Financing Political Violence

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Paper presented at the Brown Bag Lunch Series
of the Division for Human Security, Swiss Federal Department of Foreign Affairs

July 2019

Abstract: This paper examines the financial dimension of violent political organizations (VPOs) such as ISIS, Hamas, or Hezbollah and its impact on the outcome of political contests. Both theory and evidence suggest that in violent political contests, finance matters: on average, deeper pockets win wars. This has several implications for VPOs: (1) Due to their subversive nature, VPOs are financially constrained, i.e. they cannot access credit, bond or capital markets. Instead, they exclusively rely on cash. VPOs generate cheap and fast cash through a combination of (a) profitable predatory operations such as extortion, armed robbery (including piracy and looting), kidnapping and theft; (b) illicit commercial operations such as extraction and sale of natural resources (oil, diamonds, timber, etc.), trafficking of high-value products (drugs, humans, etc.), production of counterfeit goods and provision of illicit services such as private security or money laundering; and (c) donations from wealthy individuals, diaspora communities or foreign governments. (2) VPOs are subject to a size-versus-control- and a wealth-versus-power-trade-off: they can become sidetracked by overly dominant state sponsors or overinvest in purely commercial operations. Both phenomena can result in suboptimal contest effort. Management can mitigate these risks by adjusting financial structure and hiring practices. (3) Finally, and most importantly, cash flow problems such as exogenous cash shocks can severely hamper a VPO's contest capacity and trigger a strategic realignment towards peace. Examples include the PLO, the Provisional IRA, the LTTE in Sri Lanka, the URNG in Guatemala or the LRA in Uganda. A VPO's cash burn rate can serve as proxy indicator for its willingness to exit the contest and enter peace negotiations.

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"To fight […] you need an army and an army must have guns, and to buy guns you must have money."
Tuan Shi-Wen, general of the Kuonmintang (cited in Naylor (1993, p. 35))

1 Introduction

Political violence has become an increasingly relevant phenomenon. Melander, Pettersson, & Themner (2016) document an increase in civil war incidence after the end of the Cold War, which has led to an explosion in research on civil war (Blattman & Miguel, 2010; Cederman & Vogt, 2017; Collier & Hoeffler, 2007). Anecdotal evidence suggests a decisive role for finance in determining civil war outcomes. An exogenous financial shock (cancellation during the Gulf War of the mandatory deduction that rulers of the Gulf states had imposed on the PLO's behalf) is cited as one of the main reasons that impelled the Palestinian Liberation Organization (PLO) to sign the Oslo peace accords (Naylor, 2002, p. 79). After 9/11 had triggered a US-led international effort in counterterrorism, pressure from its own diaspora sponsors forced the Liberation Tigers of Tamil Eelam (LTTE) to engage in peace talks with the Sri Lanka government (Byman, 2013, p. 990). In 1996, after years of suffering from a gradual financial decline that had begun with the cessation of cash payments from the Libyan government a decade earlier, the Provisional Irish Republican Army (IRA) was broke and decided to engage in peace talks that ended in the Good Friday Agreement of 1998 (Moloney 2002, p. 459). In 2005, after having lost financial support from the Sudanese government, the Lord's Resistance Army entered into peace negotiations with the government of Uganda (Prunier 2004). And in the late 1980s, the bankrupt Guatemalan National Revolutionary Unit accepted peace talks with the conservative government of Guatemala (Egeland 1999).

However, with one exception, the financial dimension of political violence is underresearched. Beginning in the late 1990s, scholars such as Collier & Hoeffler (1998) and Ross (2003) started to examine the impact of natural resources on civil war. They founded a huge literature on natural resource rents and their impact on civil war, mainly focusing on Africa (for recent accounts see N. Berman, Couttenier, Rohner, & Thoenig, 2017; Morelli & Rohner, 2015; M. L. Ross, 2015). Beyond natural resources, little systematic effort has been made in the exploration of the anecdotal, but important link between finance and political violence. So far, research is dispersed across different sub disciplines of the social sciences such as political science, economics, or criminology and has not been gathered in a single coherent study. Adams (1986) and Naylor (1993) provided the first accounts of the finances of violent political organizations (VPOs). After 9/11, a number of scholars have focused on case studies of terrorism financing (Biersteker & Eckert, 2007; Giraldo & Trinkunas, 2007a). Wennmann (2007, 2009) made the first and so far only attempt at a comprehensive account of the financial organization of VPOs. His papers are most closely related to this paper. Even if they provide useful insights, none of these studies is working with a theoretical framework that explains the occurrence and financing of political violence.

This paper builds on the "feasibility hypothesis", which claims "that where a rebellion is feasible, it will occur" (Collier, Hoeffler, & Rohner, 2009, p. 2). It intentionally neglects possible motivational aspects of political violence such as greed or grievances. As the proponents of the "feasibility hypothesis" observe themselves, the circumstances in which rebellion is financially and militarily feasible are relatively rare, since in most cases "the establishment of a rebel army would be both prohibitively expensive and extremely dangerous regardless of its agenda" (Collier et al., 2009, p. 3). Therefore, the paper attempts to identify conditions that make civil war financially feasible by dissecting the financial anatomy of a VPO, regardless of whether its bid for power was successful or not. Here it follows Besley & Persson (2011)'s logic of violent political contests, which interprets acts of political violence as rational investment decisions by the parties to increase their respective probability to prevail in the contest.[1] The level of analysis of this paper are VPOs. VPOs are understood as a group of terrorists, rebels or insurgents, whose ultimate goal is to overthrow the incumbent government or to create an independent state by secession. Partially following Besley & Persson (2011), political violence is defined as two-sided acts of violence by a VPO against the government and vice versa, as in civil war. However, in distinction from Besley & Persson (2011), it does neither include repression by the government against fragments of its own population nor interstate wars between two governments.

This paper yields a number of insights: First, in political contests, finance matters: the extent of investment in political violence is determined by the contest function, and limited by the cash budget. Both theory and evidence suggest that a VPO is only as strong as its cash balance: deeper pockets win wars, shallower pockets either lead to defeat, surrender or negotiated peace. Second, in order to generate cheap and fast cash, VPOs often run highly risky but profitable predatory operations such as extortion, armed robbery (including piracy and looting), kidnapping and theft. In addition, VPOs often engage in profitable illicit commercial operations such as extraction and sale of natural resources (oil, diamonds, timber, etc.), trafficking of high-

[1] This assumption of rational behavior of VPOs is in line with (Ahmad, 2017, p. xxv)'s observation regarding seemingly irrational religious insurgencies: "As […] jihadists raise their flags and declare their holy wars, it may appear as though zealotry has vanquished all rationality. Do not be fooled. Underneath the fiery rhetoric is the cold, hard cash of the underground economy. Amid the anarchy, the logic of the market prevails."

value products (drugs, diamonds, etc.), and production of counterfeit goods and provision of illicit services such as private security or money laundering. Third, a number of VPOs rely on additional outside financing, which is provided either by wealthy individuals, diaspora communities or foreign governments. Fourth, cash at hand, the cash burn rate and the diversity of cash sources are the most important metrics for VPO financial management. They respectively measure the financial capacity, financial sustainability and default risk of the organization. Fifth, VPOs are subject to a size vs. control and a wealth vs. power trade-off, which have the potential to diminish the efficiency of its operations. Sixth, the cash burn rate can possibly serve as an indicator for a VPO's willingness to enter peace negotiations.

A general note of caution is necessary. With another exception for natural resources, a common feature of the literature on finances in political contests is its lack of "hard evidence". Due to the secretive nature of the subject, most authors rely exclusively on anecdotal evidence from case studies. To the author's knowledge, comprehensive datasets of VPO finances do not exist.[2]

The paper is organized as follows: Section 2 introduces the theory of political contests, its link to a contestant's budget and the implications of budget constraints for contest outcomes. Section 3 dissects the different sources of cash of a violent political organization, notably self-financing and outside financing. Section 4 analyzes the financial structure of a VPO, presents performance indicators for financial management and briefly investigates the role of balance sheet shocks for peace. Section 5 concludes.

2 Finance in political contests: why it matters

Power is allocated in political contests. Political contests occur in "situations, […] where agents do not trade but rather fight over property rights. In these situations, agents can influence the outcome of the process by means of certain actions such as investment in weapons, bribing judges/politicians, hiring lawyers, etc." (Corchón, 2007, p. 70). A contest is defined by a finite set of contenders, a contested prize (whose quantity may depend on the actions taken by contenders), and a set of possible actions (effort, investments) taken by contenders to obtain the prize. The function that relates actions taken by contenders (such as military expenses or sabotage activities) to the probabilities of obtaining the prize is called *contest function* (Corchón, 2007). The outcome of a contest is determined by the performance of contenders,

[2] The same applies to empirical research on violent political contests: "actual contest effort and ex ante asymmetries between the contestants are often difficult to measure. This makes it difficult to assess or measure what is the 'true' contest success function in a given context" (Konrad, 2009, p. 48).

which in turn is a function of effort, ability and luck.[3] The contestant with the higher valuation of the prize is typically more likely to expend higher effort and win the prize. A similar relationship holds for productivity advantages in providing effort. The contestants with productivity advantages will generally make more effort (at relatively lower cost) and win the prize with higher equilibrium probabilities. Military conflict in the form of civil war is probably among the most important and obvious examples of contests. The outcome of a civil war, understood in the Clausewitzian sense as a political contest carried out by military means, is determined by success on the battlefield. A military contest usually consists of a sequence of battles. In each given battle, the party who mobilizes more resources is certain to win. Due to the number of battles, a military contest involves considerable expenditures. Thus, given that his interest in the prize of the contest is sufficiently large, the contestant with the higher financial capacity (to pay for fighters, weapons, etc.) will likely prevail (Konrad 2009, 2018). Experimental and empirical evidence support the theoretical argument on the important link between finance and contest outcomes. Contestants with (relatively) smaller budgets display a different investment pattern (in terms of allocation of military effort to different battlefields) than contestants with relatively larger budgets, such as not to lose on all battlefields in order to stay in the contest (Avrahami & Kareev (2009), cited in (Dechenaux, Kovenock, & Sheremeta, 2015, p. 639). Recent empirical research shows that war finance has had a significant influence on the likelihood of winning battles in modern Europe (1500-1789): Before and during the "Military Revolution" (from around 1400 – 1650; triggered by the introduction of gunpowder), "chances of a richer power winning a battle were no greater than those of poorer powers. By the end of the early modern period, richer belligerents won wars with a much higher probability." (Gennaioli & Voth, 2015, p. 1437). In short: in political contests, finance matters.

