Side-Switching As State-Building: Getting The Incentives Right in Ukraine

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ABSTRACT:

Since 2014, cooperative consolidation of factional armed groups has taken place in Ukraine. The theoretical contribution of this paper is a simple model of militia consolidation. Analysis of the model illuminates a number of strategic dilemmas associated with U.S. support for Ukrainian military consolidation processes. Though flows of Western aid to Ukraine should never drop to zero in the model, some foreign aid is certain be repurposed to keep the incumbent Ukrainian regime in power. Non-territorial militias have very strong incentives to organize themselves into "blocking coalitions" to maximize rent extraction from the central state by threatening to sabotage political order. Implications for U.S. policy in Ukraine are discussed. The empirical contribution of this paper is an original analytic narrative that evaluates the model predictions using an original dataset of field commanders, descriptive results of an original survey of Ukrainian militia members, and a variety of qualitative evidence.

Great power competition has returned to Eastern Europe with tragic consequences for civilians living in the Donbas region of Ukraine. During the chaotic months between February and June 2014, after Russia sent special forces into Crimea, militias with uncertain loyalty organized in Russian-speaking communities. Ukrainian state failure loomed as a frightening possibility. By the following summer, however, a new Ukrainian state had formed in response to Russian policy. This was not just a different Ukraine demographically, with altered *de facto* borders and coalitions servicing a new median voter, but also a self-sustaining war machine capable of bleeding Russia indefinitely. This is an outcome that reflects the will of many Western constituencies.

How should scholars understand the consolidation of militias in Ukraine in 2014-2015? To answer this question, this paper presents a formal model that explains why *partial consolidation* of the Ukrainian state has emerged as an equilibrium outcome, likely to be sustained. While some favor an analogy of mass mobilization by the Ukrainian state, we believe that is closer to the truth to say that many militias self-organized, considered their options, then chose to join the state. Western assistance arrived in due time, but anticipation of this aid was part of the lure that convinced field commanders to try to rehabilitate Ukrainian state institutions rather than cannibalize them. In the end, initially-fragmented militia units consolidated into two factions. One faction, supported by Western governments, merged with the Ukrainian security sector. The other faction, supported by Russian special forces, patrols the *de facto* independent Eastern Donbas.

We then analyze the political control by Western donor states over the first coalition – the de-facto Ukrainian state security apparatus – through the lens of a principal-agent problem. A hallmark of principal-agent games is preference divergence between the implementing agent and the principal. Perfect compliance by agents cannot be easily incentivized, so there is no first-best solution. Second-best solutions involve attempts to screen agents, to alter agents' incentives by monitoring, to condition rewards on good behavior, and to withhold rewards as punishment. Agents can hide their type and evade screening, however, knowing that monitoring is difficult and realizing that punishment of bad agents can be costlier to the principal than letting defections slide. The larger point is that the content of Western support to Ukraine – sending various kinds of lethal and nonlethal assistance destined for the front-lines of the Donbas, training Ukrainian defense forces, and more – sometimes exaggerates the degree of complementarity of Western and Ukrainian interests for understandable reasons of political convenience.

The first section of the paper backgrounds the Ukraine case, introducing the perspective of great power bargaining as what sets the parameters of US and Russian involvement in Ukraine. The bottom line is that the United States certainly wanted to punish Russia for taking Crimea, but might not want a "New Berlin Wall" scenario involving moving the border of NATO defense planning all the way to the Eastern Donbas. The second part of the paper analyzes a simple formal model. To demonstrate local validity, the fit between the model's assumptions and Ukraine is justified with an analytic narrative. The third section is therefore empirical, illuminating the logic of the model and demonstrating why the adverse selection problem of agents remains so intense. Finally, in a fourth section we conclude with a speculative discussion of the risks of a widening gap between Western and Ukrainian state preferences in the future. The desires of Western

governments and the desires of some Ukrainian military planners are not perfectly compatible, and our conclusion will discuss the preference gap with additional detail.

1. Bargaining Over Ukraine: Summary Geopolitical Background

Great power bargaining is a common theoretical framework to understand the ongoing war in Ukraine. Russia and the Western Security Community, led by the United States, have been bargaining over the geopolitical future of Ukraine. NATO member states were divided over whether expanding the alliance east would stabilize Eastern Europe or provoke Russia.[1] Stakes are existential, as Zbignew Brezinski once observed, "[W]ithout Ukraine, Russia ceases to be an empire, but with Ukraine suborned and then subordinated, Russia automatically becomes an Empire."[2]

Since 2014, bargaining processes have become violent, pitting Ukrainian families against each other. While the proximate flashpoint involved trade preferences (specifically European Union vs. Eurasian Economic Union membership), Western and Russian interests in Ukraine were functionally zero-sum in more than one respect. In the early 1990s, NATO expansion to Ukraine was not discussed. In the 1994 Budapest Memorandum, Ukraine agreed to eliminate its nuclear arsenal in exchange for a promise by Russia to respect its borders and sovereignty. In 2008, at Bucharest, NATO declared that Ukraine would be a member at an unspecified future point – reflecting the perception that many previous components of a "fair" compromise had the feel of outdated concessions to Russia.[3] Things came to a head in 2013 when it became clear that the Kremlin would no longer allow Ukrainian leaders the option of selling their voters the fantasy of membership in both the European Union and the Eurasian Economic Union simultaneously, and that Kremlin desired limited Ukrainian freedom of action in foreign affairs and deference to Russian preferences, framing European Union expansion as the most recent (inappropriate) effort by the West to "peel off" Ukraine from Russia. The Kremlin's position was more popular in Ukraine's east than Ukraine's west, and tensions unleashed street protests that toppled the East-leaning Ukrainian government. The protests culminated in President Yanukovych fleeing the country in February 2014.

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[1] Géza Jeszenszky, "NATO Enlargement: Anchor in a Safe Harbor," in *Open Door: NATO and Euro-Atlantic Security after the Cold War* (Brookings Institution, 2019), 123; Karsten D. Voigt, "NATO Enlargement: Perspective of a German Politician," in *Open Door: NATO and Euro-Atlantic Security after the Cold War* (Brookings Institution, 2019), 239.

[2] Quoted in Ronald D. Asmus, *Opening NATO's Door: How the Alliance Remade Itself for a New Era* (Columbia University Press, 2002), 156.

[3] Both Russia and the West argue the other is the revisionist and that they are the a status quo power. The debate is well-captured in, for instance, John J. Mearsheimer, "Why the Ukraine Crisis Is the West's Fault: The Liberal Delusions That Provoked Putin," *Foreign Aff*. 93 (2014): 77. Michael McFaul, "Putin, Putinism, and the Domestic Determinants of Russian Foreign Policy," *International Security* 45, no. 2 (2020): 95–139.

Though the breakdown of party and state institutions was months in the making, a cascade of truly unexpected events took participants and great power observers by surprise. NATO governments recognized a new government and celebrated the "Revolution of Dignity." Rather than accept the outcome, the Kremlin called the same events a CIA coup, violated the promise made at Budapest, seized assets in Crimea, and encouraged and assisted insurgents in Ukraine's east. The result was a change to Ukraine's *de facto* borders, subtracting territory from the Ukrainian polity.[4] Crimea was added to the Russian Federation according to Russian maps. Territory in the Eastern Donbas (the Donetsk and Luhansk People's Republics -- DNR/LNR hereafter) remains in limbo. The United States has made clear it will "never accept" the Russian annexation of Crimea, and has continued advocating for greater Ukrainian freedom of action to align with the West if it chooses.[5] The geopolitical narratives diverged.

Outside of Crimea, there were some pro-independence rebellions in Ukraine, but for the most part they were cauterized locally. The Donbas region of Eastern Ukraine is the exception, and it is there that the war went hot. The region has been devastated by shelling that began in the early summer of 2014. Estimated deaths exceed 13,000.[6] Though frontlines have not moved much since the winter of 2015, the Kremlin seems to prefer a broken Ukrainian polity to a polity fully-embedded in Western institutions on its border and has demonstrated that is has various kinds of leverage: sending clandestine special forces into Ukrainian territory to wreck Ukraine, selectively annexing territory where occupation costs are negligible (such as Crimea), using its veto in the United Nations Security Council to prevent reconstruction until Russia gets its way, sticking doggedly to a unified narrative in the Russian-language space, and more. Punishing the West for encouraging Ukrainian elites to exit Russia's sphere of influence is the strategic goal.

There was a real possibility that Russia's invasion of Crimea would result in the cannibalization of Ukrainian security institutions by dozens (or hundreds) of warlords, all leading self-organized militia armies but ultimately accountable to no one but themselves. Russia might then have invoked "Responsibility to Protect" logics and sent troops to "secure civilians," ending up in control of the entire north shore of the Black

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[4] The legality of the Crimea annexation remains disputed, but was widely viewed at the time as a flagrant violation of the UN Charter, the Helsinki Accords, and the letter and spirit of the Budapest Memorandum of 1994. Russian diplomats invoked various logics to justify the annexation (self-defense, self-determination, "Responsibility to Protect"). While a number of post-conflict territories remain outside the control of a state (Northern Cyprus, Nagorno-Karabakh, Abkhazia, South Ossetia, Transnistria), or become states (Kosovo), big powers taking territory from small ones by appealing to self-determination has not occurred often since WWII.

[5] AFP, "Biden Says U.S. Will 'Never' Accept 'Aggressive' Russia's Crimea Annexation," The Moscow Times, February 26, 2021, https://www.themoscowtimes.com/2021/02/26/biden-says-us-will-never-accept-aggressive-russias-crimea-annexation-a73092.

[6] "Office of the United Nations High Commissioner for Human Rights Report on the Human Rights Situation in Ukraine 16 November 2019 to 15 February 2020" (United Nations Human Rights Office of the High Commissioner, n.d.), https://www.ohchr.org/Documents/Countries/UA/29thReportUkraine_EN.pdf.

Sea. To try to prevent this outcome, the West sent very large amounts of aid to "float" Ukraine out of failure. The thrust of the formal model that follows is that this aid came with few practical strings, giving Ukrainian agents leverage, but the investments of aid serve a few purposes. The first is signaling. A prominent view in the West was that capitulation to Putin's criminal actions in Crimea would be a form of morally unacceptable abandonment in this part of the world. Instead, though military and financial assistance is costly, it was important to demonstrate solidarity with the Ukrainian government seeking a new geopolitical bargain.

A two-pronged approach emerged in the West. The first prong targeted Kremlin policymakers with sanctions. The second prong was immediate aid to Ukraine to support the building of social institutions that espouse Western values and are as free from corruption as possible. Military training and advising packages to stiffen the backs of Ukrainian soldiers emerged as part of the institutionalization of the policy, signaling to Russia an intent to "lock in" Western support by taking particulars out of the hands of the Executive and delegating it to agents in Congress and the Department of Defense.[7]

The fundamental problem for Western donors who are hawkish on Russia, and who wish to put in place policies that bleed Putin and punish him for violating international law on Crimea, is that the war must be fought indirectly, matching Western capital with Ukrainian militia labor. This problem is magnified by the fact that not all social forces in Ukraine wish to contribute labor to this fight. Many Russian-speaking Ukrainians do not want to fight against Russia at all, and some of the Ukrainian militias who *do* want to fight against Russia do not share the liberal values espoused by the NATO alliance. This problem is often ignored in the West, but it cannot be ignored within Ukraine. Ukrainian military power depends on intra-Ukrainian political dynamics that external powers – whether in the West or in Russia – have only a limited ability to predict or effect.[8] The next section models this problem formally.

2. Militia Consolidation As State Building (Theory)

The dominant rhetorical framing of the Ukraine crisis in the West blames Russian policy for failure to settle Ukraine's Donbas war.[9] We do not dispute Russia's involvement, but

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[7] The fact that sanctions on Russia have been passed by acts of Congress makes it difficult for the president to reverse them. For evidence of desire by the Kremlin for drift on Ukraine, see for instance Andrew Weissmann (2020), *Where The Law Ends*, Random House, 299-303, 336.

