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Does Conscription Affect War Duration? A Study of Military Manpower Systems, Regime Type, and Interstate Wars

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Does Conscription Affect War Duration? A Study of Military Man Power
Systems, Regime Type, and Interstate Wars

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Abstract

While the causes of war have long been studied, the same scrutiny has not been applied to war duration. Recent empirical studies have found that similar variables correlate with both war outbreak and duration, thereby hinting at new areas for war research that can be conducted with a fresh perspective. One variable that stands out for this type of interrogation is conscription (especially when considered alongside regime type), as research on the subject has generated contradicting and inconclusive results. Given that many states around the world are replacing conscription with all volunteer forces, asking if conscription increases or decreases the lengths of wars has never been more salient. Using duration time models that assess hazard rates, I examine interstate wars from 1938-2007 to determine the risks democratic countries take on with military manpower systems. I conclude that war initiation and democracy are associated with shorter wars due to their hazard ratios. When democracies initiate wars, they are much shorter. Conscription is associated with longer wars regardless of regime type; however, this is not necessarily because conscription leads to longer wars. Rather, I argue, conscription is an indicator of state insecurity.

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“Think, too, of the great part that is played by the unpredictable in war... The longer a war lasts, the more things tend to depend on accidents. Neither you nor we can see into them: we have to abide their outcome in the dark.” –Thucydides (History of the Peloponnesian War 1.78)

Introduction

On December 31st, 2002, Congressman Charles Rangel wrote an opinion in *The New York Times*, where he advocated for renewing the draft just a few months short of the Iraq War. In the article he reasoned, “If those calling for war knew that their children were likely to be required to serve—and to be placed in harm's way—there would be more caution and a greater willingness to work with the international community in dealing with Iraq. A renewed draft will help bring a greater appreciation of the consequences of decisions to go to war” (Rangel 2002). Rangel went on to argue that conscription builds character, would provide the US military with a much-needed influx of soldiers, and diversify the military racially and economically (2002). This made sense historically in the United States given the public protests and burning draft cards during the Vietnam War (Anderson 2011).

At home and in Europe this argument has failed to convince. Since Rangel’s appeal, 13 members of the European Union have abandoned their long-standing conscription policies in favor of all-volunteer forces (AVF), citing popular support and the changing face of war (BBC 2013, CIA 2013; Chappell 2006; Horowitz 2004; Jehn and Selden 2002; SETimes 2014; Telegraph 2001; Vasquez 2010; Wilkinson 2001). Specifically, militaries are becoming increasingly focused on small in-and-out incursions where trained soldiers are valued over large armies, creating a new type of warfare (Bacevich 2005; Laqueur 2005; Göranson 2012, Stephen 2011). Economies are growing, making all out war expensive, and this trend is expected to continue in Europe (Gat 2005). In 2012, the Danish Conscription Committee released a comprehensive policy report of its military manpower system (MMS), where it stated its

intention to begin transitioning to an AVF. Their reasoning sums up the situation in Europe aptly:

“One general tendency, however, points to the abolishment or suspension of conscription in countries where the task solution of the [defense] has become focused on participation in international operations rather than territorial [defense]. Experience from several nations indicates that the transition to a [defense] with exclusively permanently employed personnel has resulted in increased quality and efficiency of task solution.” (Danish Conscription Committee 2012:14-15).

Even France, the classic model of efficient universal conscription, ceased conscription in 2001 after over two hundred years (Bell 2007). The one notable exception is Ukraine, which in October of 2013 abolished conscription, only to re-institute it in April of 2014—potentially due to increased instability on its eastern border with Russia (Economist 2014).

These swift policy changes in Europe have made recent work, like Jeffery Piker's (2011) analysis of conscription and military actions from 1946-2001, partially outdated. With all the recent changes in long-standing conscription policies by governments, it is important to ask what effects this might have on factors like war intensity or duration. Many leaders have made their decisions to maintain or end conscription based on popular support, fiscal costs, or other policy variables without considering the whole picture (Congressional Budget Office [CBO] 2007; Keller, Poutvaara, and Wagener 2006). Economic models of conscription that use cost-benefit analysis have also failed to account for the costs of war outside of effectiveness of troops models (Warner and Asch 2001), the notable exception being Patrick Warren's models, which examine likelihood of war initiation rather than troop effectiveness (2009; 2012). If conscription decreases the appeal of war, calculations would need to be adjusted. However, governments have failed to ask how conscription interacts with battle deaths, war initiation, and war duration.

This is partially due to a scarcity of research. As the war researcher Joseph Vasquez has pointed out, “there is little systematic cross-national research that explores the influence of

conscription on the state's international behavior" (Vasquez 2005: 850). While some previous research has addressed conscription, democracy, size of armies, and public opinion, none have ever looked at the effects of conscription on war duration. Furthermore, as Vasquez (2005) and others have noted (Bennet and Stam 2004; Horowitz, Simpson, and Stam 2001; Levi 1996), current research on conscription over the last 20 years has offered contradicting results. Therefore, it is no wonder there are so many conflicting opinions and theories among politicians. For these reasons, I ask how conscription is related to the length of interstate war while taking into account potential variables like regime type.

The project proceeds as follows. First, the challenges of studying war and war duration are reviewed, followed by a brief survey of what is known about war duration, conscription, and regime type and how they relate to one another empirically and theoretically. Afterwards, the experiment and methods are discussed and explained. Finally, the results are presented and interpreted through the lens of historical incidents and current issues in international relations. Policy recommendations and areas of future research are then provided.

The Past and Present Challenges

What causes wars? It is an ostensibly simple and compelling question centuries of writers from Thucydides, Hobbes, Machiavelli, and Immanuel Kant to contemporary scientists such as Kenneth Waltz, Robert Jervis, and Jack Levy have all tried to answer (Nye and Welch 2009). The result has been a menagerie of competing theories that all offer different explanations for what causes wars.¹ This is no one's fault, but rather a consequence of studying war's convoluted

¹ For example, Dougherty and Pfaltzgraff (2001) found 33 different theories that attempt to explain war conflicts, while Bennet and Stam (2003) generated a list of 16 different theories based on the most numerous citation counts that hypothesize upon what causes war in the international system: "democratization, polity change and externalization of violence, alliance and defense pact membership, arms races, balance of power, conventional deterrence, democratic peace, expected utility, geographic contiguity, nuclear deterrence, power transition, trade

causal chain. In this section I provide a brief overview of the historical and contemporary challenges researchers face when studying war, which includes sorting through the theories mentioned above, as well as trying to model them. There are also unique challenges with testability, running true experiments, methodology, and operationalization of variables. Furthermore, with the advent of exhaustive data sets, the positivist approach of looking for correlation and the interpretation of large-n studies (i.e. studies with very high sampling numbers such as 100 or higher) has been the target of criticism.