2.1 The cost of political violence

Each possible action within a violent political contest also has a cost function that yields the cost of this action to each contender (Corchón, 2007). There are various estimates of the overall costs of political violence, which can serve as a benchmark for calculations of the cash requirement necessary to recover these costs. According to first rough estimates by Wennmann (2009, p. 270), "the cost to start an armed conflict is between $67,500 and $450,000 per 1,000 soldiers. The maintenance of a low intensity conflict is between $2.1 million and $11.4 million;

[3] Ability (in terms of morale, leadership, strategy and technology) and luck play a crucial role for contest performance. (Hirshleifer, 1987) points to the fact that "organizational superiority, far more than superiority in weapons, explains why small European expeditionary contingents in early modern times were able to defeat even vast indigenous forces in America, Africa and Asia."

a medium intensity conflict between $2.6 million and $16.2 million; and a high intensity conflict between $4.5 million and $34.8 million per 1,000 soldiers per year." This translates into a monthly fighter salary of between USD 6 and 167 (low intensity) and USD 375 and 2900 (high intensity).

This figure corresponds to reports that "Bin Laden […] reportedly paid Arabs expenses of $300 per month to fight in Afghanistan", which would add up to USD 3,6 million per year for 1,000 fighters (Johnson, 2007, p. 102). Surprisingly, fighters for Al Qaeda in Iraq were apparently only paid USD 41 per month (around USD 500 per year), which would only add up to around USD 500,000 per year for a 1,000 fighters (Bahney et al., 2013).[4] Taking these numbers into account, the funding requirements of the Sri Lankan Liberation Tigers of Tamil Eelam (LTTE), a sophisticated fighting force with an estimated 17,000 trained fighters (in 2004), as well as its own intelligence unit, a small air force, and a naval unit known as the "Sea Tigers", must have been considerable (Flanigan, 2008, p. 501).

The cost of political violence differs according to the type of political violence produced. Terrorism by itself is relatively cheap. As Passas (2007, p. 31) citing the UN Monitoring Team, notes, "individual terrorist operations are surprisingly inexpensive. The first World Trade Center attack is estimated to have cost less than $19'000; the Bali bombings less than $20'000; the Madrid train bombing about $10'000; and a reported attempt at a chemical attack in Amman, Jordan, that might have caused large numbers of fatalities would have cost about $180'000. The 9/11 operation cost an estimated $350'000-500'000 over many months." Indeed, "many terrorist groups, notably EOKA in Cyprus have sustained their campaigns on shoestring budgets" (Horgan & Taylor, 1999, p. 2).

However, if a terrorist campaign is accompanied by a political campaign, funds have to be allocated between two objectives. Since non-violent political campaigns seem to be more expensive than terrorism, the political wing might strip the armed wing of key resources. Woodford and Smith (2018, p. 225) describe such a situation for the Provisional IRA:

> "The Irish Republican movement generally became ever more desperate for money as Sinn Fein launched its electoral campaign, outspending all other local parties. According to O'Callaghan, PIRA's organized crime involvement therefore emerged amid a general objective to "expand, expand, expand," and to formalize a durable financing strategy that could sustain the group in what was becoming a 'long war.'"

[4] "A single amount of compensation [was, *the author*] paid to each individual. The remaining nine disaggregate payments into a base rate and additional compensation for food ("groceries" or "ration card"), accommodations ("rent"), or other expenses (translated as "assistance"). In AQI's compensation scheme, salary payments continued to the families of those killed or captured. […] AQI followed a flat salary structure. The "Rules for Social Assistance," found in Anbar in January 2007, listed the monthly salary for a fighter as 60,000 Iraqi dinars (IQD), about $41 in nominal terms at current exchange rates" (Bahney et al., 2013, p. 519).

Even more expensive is a political strategy that embraces organized violence. Wennmann (2009, p. 276) notes that it "is indeed inexpensive to equip a few hundred men with weapons and ammunition and use them for occasional and unstructured attacks. However, as soon as they fire the first bullets (and are shot at), need training and maintenance, and are used as part of a more or less structured military strategy, costs increase and require steady streams of financing."

Besides expenditures for recruitment, arming, training, command and control, insurgents usually use some of their resources for functions such as welfare, education, social work, and intelligence (Passas, 2007). They also "typically provide at least some form of security and dispute adjudication services to noncombatants" (Berman & Matanock, 2015, p. 449). Hezbollah is renowned for its extensive offer of social services to the Lebanese Shiite population. As a complement to its violent strategy against Sunni Islam and the state of Israel, it is a contender for public offices in local and national elections in Lebanon. As such, it spends vast amounts of its budget on public social services, de facto replacing the Lebanese government as primary service provider in the Shiite areas of the country. Flanigan (2008, p. 510) reports that by "September 2006, the organization had spent an estimated $281 million for rehabilitation and compensation following the summer 2006 Israeli bombardment of Lebanon […], compared to just over $21 million (32 billion Lebanese pounds) spent by the Lebanese government's High Relief Commission during the same period." Through this type of offers, Hezbollah has been able to secure a broad base of local political support, which render it more or less untouchable inside Lebanon. Similar strategies were implemented by Hamas, the PLO and the Provisional IRA, who provided, among other things, financial compensation payments to the family of dead fighter's (Gunning, 2008; Horgan & Taylor, 1999).

2.2 The budget of violent political organizations

Any VPO needs to keep track of revenues and expenditures in order to make strategic decisions, monitor organizational performance and ensure its financial capacity. For this purpose, a VPO needs to operate a budget. Due to the (illicit and/or illegal) nature of their business, VPOs are financially constrained: since they lack access to capital, bond and credit markets, they have to rely almost exclusively on the most elementary form of financing: cash.[5] This is why, for VPOs,

[5] In many respects, VPOs can be compared to financially constrained firms. Research in corporate finance shows that a relatively large number of legally incorporated firms also operate under financial constraints (no or costly access to credit, bond and capital markets) and rely mainly on their own cash holdings for investment (Almeida, Campello, & Weisbach, 2004).

the budget is equivalent to what in corporate finance is a sub-budget referred to as the *cash budget*.

The cash budget determines whether VPO operations will provide a sufficient amount of cash to meet the projected cash requirements for participation in the political contest. Sources of cash comprise the cash balance at the start of the period, plus cash from self-financing operations (also referred to as *operating cash flow*) and cash from outside financing operations. Uses of cash are all expenses linked to self-financing and outside financing such as direct labor and material expenses, administrative expenses (including overhead), plus capital expenditure. The difference between sources and uses of cash is referred to as *cash surplus*. It is crucial to note, however, that - in contrast to firms and nonprofits – the cash budget includes not only all expenses linked to the generation of cash itself but also all expenses linked to the production of political violence. In fact, the amount of cash needed to cover the costs of the production of political violence – the *cash requirement* - is the most important determinant of the cash budget. It comprises all investments in political violence for the planning period that have a positive *net present value* (NPV) in terms of contest outcome (Tirole, 2006). NPV in contests strongly depends on one's own effort relative to the efforts of the adversary. In principle, a relatively weak effort yields a negative NPV (e.g. a lost battle), a relatively strong effort yields a positive NPV (e.g. the conquest of territory). Depending on the relative strength of the adversary, this can cause considerable expenditure, particularly for a contestant who values the contest prize highly, or who is most productive in generating military output (Konrad, 2009). The cash requirement thus equals the sum of all positive-NPV-investments in political violence.

For each period, The VPO must make a forecast that determines how much of its cash requirement can be covered by the cash surplus. The difference between cash requirement and cash surplus, if any, would have to be covered by additional financing operations. If sufficient additional funds are unavailable, the investment in political violence would have to be scaled down to the quantity covered by the available cash. This would entail the foregoing of a number of positive NPV investments in political violence, resulting in a suboptimal contest outcome. Based on this budgetary logic, a situation where cash surplus is equal to or larger than cash requirement corresponds to a scenario in which "finance follows strategy" - contest strategy determines the financial requirement of the VPO. A situation where cash surplus is smaller than cash requirement is equivalent to a scenario in which "strategy follows finance" - finance imposes a limit on contest strategy (Nathusius, 2013).

Schneider (2009, p. 81) estimates Al Qaeda´s annual budget for the period from 2001-2004 to have been between USD 20-50 million. Ahmad (2017, p. 101) reports that, according to the

Israeli government, the Al Qassam Brigades, Hamas' militant wing, operate on an annual budget of between USD 10 million and several tens of millions of dollars per year. The PKK's budget is estimated at USD 50-100 million for 2007, down from an estimated USD 200-500 million in the 1990s (Jonsson & Cornell, 2008, p. 19). According to Karmi (2007), in 2007, the Liberation Tigers of Tamil Eelam had an annual budget of between USD 200 and 300 million. The budget of Hezbollah is estimated to be at a record USD 1.1 billion for 2017 (Zehorai, 2018). According to DeVore and Stahli (2015, p. 6), by "the late-1970s and early-1980s, the PLO was earning an estimated $1.25 billion per year — an unprecedented sum for an organization of its type and one larger than the budgets of many small states." The PLO budget was sufficiently large to support a diplomatic corps in 90 countries, and a standing army of 14.000 fighters (Naylor, 2002).

According to Zehorai (2018), the richest VPO of all times was ISIS, which managed to create revenues amounting to USD 3 billion in 2015. Compared to these figures, the annual budget of the Provisional Irish Republican Army, which was "around £2 million a year by 1981" (equivalent to roughly USD 4 million) (Woodford & Smith, 2018, p. 221), was astonishingly low. Figure 2 below gives an impression of the financial magnitude of the operations of some of the largest and most prominent VPOs. However, all of these numbers have to be interpreted with caution. Due to the mostly illegal nature of their activities, VPOs do not disclose or report financial figures. Estimates are usually based on insider accounts or intelligence estimates, which might under- respectively overstate the real power and reach of these VPOs.