[8] This is a point made repeatedly by Paul Staniland: "Insurgents are fighting forces that should be analyzed on their own terms, not as pale reflections of state power and purpose. They possess agency that cannot be wished away." Paul Staniland, *Networks of Rebellion: Explaining Insurgent Cohesion and Collapse* (Cornell University Press, 2014), https://www.jstor.org/stable/10.7591/j.ctt5hh16w.

[9] Western discussions about Russia's role in ending the war in Ukraine often sound a lot like the discussion in Peter Dickinson, "Russian Escalation Dampens Hopes for Peace in Ukraine," *Atlantic Council* (blog), February 18, 2020, https://www.atlanticcouncil.org/blogs/ukrainealert/russian-escalation-dampens-hopes-for-

in this section we present an alternative model that emphasizes the agency of Ukrainian social actors by forming blocking coalitions that can extort Ukrainian citizens directly, and international patrons indirectly, with the threat of collapsing political order. The potential of Ukrainian militias to act as spoilers ("veto players") over a future peace settlement is an under-appreciated feature of settlement politics.[10] This problem is hardly ever raised in the standard geopolitical narrative sketched above. As a partial corrective, our model highlights the problem of adverse selection of agents from the donor state's perspective. The local armed actors that Russia and the West align with have their own motivations to participate in this conflict, and often exercise their agency in ways that diverge substantially from their international sponsors' preferences.

The game begins in a post-Soviet country that has experienced a dramatic failure of collective defense institutions and been invaded by Russia. There are three classes of strategic actor: a Western **great power** (**G**), a **local patron** in the security bureaucracy (**p**), and more than one **field commander** (generically **n** different field commanders).[11] The great power moves first, the local patron moves second, all field commanders move third simultaneously.

G first chooses the size of the foreign aid package (**a**) that will be sent to the country in order to resist Russian aggression. Assume **a** ranges from 0 to 1.

peace-in-ukraine/. The assumption is that if Russia said the word, the separatists would stop fighting. Academic literature also examines on how interveners in conflict can make a peace settlement less likely, for example: David E. Cunningham, "Blocking Resolution: How External States Can Prolong Civil Wars," *Journal of Peace Research* 47, no. 2 (March 1, 2010): 115–27, https://doi.org/10.1177/0022343309353488; Aysegul Aydin and Patrick M. Regan, "Networks of Third-Party Interveners and Civil War Duration," *European Journal of International Relations* 18, no. 3 (September 1, 2012): 573–97, https://doi.org/10.1177/1354066111403515.

[10] There is a rich literature how rebel groups often act as spoilers for peace processes across a variety of contexts. See, for example, David E. Cunningham, "Veto Players and Civil War Duration," *American Journal of Political Science* 50, no. 4 (October 2006): 875–92; Wendy Pearlman, "Spoiling Inside and Out: Internal Political Contestation and the Middle East Peace Process," *International Security* 33, no. 3 (January 1, 2009): 79–109, https://doi.org/10/bg569f; Wendy Pearlman and Kathleen Gallagher Cunningham, "Nonstate Actors, Fragmentation and Conflict Processes," *The Journal of Conflict Resolution* 56, no. 1 (2012): 3–15, https://doi.org/10/fz2hc7; Andrew G. Reiter, "Does Spoiling Work? Assessing the Impact of Spoilers on Civil War Peace Agreements," *Civil Wars* 17, no. 1 (January 2, 2015): 89–111, https://doi.org/10.1080/13698249.2015.1059567.

[11] This model would be less appropriate in a social setting defined by bargaining between 2 well-institutionalized players across a static "master cleavage (Stathis N. Kalyvas, *The Logic of Violence in Civil War*, 1st ed. (Cambridge, UK: Cambridge University Press, 2006), such as a static "ethnic Serb-vs.-ethnic Albanian" cleavage. That is not the kind of war that occurred in Ukraine's east, however, where most of the collective action was intra-Russian-speaking. See Yuri M. Zhukov, "Trading Hard Hats for Combat Helmets: The Economics of Rebellion in Eastern Ukraine," *JOURNAL OF COMPARATIVE ECONOMICS* 44, no. 1 (February 2016): 1–15, https://doi.org/10.1016/j.jce.2015.10.010; Jesse Driscoll and Zachary C. Steinert-Threlkeld, "Social Media and Russian Territorial Irredentism: Some Facts and a Conjecture," *Post-Soviet Affairs* 36, no. 2 (March 3, 2020): 101–21, https://doi.org/10.1080/1060586X.2019.1701879.

The purpose is to "buy local allies" to punish Russia. If the transfer is zero, however, that does not imply that the besieged state has no chance of resisting Russia, nor that it cannot attract rent-seeking patriotic field commanders. State employment offers honor, pensions, the opportunities for racketeering or collecting bribes, and contracts worth v before any infusion of foreign assistance, but a may grow the total pie to $v^* \geq v$. For the donor to derive utility from sending aid, there must be a viable Ukrainian state ready to receive it. So long as a coalition of Ukrainians is ready to take the fight to Russia, aid can be seen (crudely) as analogous to a venture capital investment in geopolitical influence. Whether the formation of this coalition would be difficult or easy is a parameter **s** (defined shortly below).

Next, a civilian in the recipient government– a bureaucratic patron (p) – takes stock of the identities of various field commanders and the full resources available for redistribution, v^*, and proposes a distribution of v^* among these commanders and himself $\mathbf{x} = (x_i, x_j, \ldots x_q, x_p)$. What this looks like, in practice, is many different field commanders ascending to positions within the state security services, shaving their beards and donning uniforms against the backdrop of an "anti-terrorist operation" or a *levee en masse* to deputize vigilante social groups emerging organically from the streets. Offices and titles are handed out to some charismatic patriots. The political agendas of some groups are elevated over others in this process, with symbols memorialized in insignia and powerful personalities institutionalized in the security bureaucracy.

Finally, each of the n field commanders observes their offer. No one disarms. As a result of the transfer, many have been ceded authority – and now field commanders must decide to either *cannibalize* their newfound positions or try to *rehabilitate* state institutions by subordinating one's militia to the interests of the state.

How much coordinated *rehabilitation* is necessary? One field commander acting alone cannot *rehabilitate* the state. In extreme cases of state failure, in fact, if all field commanders opt to *cannibalize* state assets, a lone field commander pushing for rehabilitation is likely to be punished by his men for weakness (-w) for misplaced loyalty to institutions that are obviously bankrupt. But how many field commanders must play *rehabilitate* at the same time to secure the territory of the state against Russian military aggression? This is a variable that depends on Russian intentions. The critical number of field commanders is the "stability threshold," s. By assumption, to keep the game focused on the necessity of coordination between field commanders, no militia should be sufficient to unilaterally ensure state survival ($s > 1$) and no single field commander should have a veto over the stability of the state ($s < n$). If fewer than s field commanders choose *rehabilitate*, the game ends with state failure. If s or more field commanders choose *rehabilitate*, political order is maintained (centered on familiar institutions in the capital city) and p's transfer occurs.

To recap, the path of play is as follows:

- A foreign government **G** chooses an amount of aid $\in$ 0-1 to send to assist consolidation processes in the security sector. Call this amount, once added to the total value of the security forces of the target state, v^*.
- A domestic patron p observes this transfer and proposes a distribution of v^* among n field commanders and himself $\mathbf{x} = (x_i, x_j, \dots x_q, x_p)$.
- Each of n field commanders simultaneously chooses whether to mobilize a militia that goes outside the chain of command ("***cannibalize***"), or to mobilize a militia that remains subordinate to the institutional chain of command ("***rehabilitate***"). Call the number of field commanders who play *rehabilitate* k. If k is less than a stability threshold s ($1 < s < n$), the game ends with state failure.
- If $k \geq s$, p's distribution $\mathbf{x}$ is implemented and the game ends with political order.

The payoffs depend on the strategies of the three players. The first thing to assess is whether there is sufficient coordination by field commanders to secure and defend their country. If the stability threshold s is not passed, the field commanders who played *cannibalize* benefit the most from state collapse. All will scramble to seize the statehouse and others will establish themselves as local bosses over de-facto fiefdoms – but they are best positioned to benefit from the collapse of social order if they were first-movers against the old regime. For simplicity, assume that field commanders are symmetric in military power so they have a roughly equal chance of aggregating power by force. Fighting in a civil war destroys assets and risks unpredictable violent spirals. Call these costs c. Those who played *cannibalize* get $v^*/n - c$. Those who played *rehabilitate* can take part in the scramble, but are penalized for being seen as weak ($v^*/n - c - w$). The civilian bureaucrat p receives zero when the state fails, as does the donor state G as the aid it provided a now lines the pockets of the field commanders who cannibalized the state. In the special case that $a=0$, replace v^* with v in field commanders' utility functions.

If the stability threshold is reached or passed (if $k \geq s$), the distribution $\mathbf{x}$ is implemented. Each field commander i receives their transfer x_i regardless of whether they played *cannibalize* or *rehabilitate*. Note that this can lead, in some paths of play, to ambiguous or irrational scenarios where field commanders *cannibalize* state assets but still end up promoted into prominent positions in government, or field commanders who remain loyal and try to *rehabilitate* the state but are snubbed with $x_i=0$ transfers. p gets a positive payoff in the form of a share of the transfer (x_p) if s is passed and state failure is avoided.

G gets a net positive payoff $> a$ only if $k \geq s$ and zero otherwise. The precise amount should be based on the interaction of a (amount of aid allocated) with k (the number of commanders playing *rehabilitate*). The purpose of the aid is to institutionalize pro-Western military reforms, but it is impossible to hide the results of the transfer from domestic audiences in the donor state – so if the recipient country ends up cannibalized by field commanders who steal the aid and act as warlords, this is bad.

Is it appropriate to treat these militia leaders as interchangeable firms in a competitive market for political influence? This modeling choice can be justified in a variety of ways, and is certainly an accurate reflection of the chaos and fragmentation that participants must have felt as dozens of commanders flooded the scene. One effect of the Russian-

television-enabled fog of war was the creation of an operational environment saturated with misinformation and conspiracy theories, so it became difficult to know, month-to-month, who exactly was fighting on the Ukrainian side. That said, treating field commanders as anthropologically-empty rational actors may be ignoring theoretically important variables. Given the importance of coordination of strategies and beliefs about what other warlords were going to do, it seems strange to omit reference to cultural values or important focal points for social coordination (like class and ideology). Extremist field commanders may be both better at fighting *and also* be costlier for a foreign donor to support than non-extremists.

Later in this paper we present evidence that, at least from the perspective of **G** (and certainly also to each other), different field commander coalitions were not actually fully interchangeable. This undermines a key assumption of the model, which is that each field commander is additive in its contribution to political legitimacy and stability (e.g., that we literally "count" commanders by strategy until we get to $k \geq s$ or do not). The content of Western military trainings emphasizes the institutionalization of certain liberal values and practices along with the transfer of skills, targeting data, and ammunition, and it was politically awkward that many early enthusiastic and visible militia volunteers came from a far-right ("fascist") social milieu—especially since claims of NATO support for such groups was amplified by Russian television propaganda. There was no way to hide their presence, since these groups proved effective at mobilizing on Maidan, then fighting and advertising their presence on social media. After anti-secession militias coordinated their behaviors and merged memberships, opaque and confusing chains of command emerged *ad hoc*, further complicating monitoring, which (in turn) justified additional investments in training new units from scratch. Though in the one-shot setting of our model there is no final move by **G**, a more realistic extension of the game might iterate the play across rounds after allowing investments in monitoring by **G** to screen which commanders receive training, then define a more complex utility for **G** depending on which commanders are offered a share of the aid that arrives (**a**).