In the field of international relations, there are numerous compelling explanations for the causes of war between states. A typical introductory text might offer, as a way of analyzing the causes of war, three different levels of analysis: individual, state, and international (Mingst and Arreguín-Toft 2011; Nye 2009). Each of these levels offers a different perspective on what causes war. For example, using an individual level analysis to examine World War II, one hypothesis might be that WWII was caused by the decisions of Hitler, Mussolini, and Hirohito (Hughes 1989). At the state level, WWII might be explained by the rise of nationalism, fascism, a desire for oil, or other economic issues (Hughes 1989). At the international level, possible explanations include the failure of the League of Nations to broker peaceful relations, the forceful reparations Germany owed the European countries, and the international community's attempts to sate Hitler's desires. To create a more nuanced but accurate explanation, many scholars have argued that factors across all three levels caused WWII, and that no one event was entirely responsible. As pointed out recently in a review of system-level theories by Levy and Thompson (2010), no single system of analysis can definitively explain the complexities of the path that leads to war.

independence, economic long cycles/Kondratieff waves, hegemony stability, international system polarity, and system power concentration and movement" (42-43).

Aside from the levels of analysis, there are different theories that try to combine observations with basic assumptions and create a unified idea that explains the genesis of war. Complications about which variables and measures are relevant are inevitable. Some theories like Kenneth Waltz's realist approach of a bipolar-multipolar world are easy to measure, but have their own sets of problems when it comes to defining unipolar or bipolar in a post-Cold War world (Nye 1988). To expand further, realism and all its derivative theories assume states are the key actors in the international system, and that states act rationally to increase their power. Realism can explain the relationship between the United States and the USSR during the Cold War or alliances during the Peloponnesian War. However, realism struggles in its explanation of terrorists' trans-national approaches, civil wars, and the role of the United Nations since none of these are state actors. Other theories like Robert Jervis' hypothesis of misperception are harder to codify because misperceptions and misunderstandings are debatable and hard to measure in a world with imprecise information (1978). The theory helps explain why a country might attack a more powerful country, but it cannot help anticipate the attack because the information is all *ex post facto*, and thus subject to confirmation biases.

Both of these theories only provide partial explanations of what causes war. Their emphasis on specific relationships is useful for testing purposes because they allow researchers to select for dependent and independent variables. They also facilitate the hypothesis generation and provide the necessary context for interpreting the results in large data sets. Thus, by combining these theories with more complex levels of analysis, a multi-layered explanation of what causes war can be created which attempts to consider all the different explanations and make some sense of them.

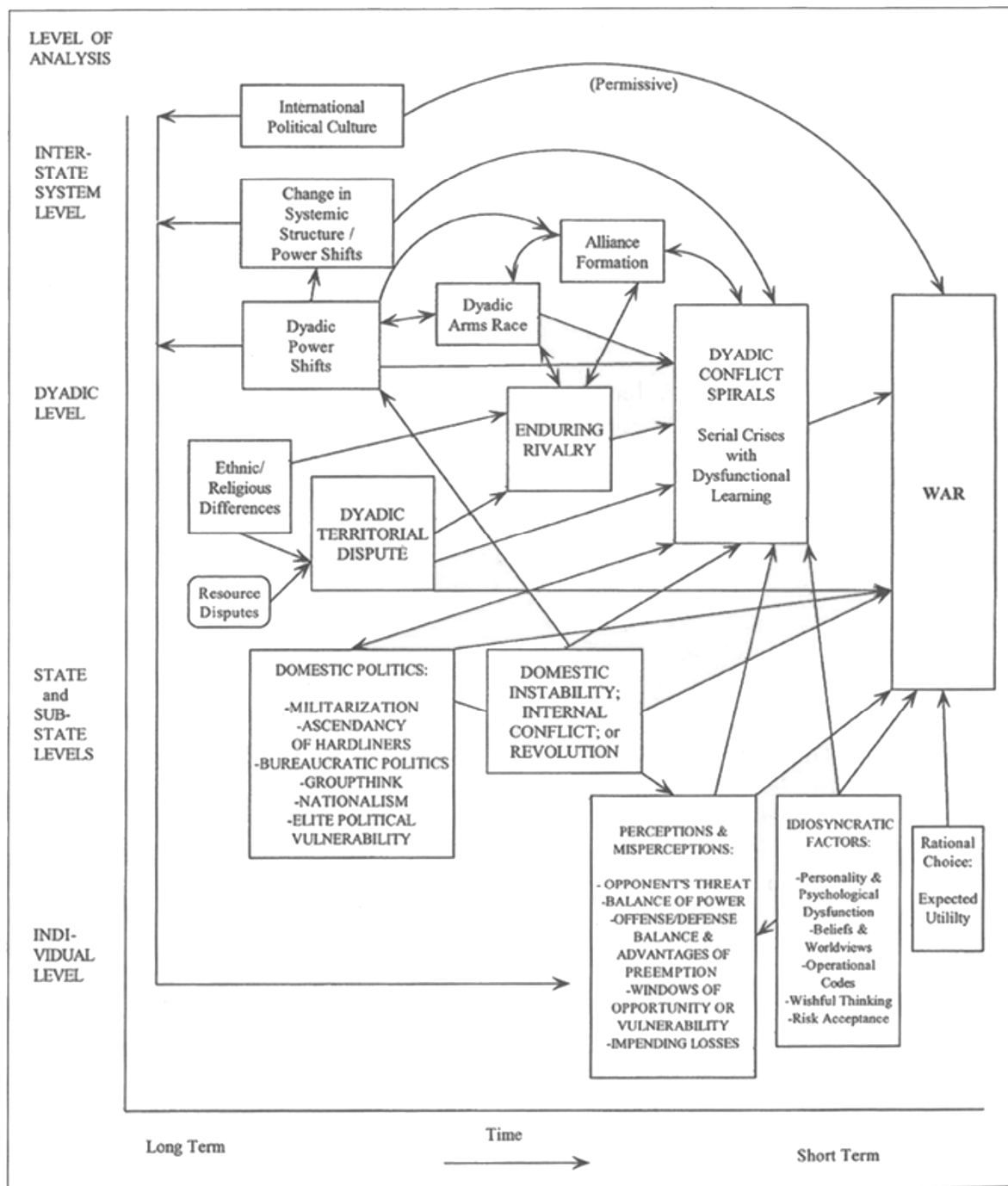


Chart I.1. Causal Factors in Interstate War: Potential Linkages

Figure 1 Source: Greg Cashman and Leonard C. Robinson, *An Introduction the Causes of War: Patters on Interstate Conflict from World War I to Iraq* (2007:24).

Such an explanation would look something like what Cashman and Robinson created in *Causes of War* as an aid in understanding war (see Figure 1). A useful tool for visually demonstrating where various theories interject themselves into the causes of war, Cashman and Robinson’s model illustrates the different paths for explaining the causes and duration of war.

The chart offers a complete visual of alleged causes of war by incorporating the systems of analysis and important theories like realism, but does not attempt to be so specific that the model's primary use is compromised. It should now be clear just how complex war is now.