Figure 2: Estimated Annual Budget of Selected Violent Political Organizations (in mio. USD)

	1970-1979	1980-1989	1990-1999	2000-2009	2014	2017
Hezbollah					500	1100
PLO	1250					
Hamas					1000	700
Al Qaeda				20-50 (2001-2004)	150	300
Taliban					400	800
Provisional IRA		4 (1981)[6]	20 (1998)			
Real IRA					50	50
LTTE			100	200-300 (2007)		
PKK			200-500	50-100 (2007)		180
ISIL/ISIS/Daesh					2000	200
Lashkar-e-Taiba					100	75
Islamic Jihad in Palestine						100

[6] Converted with a rough exchange rate of 1 GBP = 2 USD, which reflects the £ value in 1981.

Kata’ib Hezbollah						150
Peshmerga						415
FARC					600	
Al Shabab					70	
Boko Haram					25	
Sources: (Zehorai, 2014) 2018), (Gunaratna, 2003), Jonsson & Cornell (2008), Woodford & Smith (2018), Schneider (2009), de Vore & Stähli (2014), Ahmad (2017), (William A Tupman, 1998), Karmi (2007), (Rudaw, 2018)						

Whereas it is more or less clear which sums are at the annual disposal of certain VPOs, it is much less obvious what fraction of a VPO’s budget is invested in the actual production of political violence. Many VPOs pursue a violent and a non-violent political strategy at the same time. Tupman (1998) makes a rare estimate for the Republican Movement in Northern Ireland, which assumes annual expenditure for staff and military equipment at around £3 million out of a total annual budget of around £20 million. In this estimate, the fraction of expenditure of the armed wing is at around 15%.

2.3 Cash constraints in violent political contests

As Giraldo and Trinkunas (2007b, p. 9) explain, the “need to sustain thousands of fighters, buy weaponry, and potentially provide social services to the population whose support the organization may be trying to win creates great financial demands on insurgent groups”:

> “political power, including military strength, ultimately rests on financial foundations. Insurgent movements face fiscal problems analogous to those of formal governments. To meet their political responsibilities, guerrilla groups must undertake a wide range of expenditures on both current and capital account, while at the same time combatting financial corruption among militants and overcoming fiscal resistance from the population at large.” (Naylor, 1993, p. 14)

However, in contrast to governments, due to their lack of access to financial markets, VPOs are financially constrained. More specifically, they are *cash-constrained*. They have to work with cash holdings and incoming cash to cover the expenses associated with investments in political violence. However, within the cash budget, investment in political violence is potentially limited by a) the financial requirements of a non-violent campaign, b) the costs of cash (licit and illicit fundraising activities), c) overhead costs, and, if applicable, d) loss of funds due to corruption inside the VPO (including private consumption by senior management). For any VPO, the challenge is thus to allocate the available cash in such a manner that the contest function produces the best of all possible results in terms of contest success. Thus, depending on the organization, the actual fraction of the budget invested in political violence may vary substantially. However, to the author's knowledge, there is no evidence that would permit a more sophisticated answer to this question.

This argument supersedes the narrative that links political violence to individual greed or collective grievances of a VPO's active members as main limiting factors. In fact, whereas motivation is a necessary condition for the production of political violence, it is not sufficient. In the words of Baylouny and Mullins (2017 p. 5): "Whatever the historical legacy, without materiel and financial resources, collective action cannot be sustained and groups cannot survive". Hence, the sufficient condition – and thus the ultimate limiting factor - for the production of political violence is cash. To sum it up, the extent of a VPO's investment in political violence is determined by the contest function, and limited by the cash budget.

3 The financial structure of violent political organizations

In terms of financial structure, VPOs significantly differ from corporations. Due to their subversive nature, they are usually not officially incorporated, and they do not have access to capital, credit and bond markets.[7] Therefore, VPOs have to exclusively rely on cash. Cash is coming in from two different generic sources: first, seed money from one or a few individuals, usually the entrepreneurs themselves, including retained earnings from business (equity self-financing); second, donations from outside sponsors, which are comparable to venture capital, but do not – in contrast to regular equity – provide the donor with an official share of the ownership and a formal residual claim of the VPO (equity outside financing). However, as will be oulined (see 4 below), donations often do provide important informal control rights to the donor and informal access to the residual claim of the VPO (Damodaran, 2010). Hence the balance sheet of a VPO does not include neither equity nor debt. It resembles a cash balance, including a VPO's fixed assets such as property, plant and equipment.

Figure 1: The Balance Sheet of a Violent Political Organization	
Current assets	**Current liabilities**
Accounts receivable (il-/licit production, trade and service provision; predation)	Accounts payable (salaries, pensions, equipment, maintenance, etc.)
Cash and cash equivalents (donations, retained earnings)	

[7] There are a few exceptional cases which do not merit extensive treatment. One such case is the issue of Nicaragua Freedom Bonds by contras in the US, which ended in a "complete fiasco" (Naylor, 1993, p. 42). Another is the debt the Provisional IRA incurred with wealthy supporters (Moloney, 2002, p. 459).

Fixed assets	
Property, plant and equipment (warehouses, safe houses, training grounds, weapons, ammunition, explosives, cars, etc.)	
Source: own depiction	

3.1 Self-Financing

Self-financing refers to the practice of "financing a business without recourse to borrowing or share issues. A business can only be started on a self-financing basis by those with some initial capital. The business can then expand only by the plough-back of retained profits. The advantage of self-financing is that it combines safety with control: a self-financed business can be run without any regard for the opinions of creditors or shareholders. The main disadvantage is that an entrepreneur's initial capital and profits may not be large enough to allow full advantage to be taken of possible economies of scale" (Black, Hashimzade, & Myles, 2017).

As Hirshleifer (1994) famously argues, there are two basic categories of economic activity: production and predation. Predation can be defined as the transfer of property rights to a good from the prey to the predator without mutual consent. For example, robbery, as one type of predation, can be interpreted as an "'implicit contract' between the robbed and the robber: the latter preserves the life of the former in return for a certain amount of money" (Vahabi, 2011, p. 89). In economic terms, predation is a destructive and thus undesirable economic activity, since "the value of predatory activity is measured by the amount of creative value transferred without mutual consent, less the deadweight loss [such as collateral damage, *the author*] and the value of pure waste" (Vahabi, 2011, p. 84), both of which represent the costs of predation.

This is one of the reasons why, in today's societies, predatory activities are considered unlawful, such that law prohibits and law enforcement prevents people from engaging in them. Hence, economics textbooks exclude this type of economic activity from analysis. However, in the case of political contests, VPOs usually find themselves in opposition to the prevailing laws and rules of society, as their objective is subversive: to change the rules or the system altogether. Compared to production, predatory activities have an advantageous cost-benefit profile. They are a risky, but fast and cheap source of cash for VPOs that allows them to operate in shadow or gray markets – away from the eyes of regulators or of detailed record keepers (Picarelli & Shelley, 2007).

Against this background, both production and predation are effective options for self-financing VPOs. Therefore, in our definition of VPO self-financing we include proceeds from production of goods and services (both licit and illicit) and proceeds from predation (including kidnapping, theft, armed robbery and extortion).

3.1.1 Production of goods and provision of services

A number of VPOs are affiliated with legitimate commercial enterprises. The profits from these businesses are being transferred to the VPO and used for the production of political violence. It is well known that Osama bin Laden could rely on his "economic and financial empire […], a considerable section of which is composed of legitimate businesses" to fund Al Qaeda (Schneider & Caruso, 2011). Woodford and Smith (2018) report that the Provisional IRA owned a real estate portfolio of around 350 properties, whose proceeds were used for political purposes.

VPOs traditionally rely on income from illegal production of goods and services. This either involves the production of prohibited goods such as narcotics or the production of forged, or pirated goods such as counterfeit medicines or pirate videos and computer games. It is no secret that the Taliban are "heavily involved in narcotics production, […] flying out opium in cargo planes from Kandahar and Jalalabad to Abu Dhabi and Sharjah" (T. H. Johnson, 2007, p. 100), raising "considerable income amounting to about 400 million dollars a year, according to UN sources" (Zehorai, 2018). Other VPOs such as Hezbollah in Lebanon, Jemaah Islamiya in Indonesia, or Hamas in Palestine are active in perfectly legitimate businesses, featuring industries such as real estate, construction, transportation and hospitality. The Provisional IRA was heavily involved in the production of pirated goods, among which cigarettes, alcohol, fuel, CDs, videos and computer games. The PKK in Turkey is also raising substantial funds with the production of counterfeit cigarettes (Jonsson & Cornell, 2008).

In terms of trade and service provision, smuggling and trafficking are a very common type of self-financing among VPOs. In addition, money laundering and trade diversion are part of a more sophisticated type of financial operation. Faced with pressure from British law enforcement, the Provisional IRA became a "sophisticated money-making organization involved in money laundering, as is Hezbollah " (Horgan & Taylor, 1999; M. Levitt, 2007).

Much more common is the smuggling of prohibited goods such as drugs, cigarettes and alcohol, precious stones, woods and metals, antiquities and human beings. Ahmad (2017, p. 171) reports that Al Qaeda in the Islamic Maghreb and its allies "became key players in […] massive illicit cigarette-trafficking […] in North Africa. […] By keeping their [own, *the author*] cigarettes tax-free, the smugglers quickly dominated the market. […] Al Qaeda in the Islamic Maghreb benefited from the underground both by participating in the trafficking and also by taxing smugglers for safe passage and transport. Belmokhtar's personal involvement in this illicit business activity was so extensive that he earned the nickname 'Mr. Marlboro'". In present-day Syria and Iraq, extremist groups such as ISIS have built "strong ties with smuggling and criminal networks, dominating trade routes, arms trafficking, and the black-market sale of oil and antiquities in their region" (Ahmad, 2017, p. 6). In the former Yugoslavia, "the rise of the Kosovar Albanians in [the human trafficking, the author] industry paralleled a need for money to buy arms to fight the Serbian army." (Tupman, 2009, p. 195). And in Northern Ireland, the Provisional IRA smuggled stolen alcohol, cigarettes, cattle, and fuel across the British-Irish border (Woodford & Smith, 2018).