For those seeking a bit more notation and at a willingness to accept a loss of generality, consider what would actually happen if we played a one-shot game introducing commander-specific subscripts. Perhaps some field commanders are more popular than others because of ideology or fighting competence (which might raise or lower costs of fighting **c** such that $c_i > c_j$). Perhaps the military policy of the Kremlin had the effect of offering some field commanders a side payment in exchange for *cannibalization*. In these richer settings, much would depend on if **p** were informed about the relevant facets of heterogeneity. A perfectly informed **p** would benefit from the ability to view all of the various *cannibalization* payoffs, selecting the lowest, and then incentivize the minimum winning coalition to *rehabilitate* institutions with appropriately-calibrated transfers x_j. It will always be in **p**'s interest to identify the lowest-cost coalition to ensure $k=s$. The problem with testing a theory that incorporates heterogeneity in field commanders is that it risks constructing ad-hoc ex-post explanations for why whatever field commanders end up joining the state were the right ones – but perhaps clever researchers with more data will design persuasive tests with future datasets.

For tractability: *full consolidation* of field commanders into a hierarchy offers best assurance of some kind of screening and accountability for human rights violations. The functional form of $f(ak)$ is less relevant to analysis than the assumption that **G** should receive its highest payoff if 100% of field commanders *rehabilitate* (**k=n**), since if **s>k>n** it means that the state endures, but some aid falls into the hands of politically unaffiliated militias (like far-right groups) –an embarrassing liability for the donor state.

Figure 1: The Formal Model (Path of Play)
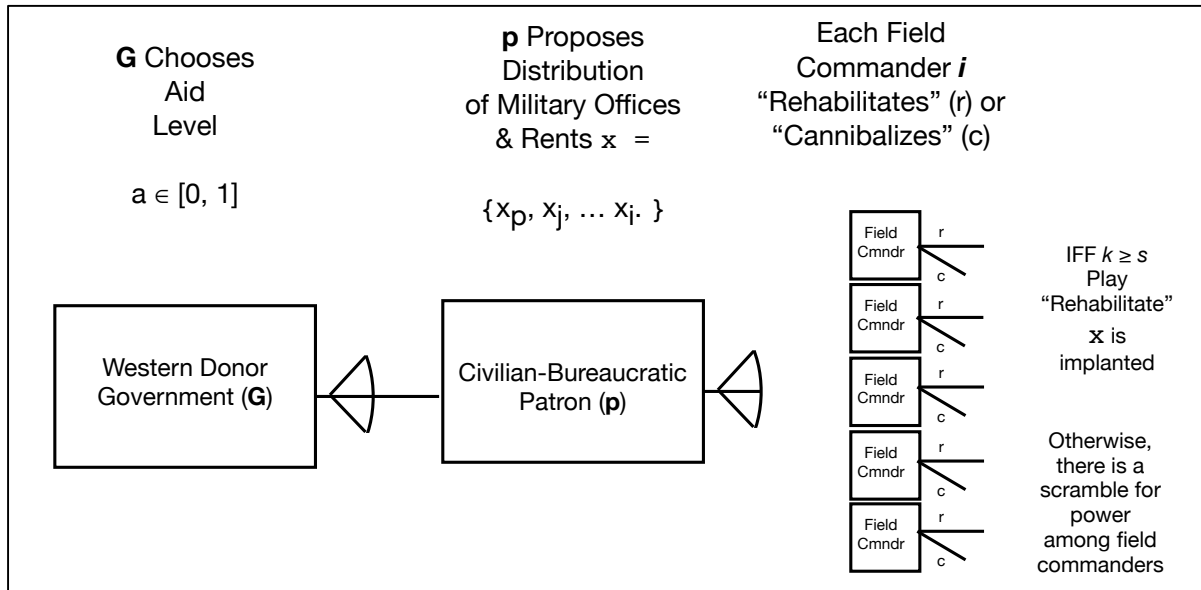
The most relevant parameters are the amount of aid (**a**), which determines the size of the prize being divided (**v***) as well as the second-best thing that a field commander can expect to do with a mobilized private army (**v*/n-c**), and the number of field commanders necessary to secure territory against Russia (**s**). We solve for subgame perfect Nash equilibria by backwards induction.

The last move of the game is by field commanders. Each field commander **i** compares the size of his individual transfer **x_i** to his *cannibalize* payoff **v*/n-c** and also assesses whether the stability threshold **s** is likely to be passed.

Proposition One: *The game contains a SPNE in which no player plays a weakly dominated strategy in which every field commander plays "cannibalize" in the final subgame regardless of choices made by **G** or **p**. Call this the "state failure equilibrium."*

Proof: If the number of field commanders playing *rehabilitate* (**k**) is zero, so long as **s>2**, as in any basic stag hunt, unilateral cooperation is weakly dominated (-**w**). The field commander cannot improve his position unilaterally by playing *rehabilitate*, so should play *cannibalize* regardless of **x_i**.

Moving backward to the second move of the game, the local patron p has proposal power to can shape the individuated *rehabilitate* payoffs for each field commander. If the observed transfer x_i is less than v^*/n-c, field commander i should prefer state failure to occur and should play *cannibalize*. The goal must be to engineer a situation where it is in the interests of s or more warlords to play *rehabilitate*. Otherwise p will receive nothing.

- **Lemma 1:** Only if the observed transfer x_i is greater than v^*/n-c, *and* s-1 other field commanders are expected to play *rehabilitate*, should i *rehabilitate* as well.

If every warlord i is offered a transfer $x_i = v^*/n$-c+ε (where ε is a small amount to overcome indifference), it creates a situation where every warlord i can, in principle, do better by playing *rehabilitate* than by playing *cannibalize*. If p were to do this, so long as s or more warlords accepted it would still allow p to pocket the "lost costs" of fighting and assure himself a positive payoff, transferring himself $x_p = nc$ while leaving no field commander worse off. This would, in essence, set up a stag hunt in the third stage and the possibility of all field commanders joining the state. There are many other viable ways p can structure the game. Let us define *full consolidation* as a situation in which $k = n$, $\mathbf{x} = (x_i, x_j, \dots x_q, x_p)$ includes a transfer $x_i > 0$ for every field commander i, and every field commander plays *rehabilitate*. Let us also formally define a *partial consolidation* as a situation in which $k \geq s$, $\mathbf{x} = (x_i, x_j, \dots x_q, x_p)$ includes a transfer $x_i = 0$ for at least one warlord i (and at least one warlord i to observing the proposal and playing *cannibalize* instead of *rehabilitate*, by *Lemma 1*).

- **Lemma 2:** Full consolidation is never a SNPE.

A strategic p should want s field commanders to play *rehabilitate*. Buying the loyalty of additional field commanders beyond the minimum s up to n for *full incorporation* may cushion the margin of victory, but this margin would come at a cost to p – since p can choose a distribution that pockets all of v^* not spent buying field commander loyalty. The principal-agent problem emerges endogenously, manifesting itself in the actors who do not subordinate themselves to the state, and the corruption involved in the transfer. It is not in G's interest for p to take a cut of the aid, but there is not much to be done (at least not in this simple stylization). The agency loss comes from a well-studied problem of managing a minimum winning coalition and not from any Ukraine-specific "culture of corruption."[12] Regardless of the particulars of functional form, and putting aside the matter of individuated field commander ideologies or identities, let us assume G will always prefer *full consolidation* to *partial consolidation*. The problem *Lemma 2* reveals is that even if s is passed, G cannot expect to achieve its maximum $k = n$ payoff.

What should G do, then? Moving backward once again to the first stage, we see three things. Most strategies are weakly dominated. If $k < s$, then $a = 0$ is the best response. If $k \geq s$, then G choosing $a = 0$ is weakly dominated by choosing $a > 0$, and any $a < 1$ is weakly

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[12] For useful introductions to "minimum winning coalition politics" the seminal work of William H. Riker, *The Theory of Political Coalitions* (Yale University Press, 1962) is quite accessible, but Bruce Bueno De Mesquita et al., *The Logic of Political Survival* (MIT Press, 2005) provides a more standard introduction.

dominated by choosing **a=1**. Put differently, if it were possible in the first stage to know how the game would be played in later stages, **G** might want to save his money, since choosing **a>0** is a risky gamble. Because of the multiple equilibria problem, **k** cannot be known at the time the investment is made in a one-shot setting (so **G** cannot simply solve the game via the same kinds of backwards induction we are using). **G** knows that varying **a** (and by extension **v***) in a one shot-setting does not really communicate or change agent incentives or behavior (see Lemma 3 below). Choosing intermediate investments between 0 and 1 does not directly induce changes in strategies by **p** (or any of the field commanders), either.

Proposition Two: *There exists a SNPE in which no player plays a weakly dominated strategy in which **G** chooses **a=1**, **p** proposes a payoff in which **s** field commanders are transferred exactly **v*/n-c+ε**, , each of these commanders play "rehabilitate", **p** transfers the remainder of v* to himself, the other commanders observe a proposed transfer of zero and play "cannibalize." Call this a "Partial Consolidation Equilibrium."*

Proof: Begin with the final stage. Each of **s** field commanders compare their **v*/n-c+ε** transfer to their **v*/n-c** *cannibalize* payoff, notes that **ε** tips the scales in favor of *rehabilitation*, so supports the transfer. This means **k=s**, so **p**'s transfer is implemented.

Next we consider whether **p** could improve her situation. To transfer a field commander **i** any amount $x_i < v^*/n\text{-}c$ will cause them to play *cannibalize*. If at least **s** of these commanders are not induced to play *rehabilitate* instead of *cannibalize*, **p** gets nothing. On the other hand, since **p** can keep for himself anything not transferred, he wants to purchase loyalty as cheaply as possible. The transfer **v*/n-c +ε** represents the lowest possible transfer that would induce **i** to play *rehabilitate* rather than *cannibalize*. The option of paying more than **s** field commanders this amount is weakly dominated by paying exactly **s** field commanders this amount, allowing **p** to pocket **v*-(s(v*/n-c)).** Each of **n-s** field commanders who were not selected observe a proposed transfer of zero and play *cannibalize* for their **v*/n-c** payoff.

Finally, **G** must select **a**. **G** receives a positive return on investment **a** so long as **k ≥ s,** and **a**=1 yields higher payoffs than intermediate alternatives.

- **Lemma 3:** *Partial Consolidation* strategies for **p** and **k=s** field commanders are sometimes supportable (by *Proposition Two*) even if **a=0** and **v*** becomes just **v**.

Little in the game changes in a state with no aid. Field commander **i** decides whether to cannibalize for payoffs of **v/n-c** or take a buyoffs from **p** of $x_i = v/n\text{-}c+\varepsilon$. The point of Lemma 3 is to reinforce that **G** does not have much leverage. Coordination will happen, or not, but sending aid essentially inflates both stag and rabbit payoffs simultaneously. **G** should not expect *full consolidation*, then, no matter what **a** is selected. Offering zero and hoping for the best is not an equilibrium, since **G** would prefer to play **a**=1 for a higher payoff in many situations where **p** and the field commanders managed **k ≥ s** strategies,

but *Lemma 3* shows that **G**'s choice to set aid level **a** cannot easily induce strategy shifts down the tree. Note that this would remain true even if the game were iterated.[13]

3. Analytic Narrative

The purpose of the model is to guide empirical exposition of political processes occurring *within* Ukraine. This account, the movement of geopolitical plate tectonics between Russia and the West are important for setting model parameters, but strategic action is local.

The model has strong face-validity claims as an account of militia centralization in Ukraine. Military action by Russia raised the stability threshold **s**, a policy intended to induce *state failure*. From *Proposition 1*, it is clear that this is one way that the game could have ended. Numerous decisions by field commanders to rehabilitate Ukrainian military institutions took place against the chaotic background of the "Russian Spring," and the effects of these choices were not obvious until later in the summer. Western governments promised to send aid to assist the embattled Ukrainian government. Russian government policy was to send assistance to non-compliant Russian-speaking field commanders in the Donbas, anticipating that there would be some field commanders skeptical that they could ever do as well inside the Ukrainian state as they were doing on the outside. A *partial consolidation* equilibrium took hold and persists today.

