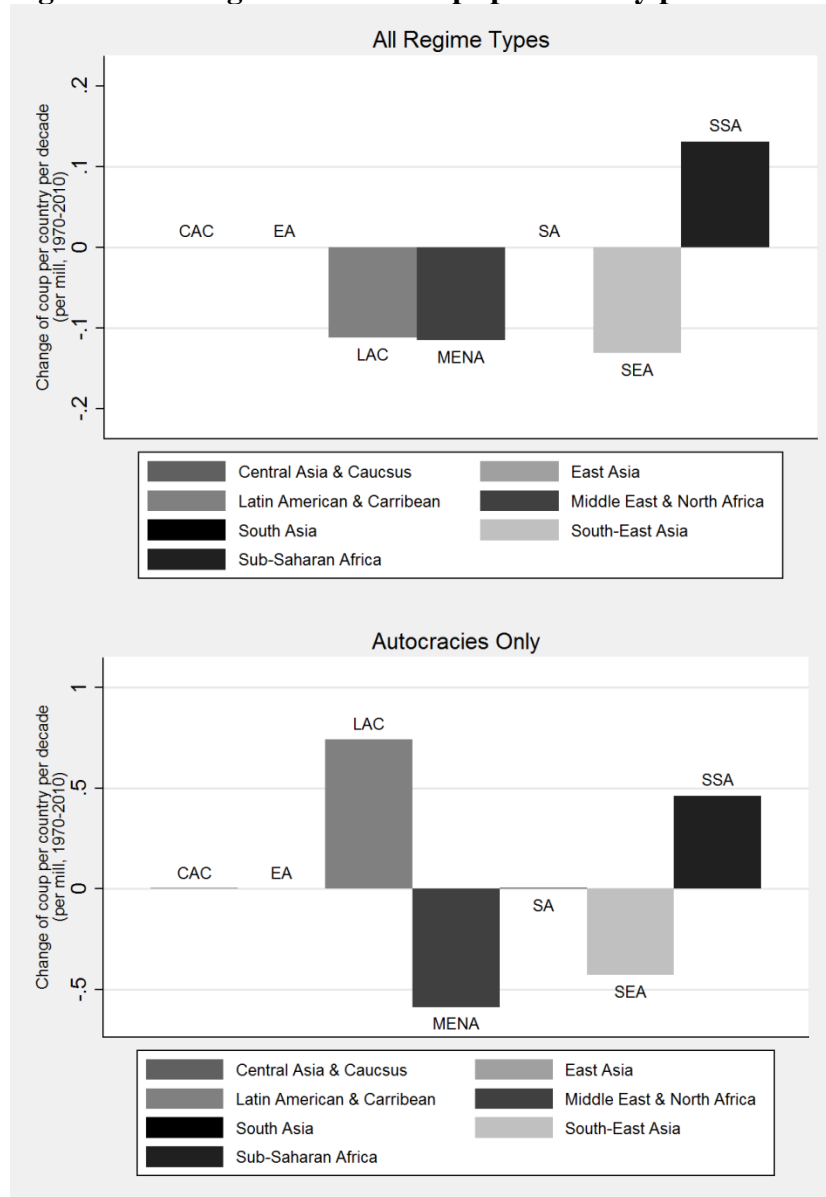
Notes: The figures were derived by calculating the change of the number of coups per (authoritarian) country in each region for each decade since 1970. This figure was then averaged and multiplied by 1000 for better readability. Authoritarian regimes defined as countries with Polity < 7. Coup data taken from Marshall and Marshall (2014).

To measure our dependent variable, we use a novel dataset on coups d'état in the Middle East from 1949 until 2013 (Albrecht 2015). Importantly for our purposes, the dataset distinguishes between elite officer coups emanating from the military leadership and combat

officer coups carried out by lower-ranking officers.[6] The data account for 89 coups in total, of which 38 were EOC and 51 were COC.[7] The temporal distribution of these coups (Figure 2) shows a peak in the early 1970s, followed by a steady decline into the late 2010s.

Figure 2: Coups by agency in MENA over time
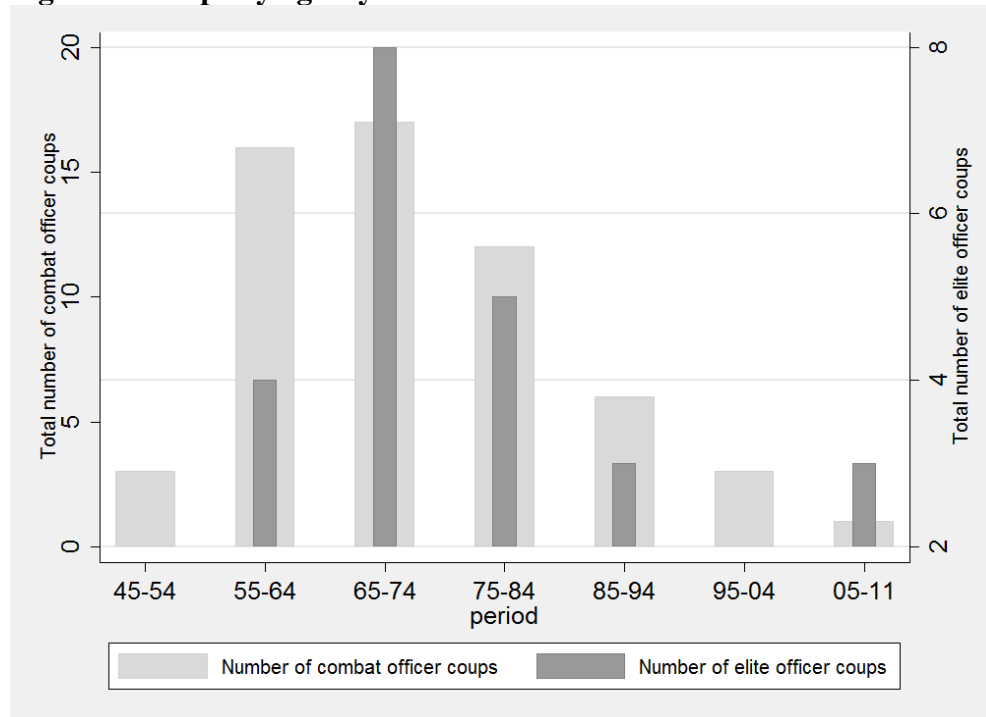
Regarding coup-proofing strategies, data on *Counter-balancing* is taken from Pilster and Böhmelt and measure the number of ground-combat capable organizations present in a given year (Pilster and Böhmelt 2011). Based on refined data from the International Institute for Strategic Studies, the variable captures the extent to which paramilitary organizations exist

---

[6] To operationalize the difference between EOC and COC, we adopt Albrecht's distinction between "centralized" and "sectoral" coups. We conceptualize the former as *Elite officer coups* that include the chief-of-staff, the minister of defense, or members of Revolutionary Command Councils among the coup plotters. All other coups are *Combat officer coups*, which may include officers in higher ranks. As we are primarily interested in the degree to which higher officers have access to political decision making, rather than their exact rank in the military hierarchy, this operationalization is suitable for our purposes. See Albrecht (2015, 683).