Testability is another challenge when studying wars. Compared to the hard sciences, theories and hypotheses are much more difficult to test in political science, especially when working on a subject like war. Simple observation is often the best one can realistically hope for. Social scientists cannot control for each variable that might influence politicians' and citizens' decision making, the policies of individual countries, and the structure of the international system. Similarly, history cannot be rerun nor control groups created; it is impossible and unethical when the subject is war. Thus we can never run a true experiment where everything is controlled ahead of time.

Operationalizing variables is also tricky.² Consider conscription, which has many operationalization problems that become salient when asking whether or not it contributes to the likelihood a country will be involved in a war. All of the following are technically a form of forced recruitment (or recruitment policy) into the military by a government: a draft that is only instituted when countries are at war; a draft that might be instituted when a country goes to war; a law that states citizens will be conscripted, but for some reason is not enforced during a specific war; a country that requires military service regardless of whether or not a country is at war; a country that halfway through a war ceases or begins conscripting its citizens. How scientists define these variables and choose to represent them in their research can easily impact the results of the study.

² To operationalize a variable is to take an abstract or intangible phenomenon like democracy and define it with an objective measure that is reliable.

Gathering enough war-relevant data that political scientists could agree upon has plagued empirical war research since its inception. Early researchers like Quincy Wright and Lewis Richardson began working on empirical war analysis in the 1930's, spearheading movements to ask which variables are associated with the inception and termination of war (Singer and Small 1982). This question became all the more prevalent after WWII. During the beginning of the Cold War, the field took a major step in the positivist direction with the creation of one of the most prolific data sets in war research: the Correlates of War (COW) project (Singer and Small 1968). Since its creation in 1963 by David Singer, COW has sought to offer up-to-date data about wars, state resources, disputes, military capabilities, and other variables to supplement theories so that hypotheses about war may be consistently tested through empirical observation (Singer 1979). Updated every few years, the data is available for all researchers and curious parties. COW currently provides data on all types of wars and conflicts including interstate, extra-state, non-state wars, and militarized interstate disputes (MIDS) to facilitate further conflict research. Since COW was created, many war related data sets have been created to facilitate different questions involving ethnic violence, international crises, civil wars, intervention practices, and regime type—to name a few. By examining how independent variables like conscription, regime type, and aggressor status affect the length of wars, the likelihood that countries will engage in wars, and militarized conflicts, we can work towards controlling for these independent variables and understanding their various interactions with war. Essentially, they are trying to find the “steps to war” as J.A. Vasquez noted in 1987.

The increased availability of quantitative data across multiple dimensions opened up new avenues of war research with large-n studies, as well as a litany of objections by political theorists, the most famous being by Kenneth Waltz. In *Theory of International Politics* (1979),

Waltz argued that blind admiration for empiricism and positivism was harming the field of international relations. He reasoned the loose correlations between variables lacked meaning if there were no means of interpreting why such relationships existed. Waltz's critique is valid, as scientists can hardly run experiments on war without some conceptual decision-making. War and other variables need to be concretely defined so that they can be measured objectively; we cannot simply define war under the label of "I know it when I see it," as Justice Potter Stewart did for obscenity (*Jacobellis v. Ohio*, 1964). How war is operationalized then, would greatly influence any results, and Wallace argued for proper framing. In *Resort to Arms* (1982), Singer responded to Waltz, arguing that existing theories need to be tested, and by analyzing data, the large-n studies could at least point to relationships that could be expanded and explained by theorists. Singer's objection was that without a theoretic framework, scientists have no way to determine which variables to study in the first place. This objection lacked some credibility. By the 1970s there were enough theories on the causes of war for positivists to select from and conduct statistical analyses of the data; they were not swinging bats in the dark, hoping to find random relationships.

The results were encouraging. Many relationships were found while analyzing large data sets that would eventually inform policy. For example some older theories regarding democracies were tested with the available data and the results demonstrated that "democracies," as defined by scientists like Michael Doyle (1983), never go to war.³ Russett and Oneal (2001) argue that this may in part be happening because of electoral accountability, a proposition supported by Reitar and Stam (2002) and Bueno de Mesquita (2003). Since the end of the Cold

³ See also James Lee Ray (1998, 2000), who spends a substantial amount of time going over cases of war that could be considered war between democracies such as the Spanish American War or Athens and Melos. Because Ray (1998) adds contingencies for democracy such as popular representation and at least one peaceful regime transition, his definition guarantees that no democracy has ever fought another.

War and the collapse of the Soviet Union in the 1990's, American Presidents have often justified invading foreign countries in the name of international security, democracy, and peace (Beissinger 2002). In his address to the American populace following the 2003 invasion of Iraq, President George Bush justified the invasion by stating, "Our cause is just, the security of the nations we serve and the peace of the world. And our mission is clear, ... to free the Iraqi people. The future of peace and the hopes of the Iraqi people now depend on our fighting forces in the Middle East" (Bush 2003). The message, while obvious, also had an interesting logic chain: Saddam Hussein was a threat to peace and the people of Iraq needed to be freed if peace was to be restored. When President Bush referred to "freedom" though, he did not just refer to Saddam, but to any autocrat. Freedom meant democracy, and democracies, President Bush implicitly stated, make the world a safer place.

This is reflected in statements he made in November of the following year when discussing what he thought of Iraq and the Middle East: "The reason why I'm so strong on democracy is democracies don't go to war with each other. And the reason why, is the people of most societies don't like war, and they understand what war means. ... I've got great faith in democracies to promote peace. And that's why I'm such a strong believer that the way forward in the Middle East, the broader Middle East, is to promote democracy" (Bush 2004). President Bush was not alone in advancing this idea, but simply added his voice to the chorus. Just a few years earlier, the same idea was espoused by President Clinton, who in his 1994 Inaugural Address stated, "Ultimately, the best strategy to ensure our security and to build a durable peace is to support the advance of democracy elsewhere. Democracies don't attack each other" (Clinton 1994). The theory had a simple rule, which Bush alluded to, and Clinton spelled out: Democracies do not go to war with each other. Ironically, this rationale was used two months

later to justify military intervention of the United States in Haiti under Operation Uphold Democracy to prevent a state from becoming a non-democracy and thus threatening war (Cohen 1999). Even President Wilson when appealing to Congress for a declaration of war on Germany in 1917 argued, “A steadfast concert for peace can never be maintained except by a partnership of democratic nations. No autocratic government could be trusted to keep faith within it or observe its covenants...Only free peoples can hold their purpose and their [honor] steady to a common end and prefer the interests of mankind to any narrow interest of their own” (Wilson 1917: 3-8). Each of these Presidents has argued that democratic nations avoid war with one another or are less likely to make war in general. In order to ensure peace, democratic nations should be protected and encouraged. This foreign policy idea is officially known as Liberalism, and the theory is referred to as Democratic Peace (DPT).