Smuggling and trafficking are probably the most widely used income source of VPOs. Anecdotal evidence shows that, in Asia, VPOs such as the Philippine's Abu Sayyaf, Indonesia's Jemaah Islamiya, Sri Lanka's Liberation Tigers of Tamil Eelam, Tehrik-i-Taliban Pakistan, Lashkar-e-Taiba, the Afghan Northern Alliance, the Islamic Movement of Uzbekistan, the Islamic State of Iraq and the Levant – Khorasan Province (ISIL-KP), Hizb-i-Islami-yi Gulbuddin, or the Communist Party of Nepal-Maoist (CPN–M) are involved in trafficking and smuggling of one type or another. In Africa, the same applies for VPOs such as Sierra Leone's Revolutionary United Front, or Angola's UNITA. In the Middle East, Hezbollah, Hamas, the PKK, ISIS and AQIM are also known to be engaged in smuggling and trafficking of some kind. One of the more straightforward explanations for this phenomenon is that VPOs "need weapons. In the process they have to set up smuggling services" (Tupman, 2009, p. 194).

3.1.2 Predation

Predation involves a number of activities that require different degrees of violence and capital. Theft and fraud do not require the (threat of the) use of force. Armed robbery (both small-scale (bank robbery) and large-scale (looting, piracy)) requires weapons, as does kidnapping. Finally and importantly, extortion, i.e. credible projection of coercive power by the predator.

Theft and fraud are non-violent forms of predation, in which the predator transfers ownership of assets from a private person or deprives the prey (public institution) of access to entitled funds. Theft often takes place using stolen credit card data. Fraud is an intentional deception that results in the reception of unjustified payments from insurances, social welfare institutions, tax authorities (e.g. income tax fraud) or the evasion of tax payments ("off the book"-trades such as cash payments of apartment rental fees, used automobiles). The Provisional IRA apparently was an experienced practitioner of construction and social security fraud (Woodford & Smith, 2018). A special type of non-violent predation is humanitarian fraud, where a humanitarian non-governmental organization “inflates their prices far beyond those of other NGOs […], and then funnels the excess funds” to the VPO. This was the case with the Tamil Relief Organization in Sri Lanka, which served as fund-raising mechanism for the LTTE (Flanigan, 2008, p. 513).

Kidnapping and small-scale armed robbery are the least violence-intense types of predation. Thanks to their cost-benefit profile, a large number of VPOs resort to this type of self-financing. Zehorai (2014) reports that the Taliban are experienced kidnappers: “Abductions and collection of ransom constitutes an additional source of income to fund Taliban operations. In 2016, 1,673 people were abducted in Afghanistan – the vast majority by Taliban operatives.” Zehorai (2014) puts the number of people who were abducted by FARC between 1997 to 2007 at 6,800. In the case of the Provisional IRA, “kidnappings […] were […] only really conducted during ‘shortage[s] of money’ as opposed to being a regular source of income” (Woodford & Smith, 2018, p. 220). As observed by Zehorai (2018), 2015 saw the probably most remarkable case of VPO financing by means of kidnapping to date, carried out by the relatively small Iraqi VPO Kata’ib Hezbollah:

> “Kata’ib Hezbollah was the organization that headed the plan and execution of the abductions of 26 members of the Qatari royal family while they were on a falcon hunting expedition in December 2015. The dubious release transaction saw the royal family transfer an astronomical sum of a billion dollars to Iran and different terror organizations (which triggered the big boycott against Qatar by Saudi Arabia, United Arab Emirates, Egypt and Bahrain), and the Shiite organization is estimated to have received an especially hefty cut of the spoils.”

Small-scale armed robbery, especially bank robberies, are another very popular instrument of self-financing. “Robbery certainly appears to be one of the PIRA's main 'outwardly' sources of funding, if not the single main” (Horgan & Taylor, 1999, p. 13). According to Naylor (1993, p. 25), “there are two traditional criminal rackets open to virtually all insurgent groups regardless of geographic location or technical capacity. Bank robbery and ransom kidnapping have provided almost the entire operating budget of urban guerrilla groups like the Italian Red Brigades as well as forming the core of the "launching fund" for the El Salvador FMNL guerrillas to shift from hit-and-run tactics to full-scale insurgency.” Other VPOs such as the West German Red Army Faction, Basque’s Euskadi Ta Azkatasuna (ETA), or Indonesia’s Jemaah Islamiya have also raised funds in this manner. Another subtype of small-scale robbery is maritime piracy. Daxecker & Prins (2017, p. 219) observe that “such armed robbery describes many pirate incidents in Indonesia, Malaysia, Bangladesh, and Nigeria (likely resulting in profits of $10,000–$15,000 per attack.”

Armed robbery, carried out at large scale, refers to the looting of whole villages and cities, as in many African cases (Burgis, 2016), or the pirating of large container ships by VPOs, as in

Somalia (Daxecker & Prins, 2017). Since these operations are more complex, they require a more sophisticated and capital-intense organization. In the wake of its conquest of parts of Iraq and Syria, the Islamic State in Iraq and the Levant (ISIL) has looted entire cities.

Extortion is a widespread type of predation that is highly popular among VPOs. In a sense, the power to extort itself is equivalent to the objective of the political contest: to replace the incumbent and take over his economic activities, especially taxation. Some observers make the point that taxation is equivalent to lawful extortion, since the prerequisite of the power to tax is the power to extort. All of these observations boil down to one simple principle: VPOs must fight in order to gain control over territory so they can tax, or practice extortion in contested spaces (Berman & Matanock, 2015). In the latter case, extortion is often referred to as protection "against robbers, bandits and predators; for protection can be thought of as a legitimate service that can be bought and sold like any other commodity. In practice, of course, the distinction between extortion and protection is blurred, since ostensible providers of protection can easily drum up business by simply threatening damage themselves" (Konrad & Skaperdas, 1998, p. 475). Taking these observations into account, extortion must be considered one of the central explanatory concepts when it comes to both the means and the ends of political violence: it is both. Konrad and Skaperdas (2012, p. 420) describe the underlying logic of extortion in contested territories:

> "Emperors, kings, and princes were fighting for territory and the rents that come with it just as, in more recent times, mafiosi and warlords fight for turf and their accompanying protection rents. Under such conditions, the tribute or protection money paid depends on the relative ability of each side in the use of force. Promising a lower tribute on the part of a provider of protection is not credible unless it reflects that relative power of the two sides, the ruler and his agents on one side and the ordinary producer usually on the other."

A large number of VPOs have established protection rackets as an instrument of self-financing. "The PIRA began in the early 1970s to demand 'protection' money from publicans, local businessmen, shopkeepers and so on in Northern Ireland, through intimidation and in some cases, quite overt threats" (Horgan & Taylor, 1999, p. 21). Here, protection clearly worked in the sense of extortion. Islamist groups also built their success on the logic of extortion, as Ahmad (2017, p. 5) brilliantly explains:

> "In a civil war, security must be purchased from an array of substate armed groups, which can get very expensive for businesses. Within this competitive security environment, however, Islamists are able to offer lower overall costs to the business class. Consider that while ethnic and tribal warlords can only plausibly sell security to their own kin groups, Islamists can often offer protection across these divisions. Accordingly, because Islamists are able to sell their protection services to the entire business class, rather than to just a narrow kin group, they can lower security prices for a wider pool of consumers. […] much like the big-box chain that drives out the mom-and-pop shop, the Islamists begin to dominate the security market. […] By courting

> the business community with these lower security prices, the Islamists win the security competition through an economy of scale."

For example, Al Qaeda in the Islamic Maghreb (AQIM) negotiated favorable protection rates with tribal families in the Sahel region, thus securing their allegiance. Over time, AQIM "built strong ties to Latin American cocaine cartels, and narcotics quickly dwarfed the cigarette business. […] charges took the form of a right-of-way fee paid by smugglers passing through territory under the control of AQIM, with the old salt caravan routes used today by trucks carrying smuggled cigarettes, weapons, illegal immigrants, hashish or cocaine" (Ahmad, 2017, p. 176). The Islamic Courts Union in Somalia and the Pakistani Taliban proceeded in a similar fashion and were able to crowd competing local warlords out of the market. "Once they have established their dominance in the conflict theater, however, these jihadists have consistently turned against their own supporters, increasing taxes and extorting populations at will. The business community thus finds itself trapped: having financed these Islamist protection rackets, it inadvertently created an Islamist monopoly on violence. The result is the creation of a self-sustaining jihadist proto-state with the coercive capacity to continue to extract revenue from its tax base" (Ahmad, 2017, p. 183).

A similar pattern is known in Latin America, where VPOs such as FARC in Colombia and Sendero Luminoso in Peru extorted growers and traffickers of narcotics in controlled territories. In the 1990s in Afghanistan, the Taliban charged transit fees to smugglers, e.g. on cotton trade from Central Asia to Pakistan. The opium transport tax amounted to as much as 20 percent of each truckload. In 1997 alone, they earned around USD 75 million from transit fees alone (Johnson, 2007, p. 98). Flanigan (2008, p. 511) reports that in Sri Lanka, "during the influx of aid following the 2004 tsunami, there were reports that the LTTE collected up to 50 percent or more of the relief money NGOs were receiving as 'taxes'." Even ISIL's famed illicit oil revenues have 'been dwarfed by taxation' […] the ratio of money brought in from taxes to money from oil extraction […] stands at an estimated 6:1" (Ahmad, 2017, p. 170).

3.2 Outside financing

The second category of VPO financing involves parties outside the organization who are willing to support the cause, through either financial (cash) or in-kind contributions (weapons, shelter). The most common form of VPO outside financing are private or state donations. In contrast to formal equity investments in the corporate world, VPO donors become claimholders (as opposed to shareholders), without formal rights to the VPO's return of investment. Donations can therefore be referred to as "soft funding". However, outside financing usually entails relinquishing some control rights to the sponsor, either in the form of *relationship sponsoring* or *arm's length sponsoring*. The former involves active monitoring of VPO decision-making by the sponsor (to rule out managerial misbehavior and thus reduce moral hazard), whereas the latter does not. Outside sponsors, especially state sponsors, often do engage in active monitoring, competing for influence and control over decision-making with both management and other sponsors. According to Byman (2005, 2013, 2018), a leading expert on sponsorship of VPOs, outside financing is a common phenomenon in political contests. He details that "of the 38 countries with insurgencies, outside states offered some form of support in 32 of them, diasporas in 27, other insurgencies in 26, and refugees in 11." (Byman, 2013, p. 983).