[7] Summary statistics for all variables are shown in Table A2 in the OA (supplementary file).

alongside the regular armed forces. This sets these organizations apart from non-combative units of the security apparatus, such as port authorities or maritime police, which are of little use in the face of military power.

Regarding social spending, we combine two data sources to measure a country's welfare effort. We use social spending data from the IMF Government Financial Statistics (GFS) that measure combined expenditures in the fields of education, health, housing, and social protection (IMF 2011). As social spending data are spotty or missing from the GFS for a number of MENA countries, we also use an alternative measure for social spending from the Global State Revenue and Expenditure (GSRE) dataset (Lucas and Richter 2016). The GSRE is based on annual reports from the IMF archives and details a country's expenditures and revenues from the earliest available year after joining the IMF until the late 2000s. Its functional classification of social spending comprises the same categories as the IMF data, which means that the measures can be used complementary. We thus use the GSRE whenever IMF data are not available.[8] Our preferred measurement of social spending, *Welfare/budget*, represents the share of social spending in total expenditures in a given year. Compared to other ratios, such as the share of GDP, this measurement most adequately captures a regime's welfare commitment (Brown and Hunter 1999, 782; Nooruddin and Simmons 2009, 854).[9]

The variable *Military spending per soldier (logged)* is taken from the Correlates of War material capability database and measures the per capita level of spending for each member of the armed forces in current USD (Singer, Bremer, and Stuckey 1972). Compared to absolute levels of defense spending, this measurement more adequately captures the level of resources combat officer can be expected to receive. The variable is log-transformed to correct for the discernible skewness of the data. The variable *Military spending/budget* uses the above-mentioned Correlates of War data divided by the total level of government expenditures taken from the World Bank's (2016) World Development Indicators and indicates the share of

---

[8] Correlation between both datasets is very high, ranging between 0.75 and 0.80 depending on the specific ratio (share of GDP or budget). If both sources are available, we prioritize the data source with the highest number of observations.

[9] The findings are robust to alternative measurements of social spending (Table A8 in OA, supplementary file).

defense spending in the overall budget. We expect this variable to be of particular importance for elite officers.

To measure political *Liberalization*, we follow Böhmelt and Clayton (2017) and include the first difference of the annual Polity index taken from Marshall, Gurr, and Jaggers (2010). Positive values signify periods of political liberalization, while negative values signify the intensification of authoritarian rule.

We also include a number of standard control variables. Income effects have been found to significantly reduce the risk of coups (Belkin and Schofer 2003; Kim 2014; Londregan and Poole 1990). Two variables account for potential income effects: *GDP per capita (logged)*, measured in constant 2005 USD, and *Growth*, indicating the percentage change of per capita GDP. Data are taken from the Maddison dataset (Bolt and van Zanden 2014). We also control for *Resource rents per capita (logged)* as conflict over resources could potentially increase the likelihood of military intervention or, on the contrary, allow for more efficient support buying. The variable measures the annual income from oil and gas per capita in constant 2009 USD as compiled by Ross (2013).

Political instability and civil unrest have also been emphasized as potential triggers for military take-overs as coup-plotters might interpret the outbreak of domestic unrest as a sign of regime frailty (Casper and Tyson 2014). Similarly, the occurrence of violent domestic conflict, such as civil wars, might propel the military into a role of political prominence and thus facilitate coups (Svolik 2013). We therefore include an indicator of domestic *Instability (logged)*, taken from Banks (2011), which sums up and log transforms the number of assassinations, general strikes, anti-government demonstrations, riots, and guerrilla warfare in a given year. In addition, we include a measure of *Domestic conflict,* which represents the total number of minor and major domestic armed conflicts in a given year.[10] Data for the latter are taken from Pettersson and Wallensteen (2015).[11] As both variables occasionally code for coups

---

[10] Minor conflicts entail between 25 and 999 battle-related deaths, with major conflicts representing anything exceeding this amount.

[11] Including interstate conflict as a control variable is not possible in our baseline probit model as the variable does not vary in years preceding coups and is dropped by the model. We include the variable *War* from Pettersson and Wallensteen (2015) measuring the total number of

as well (Powell and Thyne 2011), they have both been cleaned to only capture non-coup unrest and domestic conflicts.

We further control for the level of *Ethnic fractionalization*, taken from Alesina et al. (2003), as underlying ethno-religious conflicts can provide an important motivation for military interventions (Roessler 2011). Finally, since coups can engender coups and thereby keep countries in a "coup trap" (Londregan and Poole 1990), we include a variable *Past coups* accounting for the number of past coup attempts, both successful and unsuccessful.

Given the binary nature of our outcome variable, we use a pooled probit model to test our hypotheses. To model time dynamics in our data, we include time-spell polynomials in our model following Carter and Signorino (2010), with a time spell representing the number of years since the last coup attempt, either by elite or combat officers, depending on the specific model.[12] This effectively allows the time dynamic to take any distributional shape and thus captures the underlying, time-dependent coup risk in each country. In addition, we lag all regressors, with the exception of our measure of prior coup incidents, by one year to ensure the correct temporal dependence between our independent variables and the outcome. All standard errors are clustered by the unit of analysis to correct for heteroscedasticity across countries.

Main Results

Table 1 and 2 below display the findings for our baseline model for elite and combat officer coups respectively. Models 1-4 test the effect of each coup-proofing strategy on its own, only controlling for time dynamics and the number of past coups. Model 5 tests the effect of political liberalization. Model 6 tests the simultaneous effect of all coup-proofing strategies plus liberalization, while Models 7 and 8 successively add economic and political control variables. In the case of combat officer coups, the results confirm our hypothesis that social spending is the single most effective strategy to avert such coups (H3). Although three out of four strategies

---

interstate conflicts in a given year in the linear probability models in the OA (Table A6, supplementary file).

[12] Coup-specific time spells yield a slightly better model fit; hence we chose this specification. We present models with a time spell measuring the elapsed time since any coup attempt along with alternative time specifications in the OA (Table A5, supplementary file).

seem to matter when tested for individually, the welfare variable is the only one to have a consistent diminishing effect on the likelihood of COC. We also find strong support for our liberalization hypothesis (H4) as political liberalization significantly decreases the likelihood of junior officer coups.[13]

The size of the welfare effect is demonstrated in the marginal effects plot in Figure 3. When increasing the proportion of welfare in the budget from 15 to 65 percent –which roughly corresponds to a move from the lowest to the highest percentile – the probability of combat officer coups diminishes substantially, from about 7 percent on average down to nearly 0 once welfare expenditures exceed the 40 percent mark. Figure 4 illustrates the effect of political liberalization on COCs. Liberalization reflected in positive changes in the Polity measure significantly reduces the risk of COCs, while autocratization increases it. Taken together, the results confirm H3 on welfare spending and H4 on liberalization, while our expectations regarding military spending (H2) are not borne out in the data.