Since the proposition that democracies do not fight one another, there have been objections. Many theorists have pointed out that, until the middle of the 20th century, democracies were in the minority of nations and were rarely geographically close to each other, a variable that has been highly correlated with war (Vasquez, J. A. 2009). Some explanations have developed after examining large data sets involving alliance building, intervention, and rational decision-making. This list should by no means be considered all-inclusive.⁴

It can be tempting to conclude, as many neo-realists have, that war is an innate part of the human condition. This would be a mistake. The resilience of the question and the debates surrounding the causes of war should not dishearten, but emphasize both the opaque nature of war and the challenges philosophers, political scientists, and politicians confront when they

⁴ This is a prime example of theory and data combining to posit an assertion that Small and Singer would have claimed was proper science. Ironically enough, Small and Singer (1982), Vasquez (2005), and many other scientists have all argued that the empirical support for democracies not going to war is completely explained by the contiguity of states and that it is just a coincidence that democracies have not gone to war with one another under DPT theorist definitions.

attempt to understand and create predictive, scientific theories on war and its prevention. To put it another way, the reason political scientists have been searching for correlates of war is not to create a model for predicting how every leader or state will act in situations pertaining to war, but rather identify what puts states and other international players at an increased or decreased risk of war. Like fire prevention in a house, the idea here is to remove as much combustible material as possible, so that the fire is less likely to occur. Though every fire cannot be prevented, the more risks we identify and address, the better.

Looking solely at causes does have consequences though. For the most part, war research has focused exclusively on what leads to war and questions about the intensity and duration of war have received remarkably less attention despite their importance (Bennett and Stam 1996; Levy and Morgan 1984). This is unfortunate when the benefits are considered. By asking what variables affect war duration, we can further our holistic understanding of war (i.e., once a fire has started, it would be beneficial to understand how it becomes an inferno or tapers off). Looking at war duration, new variables can be considered and fresh ideas may be possible, since, unlike literature on the causes of war, war duration literature is not encumbered by centuries of theories and research. Furthermore, variables that affect war duration could provide fresh insights into wars that can then be used to update theories and models surrounding the causes of war. This is reciprocal for studying war duration, as literature on the causes of war can inform duration theory.

The endogeneity problem (e.g. does poverty cause crime, crime cause poverty, or some third variable cause both?) is apparent when examining conscription. As Vasquez (2005) noted, decisions to engage in war or conscript are controlled by states, as they make the final decisions, rather than civilians. Thus, if a study tries to examine how conscription correlates with war

initiation, it may be difficult to interpret the ambiguous cases where a population was unaware they would be conscripted prior to the war, or where they thought they would be conscripted but were not. Such operationalization cannot test *ad hoc* effects without subscribing to a specific theory, which may create false results. This is apparent in conflicting recent studies (Choi and James 2003 and 2008; Pikerling 2010; Vasquez 2005), which look at initiation of wars, military action and casualties and may be one of the reasons for the conflicting results among these studies.

Governments might decide whether or not conscription will happen ahead of time since they know their military capabilities and know if they would need to conscript (in this case, if the country does not expect war, it does not matter, but this is almost impossible to measure). With DPT, it might be predicted that citizen expectations of conscription are important in democracies and irrelevant in non-democracies. It is impossible to know, and this creates a serious problem when considering how conscription interacts with war.

Fortunately, analyzing war duration can address many of these issues because it examines conscription time alongside war length, rather than having to disentangle popular and sovereign expectations of conscription. The advantages of examining conscription alongside war duration can therefore create a more comprehensive and holistic picture that offers a more accurate portrayal of how conscription and regime type affect war duration. In the next section, I further explore the questions of war duration and conscription.

Literature Review

In this section, I examine the contemporary literature on war duration, conscription, and democracies, showing which questions have already been asked and what we know about their answers. Then I offer reasons for my use of war duration as a dependent variable to couple with military manpower system and regime-type interactions.

I. Interstate and Civil War Duration

While the question of what causes war duration to fluctuate has often been considered alongside the question of what causes war, the question was not fully considered until scientists began making advancements with data collection and statistical methods. The first study to seriously ask the question was conducted by Bueno de Mesquita in 1978, when he addressed the question as a dependent variable. Specifically, he examined how system polarity affected war duration, attempting to determine a time effect with an ordinary least squares (OLS) regression model (rather than a hazard model technique that would come later) and found that longer wars were positively correlated with system “tightness”, which can be understood as how close any two countries are in power. Bueno de Mesquita also found a positive correlation between the number of alliances countries had with each other and war duration. In 1996, Bennett and Stam expanded the theoretical considerations of war duration when they created a model of war duration that considered domestic politics like regime type and balance of power alongside battlefield-related variables like terrain and strategy. Their results were important because they found that the war length does not in itself perpetuate conflict. Instead, they found that factors like operationalized battle strategies affect war duration. Some results involving democracies were later expanded upon to show that democracies self-select for shorter wars they are likely to win than autocracies, but as the war duration increases, the likelihood of a democratic nation’s

victory decreases (Reiter and Stam 2002). Many of the variables such as the duration dependence of democratic victory had never been considered in the causes of war literature. Through the lens of their research, Bennet and Stam were also able to propose potential determining variables for war duration such as territorial components.

After the work of Bennet and Stam, war duration research bifurcated, with the majority of the sub-field focusing on civil wars. There were a few reasons for this. Work on civil wars offered up various explanations for conflict escalation of interstate wars and tried to uncover factors that increase or decrease the lengths of these conflicts (Anderson 2013; Collier, Hoeffler, and Söderbom 2004; Cunningham, Gleditsch, and Salehyan 2009; Cunningham and Lemke, 2009; Wucherpfennig *et al.*, 2012). These results were surprising, as work on war duration and dyadic wars still had many gaps to fill, but the literature gravitated towards civil wars, which examined factors of ethnicity and state capacity. Furthermore, Collier (2004) states there was a race for creating new analysis and theories in a specific subset of war, while in interstate war studies, most of the research is focused on finding relevant variables to examine.

The civil war duration literature is relevant because the examined variables can also be tested in dyadic war duration and, as Bleaney and Dimico (2001) and Cunningham and Lemke (2013) argue, there are several areas of overlap between what variables affect civil war and interstate war duration. This review of civil war duration literature is not all encompassing, but selected based on its relevance to war duration.

In 2004 Collier, Hoeffler, and Söderbom (2004), DeRouen and Sobek (2004), and Fearon (2004) all published on civil war duration, offering different perspectives while cognizant of one another's work. Collier, Hoeffler, and Söderbom (2004), offer an analysis of civil war duration covering 1960-2000 and use the COW project's data, defining "civil wars as violent conflicts

that resulted in at least 1,000 battle-related deaths per annum” (257).⁵ In their study they found that low per capita income, high inequality, and a moderate degree of ethnic division all contribute to longer civil wars, while the wars are shortened by commodity price decline of exports and military intervention that sides with the rebels. They also examined the objectives of rebels and found that pay-offs during conflicts for rebels (rebellion-as-business) and military optimism with sunken costs (rebellion-as-mistake) are associated with shorter wars.

DeRouen and Sobek (2004) examined civil war duration from 1944-1997 and victory lengths for rebels or the government. They found that an effective state bureaucracy both increases the length of time it takes for a rebel victory and decreases the chance of rebel victory. Interestingly, they did not find that larger state armies decreased chances of victory, but they were quick to point out that this caveat may only apply to civil wars, not interstate wars where a power imbalance has been shown to decrease the length of war (Bennet and Stam, 1996). DeRouen and Sobek (2004) also found that longer durations of any civil war decreased the chance of a government victory, and the probability of a treaty.