However, outside financing is more difficult to handle than self-financing. By accepting outside financing, the VPO leadership enters into a principal-agent relationship. In outside financing VPO leaders serve as agents, not principals. The principal-agent relationship creates potential for agency costs resulting from informational asymmetries: insiders may have private information about their own VPO's political environment or contest technology (adverse selection) or about its realized income (hidden knowledge), alternatively outsiders cannot observe the insiders' carefulness in selecting projects, the riskiness of investments in political violence, or the effort they exert to reach the organization's objectives (moral hazard). Informational asymmetries may thus prevent outsiders from hindering insider behavior that jeopardizes their investment. However, the transfer of control rights in the VPO that is associated with sponsors' claims offers some relief for outsiders (Tirole, 2006).

The problem of hidden knowledge is exacerbated by the necessary opacity of VPOs' finances, which means that there are few obstacles to corruption within them (de Vore & Stähli 2014, p. 22). In many cases, it is "the most-desperate and least-popular groups that seek outside support — a proxy war version of adverse selection" (Byman, 2018). These might be two of the reasons why, "despite their many advantages, proxies often disappoint their sponsors. Rather than be grateful and obedient, local groups often go their own way, pursuing their own interests while pocketing the money and other support they receive. Their competence is often minimal, while their brutality knows few bounds. Some even drag their supposed masters into unwanted interventions" (Byman, 2018). In addition, as Johnson (2007, p. 96) explains with respect to Afghanistan, "while both [Pakistan and Saudi-Arabia, *the author*] influenced the Taliban, they did not control them, in part because of the diversity of funding sources on which the Taliban relied." A similar story from Afghanistan is told of the US-backed Northern Alliance: "Right after 9/11, the United States asked the anti-Taliban Northern Alliance, its key Afghan ally made up primarily of minorities, not to take Kabul so that a force composed of ethnic Pashtun, Afghanistan's dominant community, could do so and assuage the fears of minority dominance. The Northern Alliance took Kabul anyway" (Byman, 2018).

3.2.1 Private Sponsorship

There are two types of outside financing: private and public, i.e. governmental sponsorship. Private sponsorship includes donations from charity organizations, mostly diaspora-based non-governmental organizations, and wealthy individuals who engage in private diplomacy or even private warfare.

3.2.1.1 Diaspora charities

Diaspora communities often have an intrinsic interest, or are obliged by their group of origin to contribute to a political cause in their homeland. "There is […] abundant evidence that diasporas can play a major role in the evolution of conflict in the origin country, through various channels that range from political lobbying to financial support and direct involvement in fighting" (Mariani, Mercier, & Verdier, 2018, p. 761). Through their remittances, diasporas can have a peace-building and a peace-wrecking effect. Whether they can have an effect at all depends on the size of the diaspora's contributions. A sizable diaspora should be able to help the group of origin in recruiting and equipping fighters. At the same time, with a growing share of the VPO budget financed by the diaspora, it can gain significant influence over VPO decision-making (Mariani et al., 2018). "In the case of the Tamil Tigers, for example, peace talks in 1990 and 1994 reduced diaspora giving" (Giraldo & Trinkunas, 2007b, p. 13). However, "suspicion over the funds sent by the Tamil migrant community [led, *the author*] to a change in the role of the diaspora, which started to support nonviolent conflict resolution and power-sharing settlements" (Mariani et al., 2018, p. 764). Donations to the LTTE were mainly channeled through the Tamil Relief Organization, a professional fund-raising outlet with offices in at least 18 countries across the world (Flanigan, 2008, p. 513).

Diaspora financing through charities is a widespread phenomenon. The Provisional IRA in the US provides another example of a sophisticated fund-raising system for the republican cause of Irish unity:

> "NORAID, the chief Republican fund-raising organization established in New York in 1970 by former IRA volunteer, Michael Flannery. Around 80 collection chapters spread across the East Coast, drawing on deeply rooted Irish-American sympathies in the country. Much of the money came from regular donations, fund-raising dinners, and the proceeds from its pro-IRA newspaper, The Irish Weekly. The cash collected was then secretly couriered—often "in brassieres"—to Ireland twice a month by "holidaying" sympathizers or by PIRA members, and normally delivered to charitable fronts like The Green Cross" (Woodford & Smith 2018, p. 218).

Thanks to NORAID, the PIRA was able to raise a “rounded annual average figure of $300,000” (Woodford & Smith, 2018, p. 218) for the armed struggle in the 1970s. These contacts also enabled the IRA “to raise up to $50,000-$100,000 in emergencies – for example, to fund a special operation” (Moloney, 2002, p. 461). However, over time, and partly due to demographic reasons, the Irish-American diaspora raised less and less funds and started lobbying for a political settlement (Mariani et al., 2018).

In the 1970s, the Palestinian Liberation Organization (PLO) received substantial amounts of donations from Palestinians around the world, especially those employed in the oil states of the Gulf, who were contributing 5-7% of their salaries (Naylor, 2002). The Kurdish PKK benefits from remittances from its international diaspora, notably from Kurdish communities in France, Germany, Benelux, Scandinavia, and Romania. Diaspora funding from Germany alone was estimated to have generated USD 9 millions in 2001 and is believed to continue at similar levels (Jonsson & Cornell, 2008; Naylor, 2002). According to the U.S. Department of Treasury, Al Qaeda received donations from 19 charity organizations, at least two of which were large multinational charity agencies (to be fair, a high percentage of these funds was found to have been exfiltrated surreptitiously or skimmed off in small percentages without the knowledge of the donor) (Flanigan, 2008; Gunning, 2008). Hamas raised funds through the Al Aqsa Foundation (Gunning, 2008). Estimates for private support for the Syrian opposition, including members of Syrian expatriate communities, Salafi or puritanical Islamist charities, and private donors are in the hundreds of millions of dollars (Baylouny & Mullins, 2017).

3.2.1.2 Individuals

Another source of private outside financing are wealthy individuals. As is known from Afghanistan, the Taliban received huge portions of its funding from the Quetta-Chaman transport mafia. Osama bin Laden used the Golden Chain – an informal financial network of prominent Saudi and Gulf individuals - to support Afghan resistance It is estimated that he personally spent $20 million annually on the 55th Arab Brigade, a Taliban elite unit which consisted mainly of former mujahedeen fighters from Middle East, Central Asia, and Southeast Asia (Johnson, 2007).

In the case of the Syrian civil war, donations were not limited to the Syrian expatriate diaspora, but originated from the much larger Sunni Muslim Arab population, who interpreted the civil war as a regional sectarian war over social identity. Baylouny & Mullins (2017) recount the exemplary story of Adnan al-Arur, a firebrand Salafi televangelist originally from Hama, Syria, who was one of the most prominent Saudi private donors for the salafist VPO Ahrar al-Sham and the Islamic Front alliance:

> "Al-Arur, […] emerged as a key ideational figure in the Syrian conflict due to his strong sectarian discourse and theatrical style in his weekly talk show aired by several Salafi-affiliated channels. Prior to the Syrian uprising, al-Arur […] had a small following. Once hostilities erupted, his narrative and demands for armed insurrection against the Assad regime transformed his show into one of the most popular in Syria among rebel fighters. He is known to criticize non-Salafi factions and once infamously 'vowed to grind the flesh of pro-regime Alawites and feed it to the dogs.'"

However, in the Syrian case, individual donations were not limited to wealthy individuals. Donations, both small and large, were elicited through unregulated social media websites, apps and programs such as Whatsapp, Facebook, Twitter, YouTube, and the dark web's equivalent of crowdfunding. The total amount raised is estimated to range in the millions and perhaps billions of USD (Baylouny & Mullins, 2017).

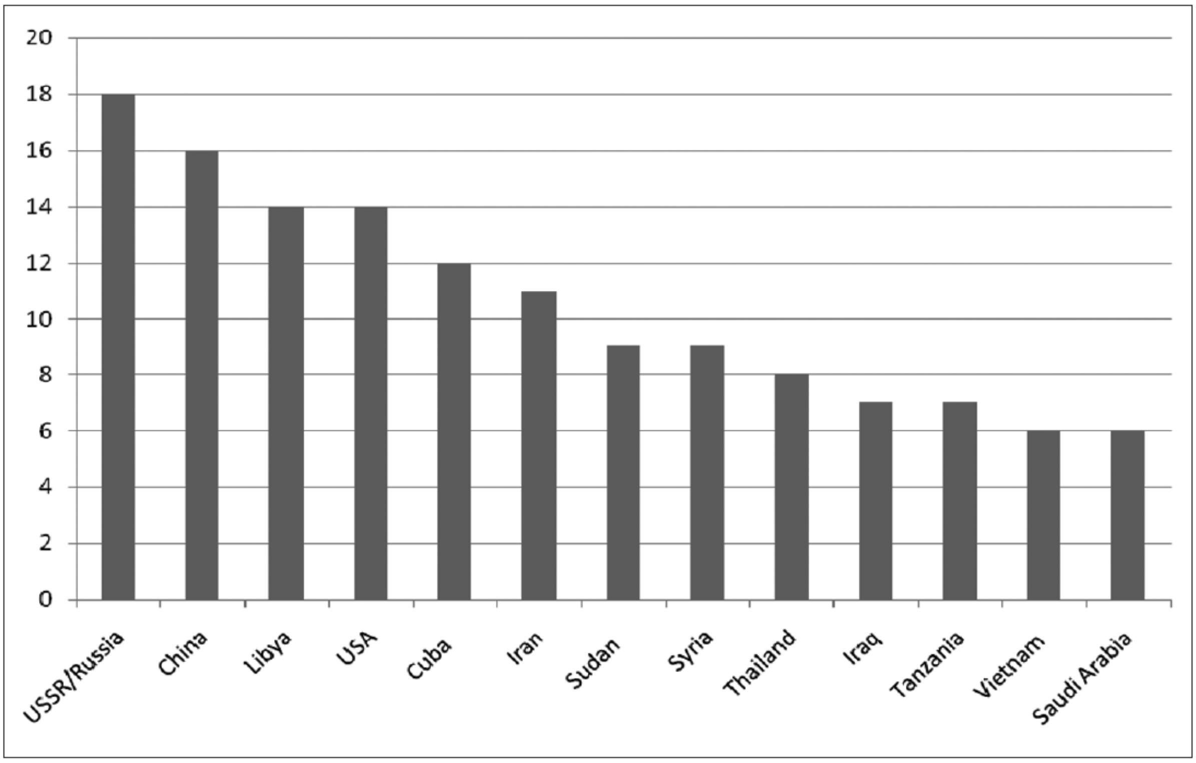
3.2.2 State sponsorship

The most relevant type of outside financing is state sponsorship of VPOs, which is the financial prerequisite for proxy warfare. Proxy warfare is a much-used strategy in political contests. It became pervasive during the systems competition of the Cold War, when both East and West sponsored VPOs, mostly in peripheral world regions, with the objective of establishing like-minded governments and thereby expanding the political reach of the system. According to Salehyan (2010), roughly 15 percent of all country-years during the period 1946-2003 involved a state with a foreign-sponsored rebellion. The logic behind this observation is simple: "Proxies enable intervention on the cheap. They cost a fraction of the expense of deploying a state's own forces and the proxy does the dying. Because the costs are lower, proxy war is also more politically palatable — few Americans know the United States is bombing Libya, let alone which particular militia it supports in so doing" (Byman, 2018).