Figure 3: Social spending and combat officer coups
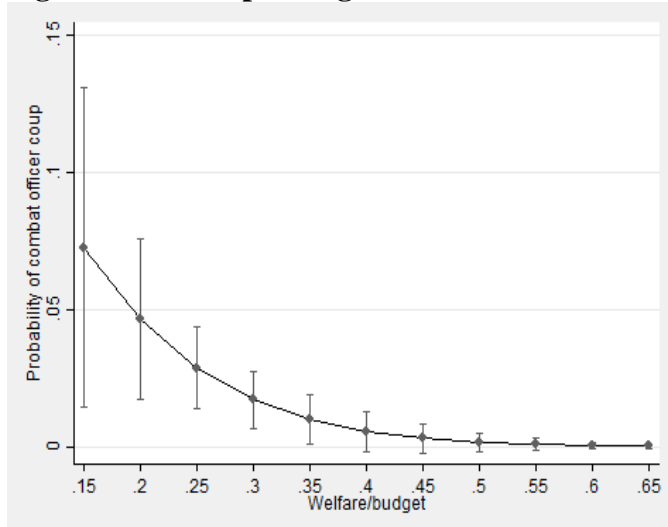
Note: All other covariates are held at their means. Whiskers represent 95 percent confidence interval.

---

[13] To make sure our findings are not driven by the dropping of observations due to listwise deletion, we use multiple imputation (MI) to test a complete model in the robustness section.

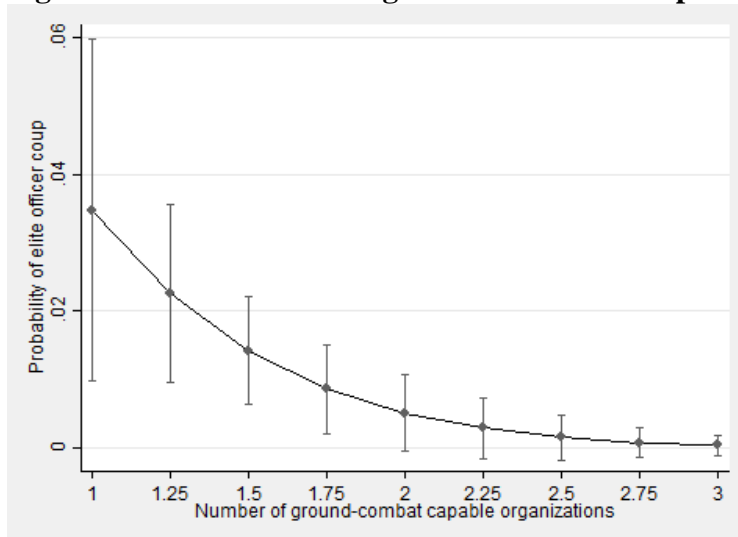**Figure 4: Liberalization and combat officer coups**
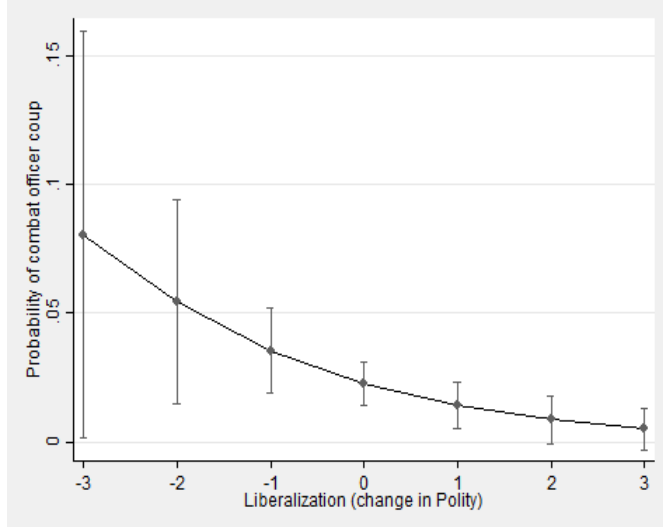
Note: All other covariates are held at median/mean. Whiskers represent 95 percent confidence interval.

Turning to our findings for elite officer coups in Table 2, we find strong evidence in support of our main hypotheses. The pattern is similar to the previous results in that most coup-proofing strategies seem to have a significant effect when taken in individually. However, only three measures retain their significance as we add economic and political controls: structural coup-proofing measures that counter-balance different security forces against each other represent an effective way to avoid coups carried out by the military leadership (H5). We also find that higher shares of military spending in the budget significantly reduce the risk of EOCs, thus confirming H1. Social spending, in turn, has no effect on EOCs (H3). Finally, in line with H4 and contrary to the effect on COCs, we find that political liberalization has a positive effect on EOCs, suggesting a higher likelihood for coups.

To illustrate the effect of the counter-balancing strategy, we plot the marginal effects of increasing the number of ground-combat capable organizations on the likelihood of elite officer coups in Figure 5. As we can see, creating one additional paramilitary organization reduces the probability of such coups by more than 50 percent, whereas the presence of three competing (para-)military organizations seems to reduce the risk of elite officer coups practically to 0. Figure 6 demonstrates the rapidly decreasing probability of coups as the share

of defense spending increases from 10 to 65 percent of the budget.[14] Finally, the effect of political liberalization is shown in Figure 7. The risk of EOCs increases by 70 percent as incumbents liberalize the political system at the equivalent of three Polity points, while strengthening authoritarianism seems to have an appeasing effect on elite officer. In sum, we find strong evidence for H1, H3, H4, and H5.

Figure 5: Counter-balancing and elite officer coups

Notes: All other covariates are held at median/mean. The way counterbalancing is measured allows for increments smaller than 1. Whiskers represent 95 percent confidence interval.

---

[14] For better comparison, we chose to use a similar illustrative range of military spending as for social spending. Spending levels between 10 and 65 percent of the budget have been common in the Middle East, and frequently reflect the difference between war and peace time.