The real test of a simple model's utility is whether it can illuminate interesting puzzles about Ukrainian politics. It can. This model can help explain four puzzling facts about the initial period of the conflict and the ongoing politics of Ukraine: (a) the rapid proliferation of and *fragmentation* of militia groups in Ukraine subsequent to the unexpected regime change in Maidan; (b) the rapid *consolidation* of political control over these initially-fragmented militias (in both state and rebel-held areas), (c) the existence, nature, and persistence of an agency problem between Western donors and Ukraine, and (d) the continued salience of non-state armed groups in Ukrainian politics, including their lasting influence over the discussions of peace settlements.

3.1 Fragmentation

The first puzzle – the rapid proliferation of armed militia groups in Ukraine after 2014 – is consistent with the model's assumptions. Militias formed in Ukraine first as pressure groups then for self-protection, as the police and wider state security apparatus came under increasing pressure through the Maidan events. After the state security services defected to the square in Kyiv (approximately February 20-22), police forces outside the capital were disorganized and demoralized agents of a deposed regime. In some parts of some cities, there was no actor with the capacity or will to arrest armed groups.

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[13] If the game were iterated, **G** could go again at the end of the game and pull support if the state were completely cannibalized and **s** were not passed. This threat might induce a shift in strategies by sufficiently forward-looking warlords under some circumstances.

Russia deliberately pushed Ukraine towards *state failure*. The humiliating lack of capacity of the Ukrainian military was then put display in Crimea. The Kremlin's strategic intentions remain disputed, and parsing the details is not necessary for our argument. All that is important analytically is that the need to resist a potential Russian invasion raised the stability threshold. This need was new, and set the game into motion. The main variable is Russian policy, which set the stability threshold **s**. Since Bucharest 1994, the Ukrainian state had acted as if it had no need for a military for self-defense, a situation that implies a low stability threshold. Questions like "how much social mobilization by Ukrainians is required to secure the territorial status quo" or "what are the occupation costs to Russians for claiming territory in Ukraine's east where Russian-speaking Ukrainians live" were not asked. After Crimea, the gap in military power between Russia and Ukraine mattered a great deal – a much higher threshold **s**. The Kremlin's decision to seize government buildings and then politically absorb Crimea into Russia's territory surely raised expectations that additional Russian assistance would be forthcoming, and they seem to have wanted a larger "oil spot" of secessionist Russian influence than just a sliver of the Eastern Donbas. As they broadcast their desire on television and massed troops for a rescue mission, it must have raised the calculated benefits of *cannibalization* for some field commanders.

Consistent with *Proposition One*, *state failure* loomed as a possibility. The reality of the Ukrainian military was an underequipped, poorly organized, and poorly led.[14] It was demoralizing to observe most of the Ukrainian military in Crimea defecting to the Russian side.[15] Defection and cannibalization of state resources, even full-scale warlordism, were not out of the question. Equilibrium selection is a matter of politics and many of those politics were contingent and extra-model. An advantage of the simple model is that it clarifies that great power investments of aid did little without buy-in from two kinds of critical agents: Ukrainian paramilitary field commanders and faceless military bureaucrats making decisions to integrate the battalions into the state. Had field commanders not coordinated to *rehabilitate* Ukrainian institutions, state failure was a very real possibility during this period. It was arrested, in the model, because the field commanders were given offers at least as good as what they were already receiving. Otherwise, more would have been tempted to strike out on their own.

As far-right paramilitaries claimed new prerogatives to dictate terms in civil-military debates, some Russian-speaking Ukrainian communities were equally vocal in their desire for protection from the new social forces defining themselves as the state, and so a proliferation of armed groups occurred in parts of Eastern Ukraine.[16] Incapacitation in the former Party of Regions strongholds of the Eastern Donbas region of Ukraine allowed local militants to seize government buildings. Media reports at the time often

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[14] Maj Michael Cohen, "Ukraine's Battle at Ilovaisk, August 2014: The Tyranny of Means," *US Army Press Online Journal*, 2016, 11.

[15] Serhy Yekelchyk, *The Conflict in Ukraine: What Everyone Needs to Know* (Oxford University Press, 2015), 131.

[16] Volodymyr Ishchenko, "Far Right Participation in the Ukrainian Maidan Protests: An Attempt of Systematic Estimation" (European politics and society, Taylor & Francis, 2016), 469.

conflated the activity of pro-Russian militias with the Russian military – though there may well have been special forces present. In response, the Ukrainian government reinstated conscription in May 2014.

To supplement its green recruits and small number of reliable contract troops, Kyiv relied on a patchwork of "volunteer battalions," some locally-raised and others not.[17] For its first year, the Donbas war was fought primarily by extremely well-armed volunteers, as the dawning realization that the Ukrainian military was in disarray sparked a cascade of volunteer battalion formations. Many drew on local symbolism for their names and in their insignias. Some of the armed groups that formed used divisive WWII imagery and symbolism designed to alienate Russians. A vocal portion of the volunteer battalions were radical right paramilitary groups, such as the Azov and Pravyi sektor battalions, who took upon themselves the responsibility to defend the nation when the Ukrainian army did not have the resources to face Russia-backed insurgents.[18] The state announced an "ATO" (Anti-Terrorist Organization) to act as an umbrella for mass social mobilization. This had the effect of arresting a social "tip" towards Russian control in some communities, and in fact, it was the volunteers themselves who pushed the state over the threshold of responding with force to the separatists.[19]

Starting in March and April, many Russian-speaking Ukrainians felt they had the right to mobilize protests against the Ukrainian state, which often took on a violent character. Some pro-Kremlin groups likely believed if they could engineer an uprising, Russia might come to their defense, and hoped actions such as seeking a referendum on independence could provoke such a reaction.[20] For others, the violence was motivated both by strategic reasoning and strong emotion: to protect family and friends or to respond to Ukrainian nationalists in the new government.[21] In this chaotic milieu of armed organizing by the separatists and counter-organizing by the volunteer units it was not known, even to participants as late as in the early summer of 2014, how many communities of Russian speakers were forming militias to reserve a right to "opt out" of the Ukrainian government taking form in Kyiv and how many were forming to protect their country from invasion. Militias themselves may not have known. Writing in July, a reporter observed:

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[17] Ilmari Käihkö, "A Nation-in-the-Making, in Arms: Control of Force, Strategy and the Ukrainian Volunteer Battalions," *Defence Studies* 18, no. 2 (April 3, 2018): 154, https://doi.org/10.1080/14702436.2018.1461013.

[18] Alexander Clapp, "The Maidan Irregulars," *The National Interest*, no. 143 (2016): 26–33; Andreas Umland, "Irregular Militias and Radical Nationalism in Post-Euromaydan Ukraine: The Prehistory and Emergence of the 'Azov' Battalion in 2014," *Terrorism and Political Violence* 31, no. 1 (2019): 105–31.

[19] Ilmari Käihkö, "A Conventional War: Escalation in the War in Donbas, Ukraine" Forthcoming (2021).

[20] Ilmari Käihkö, "A Conventional War: Escalation in the War in Donbas, Ukraine."

[21] Serhiy Kudelia, 'The Donbas Rift', *Russian Politics & Law*, 54.1 (2016), 20.

One rebel group, Oplot, comes from the Russian city of Kharkiv. Another, the Russian Orthodox Army, is composed of Russians and Ukrainians. A third, named for a river, Kalmius, is made up mainly of coal miners. This motley mix forms just part of the fighting force of Ukraine's eastern uprising. It is more patchwork than united front: some groups get along with others. Some do not. And their leaders seem to change with the weather. 'I can't keep them straight anymore,' said a fighter …[22]

In summary, there were a few months during the "Russian Spring" of 2014 when it was not clear to onlookers (or Ukrainians) that the center would hold and that the civilian Maidan government being recognized in Kyiv would be able to command the political loyalty of the volunteer battalions.

3.2 Partial Consolidation

The second puzzle is the rapid *consolidation* of political control over these initially-fragmented militias. This is a process that occurred in both state and rebel-held areas, but the politics of equilibrium selection are interesting, worthy of detailed description. The critical actors were volunteer battalions, who had been forming in real time. It made perfect sense for the government in Kyiv to legitimize the mobilization politically by announcing an "anti-terrorist operation" against seditionist forces, assuming optimistically that the militias would follow orders. The choice faced by these field commanders was whether to subordinate their chains of command to the post-Maidan revolutionary government, or essentially strike out on their own. The two stable equilibria in the model – *state failure* and *partial consolidation* – capture the possibility of a "tip" in either direction during this period. If a critical mass (s) of the field commanders had made different choices the Ukrainian state might not exist today in its current form.

Did the arrival of foreign aid and security assistance (a) from the West lead to more field commanders incorporating into the Ukrainian state? Possibly. Governments in the West responded to the Crimea annexation by immediately imposing economic sanctions on Russian firms. Shortly thereafter, IMF announced its decision to announce a \$14-18 billion rescue package. In addition, the United States started sending more aid to Ukraine across many categories.[23] Whether the promises of Western aid have a causal effect on incorporation strategies is disputable, but **Table 1** is consistent with an account of a field commander "tip" away from *state failure* to partial incorporation. By fall 2015, almost all factions chose to affiliate with the state.

[Table 1 About Here]

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[22] The New York Times, July 9, 2014.

[23] US also spends tens of millions of dollars on many democracy-promotion initiatives in Ukraine, so it is difficult to be confident Table 2 accounts for all relevant spending US GAO, "Democracy Assistance: State Should Improve Information Sharing with Embassies" (US Government Accountability Office, January 2020), https://www.gao.gov/products/GAO-20-173.

The model gives a theoretical sense of what the brokerage involved in the consolidation politics intervention most likely looked like: A side-payment to a local field commander in the form of a promotion, along with his top lieutenants, to join the state security forces with uniforms, pensions, and promises of upward advancement opportunities. By the summer of 2015, the resilience of the Ukrainian institutions was clearer – at least on paper. Zarembo reports that volunteer battalion memberships expanded in 2014-2015 and then contracted rapidly in 2016-2017.[24] She attributes the drawdown to both supply and demand factors: the supply of public donations had dried up by mid-September 2015, and the demand from units had also gone down. Volunteers already had already necessary survival equipment like bullet-proof flak jackets and helmets, and the frontlines were no longer moving.[25] Officially, various self-organized militias voluntarily subordinated their chains of command to the Ukrainian state in exchange for the provision of nonlethal Western aid. In reality, many different kinds of soldiers remained in an ambiguous gray zone between disarmament and incorporation into the state, operating as "contractors" according to opaque logics.

The ambiguity on the ground continued to be palpable. In August and September of 2015, 64 representatives of defense battalions (at various levels, some at command rank) were administered a survey that included many open-ended question by our research team. The most common answer to the question "Why did most men in your unit volunteer?" was "We were fighting a Russian invasion." This is completely consistent with the basic choice set in the model. Many field commanders were interested in fighting against infiltration by the Russian military, and uninterested in political secession from the Ukrainian polity in the 2014-2015 period, but still distrustful of the dilapidated and incompetent institutions of the Ukrainian military and interested in engaging in heroic military performances while subordinating themselves to the least possible amount of government oversight. Whether it made more sense to *rehabilitate* dilapidated Ukrainian security institutions or *cannibalize* them was not clear.

One question was, "Do you think most members of your group consider themselves to be subordinate to the regular police and military forces of the government of Ukraine, or are they operating outside of (and parallel to) the regular police and military forces of the government of Ukraine? Explain what you mean in your own words." The modal response was a variant of "Yes, we are in the structure of the Armed Forces of the Armed Forces of Ukraine. The battalion used to be a territorial defense battalion, but now it is

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[24] Kateryna Zarembo, "Doing State's Job: The Impact of Volunteers on State Defense Capacity in Post-Euromaidan Ukraine," in *Civil Society in Post-Euromaidan Ukraine* (Columbia University Press, 2018), 111.