Fearon (2004) on the other hand divided his civil wars into different types (coups, revolutions, peripheral insurgencies, Soviet Union breakups, and ‘sons of the soil’—which involve ethnic groups contesting land and resources) and found all have different durations and rebel strategies. He also found that ethnic diversity creates slightly longer wars, and this correlation is much stronger if colonial wars are ignored. Per capita income is negatively associated with war duration and the deadliness of the war; country population is somewhat

⁵ This is different from both DeRouen and Sobek, who use a 1,000 battle death marker only for the first year and use Doyle & Sambani’s termination code (2000), and Fearon who defines civil wars as only needing to reach the 100 death mark in a single year and 1,000 over the course of the entire conflict. These different definitions of “civil war” create stark differences in the data sets with relevant results, e.g., the mean duration of Collier’s civil wars are 8.8 years, while Fearon’s are 12. This is especially evident in Cunningham and Lemke (2013), who use four different data sets that all create different results.

positively correlated with longer wars. Fearon also hypothesized that equivalent capabilities account for the longer war durations. Cunningham, Gleditsch, and Salehyan (2009) corroborated the hypothesis with similar results. Furthermore, the availability of contraband (e.g., diamonds), during war conflicts enables warring parties to maintain their functions and also increases the length of wars (Fearon 2004). However, Wucherpfennig *et al.* (2012), found that these ethnic differences and ‘sons-of-soil’ wars that Fearon and others discussed can be explained fully when looking at “state-induced ethno nationalist policies that exclude and discriminate against a specific ethnic group” (89).⁶ It was also found that when the disadvantaged ethnic group is the rebel group, the duration of wars is likely to increase.⁷ For example, if a state has biased practices against a certain minority one would expect to find a “sons-of-soil” conflict, while a state that lacked such practices may have ethnic violence, but not the “sons-of-soil” type.

One variable with mixed findings is regime type. Fearon (2004) found that regime type has no impact on duration, DeRouen and Sobek (2004) found that democracy only has a moderate impact on duration with mixed results, and Wucherpfennig *et al.* (2012), found that democratic governments tend to be involved in longer civil wars. This can probably be attributed to the differing data sets and hints that more work is necessary before any clear conclusion can be reached about the impact of regime type on civil war.

While civil war researchers were looking at rebel versus government fights, some of the same variables were examined and explored by those analyzing interstate wars. Slantchev (2004) responded directly to Bennett and Stam (1996) by creating his own model while offering a

⁶ The ‘sons-of-soil’ conflicts Fearon discusses are characterized as fights that have an ethnic minority fighting a regime that is actively oppressing them.

⁷ Wucherpfennig *et al.* (2012) use a different data set for civil wars off the Non-State Actor (NSA), Armed Conflict Dataset (ACD), and the Ethnic Power Relations (EPR). Second, their years are from 1946-2005. While they use this data set, their controls and comparisons between ethnic diversity and conflict by measuring linking rebel group linkage to the ethnic group in question versus the governments prejudice policy measure seem strong.

critical lens to interpret the data and finding new results. Among the most relevant results for present purposes, Slantchev found that “the longer the war, the worse the expected outcome for the state that started it” (827). He also found that democracies have a preference for short, winnable wars. Bennett and Stam (1998) supported those findings in their analysis of war duration. In their study Bennett and Stam found that while democracies are much more likely to win wars in their initial phases, as the time increased, the likelihood of victory for the democratic state decrease over time, as does the popularity of the war.

Filson and Werner (2004) created a model of concessions that lead to war termination, usually guided by the desire of one or both parties to end the war. Though the proposed models did not analyze any new data, their attempt to predict war duration in new ways was supported by most of the empirical research in the field. Other researchers added to the original model by showing that third-party interference increased the length of war (Shirkey 2012) and leadership transitions tended to decrease the duration of war (Quiroz 2012). These were valuable insights that added to the understanding of war duration and have potential real world applications for states and other parties to consider. The only notable problem with the model is that while it can explain past events, it does not offer much predicative power.

In 2006, Bennet and Stam took their war duration model a step further by attempting to predict the lengths of certain hypothetical wars and the end of the US military efforts in Iraq. This statistical model included the variables of military strategy (attrition versus punishment), terrain, military balance ratios, military capabilities, issue salience, regime politics and number of states involved. Larger discrepancies in military power ratios and capabilities were expected to lead to shorter wars and population and reserve numbers were expected to increase the length (105). They predicted its end within 6 months, an impressive error margin given the 89-month

duration of the war. If anything, this showed just how important these variables are considering the accuracy of their model. Interestingly, in 2009 Bennett and Stam then corrected their original 1996 model, making it more accurate by eliminating the mean square error in place of a mean absolute value error due to the high variance of war duration and the small sample size, which resulted in high heteroskedasticity.⁸ This created a much more accurate model that had fewer errors while re-affirming the previously established variable correlations.

II. Conscription and Public Opinion

Among all these variables explored by the war duration literature, none of the models attempted to utilize conscription as a dependent or independent variable. This is puzzling considering the many interactions examined by the literature including casualties, military reserve variables, mobilization, and issue salience (Bennett and Stam 1996, Slantchev 2004). DPT also predicts that conscription would influence war duration through a causal chain. In democratic states, the elected officials respond to the will of the people (Page and Benjamin 1983). As popular support for a war decreases or increases, elected representatives will respond to please the populace because their goal is reelection (Garter and Segura 1998; Lunch and Sperlich 1979). Important factors for determining this include victory and defeat and constituent costs (Cotton 1986). As it turns out, citizens dislike casualties (Gartner, Segura, and Barratt 2004; Horowitz, Michael, and Levendusky 2011; Kriner and Shen 2007). Therefore, if casualties, which are affected by unwilling conscription, increase or decrease during a war, support for the war mirrors it (Cotton, 1986). Essentially, in this theory conscription involves the

⁸ The best way to explain heteroskedasticity is to consider a spread of data with a basic linear formula fit to predict it. When the independent variable is low the linear line predicts the data with low amount of error (little variance). Some data points are below the line, some above, but it is a reasonable spread. As the independent variable increases, the discrepancy between what the line predicts and between a predicted line increases in a pattern like way, sometimes below, sometimes above, sometimes both because the linear model, being a line is limited to its shape.

unpopular notion that unwilling participants have to pay the direct costs of war, thereby curbing war or its duration.