Figure 6: Military spending and elite officer coups
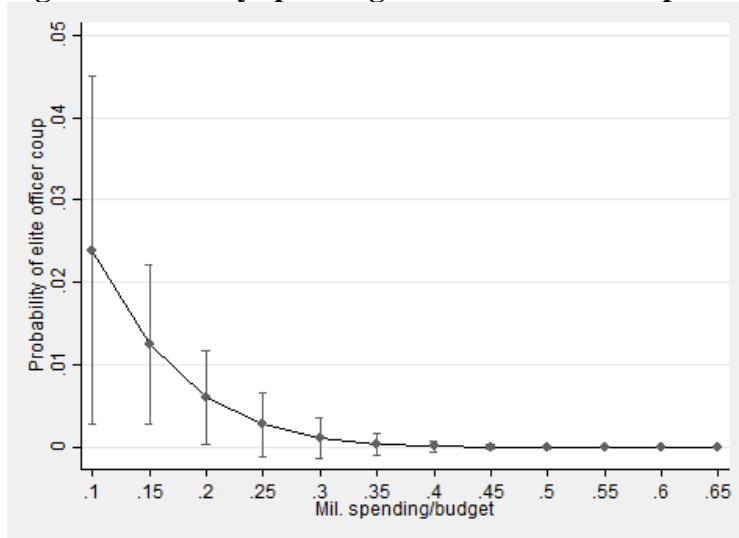
Notes: All other covariates are held at median/mean. Whiskers represent 95 percent confidence interval.

Figure 7: Liberalization and elite officer coups
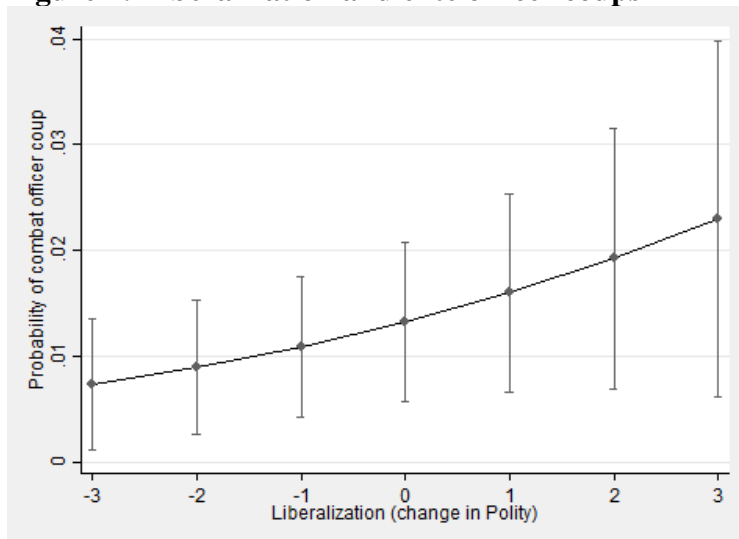
Notes: All other covariates are held at median/mean. Whiskers represent 95 percent confidence interval.

Table 1: Coup-proofing against combat officer coups

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Welfare/budget t-1	-2.826					-5.326	-5.444	-5.265
	(1.357)**					(2.080)**	(2.681)**	(2.182)**
Past coups t-1	0.023	0.011	0.021	0.022	0.004	0.036	0.046	0.034
	(0.041)	(0.019)	(0.025)	(0.015)	(0.018)	(0.031)	(0.054)	(0.055)
Mil. spending per soldier (logged) t-1		-0.312				-0.265	-0.009	-0.043
		(0.068)***				(0.166)	(0.236)	(0.209)
Mil. spending/budget t-1			0.134			-0.359	0.219	0.430
			(0.463)			(0.863)	(0.526)	(0.393)
Counter-balancing t-1				-0.288		-0.281	-0.370	-0.172
				(0.166)*		(0.310)	(0.307)	(0.317)
Liberalization t-1					-0.097	-0.311	-0.256	-0.247
					(0.034)***	(0.104)***	(0.111)**	(0.110)**
GDP p.c. (logged) t-1							-0.387	-0.372
							(0.242)	(0.241)
Growth t-1							-1.828	-1.809
							(2.772)	(2.823)
Resource rents p.c. (logged) t-1							-0.070	-0.072
							(0.055)	(0.063)
Domestic conflict t-1								0.121
								(0.353)
Ethnic fractionalization t-1								1.037
								(0.974)
Instability (logged) t-1								-0.063
								(0.271)
N	703	1,007	837	889	1,146	485	469	466
Time polynomials	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Pooled probit model with cluster-robust standard errors. * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table 2: Coup-proofing against elite officer coups

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Welfare/budget t-1	-0.044					-0.752	0.443	0.055
	(0.922)					(1.235)	(1.343)	(1.360)
Past coups t-1	-0.015	-0.020	-0.039	-0.034	-0.024	-0.064	-0.141	-0.202
	(0.048)	(0.022)	(0.035)	(0.026)	(0.021)	(0.073)	(0.110)	(0.143)
Mil. spending per soldier (logged) t-1		-0.284				-0.274	0.215	0.268
		(0.093)***				(0.204)	(0.215)	(0.217)
Mil. spending/budget t-1			-0.210			-1.907	-6.585	-6.382
			(0.577)			(1.807)	(2.102)***	(2.350)***
Counter-balancing t-1				-0.444		-0.387	-0.875	-0.970
				(0.198)**		(0.273)	(0.376)**	(0.349)***
Liberalization t-1					0.090	0.012	0.060	0.099
					(0.035)**	(0.038)	(0.042)	(0.049)**
GDP p.c. (logged) t-1							-0.001	-0.134
							(0.395)	(0.389)
Growth t-1							-4.203	-3.912
							(2.676)	(2.915)
Resource rents p.c. (logged) t-1							-0.134	-0.106
							(0.057)**	(0.071)
Domestic conflict t-1								0.011
								(0.256)
Ethnic fractionalization t-1								0.357
								(1.198)
Instability (logged) t-1								0.524
								(0.226)**
N	703	1,007	837	889	1,146	485	469	466
Time polynomials	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Pooled probit model with cluster-robust standard errors. * $p<0.1$; ** $p<0.05$; *** $p<0.01$

The lack of evidence for the effect of military spending on combat officer coups is striking, though in line with similar findings on military spending in the literature (e.g., Singh 2014). Our immediate suspicion is that military spending divided by the number of soldiers only represents a very crude measure of officers' financial compensation. For instance, in contrast to other types of expenditures, military spending is typically characterized by high levels of capital expenditures for new machinery and arms from which often only a select subset of officers – such as pilots or artillery divisions – benefit. In the absence of better data on the distribution of current expenditures within the armed forces, we experimented with a measure that subtracts the amount of arms purchases from total military expenditures in order to more closely reflect the amount spent on soldiers' salaries. Yet even this refined measure did not show any significant effect of military spending on COCs.[15]

Robustness Tests

To ascertain the robustness of our findings, we run a series of sensitivity tests that corroborate our results on social welfare and counter-balancing, while our findings on military spending and political liberalization survive most yet not all robustness tests.