[25] Zarembo's remarkable account pairs well with Vera Mironova and Ekaterina Sergatskova, "How Ukraine Reined in Its Militias," *Foreign Affairs*, 2017, as a clear-eyed discussion of how militias worked creatively to merge memberships with the state, filling niches in state capacity. Examples include the provision of thermal imaging cameras, drones, and tablets with ballistic software and electronic maps, and the development of artillery fire control systems.

incorporated."[26] Consider the following variation in answers that we received, however:

I do not have an unambiguous answer. On the one hand we are an independent military unit, on the other hand we subordinate to the National Guard of Ukraine and ATO Joint Staff. We subordinate to the National Guard in terms of military matters, military actions, but we are different regarding trainings and structure.[27]

No. Factually, DUK (UVC) is not legal. It is not in the structure of the Ministry of Interior or the Ministry of Defense, but there is a coordination with the Joint Staff.[28]

Yes, we are supposed to say that the battalion completely subordinates to the Ministry of the Interior. But even though we subordinate to the Ministry of Interior, the battalion makes some independent decisions on the front line. They are all ignoramuses in the Staff. They do not understand what is happening during the fight, so we must act on our own.[29]

We started as an independent unit, then then had to legalize ourselves as people usually called us a criminal gang. We asked the former Minister of Defense Heletei for help. We have been a part of the Armed Forces of Ukraine since that moment.[30]

We became the Ministry of Interior's military unit, but for us it means only a formal legalization of a volunteer movement. When we were just a volunteer rota, we faced difficulties of getting weapons. We realized that the Ministry of Interior would supply us with weaponry and equipment, so decided it would be wise to incorporate into it.[31]

No. They are absolutely independent.[32]

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[26] Direct quote is from Interview #63, self-identified member of 37th TBD, 15 September 2015.

[27] Interview #3, self-identified member of Azov, 19 August 2015.

[28] Interview #5, self-identified member of DUK (Ukrainian Volunteer Corps); 5th independent battalion, 20 August 2015.

[29] Interview #8, self-identified member of Slobozhanshchyna, 20 August 2015.

[30] Interview #12, self-identified member of UNA-UNSO Battalion, 26 August 2015.

[31] Interview #13, self-identified member of St. Mary Special Battalion (Reserve Rota), 25 August 2015.

[32] Interview #16, self-identified member of DUK (Ukrainian Volunteer Corps); 6th Alternate Battalion (Ternopil Oblast), 25 August 2015.

No. The battalion is part of DUK[UVC] organization. It was founded as an alternative to Ukrainian army and it remains independent.[33]

Well, the answer is complicated. This special forces unit have never been under the Armed Forces of Ukraine. However, I cannot say we are illegal since we subordinate to the Chief Directorate of Intelligence and perform special military operations. The only people aware of our existence are our intelligence superiors. We are not fighting at the moment; a part of soldiers joined other brigades, mainly the Armed Forces of Ukraine. Still, a group of people remain subordinating to me as their commander, because they don't want to be under the Armed Forces.[34]

Yes. At first we came here to protect our country, not to climb the ranks within the Ministry of Interior. But the situation has changed, now we subordinate to the Ministry of Interior.[35]

In part. If there was an opportunity, we would act independently, but now we [are told we] must subordinate whether to the Ministry of Interior or the Armed Forces. We are in the process of merging with the Armed Forces because we fought alongside with them since the first day and performed some combat tasks [cooperatively].[36]

The logic of the *partial incorporation equilibrium* defined in *Proposition Two* is fairly obvious. State institutions, in this account, do not disarm the militias. The institutions are largely a semi-permeable membrane for entrepreneurial field commanders and a conduit to siphon foreign assistance. In the model, the buy-out price necessary to lure a field commander into the state must exceed his *cannibalization* payoff. We expect opaque chains of command connecting field commanders to their political "roof" in the bureaucracy, with incentives to demonstrate an independent ability to organize.

Across the lines of control, in the DNR/LNR, militia commanders could not be incentivized to participate in the consolidation project (and were not contacted for a survey). A well-recognized barrier to settlement is that the new government could not credibly commit to offering them more than they could receive by *cannibalizing* state assets while protected by Russian military assistance.[37] This is consistent with the model's prediction, as well.

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[33] Interview # 25, self-identified member of DUK (Ukrainian Volunteer Corps); the 7th Alternate Battalion, 28 August 2015.

[34] Interview #41, self-identified member of Bilotserkivs'kyi TBD, 4 September 2015.

[35] Interview #50, self-identified member of Ternopil', 9 September 2015.

[36] Interview #58, self-identified member of Crimea Battalion, 11 September 2015.

[37] See Driscoll and Arel (forthcoming – citation TBD post R&R).

Less is known about processes of consolidation taking place in this period in the separatist republics in the Donbas, but six years into the conflict, it has become common to include the Eastern Donbas on the laundry list of the so-called "frozen conflicts".[38] The territory today called the Donetsk People's Republic and Luhansk People's Republic (DNR/LNR hereafter) has been the beneficiary of additional soldiers (special forces and volunteers) and sophisticated weapons (including anti-air weapons) supplied to militias that cannibalized state resources, seceded, and demonstrated an ability to hold territory and organize elections. By providing resources and transfers of materiel to field commanders who agreed to subordinate themselves to the state (run by political authorities liaising directly with Russian agents), Russia was able to promote consolidation and compliance on the part of the DNR/LNR.[39]

By fall of 2014, the DNR/LNR had institutionalized a hierarchical chain-of-command, with the militia units of the early period brought into the DNR/LNR "People's Militias" reporting formally to the political heads of the DNR and LNR.[40] As part of a project to impose more discipline and central control on these militias, they were stabilized into an order of battle designated as the DNR Army I Corps and the LNR Army II Corps to form a total force size between 26,000 and 35,000 fighters.[41] The reorganization folded the original militia units into a command-and-control structure with some brigades based on a single militia unit and others constructed from remnants of other units or reassigned fighters. [42] Initially fragmented field commanders seem to have fallen in line

[38] See for instance Tetyana Malyarenko and Stefan Wolff, *The Dynamics of Emerging De-Facto States: Eastern Ukraine in the Post-Soviet Space* (Routledge, 2019). The frozen-conflicts are arguably extreme cases of a general practice in international affairs: hostile neighbors opting to shelter foreign insurgencies to create buffer zones, exporting state weakness as a form of indirect control. See Melissa M. Lee, *Crippling Leviathan: How Foreign Subversion Weakens the State* (Cornell University Press, 2020). For now-classic descriptions of how "frozen conflict" dynamics can become self-sustaining with the assistance of great power interventions, see Roger D. Petersen, *Western Intervention in the Balkans: The Strategic Use of Emotion in Conflict* (Cambridge University Press, 2011) and Charles King, "The Myth of Ethnic Warfare: Understanding Conflict in the Post-Cold War World," *Foreign Affairs*, 2001, 165–70.

[39] Kimitaka Matsuzato, "The Donbass War: Outbreak and Deadlock," *Demokratizatsiya: The Journal of Post-Soviet Democratization* 25, no. 2 (2017): 175–201.

[40] Mark Galeotti, *Armies of Russia's War in Ukraine*, 1 edition (Osprey Publishing, 2019).

[41] Galeotti.

[42] To verify that this structure remains roughly intact to this writing, we compared Galeotti's order of battle to data on DNR, LNR and Russian deaths in the conflict catalogued by the open-source Ukrainian researcher Necro Mancer. The units listed in the Necromancer data match nearly all of the units in the Galeotti order of battle, indicating that few changes have occurred in this organizational structure. Necro Mancer (Twitter handle @666_mancer) is an anonymous researcher located in Donetsk who catalogs deaths in the conflict using open source material and shares them via Twitter. Necromancer's material is widely cited by news media, and he is well-positioned to receive tips and information on the conflict due to his location in Donetsk. Necromancer records 5,302 deaths between March 2014 and May 3, 2020, bringing his data close to the around 5,600 total deaths by "armed groups" in the Ukraine conflict recorded by the UN as of February 15, 2020 "Office of the United Nations High Commissioner for Human Rights

behind the DNR/LNR proto-states. Coercion was probably involved. Numerous field commanders died under mysterious circumstances, though whether that was the work of the Ukrainian SBU or the Russian security services remains disputed.[43]

Russia's role in the consolidation of these territories into separatist-controlled statelets remains murky, but was a commonly-stated reason for many Russian-speaking interview respondents to mobilize and sacrifice. The "Russian security bonus" to their *cannibalize* payoff turned out to be an inducement *against* cannibalization, since they wanted to either be Ukrainian or live in a place with the least possible amount of government (and this was completely incompatible with living under Putinism). Since more is known with certainty about consolidation processes on the Western side of the line of control, data on Ukrainian defense centralization dominates the next section.

3.3 Foreign Assistance & Efforts To Limit Agency Losses

The sequence of play reflects the leverage that Ukrainian brokers and militias had in the critical 2014-2015 period. Command and control over the war in the Donbas is clearer today than in the chaotic 2014 scramble, when a conglomerate of volunteer militias led the charge – which fits the distribution of offices to warlords.[44] The Azov battalion, in particular, still retains substantial autonomy [45], but what once looked like fragmented warlordism now looks in retrospect like a social media enabled *levee en masse*. The military asserted clear operational control over the war in the Donbas in April 2018, when the Joint Forces Operation led by the General Staff of the military replaced the former Anti-Terrorist Operation in the Donbas (then controlled by the Internal Security Service or SBU).[46] Ever since, only contract troops are deployed to the parts of the Donbas where engagements are common.[47]

Report on the Human Rights Situation in Ukraine 16 November 2019 to 15 February 2020." For nearly all deaths, Necromancer records the unit of the dead soldier. By examining deaths by unit from January 1, 2019-May 3, 2020, we generated a list of units in the DNR/LNR militaries which we then compared to the Galeotti order of battle.

[43] Jack Losh, "Is Russia Killing Off Eastern Ukraine's Warlords?," *Foreign Policy* (blog), October 25, 2016, https://foreignpolicy.com/2016/10/25/who-is-killing-eastern-ukraines-warlords-motorola-russia-putin/.

[44] Andrew Radin, *Institution Building in Weak States: The Primacy of Local Politics* (Georgetown University Press, 2020), 183–84.

[45] Galeotti, *Armies of Russia's War in Ukraine*.

[46] Vera Zimmerman, "What Does Ukraine's New Military Approach Toward the Donbas Mean?," *Atlantic Council* (blog), May 15, 2018, https://www.atlanticcouncil.org/blogs/ukrainealert/what-does-ukraine-s-new-military-approach-toward-the-donbas-mean/. Mark Raczkiewycz, "As New Phase of Donbas War Begins, Ukraine Starts Training with Javelins," The Ukrainian Weekly, May 4, 2018, http://www.ukrweekly.com/uwwp/as-new-phase-of-donbas-war-begins-ukraine-starts-training-with-javelins/.

[47] Isabelle Facon, "Reforming Ukrainian Defense: No Shortage of Challenges," May 2017, 34.