This hypothesis is supported by Immanuel Kant, the germinator of Democratic Peace Theory (DPT) in *Perpetual Peace* (2003[1975]). Kant starts the treatise by asking: How can we eliminate war and have peace? In his “Definitive Articles”, which form a series of requirements needed for world peace, Kant argues that a republic is the safest form of governance because it protects against war:⁹

The republican constitution... gives a favorable prospect for the desired consequence, i.e., perpetual peace...if the consent of the citizens is required in order to decide that war should be declared (and in this constitution it cannot but be the case), nothing is more natural than that they would be very cautious in commencing such a poor game, decreeing for themselves all the calamities of war...having to fight, having to pay the costs of war from their own resources, having painfully to repair the devastation war leaves behind, ... load themselves with a heavy national debt that would embitter peace itself and that can never be liquidated on account of constant wars in the future. (2003[1975])

In contrast, under an autocratic or despotic regime Kant argues,

...a declaration of war is the easiest thing in the world to decide upon, because war does not require of the ruler, who is the proprietor and not a member of the state, the least sacrifice of the pleasures... He may, therefore, resolve on war as on a pleasure party for the most trivial reasons, and with perfect indifference leave the justification which decency requires to the diplomatic corps who are ever ready to provide it. (2003[1975])

In modern terms, Kant said that in a democratic state the costs of war are high because the ruler wants to be elected and will not engage in unpopular war, whereas a dictator will because he is not beholden to the masses. The importance of regime type demonstrated in James Fearon’s *Domestic Political Audiences and the Escalation of International Disputes* (1994), when he showed that politicians in democracies consider the costs of war and how they should

⁹ What Kant means by republic and what most politicians and writers refer to as democracies is essentially the exact same thing.

act in any election cycle given that they could lose face by backing down in the international scene to avoid confrontation.

For the most part, available empirical evidence supports DPT. In 1973, Mueller famously observed in *War, Presidents, and Public Opinion* that there was a negative correlation between war deaths and public support in the United States. This model was improved upon by Gartner and Segura (1998) when they examined the public support for wars in the United States for World War II, the Korean War, and the Vietnam War alongside casualties. They determined that casualties are a useful measure for determining public support after rally effects and can predict a war's popularity.

The direct relation between democracies, casualties, and public support was explored by Koch and Gartner (2005). By analyzing 25 democratic countries from 1946-2000, Koch and Gartner (2005) found that conscription does not affect casualty levels, but countries with conscription are more likely to be involved in a war. This evidence was supported by one of the few (and in this case the first) cross-country time analysis of conscription, where Choi and James (2003) found that countries with conscription were more likely to go to war.¹⁰ One issue with the study, as Vasquez (2005) pointed out, is that Choi and James (2003) examined the effect of military manpower by itself, and did not control for the presence of democracy. By ignoring the interaction of conscription and democracy, they failed to test a key DPT assumption. Fortunately, Choi and James (2008) addressed this specific issue when they revisited the question using free press measures from Polity. Another measure they used is whether or not the military is under

¹⁰ Earlier studies on conscription like White (1989) and Ross (1994), which argued for ostensible correlations between conscription and army size or likelihood to go to war, only did single cross-sectional data sets from the years 1984 and 1985 respectively. Though they provided a useful benchmark for future research on conscription, their results should be taken with a grain of salt since the studies only examined a single calendar year, making them vulnerable to statistical errors that would result from small sample sizes. From 1816-2007, the COW project only lists 227 interstate wars. To take a single datum point and extrapolate it as a generalizable relationship would be a mistake. Since these studies, research on conscription has greatly improved.

civilian control. Using these new variables, they discovered no relation whatsoever between conscription and the likelihood that a country will go to war. Instead, they found that in countries with a free press and civilian military controls, conscription is a deterrent for war.

Vasquez (2005), on the other hand, finds that democracies that conscript suffer fewer casualties than democracies with volunteer forces, contradicting common sense when it comes to the ideas of effectiveness (CBO 2007; Warner and Asch 2001) and threatening to upend earlier DPT assumptions. If democracies suffer fewer casualties during wartime, the theories and arguments about conscription being a deterrent for war due to high casualties is no longer a factor compared to AVFs. Vasquez (2005) further concludes “democracies that constrain themselves with conscription... may be more constrained in the face of legitimate threats” and “democracies that opt for volunteer systems may remain involved in military conflicts longer that would otherwise be the case, resulting in human costs that could exceed the potential gain” (870). This is hypothetical though, and further underscores the need for research on war duration.

Another recent contribution to recent large data studies of conscription and military force is Jeffrey Pickering’s (2010) analysis that emphasizes operations other than war (OOTW) and aggression status as its focus.¹¹ Pickering finds that states with conscription, regardless of military capabilities, regime type, troop quality, and regional crisis, are much more likely to initiate military interventions. In his analysis, Pickering criticizes Choi and James (2003, 2008), as well as Vasquez (2005), for failing to consider non-state military conflicts. He also criticizes Choi and James for using state militarized interstate dispute (MID) involvement, rather than initiation. Choi and James anticipate such an objection when they point out, “Oneal & Russett (1993:23) note that MID involvement and onset ‘produced nearly identical results’ (2008, 43).

¹¹ These are other forms of measuring violent variables, much like COW, but emphasize acts of aggression much like MIDs and focus on extra-state, as well as intra-state conflicts. They define war differently than COW.

If initiation and involvement are so directly correlated that there is no statistically significant difference, the criticism makes no sense and is unsound.

Adding to these conflicting results, Horowitz, Simpson, and Stam (2011) found that AVFs, rather than conscript forces, suffer far fewer casualties. This relationship held despite regime type as democracies with AVFs had fewer casualties than any regime type with conscription, and non-democracies with AVFs suffered the fewest casualties. They attribute the conflicting results to their use of the PIRO data set for interstate war casualties, Vasquez's use of MIDs, and time differences since their model covers the years 1816-2001. The conclusion they reach is that AVFs, like any free market variable, are the most economically sound choice.

The results in the conscription literature, since each one of these studies does something completely different with their measures and control variables, are difficult to compare. Pickering examines war initiation and OOTWs, therefore only looking at one party's use of conscription, and Choi and James (2008) code for the bivariate (i.e. if country A and B both have conscription then it is coded 1. In all other cases, it is coded 0). On the other hand, Vasquez explores casualties and codes for conscription if only one state conscripts in a dyadic relationship, so he can only indirectly get at the likelihood a country will initiate war or how long a war will last once it is initiated. While Horowitz, Simpson and Stam (2011) offer the most updated model and use casualties as their dependent variable, the length and scope of their study is completely different. By not dividing the results from the 1900's onward, they fail to account for potential changes to the mechanism of conscription in a globalizing world. Clearly, further research is necessary so that the relationships can be examined with the same variables to settle the question of how conscription actually affects war.

Hypothesis, Methods, and Data

In all these studies, the relationship between war duration and conscription was absent (Horowitz, Simpson and Stam (2011) control for war duration but do not consider it further). This intersection is currently an ideal avenue to ask unresolved questions about war in a simple and clear manner. The two variables can be brought together because they theoretically interact with each other, and while the investigation would be traditionally difficult without considering each other, in this specific context they actually facilitate the question. Upon examining the relevant literature pertaining to conscription, war duration, and war genesis, I hypothesize that democratic countries will be more likely to experience shorter wars if they have a conscripted force due to electoral costs.