By nature, governmental support is often covert or passive, as overt and direct involvement risks unwanted escalation or international opprobrium (Byman, 2013). Therefore, foreign intelligence is key in sponsoring rebel groups. According to (Dube, Kaplan, & Naidu, 2011), see also (Berger, Easterly, Nunn, & Satyanath, 2017), 24 country leaders were installed by the CIA and 16 by the KGB since the end of World War II. During the 1970s and 1980s, sponsorship provided by Communist countries to "leftwing" VPOs was sometimes minimal (like East Germany occasionally offering refuge to fleeing members of the Red Army Faction), sometimes more substantial. The Soviet Union covertly pumped money into the hands of Communist parties willing to contest elections. After the death of Mao, China concentrated its aid to VPOs operating in bordering countries such as the Burmese Communist Party, the Khmer Rouge Cambodia, and even the Mujahedeen in Afghanistan. In the same period, American, British, French and Saudi Arabian financial and military aid was available to rightwing anti-government rebel forces such as the Afghan mujahedeen (nearly USD 4 billion from Saudi Arabia and USD 3.3 billion from the US) or the Angolan UNITA group (Johnson, 2007; Naylor, 1993).

Passas (2007) reports that, after the end of the Cold War, proxy warfare remains a viable political strategy. In 2007, a long list of VPOs, including Hamas, Islamic Jihad in Palestine and Hezbollah were supported by states. As recent experience from the Syrian civil war shows, a large number of governments – France, Iran, Israel, Jordan, Qatar, Kuwait, Russia, Saudi Arabia, Turkey, the UAE, the United Kingdom and the United States – use VPOs for proxy warfare (Byman, 2018).

Figure 2: Top state sponsors of violent political organizations, 1946-2003



Source: Salehyan (2010)

For Iran, proxy war is the most frequent type of warfare. It employs a results-oriented approach to determine the level of funding for each candidate VPO. Currently Iran sponsors the Lebanese Hezbollah (USD 50-800 million annually), an array of Shia militias in Iraq and the Houthis in Yemen. In addition, it has sent 20,000 Shia foreign fighters from Iraq, Afghanistan and Pakistan to Syria (Byman, 2018; Levitt, 2007; Zehorai, 2018). Saudi Arabia follows a similar approach, including the use of zakat, a religious tax for all Muslims who meet the necessary criteria of wealth, to support violent and non-violent Wahabbi organizations abroad (Johnson, 2007, p. 101). Saudi Arabia accounts for the largest part of Sunni financial support to the Syrian opposition (more than USD 3 billion annually), surpassing both Qatar and Kuwait (Baylouny & Mullins, 2017). Pakistan is known for having sponsored Gulbuddin Hekmatyar's Hizb-e-Islami, but especially for its substantial support to the Afghan Taliban as well as the Kashmiri separatist organizations Hizbul Mujahidin, Lashkar-e-Taiba, Jaish-e-Mohammad, and Sipah-e-Sahiba, an anti-Shiite Muslim organization in Pakistan. Through the ISI, its military intelligence service, it started providing donations to the Taliban in 1994, and slowly increased them (USD 6 resp. 30 million in 1997 and 1998) (T. H. Johnson, 2007). Another famous sponsor of VPOs was Libya under Muammar Gaddafi. Among other groups, Libya sponsored – starting in the 1970s - the Provisional IRA, both by shipping weapons and transferring cash (Woodford & Smith, 2018). It is no secret that the United States is also engaged in proxy warfare. For example, in the 1960s, the CIA sponsored the Hmong guerrillas in Laos to fight against the Laotian communists (Johnson, 1992). After the Shah of Iran had cut a deal with Saddam Hussein in 1975, the US sponsored Iraqi Kurds against Saddam Hussein's regime (Byman, 2018). After the first Gulf war, in another attempt to overthrow Saddam Hussein, the CIA sponsored the Iraqi National Congress (INC), an umbrella formation that at its height included approximately 90 percent of the entire Iraqi opposition, with a total amount of USD 110 million. After this operation had proven unsuccessful, the US Congress passed the Iraq Liberation Act, which authorized the Administration to provide USD 97 million in equipment and arms from U.S. military stocks to Iraqi opposition groups (Gunter, 1999). Recently, the US government supported the Syrian Kurds' People's Protection Units (YPG) and still sponsors the Iraqi Kurds' Peshmerga, who successfully fought the Islamic State (Byman, 2018). In 1988-89, the CIA supplied Afghan mujahedeen with highly sophisticated anti-aircraft missiles that enabled them to take the offensive, causing a major escalation in the fighting (Johnson, 1992).

For many VPOs, state sponsorship is curse and blessing at the same time. The upside of governmental outside funding is a greater degree of financial capacity and financial sustainability. The sponsored VPO gains a competitive edge, both vis-à-vis its adversaries and internal rivals: it can pay higher salaries for members, arm itself with more powerful weapons, and avoid being defeated or swallowed by larger and more powerful VPOs (Byman, 2018). The downside includes restrictions in terms of decision-making, such as specific requests that stand in the way of the VPO's main political objective, and restrictions in the scope of support. The

PLO, in its early days, relied almost exclusively on mainly Arab outside sponsors, who tried to use their financial leverage to manipulate the Palestinian national movement to their own political ends (Naylor, 2002). In another case, the Iran-sponsored Hezbollah was ordered to send a third of their fighters (around 9000 soldiers) to Syria, Iran's ally, in order to join the armed forces of the Assad regime (Zehorai, 2018). The leaders of the Islamic Jihad of Palestine had to learn this lesson the hard way during the ongoing conflict in Yemen: "While the heads of the Islamic Jihad were determined to remain neutral, the Iranians demanded explicit support for the Shiite Houthis. When expression of support was not forthcoming, Teheran decided to drastically cut the funding flowing to the organization, which went into a violent tailspin" (Zehorai, 2018). In a case of restricted support, US sponsorship of Iraqi Kurds was intentionally limited to ensure a level of hostilities sufficient to sap the resources of the Iraqi government, without enabling a coup d'état by the opposition (Gunter, 1999). As a rule, less powerful sponsors often support insurgents because other forms of direct intervention, such as using their own forces are not feasible. These states often determine their level of support based on the risk of punishment by more powerful states and limit their role accordingly (Byman, 2013, p. 999). State sponsors also have to live with the downsides of proxy warfare. Often money creates perverse incentives, and can interfere with political goals. As Baylouny and Mullins (2017, p. 5) report from Syria, some "commanders lived extravagantly, were called warlords, and appeared to care mainly about their own incomes. Rebels complained about fellow soldiers leaving their command to become leaders of new groups, fragmenting the opposition further." The Farouq and Tawhid Brigades demonstrate this change within the Syrian opposition, as they flip-flopped in ideology in line with requests received from their new Gulf donors. In many cases, the costs of state sponsorship seem to outweigh its benefits. According to de Vore and Stähli (2015, p. 22), sponsors of armed non-state organizations often achieve poor returns on investment: "The realization that the sponsorship of violent non-state actors — be they insurgents or terrorists — frequently generates meager results has led such states as Algeria, Cuba, Libya, and North Korea to abandon this practice."

4 The impact of finance on contest success

A VPO's capital structure has a significant influence on political contests, or, in the words of Ahmad (2017, p. 8): "different sources of revenue produce different political outcomes". Depending on the degree of self- respectively outside financing, VPO leaders have more or less control over their strategy as well as their tactical and operative decisions. Both the theory of corporate finance and empirical evidence from the corporate world suggest that the strength of a firm's balance sheet is the single most important determinant for strategic and operational control. As a rule of thumb, when faced with outside investors' claims for control rights, firms with stronger balance sheets (high initial equity, strong collateral, safe income stream) can afford to relinquish fewer control rights. Firms with intermediate balance sheets relinquish a few more rights. And firms with weak balance sheets (such as high-tech startups) relinquish most control rights to outside investors (venture capitalists). In short, the extent of managerial control increases with the strength of the firm's balance sheet (Tirole, 2006).

4.1 Cash shortage: the size versus control trade-off

The strength of the balance sheet is best measured by cash on hand (Tirole, 2006). Cash holdings are often positively correlated with the stage of development of the organization. In the literature, five stages of corporate development have been identified: inception, survival, growth, expansion and maturity. In the inception stage, sources of financing will be haphazard and will place heavy demands on the founder, his partners (if any), and his friends and relatives (Scott & Bruce, 1987). In the United States this pattern is reflected in the fact that "most funding for small firms […] comes from insiders (i.e., the entrepreneur, the start-up team, family, friends, etc.)" (Gartner, Frid, & Alexander, 2012, p. 746). This is mainly due to the so-called "information opacity problem". It states that a "startup's potential external equity investors (such as angel or venture capital) may have limited information about the founder (unless s/he is a serial entrepreneur) or the prospects for the enterprise and may therefore demand a high ownership stake for a given financial outlay" (Mann & Sanyal, 2010, p. 4).[8] In short, firms that are in their early stages are associated with larger informational asymmetries and higher agency costs for outside investors, who in turn demand a larger transfer of control rights. Almost every firm faces a trade-off between growth and control at a certain point in its lifecycle. [9]

Naylor (1993) developed a similar three-stage model for VPO development, which relates the maturity of the VPO to corresponding financing instruments. According to this model, in the

[8] Besides opacity, the literature identifies asset specificity (e.g. human capital of the founder), financial constraints (especially limits to self-financing) and personal characteristics of the entrepreneur (such as race, gender, education, network, experience) as decisive factors for a start-up's financial structure.