The residual problem revealed by the model is that the West wants more than it is likely to get. So long as the center held – so long as s was surpassed – the West was essentially getting a positive return on its investment, even though it would *prefer* total buy in from all field commanders (**k=n**) and less corruption. Recall that the principal-agent problem emerges endogenously from the partial consolidation of the model, manifesting itself in a situation where the donor state would prefer less of its assistance find its way into the pockets of corrupt bureaucrats, shady real estate speculators with multiple passports, and brokers – but these dimensions of Ukrainian politics cannot be wished away. Western governments' interest in sending aid was to stiffen the backs of Ukrainians, so threats to shut off aid if corruption benchmarks went unmet were not credible. The year-by-year amounts subsequently transferred from the IMF (in SDRs) were: $3.9b in 2014, $7.7b in 2015, $8.4b in 2016, $8.5b in 2017, $8b in 2018, $6.9b in 2019, $6.5b in 2020.[48]

[Table 2 & 3 About Here]

Since the start of conflict in the Donbas in 2014, the United States has provided arms and training (a) in the amount of approximately $1.6 billion.[49] This is a large sum, but broadly consistent with model predictions. As a former Soviet republic equipped with a military that is largely a legacy of this era, the war in the Donbas and the ongoing confrontation with Crimea confronted Ukrainian military elites with the imperative of quickly developing supply and procurement chains to maintain its military readiness without relying on Russia.[50] The Russian origin of critical Ukrainian equipment, such as its military communication systems, created vulnerabilities.[51] The Ukrainian military at the beginning of the war lacked key equipment entirely (e.g., counterartillery radar,

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[48] The conditions on these transfers resemble the conditions placed on Ukraine in the 1990s described by (Stone 2002: 169-208), sector reforms, fiscal policy (with respect to inflation), central bank independence, anti-corruption reforms, government reforms, SOE reforms, etc..

[49] Cory Welt, "Ukraine: Background, Conflict with Russia, and U.S. Policy," April 29, 2020, 49.

[50] "Ukraine - Defense Equipment," International Trade Administration, November 6, 2020, http://www.trade.gov/knowledge-product/ukraine-defense.

[51] Joseph Trevithick, "Ukrainian Officer Details Russian Electronic Warfare Tactics Including Radio 'Virus,'" The Drive, accessed March 8, 2021, https://www.thedrive.com/the-war-zone/30741/ukrainian-officer-details-russian-electronic-warfare-tactics-including-radio-virus; Peter J. Marzalik and Aric Toler, "Lethal Weapons to Ukraine: A Primer," *Atlantic Council* (blog), January 26, 2018, https://www.atlanticcouncil.org/blogs/ukrainealert/lethal-weapons-to-ukraine-a-primer/. Michael Birnbaum, Will Englund, and Sergey Morgunov, "U.S. Military Aid Bolsters Ukraine's Front Lines, but the Trump Drama Makes Kyiv Nervous," The Seattle Times, November 18, 2019, https://www.seattletimes.com/nation-world/u-s-military-aid-bolsters-ukraines-front-lines-but-the-trump-drama-makes-kyiv-nervous/.

night-vision devices, surveillance drones), and its extensive domestic defense industry tied ammunition and spare parts to Russia at critical choke points.[52]

Weapons received the most attention, but the majority of Western military aid is directed toward multinational training and advising.[53] The training and advising program was designed to increase the combat capacity of the Ukrainian military as quickly and thoroughly as possible. Training takes place at the Yavoriv Combat Training Center in Western Ukraine and at the training center at Berdychiv, where US Special Forces run a selection course for Ukrainian Special Operations Forces.[54] The United States also deployed high-level military officers like General John Abizaid to work with Ukrainian counterparts in the Ministry of Defense and advisors to work on specific functional areas (e.g., the analysis of intelligence collected by drones).[55]

Even if punishment (threats to withhold aid and set a=0) by G are not credible, strategies to mitigate asymmetric information problems and institutionalize involvement by key constituent groups can still be strategic investments, and the plethora of US-led advising and training missions across conflicts reflect institutionalized awareness of the problem of incentivizing good agents.[56] Human rights

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[52] Denys Kiryukhin, "The Ukrainian Military: From Degradation to Renewal" (Foreign Policy Research Institute, August 17, 2018), https://www.fpri.org/article/2018/08/the-ukrainian-military-from-degradation-to-renewal/.

[53] Lucian Kim, "How U.S. Military Aid Has Helped Ukraine Since 2014," NPR.org, December 18, 2019, https://www.npr.org/2019/12/18/788874844/how-u-s-military-aid-has-helped-ukraine-since-2014.

[54] Training at Yavoriv involves a 55-day intensive program focused on training the Ukrainian trainer. The goal is to enable Ukraine to run the center independently and train up to 5 Ukrainian battalions a year. Steve Balestrieri, "Ukrainian Special Forces Getting Western Help, Training," SOFREP, March 8, 2019, https://sofrep.com/specialoperations/ukrainian-special-forces-getting-western-help-training/. "Joint Multinational Training Group-Ukraine," 7th Army Training Command, accessed June 18, 2020, https://www.7atc.army.mil/JMTGU/.

[55] John Wendle, "The Fighting Drones of Ukraine," Air & Space Magazine, 2018, https://www.airspacemag.com/flight-today/ukraines-drones-180967708/. Paul Sonne, "U.S. Designates Retired Army General as Ukraine Defense Adviser," WSJ, September 8, 2016, https://www.wsj.com/articles/u-s-designates-retired-army-general-as-ukraine-defense-advisor-1473342438.

[56] Eli Berman and David A. Lake, *Proxy Wars: Suppressing Violence through Local Agents* (Cornell University Press, 2019); Walter C. Ladwig III, *The Forgotten Front: Patron-Client Relationships in Counterinsurgency* (Cambridge: Cambridge University Press, 2017), https://doi.org/10.1017/9781316756805. US training and advising programs are often designed to monitoring the behavior of a partner military with a dubious human rights record (e.g., El Salvador) or to attempt to ensure the loyalty of a partner force (e.g., the Pentagon's use of Special Forces advisors to painstakingly screen recruits for its train-and-equip program in Syria). Missy Ryan, "U.S. Will Use Psych Evaluations, Stress Tests to Screen Syrian Rebels for Training," *Washington Post*, November 28, 2014, sec. National Security, https://www.washingtonpost.com/world/national-security/us-military-will-use-psych-evals-stress-tests-to-screen-syrian-rebels-for-training/2014/11/28/39bb9362-7712-11e4-bd1b-03009bd3e984_story.html.

and laws of land warfare training is included as part of US security assistance packages to Ukraine per Congressional legislation: Leahy human rights vetting of units selected for assistance that "screens for human rights violations, not for ideology."[57] US advising in Ukraine focuses primarily on mundane combat capability problems. A comprehensive monitoring program might have screened trainees for linkages to far right groups, but extensive US involvement Ukrainian internal affairs might have reinforced perceptions of Ukraine as a client. Embedding US advisors with Ukrainian units in the zone of active conflict was likewise out of the question. Even though it would allow effective monitoring of the day-to-day operations of the Ukrainian military and ensure better accountability for the use of US aid and arms, it would have played directly into the hands of Putin's propaganda. Better for Russian soldiers to be returned home in bodybags having been killed by Ukrainian soldiers (ideally firing Ukrainian bullets) than American soldiers.

Even with the restrictions placed on their role, advisors working with counterparts in the Ministry of Defense, the training centers, or operational units can still mitigate the asymmetric information problem to some extent, monitoring and reporting on the behavior and attitudes of their counterparts and how Ukraine is progressing on defense reform. This information was not used in practice, however, to impose conditions on aid to Ukraine. While the US Department of Defense is required to certify to Congress that Ukraine is making continued progress on defense and anti-corruption reforms, the DoD's certifications paint a basically rosy picture of Ukrainian progress on reforms.[58] Though US aid to Ukraine received a truly unusual amount of scrutiny as a result of the impeachment of President Donald Trump, it is conspicuous that discussion of limiting aid to Ukraine based on details of these kinds of reports was hardly ever raised.

The other advantage of the training and advising mission in Ukraine is that it allowed the West to "lock in" the policy during the early portion of the war, creating a Ukrainian military that could be counted on to stand up to Russia in the short term and sustain attrition in the long term, even if Western aid ceased. Focusing on capacity development with forces from the conventional army and the Ukrainian Special Operations Command, and engaging in security cooperation like exercises with Ukrainian combined forces, the United States and its NATO partners developed an increasingly capable Ukrainian military.[59] Over the course of five years, Ukraine worked its way from

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[57] Will Cathcart Epstein Joseph, "Is America Training Neonazis in Ukraine?," *The Daily Beast*, July 4, 2015, sec. world, https://www.thedailybeast.com/articles/2015/07/04/is-the-u-s-training-neo-nazis-in-ukraine.

[58] "Fact Sheet: DOD Certified That Ukraine Met Corruption Benchmarks | United States Senate Committee on Foreign Relations," accessed June 17, 2020, https://www.foreign.senate.gov/press/ranking/release/fact-sheet-dod-certified-that-ukraine-met-corruption-benchmarks.

[59] Patrik Orcutt, "Ukrainian Special Forces Integrate with U.S. Forces at Combined Resolve 14," DVIDS, September 22, 2020, http://www.dvidshub.net/news/383663/ukrainian-special-forces-integrate-with-us-forces-combined-resolve-14; Deborah Sanders, "'The War We Want; The War That We Get': Ukraine's Military Reform and the Conflict in the East," *The Journal of*

training only smaller units like companies or battalions to processing entire brigades at Yavoriv. Ukraine has now almost developed the capacity to run the training center on its own and thus ensure that its brigades can be trained.[60] The training is based on NATO military standards which will provide Ukraine's military with a competitive edge and the ability to conduct joint operations with NATO forces – a point we revisit shortly.

As predicted by the model, and expected by anyone familiar with Ukrainian aid politics, corruption remains endemic in the defense procurement process. Ukraine passed a new defense law in 2018 announcing plans to strengthen civilian control of the armed forces, increase transparency of military procurement, and initiate other reforms of the defense industry and the SBU, but implementation is uncertain.[61] It is not hard to read between the lines of calls for Ukraine's government to adhere to "increased transparency in acquisition and budgeting" in dense procurements.[62] In public diplomacy, the US has framed military aid to Ukraine as a reward for successful defense reforms. This conditionality is consistent with the logic of how the model might be played if iterated over many rounds.[63] Consider the Javelin anti-tank missiles. The Obama administration initially declined to provide them to Ukraine, partly out of concern that the technology could find its way into Russian hands and partly out of concerns about

Slavic Military Studies 30, no. 1 (January 2, 2017): 30–49. https://doi.org/10.1080/13518046.2017.1271652.

[60] Interview with US military advisor to Ukraine, November 2, 2020. "You only got to go back about two years and you will see that the U.S. government [at Yavoriv] did a lot of training. That's exactly what they were doing. So the good news is that we're not doing that anymore. We're really doing much more about advising. And that shows you the progress in five years that Ukraine has been able to make: from literally not even having a combat training center five years ago, to now running their own combat training center and putting through brigades with enablers in five years while fighting a war and transforming their military."

[61] Nikolai Holmov, "Ukraine Passes New Law 'On National Security'—What Next?," Jamestown, June 26, 2018, https://jamestown.org/program/ukraine-passes-new-law-on-national-security-what-next/; Christopher Miller, "Mission: Impossible? Ukraine's New President Ventures To Reform Powerful State Spy Agency," RadioFreeEurope/RadioLiberty, August 17, 2019, https://www.rferl.org/a/ukraine-zelenskiy-reform-state-spy-agency-sbu-/30114589.html. Cabinet of Ministers of Ukraine, "National Security and Defense," 2018, /en/reformi/bezpeka-ta-oborona; Radin, *Institution Building in Weak States.* The efficacy of reform legislation to corporatize and add transparency to Ukraine's defense industry (in the hopes of attracting foreign capital from the West) continues to be disputed, as well. See for instance Serhiy Piontkovsky, "Can New Legislation Revive Ukraine's Defense Reforms?," *Atlantic Council* (blog), August 6, 2020, https://www.atlanticcouncil.org/blogs/ukrainealert/can-new-legislation-revive-ukraines-defense-reforms/.

[62] John C. Rood, "Undersecretary of Defense to The Honorable James E. Risch, Chairman, Committee on Foreign Relations," May 23, 2019, https://www.foreign.senate.gov/imo/media/doc/5-23-19%20DoD%20Notification%20on%20USAI.pdf.

[63] This possibility is sketched (albeit informally) in Footnote 13 and associated main text.

Russia's response in a theater where it has escalation dominance.[64] The timing of the first mention of a possible transfer of these weapons was at the February 2018 Munich Security Conference, shortly after the defense reform bill was passed in January 2018.