To begin with, as we introduce welfare spending as an alternative fiscal coup-proofing strategy, it is important to ensure that the effect is indeed driven by spending levels and that our measure does not proxy for more long-term, structural variables in the realm of social development that cannot be easily manipulated by the government. We therefore rerun our baseline model on COCs successively including child mortality (logged), land inequality, and literacy rates as social outcome indicators into the regression (Table 3). Data for child mortality are from the United Nations Development Program (UNDP 2015) and literacy rates from Banks (2011). Regarding land inequality, we follow Ansell and Samuelson who measure land inequality as (1-*family farms*)(1-*urbanization*) to take into account the size of the rural population (Ansell and Samuels 2014, 116). Data for both variables are from Vanhanen (2003) and linearly interpolated for missing years.[16] When testing the simultaneous effect of outcome variables and social spending, it is social spending and not the outcome variables that comes

---

[15] Results are available upon request.

[16] Both variables exhibit strong trends which makes linear interpolation a justifiable approach.

out significant, albeit diminished in size and at a lower level of significance. This backs our intuition that it is the government's policy in the area of social welfare, rather than absolute levels of human development, that combat officers care about.

Table 3: Welfare spending vs. structural variables

	(COCs)	(COCs)	(COCs)
Welfare/budget t-1	-5.513	-4.965	-4.676
	(2.322)**	(2.787)*	(2.398)*
Mil. spending per soldier (logged) t-1	-0.076	-0.237	0.019
	(0.216)	(0.154)	(0.212)
Mil. spending/budget t-1	0.584	1.471	0.227
	(0.353)*	(0.569)***	(0.401)
Counter-balancing t-1	-0.177	-0.440	-0.216
	(0.319)	(0.362)	(0.339)
Liberalization t-1	-0.242	-0.368	-0.267
	(0.107)**	(0.177)**	(0.120)**
Child mortality (logged) t-1	-0.166		
	(0.210)		
Land inequality t-1		1.620	
		(1.844)	
Literacy rate t-1			-0.001
			(0.001)
N	466	329	466
Time Polynomials	Yes	Yes	Yes

Pooled probit model with cluster-robust standard errors. * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Another important concern is the distortive effect of missing data as result of listwise deletion, which occurs when cases drop out of the analysis because of individual missing values. Only recently, Lall (2016) found that in a large sample of studies nearly half of the key results disappeared when the effect of listwise deletion was taken into account. To make sure our findings are not an artefact of missingness, we use multiple imputation to create complete datasets and rerun our baseline model on these multiply imputed datasets (King et al. 2001; King and Honnaker 2010). Specifically, we use the R program Amelia II (King and Honnaker 2010) to impute 50 datasets with cubic time effects, lags and leads for a number of regressors (*Welfare/budget*, *Military spending/budget*, *Military spending per soldier (logged)*, *GDP p.c. (logged)*, *Resource rents p.c. (logged)*), and a ridge prior of 0.1 percent of the number of rows in the dataset. We generated two separated imputed datasets and, as before, ran our estimation separately for combat officer coups and for elite officer coups.

In light of the results displayed in Table 4, we can be confident that our findings are not purely driven by listwise deletion: social spending and political liberalization continue to exert a significant, diminishing effect on the likelihood of combat officer coups. In turn, counter-balancing (and political liberalization) retain their significant negative (positive) effect on elite officer coups. Interestingly, using imputed datasets we now find support for H2 regarding the effect of per soldier spending on combat officer coups, while we could not recover our earlier significant finding for *Military spending/budget* – in fact, the variable changes sign in the analysis. We also find only weak or no support for on an effect of *Military spending/budget* in a number of additional robustness tests (see below and OA, supplementary file), which prompts us to interpret our results on military spending as indicative and in need of further corroboration.

Table 4: Estimation using multiple imputation

	(COC)	(EOC)
Welfare/budget t-1	-2.189	0.921
	(1.138)*	(1.444)
Mil. spending per soldier (logged) t-1	-0.218	-0.087
	(0.092)**	(0.109)
Mil. spending/budget t-1	0.336	0.267
	(0.444)	(0.536)
Counter-balancing t-1	-0.022	-0.561
	(0.256)	(0.240)**
Liberalization t-1	-0.084	0.080
	(0.034)**	(0.044)*
Past coups t-1	-0.006	-0.031
	(0.025)	(0.038)
GDP p.c. (logged) t-1	-0.069	-0.180
	(0.138)	(0.156)
Growth t-1	-0.208	-0.704
	(0.876)	(1.026)
Domestic conflict t-1	0.322	0.064
	(0.165)*	(0.219)
Ethnic fractionalization t-1	0.784	-0.386
	(0.555)	(0.496)
Resource rents p.c. (logged) t-1	-0.020	0.016
	(0.031)	(0.036)
Instability (logged) t-1	-0.023	0.213
	(0.105)	(0.114)*
NxT	1452	1452
Time polynomials	Yes	Yes

Pooled probit model with cluster-robust standard errors. * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Further robustness tests are detailed in the online appendix (see supplementary file) and can only be summarized here and in Table 5 below. They include a regression model with alternative time specifications (OA, Table A5), a random effects linear probability model (LPMs) (OA, Table A6), and a model with additional as well as alternative controls, such as urbanization, a military regime dummy, ethnic exclusion instead of fractionalization, and the presence of political parties (OA, Table A7). We also test alternative measurements of social spending (OA, Table A8). Finally, we estimate a rare events logit (OA, Table A9), a fixed effects logit model (OA, Table A10), and a GMM-LPM model (OA, Table A11). The latter is used to, at least technically, take into account endogeneity between the dependent and independent variables. All tests confirm our central findings regarding the effect of social spending on combat officer coups and counter-balancing coups. The effect of *Military spending/budget* and *Liberalization* is robust to most tests with the notable exception of the fixed effects logit and the (GMM) linear probability models. Giving ongoing debates about the usefulness of LPMs for binary outcome variables, we would caution against placing too much weight on these non-findings. That said, supporting evidence for these two variables is certainly weaker and results should thus be viewed with caution.

Table 5: Summary of robustness tests in Online Appendix

	Baseline model	Alternative time specifications	LPMs	Additional controls	Alternative measurements of welfare spending	Rare events logit	Fixed effects logit	GMM-LPM
Welfare spending	▨	▨	▨	▨	▨	▨	▨	▨
Military spending/soldier								
Military spending/budget	▨	▨		▨		▨	N/A	
Counter-balancing	▨	▨	▨	▨	▨	▨	▨	▨
Liberalization	▨	▨		▨ (mixed)		▨		

Note: Shaded cells designate findings confirming our hypotheses; empty cells designate null findings; mixed cells designate weak or partially confirmatory findings.