I also hypothesize that if a country is the defender rather than the initiator, this will mitigate the effects conscription has on the length of war. I further hypothesize that conscription, regardless of other variables; will be correlated with shorter wars. For this study, full war duration will not be examined; rather, each state's participation in the wars will be measured. The specific reasons for ignoring full war duration will be outlined below.

I. Independent Variable: Duration of State Participation

If war is imagined as a large, bloody conflict between two or more countries, the criteria for inclusion could vary wildly. Since the goal of this project is transparency and validity, an appropriate operational definition of war is needed. For this study, the database used is the COW Interstate War v. 4.0. 1816-2007 (Sarkees, Reid, and Wayman 2010). Of comparable databases, this has the most recent wars numbers, updated in 2010, and is one of the most widely used databases for researchers asking questions about war in international relations. All the recent

conscription studies discussed have also used COW, thereby ensuring that the core variables are consistent across the literature.

COW defines war and a nation's participation in it much more exclusively than many other data sets, which is convenient for a project that is looking for effects of highly visible and prolific wars. This is because COW defines war as sustained combat between organized forces, resulting in a minimum of 1,000 battle deaths (this includes death due to disease or war related injuries, but not civilian deaths) within a 12-month period. For a state to be included as a participant in an interstate war by the COW, it must sustain 1,000-battle deaths during the course of the war or field at least 1,000 troops (Small and Singer, 1982). There are certainly going to be plenty of cases where counties that participated in a war will not be counted because they failed to meet one of these two criteria. For the purposes of this study, which is looking at how a public reacts to military manpower systems and war over time and with regime types, larger wars are an excellent measure since they are prolific and hard to ignore, thereby facilitating what would theoretically be the strongest interactions between public opinion and war.

The COW database considers the beginnings and ends of wars along academically agreed dates and is generally uncontroversial, but it is worth exploring. According to the COW, a war's "opening date" is that of the formal declaration of war, "but only if followed immediately by sustained military combat" (Small and Singer, 1982:66). If combat precedes the declaration and goes beyond it, the first day of combat is used. If there is no formal declaration of war but the COW definition of war is met, then the first day of combat is used. The COW project admits that coding for war end dates is a little more complicated, but generally considers an end if "(1) there is a truce or other agreement that ends combat for a year or more; (2) if the apparent defeat of one side [sans surrender or truce] ends combat for a year or more; (3) if a twelve-month period

passes without 1,000 battle deaths.” I found the duration of each country participation in a war by summing the days between the start and end dates provided by COW. Initiator and initiate status are also tracked in the COW database, as well as battle deaths, which, while hard to estimate, are accurate enough that they can allow a rough approximation of fatalities.

This model will specifically be using the war population from 1938-2007. Before this, records were subject to wild estimation fluctuations. Historians would record battles and be off by large spreads. Another reason I have chosen this population is because the timetable is most likely to contain data of countries that use the modern, efficient conscription.

II. Dependent Variables

a. Conscription.

Data to determine countries enforcing conscription during wars came from *Conscription: a select and annotated bibliography* (Anderson 1976), *War Resisters International Country Index 1998* (Horeman and Stolwijk), *The Military Balance* (International Institute for Strategic Studies (IISS) 1960/1-2007/8), and *Conscription: A World Survey* (Prasad and Smythe 1968). The Military Balance is an international report released each year that assesses the strengths of countries from a realist paradigm and lists countries military capabilities, numbers, and populations, as well as their manpower systems. *War Resisters* is a report issued by the War Resister organization and documents various conscription laws and punishments in various countries, as well as their history of conscription. It has been used by nearly every single piece of conscription literature mentioned in this paper. The same is true for *Conscription: A World Survey*, though it was an independent investigation by researchers to accumulate data.

For coding purposes, it was not enough that a country had a draft or conscription system authorized and in place; they had to actively conscript civilians and send them into the war zone.

Conscription is coded as a dichotomous variable. A country is coded 1 for enforced conscription during that year of the war, and 0 if conscription is unenforced or not in place, which is consistent with recent military manpower system research by J. P. Vasquez (2009). For example, South Africa during WWII had conscription, and enforced it so that their male population was drafted into the military, trained and worked around the country. However, only volunteers were sent outside the country to participate in WWII, thereby making conscription a tool that was not used during the war and thus potentially decoupling any public opposition to the war that could be tied to conscription. Other examples include Australia during the Vietnam War and Canada during WWII, where conscription was temporarily used for the war until it was halted due to public opposition. To consider conscription in all cases when it was allowed or enforced but was not used for the war effort hardly seems effective for creating a model that looks at how these variable interact and would not reflect what the model is trying to measure. In those cases, those specific situations receive a 0 as well. Some cases were omitted from the study due to an inability to find solid information. In this case, Ukraine during its conflict with the Soviet Union is unable to be coded for its conscription as the politics and situation are so unclear. Afghanistan, despite lacking a strong central government, was considered by *The Military Balance* to be run by the Taliban who do conscript (ISS 2001-2002). For that reason, the Invasion of Afghanistan in 2001 has Afghanistan coded as a conscripting country.

Because conscription is such a hard variable to measure and so few sources have collected accurate information on it, the data is somewhat limited. Ultimately it included 41 interstate wars. For this reason, and to ensure the most accurate results, this study only collected and considered wars from 1938-2007. Another sample is taken with interstate wars after WWII to ensure that such a calamitous event did not skew any results.

b. Regime Type.

To determine regime type over this long time series, the Polity IV Project: Political Regime Characteristics and Transitions was used (Marshall, Gurr & Jaggers 2012). Using a scale to score regimes from most free (10) and most despotic (-10) each year, it is an accurate and well-respected measure. This score is created by combining the project's measures for democracy and autocracy (both are coded on a scale of 0-10). The autocracy score is subtracted from the democracy score and the official polity score is created. For the purposes of this study that is using survival analysis and risk, the regime type was changed to a scale of 0-20 to avoid negative scores. A dichotomous variable for regime type was created and coded 1 for democracy and 0 for non-democracy. Polity scores helped determined this variable since the project defines a score from 7-10 as a democracy and any state below that as non-democratic. For some countries, where the polity data was missing, supplemental sources were used to code the country as democratic or non-democratic.¹² These include Bennet and Stam (1996) and Choi and James (2003).

c. Initiator.

Public perceptions matters a great deal when it comes to wars for democratic countries and war (Kriner and Douglas 2009). Thus, if a democratic country is seen as the aggressor, this may negatively correlate with war duration. Furthermore it may be exacerbated by inclusion of conscription and democracy to create powerful compounding interactions. Under such cases, the aggressor may be a powerful variable to consider. Initiator was operationalized using the COW database 4.0 on interstate wars as a dummy variable. A state was assigned 1 for an initiator, 0 if

¹² Most of the instances where the Polity score was missing involve what the Polity IV project considers areas of rapid political transition. Because Polity takes its measure during the end of each year, it cannot provide an accurate representation of the fluctuations that occurred during these changes in governmental power.

not. The variable is defined by a consensus of historians and then accrued into an aggregate consensus by the COW project. Note that more than one state can be the initiator in a war. While this seems a little subjective, it is an important variable and there is no better way to define such an action. COW considers the initiator the party that advanced into a territory it did not own. There are further complications of this definition for militarized interstate dispute sets and extra-state wars, but since the data being considered here is only for interstate wars, those issues are not salient.