The possibility of membership in Western organizations, especially the NATO alliance, is also dangled to incentivize reform. In 2018, NATO again recognized Ukraine's membership aspirations [65] and in June 2020 designated Ukraine a NATO Enhanced Opportunities Partner. This designation comes with perks such as more access to interoperability exercises and more intelligence sharing.[66] NATO membership has become an aspirational totem for many Ukrainians, and the reconstituted Ukrainian state security sector, with assistance from American advisors, has prioritized a force structure that would "meet NATO standards."[67] Ukrainian Special Forces operational units recently qualified to serve in the NATO Rapid Response Force.[68] NATO countries have also provided military aid in various forms – as a stopgap initially, but advice on how to prepare Ukraine to adopt NATO Standards for operational and materiel standardization is ongoing.[69] Last year, Ukraine joined the NATO Procurement System (which allows direct purchases from NATO suppliers).[70] Likewise, the US approach to democracy promotion in Ukraine since 2014 has involved multi-billion dollar IMF

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[64] Ken Dilanian, "Brennan: We Worried Arming Ukraine Would Hand Tech to Russian Spies," NBC News, November 22, 2019, https://www.nbcnews.com/politics/national-security/former-cia-director-we-worried-arming-ukraine-would-hand-technology-n1089926.

[65] NATO, "Chairman's Statement on NATO-Ukraine Following the Meeting of the North Atlantic Council with Georgia and Ukraine at the Brussels Summit," NATO, July 12, 2018, http://www.nato.int/cps/en/natohq/official_texts_156623.htm.

[66] NATO, "NATO Recognises Ukraine as Enhanced Opportunities Partner," NATO, June 12, 2020, http://www.nato.int/cps/en/natohq/news_176327.htm.

[67] Radin, *Institution Building in Weak States*, 2, 12–24. Radin's compelling analysis of ongoing Ukrainian military reforms emphasizes a separate challenge than the one we emphasize in the main text – elite opposition from within the military (e.g., old Party of Regions patron-client networks who have kept their heads down to avoid purges) well-positioned to reap the benefits of a large increase in defense expenditures. This could be considered a deadweight "corruption" transfer from p to itself, in the language of the model.

[68] Stavros Atlamazoglou, "Welcome to the Big League: Ukrainian SOF Unit Operationally Greenlighted by US & NATO," SOFREP, September 25, 2019, https://sofrep.com/news/welcome-to-the-big-league-ukrainian-sof-unit-operationally-greenlighted-by-us-nato/.

[69] "Comprehensive Assistance Package for Ukraine: Fact Sheet" (NATO, July 2016), https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2016_09/20160920_160920-compreh-ass-package-ukraine-en.pdf.

[70] Katya Gorchinskaya, "Ukraine Joins NATO Procurement System," Forbes, accessed March 8, 2021, https://www.forbes.com/sites/katyagorchinskaya/2020/01/27/ukraine-joins-nato-procurement-system/.

packages, a venture capital approach to funding civil society, and encouraging the Ukrainian government to make progress on corruption reforms.[71]

The residual problem is that an ongoing war – *partial consolidation* in the language of the model – makes military transfers to Ukraine more risky than they otherwise would be. The assumption that donor G receivs its highest utility from the transfer a in the case of *full consolidation* of militias into the recipient state ($k = n$, or 100% of field commanders playing *rehabilitate* instead of *cannibalize*). With more details of the Ukraine case presented, it is now possible to assess this assumption with empirical evidence. There are a few different rationales for Western donor governments to desire an end to the conflict, and to see the territory of Ukraine re-unified (even if *Proposition Two* suggests that intra-Ukrainian barriers to this outcome exist). An obvious rationale is the fear of leakage of a to the enemy in the form of lost military secrets. The porous border of the Ukrainian state exacerbates common agency problems that plague all military transfers, such as leakage of sensitive technology, intelligence, or operating procedures to rival powers. The US drone technology that the Ukrainians received are not the latest US models with anti-jamming technology, for instance.[72] A less-obvious rationale is the dark effects of the war, and support for a war footing, on Ukrainian domestic politics (see below).[73] The human toll of the war in the Donbas is horrifying.[74] Disputed maps are always a temptation to unexpected escalation by great powers.

For these reasons, the Minsk Process continues to serve as a focal point for settlement. Yet implementation is completely stalled. Does the model shed light on why?

3.4 Prospects for Peace Settlement: The Role Of Blocking Coalitions

The model suggests that there are domestic incentives within Ukraine for the war to remain unsettled. These incentives in the model emerge from a minimum winning coalition logic and would endure even if the Russian military disengaged (which would anyway only be temporary, given the geography). Russian policy is a barriers to conflict

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[71] Welt, "Ukraine: Background, Conflict with Russia, and U.S. Policy." Then Vice President Biden's threat to withhold aid unless the Ukrainian government fired then-Prosecutor General Shokin because he was interfering with corruption investigations is an exception.

[72] Phil Stewart, "Exclusive: U.S.-Supplied Drones Disappoint Ukraine at the Front Lines," *Reuters*, December 22, 2016, https://www.reuters.com/article/us-usa-ukraine-drones-exclusive-idUSKBN14A26D.

[73] "Ukraine 2020: Freedom in the World Country Report," Freedom House, accessed March 1, 2021, https://freedomhouse.org/country/ukraine/freedom-world/2020.

[74] "World Report 2019: Rights Trends in Ukraine," Human Rights Watch, December 18, 2018, https://www.hrw.org/world-report/2019/country-chapters/ukraine. "Human Rights Violations and Abuses and International Humanitarian Law Violations Committed in the Context of the Ilovaisk Events in August 2014" (Office of the United Nations High Commissioner for Human Rights, n.d.), https://www.ohchr.org/Documents/Countries/UA/ReportOnIlovaisk_En.pdf. "'You Don't Exist' Arbitrary Detentions, Enforced Disappearances, and Torture in Eastern Ukraine" (Amnesty International, 2016), https://doi.org/10.1163/2210-7975_HRD-2156-2016062.

resolution, to be sure, but the model illuminates a separate barrier that has gotten short shrift in the extant literature on this conflict: the emergence of a blocking coalitions of field commanders on the Western Ukrainian side.

The game, if actually played in one-shot setting, would put a high premium on players' ability to coordinate with each other to create blocking coalitions. A blocking coalition of field commanders does not demand a majority of field commanders, just the ability to deny the other field commanders the ability to exceed the s threshold: $n-s+1$. If $n=50$, $s=35$, a blocking coalition needs just 16 commanders. Consider a setting with 5 field commanders and a stability threshold of 4. By *Proposition 2,* there is an equilibrium in which 4 warlords are offered exactly v*/5-c+ε and p keeps v*-(4(v*/n-c)) for himself. If 2 warlords could coordinate their strategies and form a blocking coalition, however, then they might be able to extort p with an ultimatum in the following form: "You must propose a transfer of +ε for yourself, v*/5-c+ε for two of the other warlords, and all the rest split evenly between the two of us, or else we will coordinate to *cannibalize* and you will get zero." The knowledge that other players might be strategizing in this way would change strategies in dynamic ways, but the importance of forming beliefs about others' strategies is necessary to play the game at all (e.g., to gauge the probability that it is possible to avoid a *state failure* equilibrium, which is, by *Proposition 1*, where the game is likely to end if coordination fails).

One way to apply this concept in the Ukraine case involves Russia's strategy in the East. Using special forces and television to coordinate many field commanders to secede (formally, to play *cannibalize*) can be considered an attempt to ensure that the number of field commanders playing *rehabilitate* was less than the stability threshold (formally, that $k<s$). What occurred instead was a counter-consolidation, with sufficient field commanders opting to rehabilitate the Ukrainian state military ($k \geq s$ on the Western side). This, described above, resolved the immediate problem of state collapse, and, arguably, as many Ukrainians are quick to add, "stopped a Russian invasion."

This success created a new potential problem from the perspective of settling the war, however. As hinted above in the discussion of screening by U.S. trainers, some of the best and most visible fighting units were recruited from a far-right-wing social milieu. Most of these groups were quietly folded into the government. While some were purged, others have ascended to prominence. The government officially promised "disarmament" and "demobilization" after Minsk II, but parastatal "merging with the state" is probably more accurate. Ishchenko argues that this matter has been under-emphasized in domestic Ukrainian discourse because it is politically more expedient to cater to the popularity of battalion soldiers than to engage in the costly task of rooting out oligarchic corruption.[75]

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[75] Volodymyr Ishchenko, "Nationalist Radicalization Trends in Post-Euromaidan Ukraine," *Ponars Eurasia*, 2018. Though Mylovanov et. al. diagnose the problem a bit differently, their bottom-line policy recommendation (identification of high-level corruption as the root cause of conflict persistence and emphasis on dismantling rent-seeking networks of oligarchs) squares with Ishchenko; Tymofiy Mylovanov, Yuriy Zhukov, and Yuriy Gorodnichenko, "Review of EU

A specific manifestation of the loss of Western utility in the principal-agent transfer is the flow of Western assistance to constituencies that are adamantly opposed to re-integration of secessionist territory until Russia withdraws its military completely. This is obviously politically unlikely to happen, given that Russia denies its military is in Ukraine in the first place. A cynical way to view this bargaining position, consistent with our model, is that this faction enjoys a pivotal role in the minimum winning coalition and does not want votes counted in the DNR/LNR. The outsized influence of paramilitary forces allied with the "No to Capitulation" front in parliament is well-established. The mobilization of these groups is primarily justified as lobbying and influence groups over settlement of Ukraine's war.

While many of these groups were brought under state control during the consolidation process, some still retain significant autonomy. Two major volunteer battalions continue to publicly recruit volunteer soldiers outside the state, maintain independent training, and cling unapologetically to divisive symbols – Azov and the Right Sector's Ukrainian Volunteer Corps (DUK). Their official subordination to state structures speaks to a gradual blurring of the line between "radical right" and "moderate conservative," especially in state security forces. Likhachev cites the high-visibility examples of the former neo-Nazi activist Vadym Troyan being promoted within Ukraine's national police or Andriy Biletsky[76], head of the Azov battalion, being promoted to lieutenant colonel. It is difficult to systematically document similar processes playing out invisibly at lower levels of the bureaucracy, such as police giving tacit support to far-right social forces, but one can easily quantify that battalions and paramilitary parties play an outsized role in far-right street demonstrations.[77] Whether partially-demobilized veterans groups will be able to exert a veto over conflict settlement by threatening violence if they do not get their way remains to be seen, but credible threats on the life of President Volodomyr Zelensky reflect the magnitude of the concern.[78] The domestic incentives we have outlined may make a conflict settlement difficult to achieve in the foreseeable future, even if there were a meeting of the minds in Moscow and in Western capitals over the desirability of a negotiated settlement ending Ukraine's war.

Policy for Ukraine," *EU Global Strategy and Human Security: Rethinking Approaches to Conflict*, 2018.

[76] Vyacheslav Likhachev, "Far-Right Extremism as a Threat to Ukrainian Democracy," Freedom House, 5, accessed March 5, 2021, https://freedomhouse.org/report/analytical-brief/2018/far-right-extremism-threat-ukrainian-democracy.

[77] Natalia Shapovalova and Balázs Jarábik, "How Eastern Ukraine Is Adapting and Surviving: The Case of Kharkiv," *Carnegie Europe* 12 (2018). Ishchenko, "Nationalist Radicalization Trends in Post-Euromaidan Ukraine."

[78] Victoria Wenck, "'Кто-То Думает, Что Бессмертный'. Почему Нардепу Федыне Вручают 'Пидозру' Через Три Месяца После Угроз Зеленскому," February 5, 2020, https://strana.ua/news/248158-kak-fedyna-uhrozhala-zelenskomu.html; Victoria Wenck, "Конфискация Имущества Учителей и Тюрьма За Появление На РосТВ. Что Вписали в Законопроект о Коллаборантах," February 24, 2021, https://strana.ua/news/319574-zakonoproekty-sluh-naroda-o-kollaborantakh-v-chem-ikh-sut.html.