Conclusions

Our findings provide strong empirical support for our contention that elite and combat officer coups and, by extension, the strategies by which these coups can be prevented are fundamentally different. In turn, these results corroborate our understanding of the incentive environment of different coup types. Elite officer coups are largely driven by political ambitions of supreme officers and internal regime dynamics. Hence, only high military budgets and organizational counter-balancing seem to be effective strategies to keep them in the barracks, while political liberalization prompts these elite officers to stage defensive roll-back coups. Combat officers, however, are similar to ordinary members in society. Their coup attempts can be avoided most effectively through increased social spending as they proportionally benefit more from it than elite officers. Political reforms in the direction of a more liberal polity also decrease the risk of combat officer coups. These results bear implications for coup-proofing autocrats and political scientists alike.

Autocrats will note our mixed findings about the assumed coup-proofing effects of military spending. High military spending in comparison to other budget items almost certainly

helps to please elite officers, while combat officers' grievances are largely driven by factors unrelated to military spending. Given the effect of social spending on the prevention of combat officer coups, autocrats might want to reconsider budgetary spending patterns when coup-proofing is part of the calculation. Increasing military budgets will work well to counter eventual coup threats from the military's top-brass, while reallocating financial resources toward social spending can be seen as a successful attempt to ward off threats from lower and mid-ranking officers.

Our findings also have major implications for scholarly debates on authoritarian regimes, military coups, and civil-military relations more broadly. First, our findings apply to the study of change in authoritarian regimes and will not travel easily to explaining coups in democracies. In the latter, coups remain an unlikely phenomenon for democracies that have established institutionalized avenues of elite competition, making coups a less attractive vehicle to take over power. Our findings speak directly to a growing body of literature distinguishing between specific types of coups as mechanisms of authoritarian regime change (see, e.g., Aksoy, Carter and Wright 2015; Lehoucq and Perez-Linan 2014; Marinov and Goemans 2014; Tansey 2016). While junior officer coups tend to trigger more substantial political transitions—change *of* authoritarian regimes—elite officer coups may quite well be seen in the context of elite struggles and regime adaptation—change *within* authoritarian regimes.

Second, scholars of civil-military relations will note our claim to expand the perception of militaries as corporate organizations. Most works in this research tradition hold constant the military's institutional interests by determining the assumed incentives of higher officers. Our understanding of coups as different types of military behavior directly challenges these assumptions. Rather than invoking the chain-of-command to aggregate "the" military's behavior as a function of elite officers' interests, accounting for the interests of different agents within this corporate body will provide a better understanding of the causal underpinnings of coups d'état, as well as military behavior more broadly.

Third, our contribution to the body of literature on military coups makes a strong case to taking individual military agency more seriously. We find empirical evidence that individually designed coup-proofing measures work well to keep officers in their barracks, but measures targeting the military as a whole do not. Our findings have direct implications for the

theoretical understanding of coups and, in particular, the employment of a definition of the military coup as an elite-led exercise. Disaggregating types of coups and analyzing the specific causal underpinnings of combat officer coups calls this definition into question. Our core premise that combat officer coups follow a different logic than elite officer coups does therefore not sit well with existing accounts, such as prominent work by Acemoglu and Robinson (2006), analyzing "the" military as a corporate organization essentially representing elite interests in a struggle for the distribution of economic goods. This is true, we believe, for the upper echelons of the officer corps, but not for lieutenants, colonels, and even higher ranking officers without political clout. The article therefore contributes to an emerging scholarship unpacking different types of coups as mechanisms of regime change in autocracies.

Supplemental Information

Supplemental information is available at http://www.ferdinandeibl.com/publications and the International Studies Quarterly data archive.

References

Aboud, Hichem. 2002. *La mafia des généraux*. Paris: Lattès.

Acemoglu, Daron, and James A. Robinson. 2006. *Economic Origins of Dictatorship and Democracy*. Cambridge: Cambridge University Press.

Aclimandos, Tewfic A. 2004. *Les officiers activistes de l'armée égyptienne: 1936-1954*. PhD thesis, Department of Political Science, Science Po Paris.

Aksoy, Deniz, David B. Carter, and Joseph Wright. 2015. "Terrorism and the Fate of Dictators." *World Politics* 67 (3): 423-68.

Albrecht, Holger. 2015. "The Myth of Coup-Proofing: Risk and Instances of Military Coups d'état in the Middle East and North Africa, 1950-2013." *Armed Forces & Society* 41 (4): 659–87.

Albrecht, Holger, and Dorothy Ohl. 2016. "Exit, Resistance, Loyalty: Military Behavior during Unrest in Authoritarian Regimes." *Perspectives on Politics* 14 (1): 38-52.

Albrecht, Holger, and Oliver Schlumberger. 2004. "'Waiting for Godot': Regime Change Without Democratization in the Middle East." *International Political Science Review* 25 (4): 371-92.

Alesina, Alberto, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat, and Romain Wacziarg. 2003. "Fractionalization." *Journal of Economic Growth* 8 (2): 155–94.

Ansell, Ben, and David Samuels. 2014. *Inequality and Democratization: An Elite-Competition Approach*. Cambridge: Cambridge University Press.

Banks, Arthur. 2011. *Cross-National Time Series Data Archive*. Available at www.databanksinternational.com, accessed 11 November 2015.

Belkin, Aaron, and Evan Schofer. 2003. "Toward a Structural Understanding of Coup Risk." *Journal of Conflict Resolution* 47 (5): 594–620.

Bellin, Eva. 2012. "Reconsidering the Robustness of Authoritarianism in the Middle East: Lessons from the Arab Spring." *Comparative Politics* 44 (2): 127–49.

Besley, Timothy, and James A. Robinson. 2010. "Quis Custodiet Ipsos Custodes? Civilian Control over the Military." *Journal of the European Economic Association* 8 (2-3): 655-63.

Boehmelt, Tobias, and Ulrich Pilster. 2015. "The Impact of Institutional Coup-Proofing on Coup Attempts and Coup Outcomes." *International Interactions* 41 (1): 158-82.

Boehmelt, Tobias, Ulrich Pilster, and Atsushi Tago. 2017. "Naval Forces and Civil-Military Relations." *Journal of Global Security Studies*, forthcoming.

Bolt, Jutta, and Jan L. van Zanden. 2014. "The Maddison Project: Collaborative Research on Historical National Accounts." *Economic History Review* 67 (3): 627–51.

Bou Nassif, Hicham. 2013. "Wedded to Mubarak: The Second Careers and Financial Rewards of Egypt's Military Elite, 1981-2011." *Middle East Journal* 67 (4): 509-30.

Bou Nassif, Hicham. 2015. "Generals and Autocrats: How Coup-Proofing Predetermined the Military Elite's Behavior in the Arab Spring." *Political Science Quarterly*, 130 (2): 245-75.