[9] In the corporate world, we can observe a hierarchy of financing sources. Internal sources such as retained earnings are "the most preferred choice for financing, followed by debt; new equity, common and preferred, is the least preferred choice. […] First, managers value flexibility and control. To the extent that external financing reduces flexibility for future financing […] and control ([…] new equity attracts new stockholders into the company and may reduce insider holdings as a percentage of total holding), managers prefer retained earnings as a source of capital." (Damodaran, 2010). This pattern is referred to as the "pecking order model of capital structure" (Gartner et al., 2012, p. 746).

start-up stage, VPOs mainly rely on “sporadic predatory operations” such as bank robbery and kidnapping, since they entail - compared to the standards of predation – low levels of (human) capital intensity and risk. Mokthar Belmokthar, a former commander of Al Qaeda in the Islamic Maghreb, did exactly that: “after amassing tens of millions of dollar in revenue from a string of high-profile kidnappings, Belmokhtar used this start-up capital to finance his jihadist group Al Mourabitoun and build his smuggling empire across North and West Africa” (Ahmad, 2017). According to Naylor’s model, in the second stage VPOs carry out “parasitical operations” such as revolutionary taxation of income and wealth, i.e. extortion. And once a VPO is firmly implanted in a certain location (stage three), it can initiate “symbiotic operations” such as indirect taxation (e.g. sales taxes on domestic commerce including drug trade), export and import taxes on foreign trade, user fees for public services the VPO is providing, and revenues from natural resource extraction

At a certain point in time, an expanding start-up VPO will have reached the limits of financing its growing stock of working capital with internal funds. In order to survive and grow, it will need to “cross an economic divide that separates those who live a hand-to-mouth existence from those who can actually plan ahead. All those groups who have come and gone [...] have failed to cross that divide.” (Adams, 1986). Herbst (2000, p. 13) reports from Africa:

> “most African rebellions begin life as extremely small and vulnerable operations. The eleven men who started the fighting in Eritrea (Pateman: 1998, p. 117), the famous twenty-seven fighters who began the National Resistance Movement's campaign in Uganda (Museveni: 1986, p. 7), the approximately one hundred soldiers of the National Patriotic Front that crossed into Liberia with Charles Taylor (Ellis: 1999, p. 110), the thirty-five trained in Libya who started the RUF in Sierra Leone (Abdullah and Muana: 1998, p. 177), the two hundred and fifty that started FRELIMO (FRELIMO: 1982, p. 147) are representative of how vulnerable and small rebel movements are at the beginning. Of course, many rebel movements are defeated early or simply collapse from their internal divisions, never to be heard from again”

To cross the economic divide between demise and mission accomplishment, outside financing can help. This is why VPOs look for sponsors (Collier, 2000). Once a potential sponsor has been identified, the VPO leadership has to decide on the trade-off between growth and control. In order to keep control over operating, investment and personnel decisions and to avoid sponsor activism, VPO leaders sometimes prefer to sacrifice growth.

Al Qaeda apparently did not find suitable sponsors or did not want to accept the required trade-off. As Tupman (2009) reports, the fact that Al Qaeda had several periods of relative penury, when there were simply not enough funds left, explains why spectacular terror attacks were so painstakingly planned and such occasional events. On the other hand, the Provisional IRA apparently accepted the trade-off. It raised at least USD 1.2 million venture capital from the Irish-American diaspora between 1970 and 1973. It is rumored that some initial aid even came from the Irish and Syrian governments. However, relinquishing some control to the Irish-American diaspora was not such a difficult trade-off after all, since there was a large overlap in interests (Woodford & Smith, 2018). This was different in the case of Hamas, which – as a Sunni Muslim VPO - accepted substantial outside financing from its Shiite Muslim sponsor Iran. The conflict of interest is evident, and became so severe after 2012, when Iran openly started supporting the loathed Syrian regime, that Hamas rejected Iranian funds. Interestingly, things played out in exactly the opposite fashion with Hamas' internal rival, the Sunni Muslim Palestine Islamic Jihad. In contrast to Hamas, it was willing to accept the opprobrium associated with ties to Iran because it was broke and lacked its own networks to acquire significant weapons (Byman 2018).

The two latter cases prove the importance of a strong balance sheet. Thanks to a higher level of financial sustainability, Hamas was able to stay in business and retain control after discontinuing its financial relationship with Teheran. In a different case, Hezbollah - even though it has one of the strongest VPO balance sheets and operates under almost no revenue constraints - had to relinquish some control to its key sponsor Iran. Hezbollah fighters in Syria are evidence for this. In order to retain control and ensure financial sustainability no matter what happens to Iran, Hezbollah conducts parallel and independent fundraising efforts to diversify its income sources (Levitt, 2007).

4.2 Excess cash: The power versus wealth trade-off

VPO leaders face a second trade-off in the opposite case of excess cash. Whereas some VPOs are underfunded and constantly struggle to raise sufficient funds to remain in the contest, other VPOs are financially successful to a degree that allows leaders to divert funds for their own private benefit. There is anecdotal evidence of various VPOs that – at least during a certain period of time - were apparently overfunded. This enabled leaders to afford luxurious lifestyles in the midst of conflict and chaos. The most striking example is from the Syrian Civil War:

> "the trajectory of the [Syrian, the author] opposition bears a striking resemblance to the dynamics of natural resource funding that spurred the greed literature. Economic motives and opportunities took over, generating businessmen out of fighters. The rebels ran grain and oil rackets to name but two. Military alliances were chosen to protect business interests, as militia leaders drove luxury cars and lived extravagantly. 'Mad Max meets The Sopranos', one observer described it. The Islamists, with privileged relationships to the Gulf donors, attracted more money than secularists. Their gains drew fighters seeking weapons and money, and the cycle continued. Successes on the field drew still more support" (Baylouny & Mullins, 2017, p. 4).

A similar picture emerged in Pakistan, where "mid-level managers of organizations such as Harakat ul-Mujahidin (HUM), a Pakistani militant group focused on Kashmir, often live luxurious lives far beyond what their followers can afford" (Shapiro, 2007, p. 58). In the case of the PLO, "the large infusion of funds fueled rampant corruption in the organization. Consequently, many PLO leaders grew rich, bought expensive cars, and acquired luxurious apartments. Not surprisingly, these 'bourgeoisified bureaucratic' cadres gradually lost touch with the PLO's rank-and-file members, who were now alone in making personal sacrifices for the organization's greater good" (de Vore & Stähli 2014, p. 6).

This begs the question why VPO leaders do not use cash surplus to advance their political interests in the political contest. One hypothesis is that cash surplus simply exceeded the cash requirement of the political contest – there was more cash than positive NPV investment opportunities. Excess cash was consumed. However, this decision is inefficient, since cash could simply be retained and used for positive NPV investments in future periods.

Another hypothesis is that private, commercial motives (wealth) exist in parallel to group, political ones (power) and at times dominate the decision-making of VPO leaders. VPOs share a number of characteristics with violent criminal organizations (VCOs) such as drug-selling gangs, where private, commercial motives dominate (Collier, 2000). Similar to VPOs, VCOs can show an "enormous skew in the distribution of wages […]. The gang leader earns 10–20 times more than the average foot soldier" (Levitt & Venkatesh, 2000, p. 774). VCOs frequently engage in commercial violence, i.e. gang wars, mainly for the purpose of territorial expansion. Wars are seen as investments, and gang leaders are actually willing to incur personal losses, with the aim of offsetting them with post-expansion increases in revenue and personal profit.

The replacement of political with commercial motives might be due to principal-agent problems inside the VPO. VPOs can be subject of adverse selection and moral hazard. The prospect of generous pay or the opportunity of handling abundant funds might attract people who are equally or more interested in the private benefits the VPO offers than its political cause. VPOs often rely on the services of experienced mercenaries. Apparently, these fighters strongly respond to monetary incentives, as Ahmad (2017, p. 182) reports from Afghanistan: "As the wealthiest extremist group in the world at the time, Daesh allegedly courted [...] fighters with offers of higher salaries, allegedly ten times the ordinary rate paid to local Taliban foot soldiers." It is thus fair to assume that there is at least some adverse selection of financially instead of politically motivated fighters into VPOs around the world. Due to lack of monitoring and intransparency, leaders and high-level administrators can become subject to moral hazard when dealing with the organizations' funds. Instead of investing them for the political cause, surplus funds are privately consumed. However, if the hypothesis that commercial motives crowd out political ones was true, "why don't leaders such as Jonas Savimbi or Charles Taylor

cash out after they have made millions, invest those funds in a hedge fund, and retire to more pleasant surroundings? Why do they continue to engage in the extraordinarily dangerous and perhaps unprofitable strategy of trying to capture the capital?" (Herbst, 2000, p. 6).
Therefore, in many cases, VPOs can be characterized as hybrid organizations where political and commercial objectives co-exist (Makarenko, 2002, 2004). Some observers consider the activities of VPOs in which criminal motives dominate "for-profit terrorism" (Rosenthal, 2008). Examples can be found in armed conflicts around the world. Both the Northern Alliance in Afghanistan and the Kosovo Liberation Army used "ideology as a camouflage for a criminal enterprise" (Passas, 2007, p. 26). According to Williams (2008, p. 132), some units of the Colombian FARC - "particularly the 16th front – are heavily engaged in drug trafficking" – and decided not to participate in the peace process, but to continue operations as a non-political VCO (Herrera, 2018).