4. Conclusion

In this paper we have emphasized that Ukraine is an unusual success story for foreign-incentivized centralization. Pre-existing state capacity is an important part of this story, but has not been the focus of our analysis. We have presented a model in which the pressures of war combined with a timely infusion of Western assistance to incentivize the creation of new defense institutions. This averted state failure and saved many lives. We hope our empirical evidence has revealed details about a critical case and that our model has illuminated some previously-hidden contours of the order-providing equilibrium that has emerged. We will conclude with two policy-relevant observations.

First, among ourselves, we remain somewhat skeptical of the potential of conditional U.S. assistance to fully mitigate the risk of "bad agents" in Ukraine. We have repeatedly emphasized the limits of Western donors' ability to affect change or leverage their Ukrainian counterparts very much. Specifically, Western donors cannot prevent civilian politicians from pocketing a great deal of money for themselves. This may be true even if this graft comes directly the expense of a peace process that would benefit Western interests and the interests of most Ukrainians. Threats to cut off aid to Ukraine are not credible under present circumstances, and these circumstances are unlikely to change. Providing aid is an equilibrium for the Western donor so long as *enough* field commanders choose to *rehabilitate* institutions instead of cannibalize them. It is not surprising that military aid continues to be provided to Ukraine enthusiastically, with few real conditions on which reforms must be prioritized to keep the aid flowing.

Ongoing attempts to monitor and influence agents is a second-best solution under the constraints identified by the path of play in our model. Military training and advising by Western military actors can mitigate the information problems inherent in principal-agent relationships by observing, reporting, and providing human intelligence, thereby forming a critical link in the chain of transnational oversight and accountability. Trainers can be called upon to testify at congressional hearings, contribute on- or off-the record to investigative reporting by journalists, share data with independent reviewers, provide specifics for benchmarks for future conditional aid packages, propose specific sanctions for bad behavior, and more. Training and advising of operational units, alongside advising in the Ukrainian Ministry of Defense, also provides numerous "coaching" opportunities and openings for U.S. personnel to exert influence over the Ukrainian military. Ukraine's need to develop a supply chain for its military that is not dependent on Russia gives Western powers long-term leverage over reform processes, but the relationship is transactional. Ukrainian agents must know it is in Western interest to nurture a strong, independent entity capable of bleeding Putin's Russia.

Second, it is important to consider how long the current policy of support for Ukraine likely to be sustained, and what the alternatives are. It is becoming increasingly clear that many of the important conflict resolution barriers to settling Ukraine's war are intra-Ukrainian matters. So long as US policy towards Ukraine is framed as resisting Russian invasion, the policy imperative of a muscular Western response is clear. It is easy for democratic legislatures in donor states to raise funds to fight a proxy war against Russian aggression. It is hard for those same legislatures to send aid to lure

oligarchs with private armies into a centralized predatory coalition aimed at capturing rent pockets. The Kremlin might well succeed in waiting the West out. There are important non-Ukrainian facets of US-Russia relations, however, including China, escalation in the cyber realm, missile proliferation, the nuclear nonproliferation regime, and a great deal more. It is may be difficult to sustain political will for endless undeclared war against Russia over Crimea or the sequencing of voting in the Donbas, and if aid comes to be framed as subsidizing oligarchs in a country with severe governance problems, what was once a strategic imperative might come to feel like an overly-generous form of charity or subsidy.

With that in mind, it is worth considering whether military aid to Ukraine during the 2014-2020 period was a political strategy to lock-in a post-Crimea policy indefinitely. A potent insight from the political science literature on delegation emphasizes that a loss of control by a principal can be the most effective insurance against future policy drift in expectation of principals changing preferences over time (often due to legislative turn-over). There is a political logic to delegation as a strategy of "locking in" the preferences of the principal in anticipation of loss of policy control, ensuring that the content of "the bargain struck among the members of the coalition does not unravel once the coalition disbands."[79] Delegation to an agent institutionalizes a decision-making environment and locks-in a political bargain and "stacks the deck" against future policy entrepreneurs that try to unmake that bargain. A foreseeable outcome of helping Ukraine become more capable of defending itself may be a Ukraine that does not ever give up on the dream of re-claiming Crimea forcibly – even if times change and some in Washington or Brussels want to quietly deal it away in exchange for normalization of relations with Russia or the flexibility to pivot to emerging challenges. Delegation to Department of Defense trainers, in this context, can be considered a strategy to take Washington's hand off of certain policy levers and make a long-term strategy of punishment more credible. In plain speech: The day may come that the U.S. Congress opts to lift sanctions on Russian firms or that a future administration will propose to "deal away" Crimea to normalize relations with the Kremlin. If it does, many thousands of Ukrainian light infantry, trained by U.S.-trained military trainers in the intervening years, will be well-positioned to coordinate as a "blocking coalition" against what they see as a false peace.

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[79] Mathew D. McCubbins, Roger G. Noll, and Barry R. Weingast, "Administrative Procedures as Instruments of Political Control," *Journal of Law, Economics, & Organization* 3, no. 2 (1987): 243–77. 255.

Table 1: Battalions & Centralized Control

Battalion Name	Soldiers	Unit Commander	Subordination
37th TBD (Zaporizhia)	600	Oleksandr "Sobol" Lobas	Armed Forces of Ukraine (MOD)
43th TBD (Patriot)	500	Oleksandr Vodolaz'kyi	Armed Forces of Ukraine (MOD)
24th TBD (Aydar)	300	Mykola V. Petrushyn *	Armed Forces of Ukraine (MOD)
Azov	2000	Andrii Biletskyi	National Guard of Ukraine (MOD), *Not
"General Kulchytskyi"	400	Viktor Tolochko	National Guard of Ukraine (MOD)
Bilotserkivskyi TDB	200	Unknown (Denys "Angel")	Main Directorate of Intelligence (MOD)
Cherkasy (14th TDB)	100	Mykola P. Radchenko	Armed Forces of Ukraine
Police Company "Chernihiv"	600	Vitalii Kostiuchenko **	National Police (MOD)
"Crimea"	150	Issa Akayev	Armed Forces of Ukraine (MOD)
Dnipro-2 (39th TDB)	400	Volodymyr P. Berbushenko	Armed Forces of Ukraine (MOD)
Donbas - Ukraine (46th TDB)	400	Vyacheslav Vlasenko	Armed Forces of Ukraine (MOD)
Donbas (the National Guard)	600	Anatolii Vinohorodskyi	National Guard of Ukraine (MOD)
Harpun (Kamianets-Podilskyi)	Unknown	Kostiantyn O. Zhuk	Ministry of Interior
Horyn' (2nd TDB)	400	Oleksandr Tsys'	Armed Forces of Ukraine (MOD)
Ivano-Frankivsk	150	Mykola R. Ivoniak	National Police (MOD)
Karpatska Sich (rota)	Unknown	Oleh Kutsyn	Armed Forces of Ukraine (MOD)
Kharkiv - 1	300	Serhii Yanholenko	National Police (MOD)
Police Company "Kherson"	100	Maksym V. Zharkov	National Police (MOD)
Khortytsia (23rd TDB)	650	Dmytro Herasymenko	Armed Forces of Ukraine (MOD)
Kirovohrad	150	Vyacheslav H. Shevchenko.	National Police (MOD)
Police Company "Kremenchuk"	100	Oleh V. Berkelia	Ministry of Interior
40th TDB (Kryvbas)	600	Viktor Pochernyayev	Armed Forces of Ukraine (MOD)
12th TDB (Kyiv)	400	Nikolay "Akula" Bilosvit	Armed Forces of Ukraine (MOD)
11th TDB (Kyivska Rus) -	400	Valeriy Vovk	Armed Forces of Ukraine (MOD)
25 TDB (Kyivska Rus)	400	Andriy Yanchenko	Armed Forces of Ukraine (MOD)
Luhansk-1	250	Kostyantyn Sklifus	National Police (MOD)
OUN Battalion	100	Mykola Kohanivkyi	Armed Forces of Ukraine (MOD)
Poltava (16th TDB)	300	Oleg Gromadskyi	Armed Forces of Ukraine (MOD)
Police Battalion "Poltava"	50	Yuriy Anuchin	National Police (MOD)
Prykarpattia (5th TDB)	400	Vitaliy Komar	Armed Forces of Ukraine (MOD)
42nd TDB (Rukh Oporu)	500	Kostiantyn Zayichenko	Armed Forces of Ukraine (MOD)
"Storm"	300	Yevgen Rudkovsky	National Police (MOD)
Sich Battalion	200	Oleksandr Pysarenko	National Police (MOD)
Sicheslav	100	Vladyslav Portianko	National Police (MOD)
" Slobozhanshchyna"	300	Andrii O. Yanholenko	National Police (MOD)
"St. Mary"	Unknown	Oleksiy Serdiuk	National Police (MOD)
Sumy	Unknown	Igor Martynov	National Police (MOD)
15th TDB (Sumy)	400	Pavlo Herasimov	Armed Forces of Ukraine (MOD)
Ternopil	400	Volodymyr Katruk	National Police (MOD)
22nd TDB "Kharkiv"	400	S.V. Gorbenko	Armed Forces of Ukraine (MOD)
53rd Mechanized Brigade	Unknown	Unknown	Armed Forces of Ukraine (MOD)
Tornado (rota, Luhansk)	200	Ruslan Onishchenko	Ministry of Interior
UNA-UNSO Battalion	1000	Kostiantyn Vinnytskyi	Armed Forces of Ukraine (MOD)
9th TDB (Vinnytsia)	700	Sergii Ivanov	Armed Forces of Ukraine (MOD)
1st TDB (Volyn)	450	Oleksandr V. Ohrymchuk	Armed Forces of Ukraine (MOD)
Zoloti Vorota (Golden Gates))	300	Sergii Shapoval	National Police (MOD)

Table 2: Military Aid To Ukraine, 2012-2018

Category	Agency	Aid Type	2012	2013	2014	2015	2016	2017	2018
Military	Department of Defense	Cooperative Threat Reduction	63,114,935	35,479,259	52,296,192	29,119,239			
Military	Department of Defense	Drug Interdiction and Counter-Drug	37,503			125,971	52,007	143,032	
Military	Department of Defense	Foreign Military Financing	7,721,156	7,198,107	6,483,715	49,338,652	83,544,830	101,144,258	95,000,000
Military	Department of Defense	International Military Education and Training	2,029,561	1,961,334	2,048,980	1,982,994	2,921,781	2,196,951	2,653,001
Military	Department of Defense	Operation and Maintenance	520,540	135,507	15,404		237,391,866	155,066,937	197,631,406
Military	Department of Defense	Overseas Contingency Operations Transfer Fund				21,480			
TOTAL			73,425,707	44,774,208	60,844,291	80,588,336	323,910,484	258,551,179	295,284,407

Table 3: Economic Aid To Ukraine, 2012-2018

Category	Agency	Aid Type	2012	2013	2014	2015	2016	2017	2018
Economic	U.S. Agency for International Development	Economic Development Assistance, Capital Investment	95,172,217	77,431,092	104,644,587	102,361,545	130,701,936	200,542,765	194,354,781
Economic	Department of State	Various (Democracy, Health, Migration, Anti-Terrorism, Narcotics, etc.).	55,960,799	36,748,670	69,161,149	94,315,178	71,021,256	56,602,736	56,805,606
Economic	Department of Energy	Nonproliferation, Weapons/Reactor	78,759,372	110,777,174	90,944,745	146,966	461,827	798,937	544,000
Other economic			8,529,503	6,092,543	4,217,151	3,983,814	7,899,532	5,129,891	9,525,216
TOTAL			238,421,890	231,049,480	268,967,632	200,807,503	210,084,551	263,074,330	261,229,603