Bove, Vincenzo, and Roberto Nistico. 2014. "Coups d'état and Defense Spending: A Counterfactual Analysis." *Public Choice* 161 (3-4): 321-44.

Brooks, Risa. 1998. *Political-Military Relations and the Stability of Arab Regimes*. Oxford: Oxford University Press.

Brown, David S., and Wendy Hunter. 1999. "Democracy and Social Spending in Latin America, 1980-92." *American Political Science Review* 93 (4): 779–90.

Böhmelt, Tobias, and Govinda Clayton. 2017. "Auxiliary Force Structure." *Comparative Political Studies*, online first.

Bueno de Mesquita, Bruce, and Alastair Smith. 2015. "Political Succession: A Model of Coups, Revolution, Purges and Everyday Politics." *Journal of Conflict Resolution*, online first.

Carey, Sabine C., Michael P. Colaresi, and Neil J. Mitchell. 2016. "Risk Mitigation, Regime Security, and Militias: Beyond Coup-proofing." *International Studies Quarterly* 60 (1): 59-72.

Carter, David B., and Curtis S. Signorino. 2010. "Back to the Future: Modeling Time Dependence in Binary Data." *Political Analysis* 18 (3): 271–92.

Casper, Brett A. 2015. "IMF Programs and the Risk of a Coup d'état." *Journal of Conflict Resolution* online first.

Casper, Brett A., and Scott A. Tyson. 2014. "Popular Protest and Elite Coordination in a Coup d'état." *Journal of Politics* 76 (2): 548–64.

Chams El-Dine, Cherine. 2013. *The Military and Egypt's Transformation Process: Preservation of the Military's Reserve Domains*. German Institute for International and Security Affairs, SWP Comments 6.

Collier, Paul, and Anke Hoeffler. 2005. "Coup Traps: Why Does Africa Have So Many Coups d'état?" Unpublished paper. Available at http://economics.ouls.ox.ac.uk/13646/, accessed 11 November 2015.

Collier, Paul, and Anke Hoeffler. 2007. "Military Spending and the Risks of Coups d'état." Unpublished paper. Available at http://users.ox.ac.uk/~econpco/research/pdfs/MilitarySpendingandRisksCoups.pdf, accessed 11 November 2015.

Conrad, Justin, Hong-Cheol Kim, and Mark Souva. 2013. "Narrow Interests and Military Resource Allocation in Autocratic Regimes." *Journal of Peace Research* 50 (6): 737–50.

De Bruin, Erica. 2017. "Preventing Coups d'état: How Counterbalancing Works." *Journal of Conflict Resolution*, forthcoming.

Droz-Vincent, Philippe. 2007. "From Political to Economic Actors: The Changing Role of Middle Eastern Armies." In *Debating Arab Authoritarianism: Dynamics and Durability in Nondemocratic Regimes*, edited by Oliver Schlumberger, 195–211. Palo Alto: Stanford University Press.

Finer, Samuel E. 2002. *The Man on Horseback: The Role of the Military in Politics*. London: Pall Mall.

Fossum, Egil. 1967. "Factors Influencing the Occurrence of Military Coups d'état in Latin America." *Journal of Peace Research* 4 (3): 228–51.

Frantz, Erica, and Elizabeth A. Stein. 2016. "Countering Coups: Leadership Succession Rules in Dictatorships." *Comparative Political Studies*, online first.

Galetovic, Alexander, and Ricardo Sanhueza. 2000. "Citizens, Autocrats, and Plotters: A Model and New Evidence on Coups d'état." *Economics and Politics* 12 (2): 183-204.

Gaub, Florence. 2013. "The Libyan Armed Forces between Coup-Proofing and Repression." *Journal of Strategic Studies* 36 (2): 221–44.

Harkness, Kristen. 2016. "The Ethnic Army and the State: Explaining Coup Traps and the Difficulty of Democratization in Africa." *Journal of Conflict Resolution* 60 (4): 587-616.

Hertog, Steffen. 2011. "Rentier Militaries in the Gulf States: The Price of Coup-Proofing." *International Journal of Middle East Studies*, 43 (3): 400-402.

Heydemann, Steven. 2007. *Upgrading Authoritarianism in the Arab World*. The Saban Center, Brookings: Analysis Paper, no. 13.

Hiroi, Taeko, and Sawa Omori. 2013. "Causes and Triggers of Coups d'état: An Event History Analysis." *Politics & Policy* 41 (1): 39–64.

Huntington, Samuel P. 1957. *The Soldier and the State*. Cambridge: Havard University Press.

IMF. 2011. *Government Finanical Statistics*. Available at www.imf.org, accessed 11 November 2015.

Jenkins, Craig, and Augustine J. Kposowa. 1992. "The Political Origins of African Military Coups: Ethnic Competition, Military Centrality, and the Struggle over the Postcolonial State." *International Studies Quarterly* 36 (3): 271–91.

Johnson, Jaclyn, and Clayton L. Thyne. 2016. "Squeaky Wheels and Group Loyalty: How Domestic Protests Influence Coups d'état, 1951-2005." *Journal of Conflict Resolution*, online first.

Johnson, Thomas H., Robert O. Slater, and Pat McGowan. 1984. "Explaining African Military Coups d'etat, 1960-1982." *American Political Science Review* 78 (3): 622–40.

Kamrava, Mehran. 2000. "Military Professionalization and Civil-Military Relations in the Middle East." *Political Science Quarterly* 115 (1): 67–92.

Kandeh, Jimmy. 2004. *Coups from Below: Armed Subalterns and State Power in West Africa*. New York: Palgrave Macmillan.

Kim, Nam K. 2014. "Revisiting Economic Shocks and Coups." *Journal of Conflict Resolution* online first.

King, Gary, James Honaker, Anne Joseph, and Kenneth Scheve. 2001. "Analyzing Incomplete Political Science Data: An Alternative Algorithm for Multiple Imputation." *American Political Science Review*, 95 (1): 49-70.

Honaker, James and Gary King. 2010. "What to Do about Missing Values in Time Series Cross Section Data." *American Journal of Political Science*, 54 (2): 561-81.

Knights, Michael. 2013. "The Military Role in Yemen's Protests: Civil-Military Relations in the Tribal Republic." *Journal of Strategic Studies* 36 (2): 261-288.

Korpi, Walter. 2006. "Power Resources and Employer-Centered Approaches in Explanations of Welfare States and Varieties of Capitalism: Protagonists, Consenters, and Antagonists." *World Politics*, 58 (2): 167-206.

Lall, Ranjit. 2016. "How Multiple Imputation Makes a Difference." *Political Analysis*, 24 (4): 414-33.