4.3 The optimal financial structure of violent political organizations

Regardless of the type of financing, cash at hand (or cash in actual possession) is the best measure of balance sheet strength. It reflects the degree of managerial flexibility of a VPO to reallocate assets in response to opportunities and threats (Bowman, 2011).[10] Even if a VPO is endowed with substantial cash holdings at the outset, over time insufficient cash inflow can lead to an erosion of the cash balance, up to a point where the production of political violence has to be scaled down or halted completely. As Giraldo and Trinkunas (2007b, p. 17) note, "a sometimes noted but quickly dismissed inefficiency in the terrorism financing process is the frequency with which terrorist operations have been underfunded. This has often resulted in the failure of the mission". In order to avoid such a situation, a VPO has to make sure that its financial capacity is sustainable in the medium to long term. The so-called cash *burn rate* indicates the number of periods a VPO is able to sustain its production of political violence at the level given by the cash requirement. The burn rate is a powerful indicator of a VPO's financial sustainability. To calculate it, total cash at hand is divided by the periodical (e.g. monthly) cash burn, i.e. the difference between periodical cash requirement and periodical cash surplus. The resulting figure states the number of periods that can be financed with cash at hand. The cash burn rate is an especially important metric for outside-financed VPOs, since it provides a time measure to when the next funding event (i.e. incoming donation) needs to be scheduled. The cash burn rate is susceptible to both changes on the income and on the

[10] "Financial flexibility is assumed to exist if an organization has access to equity balances, many revenue sources, high administrative costs, and high operating margins" (Tuckman & Chang, 1991, p. 450).

expenditure side. On the income side, the sudden withdrawal of an important outside sponsor might lead to a jump in the burn rate. On the expenditure side, an overly ambitious contest strategy by an overconfident VPO leader might result in low-return contest investments, an ensuing gap between cash requirement and cash surplus, and can cause a gradual worsening of the burn rate.[11] Both events endanger the financial sustainability of the VPO.

In order to manage the risk of a cancellation of an important source of cash, VPOs should diversify their cash sources, such that the impact of an exogenous cash shock remains limited. With respect to the diversity of cash sources, we can identify three types of VPOs: Outside-financed VPOs, self-financed VPOs and mixed-finance VPOs.

In outside-financed VPOs, the low share of self-financing of the balance sheet is usually an indicator of a high growth potential and a low level of entrepreneurial control. It corresponds to the venture capital-financed high tech startup of the corporate world that (almost) exclusively relies on staged outside financing. Due to their large share of control rights, sponsors have gate-keeping power and basically control the VPO. In extreme cases, VPOs become puppets of their financial masters. A number of such "Puppet VPOs" is known from recent history. In the early post-Soviet phase of Afghanistan, Hizb-e-Islami, the group headed by Afghan warlord Gulbuddin Hekmatyar, was sponsored by Pakistani military intelligence agency ISI. Its task was to capture Kabul and take control of Afghanistan. Hekmatyar was completely dependent on the ISI for support. In 1994, when the Pakistani government realized that Hekmatyar had failed to achieve its objectives, the ISI shifted its financial and military support away from Hizb-e-Islami towards the Taliban (Johnson, 2007). A similar situation pertains to the Islamic Jihad in Palestine since it receives outside funding from Iran. According to Zehorai (2018), the Islamic Jihad receives support from Iran of about $70 million a year, which accounts for nearly 75% of the Palestinian terror organization's entire budget." In another case, the Peshmerga, the paramilitary organization of the Iraqi Kurd regional government, received US military assistance summing up to USD 415 million in 2017, for its key role in the fight against the Islamic State in Iraq and Syria (Rudaw, 2018).

The opposite to the outside-financed VPO is the *self-financed VPO*. It should exhibit low growth potential and a high degree of entrepreneurial control. Al Qaeda is a typical example of a self-financed VPO. According to Tupman (2009, p. 199), "it may be that al-Qaeda finances itself the way it does because of the sorts of operations it wishes to engage in or it may be that it acts sporadically because of the nature of its cash flow". Al Qaeda apparently receives most

[11] Evidence from the corporate world shows that - in the presence of large firm cash holdings - overconfident CEOs overinvest and show reluctance to engage in outside (equity) financing (Malmendier & Tate, 2005).

of its funding during the month of Ramadan, when charitable donations are given and when donors are most easily approached. At the end of Ramadan the leadership of al-Qaeda has a fairly good idea of how much it can spend during the year, and can adjust its monthly cash requirement accordingly. In the case of Al Qaeda, cash surplus does not cover the cash requirement. The Provisional IRA, once Libyan sponsorship had ended and diaspora donations from NORAID had declined, is another case of a self-financed VPO, which had to contend with a relatively small budget. The Basque ETA and the Colombian ELN guerrilla also serve as examples of relatively cash-strapped VPOs.

Mixed finance VPOs usually rely on a variety of sources of cash. Naylor (1993) explains that any sensible VPO, from the Afghan mujahideen with their heroin trafficking to the Angolan UNITA with their diamond smuggling and ivory poaching, does its best to minimize the political constraints of outside aid by diversifying its funding sources. Probably the best example is the Palestinian Liberation Organization (PLO) during the 1970s and 1980s, before the outbreak of the first Gulf War:

> "It is precisely the PLO's portfolio of financial assets that has enabled it to transform itself from merely a successful guerrilla organization to a bona fide government-in exile. In its early days the PLO relied almost exclusively on outside sponsors, mainly the Arab states, who used their financial aid to try to manipulate the Palestinian national movement to their own political ends. Indeed, the first major quarrel the PLO had with a host government was when it was refused permission to independently tax the Palestinian population of Jordan. By the early 1980s tax revenue and investment income was sufficient that the PLO itself was largely insulated from pressures from outside sponsors. Palestinians around the world, especially those employed in the oil states of the Gulf, were contributing 5-7% of their salaries, while income from assets - direct investment in factories, real estate holdings, plus stocks and bonds managed through the Swiss subsidiary of the Arab Bank of Amman - was running in excess of $ 1 billion a year. It was sufficient to support Diaspora schools and hospitals, a diplomatic corps in 90 countries, and a standing army of 14,000" (Naylor, 1993, p. 42).

The Tamil Tigers (LTTE) of Sri Lanka also tried to diversify their cash sources by shifting into legitimate investments as a relatively more stable source of revenue, after having been exposed to reduced diaspora donations in the wake of peace talks in 1990 respectively 1994 (Giraldo & Trinkunas, 2007b). The Afghan Taliban, Hamas and Hezbollah also seem to fit into the category of well-diversified VPOs with a low degree of dependency on a single source of cash.

4.4 The cash balance as a determinant of peace

As the above examples show, the current shape of the balance sheet has a strong influence on a VPO's contest strategy. Financially constrained VPOs sometimes have to forego profitable contest investments due to a lack of funds. This in turn reduces their likelihood of contest success. On the other hand, unconstrained VPOs can fund every profitable contest investment, enabling them to stand their ground or even gain ground with respect to the adversary. We would therefore expect financially unconstrained VPOs to be more successful, whereas financially constrained VPOs would be associated with a lower likelihood of military victory. This could have important implications for peace policy. In line with the observation by Collier, Hoeffler, and Söderbom (2004): "profitability lengthens civil war and reduces rebels' incentives to negotiate with government leaders"), the following three testable hypotheses can be derived from the above logic:

1. Severely cash-constrained VPOs (cash burn rate lower than a certain threshold x) should be positively correlated with military defeat.
2. Moderately cash-constrained VPOs (cash burn rate above threshold x) should be positively correlated with negotiated peace. This hypothesis is derived from the assumption that moderately cash-constrained VPOs exhibit an average likelihood of contest success, indicating high likelihood of a war of attrition, a prerequisite for peace talks (Gehrmann, 2018).
3. Cash-unconstrained VPOs (negative or zero cash burn rate) should be positively correlated with military victory.

Of course, over time, an organization can change types. A cash-constrained VPO can turn into a cash-unconstrained VPO thanks to a new private or state sponsorship and vice versa. A case in point is the PLO, which, after the first Gulf War, turned from a cash-unconstrained to a cash-constrained VPO:

> "The cancellation during the Gulf War of the mandatory deduction that rulers of the Gulf states had imposed, on the PLO's behalf, on the salaries of Palestinian workers, badly hurt the PLO's income just at a time when the costs of supporting the intifada were severely draining its resources. This financial loss was one of the main factors that impelled the PLO to sign the Oslo Accords, which probably spelled the end to dreams of Palestinian independence" (Naylor, 2002, p. 79).

Here, an exogenous cash shock forced the PLO to trade its contest strategy for a peaceful strategy to prevent the organization from imminent collapse.

5 Conclusions

In political contests, finance matters. In the end, a VPO is only as strong as its cash balance. Both theory and evidence suggest that deeper pockets win wars. Shallower pockets either lead to defeat, surrender or negotiated peace. This insight creates a serious challenge for violent political organizations. To offer itself a realistic chance of military victory against the incumbent government, the VPO requires large and regular inflows of funds to finance its periodical cash requirement, i.e. the sum of all positive net present value investments in political violence. However, due to their illegal nature, violent political organizations are financially constrained. Since they do not have access to credit, bond or capital markets, they have to rely on producing a periodical cash surplus which can be invested in the contest.

In order to generate cheap and fast cash, VPOs often run highly profitable predatory operations such as extortion, armed robbery (including piracy and looting), kidnapping and theft. In addition, VPOs often engage in profitable illicit commercial operations such as extraction and sale of natural resources (oil, diamonds, timber, etc.), trafficking of high-value products (drugs, diamonds, etc.), production of counterfeit goods and provision of illicit services such as private security or money laundering.

However, self-financing alone is often not sufficient to cover the organization's cash requirement. Therefore some, not all, VPOs rely on additional outside financing. Outside funds are provided either by wealthy individuals, groups of individuals such as diaspora communities or foreign governments with an interest in the contest.

In terms of financial management, cash at hand, the cash burn rate and the diversity of cash sources are the most important metrics. They measure the financial capacity, financial sustainability and default risk of the organization.

Fifth, VPOs are subject to a size vs. control and a wealth vs. power trade-off, which have the potential to diminish the efficiency of its operations. Concerning the former, outside financing is an elegant way to access funds, compared to cumbersome and risky self-financing operations. It is associated, however, with a reduction in managerial control for the organization's leadership. In extreme cases of state sponsorship, VPOs can become dependent on the income from their sponsors. Regarding the latter, due to adverse selection, VPOs sometimes hire commercially motivated operators, resulting in a generation of excess cash and subsequent consumption and corruption rather than optimal contest effort. Management has to optimize its financial structure and hiring practices accordingly.

In addition, the cash burn rate can also serve as an indicator for a VPO's willingness to enter peace negotiations. As in the case of the PLO, exogenous cash shocks can have a huge negative impact on the feasibility of civil war and can by themselves trigger a strategic realignment towards peace.

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