Lehoucq, Fabrice, and Aníbal Pérez-Liñán. 2014. "Breaking Out of the Coup Trap Political Competition and Military Coups in Latin America." *Comparative Political Studies* 47 (8): 1105–29.

Leon, Gabriel. 2014. "Loyalty for Sale? Military Spending and Coups d'état." *Public Choice* 159 (3-4): 363–83.

Little, Andrew T. 2017. "Coordination, Learning, and Coups." *Journal of Conflict Resolution* 61 (1): 204-234.

Londregan, John B., and Keith T. Poole. 1990. "Poverty, the Coup Trap, and the Seizure of Executive Power." *World Politics* 42 (2): 151–83.

Lucas, Viola, and Thomas Richter. 2012. *Taxation, Distribution and Authoritarian Regime Longevity: Evidence from the Global State Revenues and Expenditures Data Set*. New Orleans: Annual meeting of the American Political Science Association.

Lutterbeck, Derek. 2013. "Arab Uprisings, Armed Forces, and Civil-Military Relations." *Armed Forces & Society* 39 (1): 28-52.

Marcum, Anthony S., and Jonathan N. Brown. 2014. "Overthrowing the 'Loyalty Norm': The Prevalence and Success of Coups in Small-Coalition Systems, 1950 to 1999." *Journal of Conflict Resolution* online first.

Marinov, Nikolay, and Hein Goemans. 2014. "Coups and Democracy." *British Journal of Political Science* 44 (4): 799-825.

Marshall, Monty G., Ted R. Gurr, and Keith Jaggers. 2010. *Polity IV Project: Dataset Users' Manual*. Available at www.systemicpeace.org/polity/polity4.htm, accessed 11 November 2015.

Marshall, Monty G., and Donna Marshall. 2014. *Coup d'état Events, 1946-2013*. Available at http://www.systemicpeace.org, accessed 11 September 2015.

Mora, Frank O., and Quintan Wiktorowicz. 2003. "Economic Reform and the Military: China, Cuba, and Syria in Comparative Perspective." *International Journal of Comparative Sociology* 44 (2): 87–128.

Nepstad, Sharon Erickson. 2013. "Mutiny and Nonviolence in the Arab Spring: Exploring Military Defections and Loyalty in Egypt, Bahrain, and Syria." *Journal of Peace Research* 50 (3): 337-349.

Nooruddin, Irfan, and Joel W. Simmons. 2009. "Openness, Uncertainty, and Social Spending: Implications for the Globalization-Welfare State Debate." *International Studies Quarterly* 53 (3): 841–66.

O'Kane, Rosemary H. T. 1981. "A Probabilistic Approach to the Causes of Coups d'état." *British Journal of Political Science* 11 (3): 287–308.

Perkins, Ivan. 2013. *Vanishing Coup: The Pattern of World History since 1310*. Lanham: Rowman & Littlefield Publishers.

Pettersson, Therese, and Peter Wallensteen. 2015. "Armed Conflicts, 1946–2014." *Journal of Peace Research* 52 (4): 536–50.

Pilster, Ulrich, and Tobias Böhmelt. 2011. "Coup-Proofing and Military Effectiveness in Interstate Wars, 1967-99." *Conflict Management and Peace Science* 28 (4): 331–50.

Piplani, Varun, and Caitlin Talmadge. 2016. "When War Helps Civil-military Relations: Prolonged Interstate Conflict and the Reduced Risk of Coups." *Journal of Conflict Resolution*, 60 (8): 1368-94.

Powell, Jonathan M. 2012. "Determinants of the Attempting and Outcome of Coups d'état." *Journal of Conflict Resolution* 56 (6): 1017–40.

Powell, Jonathan M. 2014. "Regime Vulnerability and the Diversionary Threat of Force." *Journal of Conflict Resolution* 58 (1): 169–96.

Powell, Jonathan M., and Clayton L. Thyne. 2011. "Global Instances of Coups from 1950 to 2010: A New Dataset." *Journal of Peace Research* 48 (2): 249–59.

Putnam, Robert D. 1967. "Toward Explaining Military Intervention in Latin American Politics." *World Politics* 20 (1): 83–110.

Quinlivan, James T. 1999. "Coup-Proofing: Its Practices and Consequences in the Middle East." *International Security* 24 (2): 131–65.

Rittinger, Eric R., and Matthew R. Cleary. 2013. "Confronting Coup Risk in the Latin American Left." *Studies in Comparative International Development* 48 (3): 403–31.

Roessler, Philip. 2011. "The Enemy Within: Personal Rule, Coups, and Civil War in Africa." *World Politics* 63 (2): 300–46.

Ross, Michael L. 2013. "Oil and Gas Data, 1932-2011." Available at http://hdl.handle.net/1902.1/20369, accessed 11 November 2015.

Sater, James N. 2009. "Reforming the Rule of Law in Morocco: Multiple Meanings and Problematic Realities." *Mediterranean Politics*, 14 (2): 181-193.

Sayigh, Yezid. 2012. *Above the State: The Officers' Republic in Egypt*. Beirut: Carnegie Middle East Center.

Singer, David, Stuart Bremer, and John Stuckey. 1972. "Capability Distribution, Uncertainty, and Major Power War, 1820-1965." In *Peace, War, and Numbers*, edited by B. Russet, 19–48. London: Sage.

Singh, Naunihal. 2014. *Seizing Power: The Strategic Logic of Military Coups*. Baltimore: Johns Hopkins University Press.

Sudduth, Jun Koga. 2017a. "Coup Risk, Coup-Proofing and Leader Survival." *Journal of Peace Research* 54 (1): 3-15.

Sudduth, Jun Koga. 2017b. "Strategic Logic of Elite Purges in Dictatorships." *Comparative Political Studies*, forthcoming.

Svolik, Milan. 2013. "Contracting on Violence: The Moral Hazard in Authoritarian Repression and Military Intervention in Politics." *Journal of Conflict Resolution* 57 (5): 765–94.

Talmadge, Caitlin. 2016. "Different Threats, Different Militaries: Explaining Organizational Practices in Authoritarian Armies." *Security Studies* 25 (1): 111-141.

Tansey, Oisin. 2016. "The Limits of the 'Democratic Coup' Thesis: International Politics and Post-Coup Authoritarianism." *Journal of Global Security Studies* 1 (3): 220-34.

UNDP. 2015. *UNDP Open Data*. Available at https://data.undp.org/, accessed 30 October 2015.

Vanhanen, Tatu. 2003. *Democratization: A Comparative Analysis of 170 Countries*. London: Routledge.

Wig, Tore, and Espen G. Rod. 2016. "Cues to Coup Plotters: Elections as Coup Triggers in Dictatorships." *Journal of Conflict Resolution* 60 (5): 787-812.

World Bank. 2016. *World Development Indicators*. Available at http://data.worldbank.org/, accessed 17 October 2016.