III. Control Variables

a. Military Personnel and Expenditures.

Military expenditures and the number of troops involve the military manpower system and thus impact war duration. There might be a direct relation between military personnel numbers and war duration, since larger numbers of troops might shorten a war. This variable is also a useful control of conscription since it measures troop numbers. These variables are also a useful tool for assessing troop quality through expenditures. The numbers for these variables were provided by the *COW National Material Capabilities Data 4.0* (Singer, Bremer, and Stuckey 1972) and were cross-listed with the *Military Balance* to ensure accuracy.

b. Battle Deaths.

Battle deaths are an important variable to consider, as they have been shown to interact with the visible perception of how the war is going and as a country suffers with increasing battle deaths the issue may become more visible in a democracy. Battle deaths were provided by the COW 4.0 dataset on interstate wars and were not defined solely as soldier fatalities (which are deaths due directly to fighting on the battlefield). The total number of battle deaths also included soldier deaths due to disease, wounds and other war-related complications. Civilian deaths and

other non-combatants are not considered in these numbers. The numbers are not in thousands, and thus, have been scored logarithmically since they are often extremely disproportionate and contribute to heteroskedasticity.

c. Total Population.

Population is considered here since small states could feel the effects of conscription and battle deaths more strongly and disproportionately than larger countries. The data was provided by *The Military Balance* and corroborated by the *COW National Material Capabilities Data 4.0* (2010 and Singer, Bremer, and Stuckey 1972). Data was gathered primarily through country census and is in thousands. Data was updated at the beginning of each year on January 1st.

d. Composite Index of National Capability (CINC).

The CINC is considered because it is the aggregate measure of a country's capability and useful for this model since it provides a broader, more holistic data point for every country examined. It is taken by looking at the percentage share of a state's material capabilities in relation to the whole world. The capabilities are calculated by examining a state's energy consumption, iron and steel production, military expenditures, military personnel, total population, and urban population. The data was provided by *COW National Material Capabilities Data 4.0* (2010 and Singer, Bremer, and Stuckey 1972).

e. Contiguity.

Contiguity, the direct touching of borders between two states, is considered one of the most predictive forces of war in international relations, and since a strong amount of empirical research backs this claim, it is an important variable to consider (Vasquez 2008). Countries are coded using the *COW Direct Contiguity Data v. 3.1* (Stinnett *et al.*, 2002) that is a scale of 1-5

for each country. 1 indicates direct touching between two countries, and 5 indicates the countries are more than 1,000 miles apart. For the purposes of this measure, I examined whether or not they were directly touching (i.e. non-contiguity). While predictive of war initiation, it is unclear if this variable will actually impact war duration.

IV. Statistic Methodology: Cox Proportional Hazard Models

To test my hypothesis involving conscription, regime type, and war duration, I use hazard models on the population of states involved in interstate wars from 1938-2007.¹³ There are several compelling reasons to use hazard models for my data analysis instead of traditional OLS regression.

When analyzing duration events, the best statistical model is a hazard model (Bennet and Stam 1996; Box-Steffensmeier and Jones 1997; Box-Steffensmeier, Reiter, and Zorn 2003). This is because duration data sets that use time-varying covariates (TVC) by necessity need to be one tailed and cannot have negative numbers. If OLS regression were used, it would be prone to several statistical errors.¹⁴ To illustrate this problem, consider a single war that lasts five years as the event under examination. A few variables that might be considered when collecting data about the war are conscription, population, and initiator. While the initiator bivariate cannot change over time, other observable variables like population can be updated every year and are bound to change, thus they vary over time. An OLS regression model cannot account for these changes as a single event, but a hazard model with TVCs can. Furthermore, many theories in international relations specifically propose that as time goes on, some variables will become

¹³ Depending on the field and purpose, hazard models are also known as event history models, survival models (when flipped), and duration models.

¹⁴ OLS is a method for estimating unknown variables in linear regression. It allows the creation of a formula like $y = mx + b$ where y is the unknown independent variable, x is a dependent variable, m is the slope of the linear relationship between the variable y and variable x , and b is the adjusted error. The problem with OLS though, is that it can only create a straight line to signify the relationship, and cannot go into changes over time that might affect the variable y . It also creates unstable estimations (Ying, Wei, and Lin 1992).

more or less powerful, and a model is needed to account for these fluctuations (Bennet 1999; Box-Steffensmeier and Jones 1997; Krustev 2006). A linear model cannot do this. For this reason, a hazard model, which functions much like a regression model but can examine dynamic variables that are expected to change over time, will be used.

For a more technical and detailed explanation, the hazard model can be broken down into three separate parts that include a survival rate, the probability of an event occurring, and a duration distribution that when combined create a hazard function. According to Box-Steffensmeier and Jones (1997:1418), “the survivor function, $S(t)$, expresses the probability that the duration, T , has survived beyond, or has not ended by time t .” The equation can be modeled as: $S(t) = P(T \geq t)$ (1418). In this case, the model would be war, with duration measured in days. The second equation involves the recognition of an event occurring at some point in time and is known as a “probability density function” $f(t) = \lim_{\Delta t \rightarrow 0} \frac{P(t+\Delta t > T \geq t)}{\Delta t}$ (1418). This can be made cumulative so that an instantaneous probability can be measured and afterwards integrated so that as time continues, the sum of the hazard rates is expressed. Lastly, the hazard rate, $h(t)$, “reflects the rate at which a duration or episode ends in the interval $[t, t + \Delta t]$, given that the duration has not terminated prior to the beginning of the interval” (1419). For present purposes, the hazard rate essentially estimates the risk of a war terminating (this is the event) at any given time. Note that probability is not the exact same thing as a hazard rate since the hazard rate is instantaneous and often miniscule (Bennet and Stam 1996). However, the baseline hazard rate is often not what scientists are looking for, but rather the various hazard rates of covariates. Thus, in addition to the base hazard rate, each covariate will also need to be considered. The covariate and baseline are usually represented as β_k and β_0 , respectively. In cases where they are TVC, they will be considered as a function of time. Because a hazard rate is usually expressed as a

number greater than zero, these rates can be used to determine what variables influence the risks of a war ending. If a hazard rate of a covariate is above 1, it increases the predicted risks of a war terminating at the time t . If it is below 1, that means it decreases the risks relative to the base hazard rate. For example, if $h(r) = 1.1$ for conscription, conscription increases the likelihood that a war will terminate for each day by one unit. Another example: If the hazard rate for population = 0.5, that means increasing the population will decrease the risk of a country's war terminating. The full equation with the base hazard rate and the hazard rate of the covariates would look like: $h(t) = \exp(\beta_0 + \beta_k X_i + \dots \beta_k X_n)$. Another way to think of this is to look at a sample of wars and their durations, (in this case from 1938-2007) to see what a hazard function looks like at the mean of its covariates.

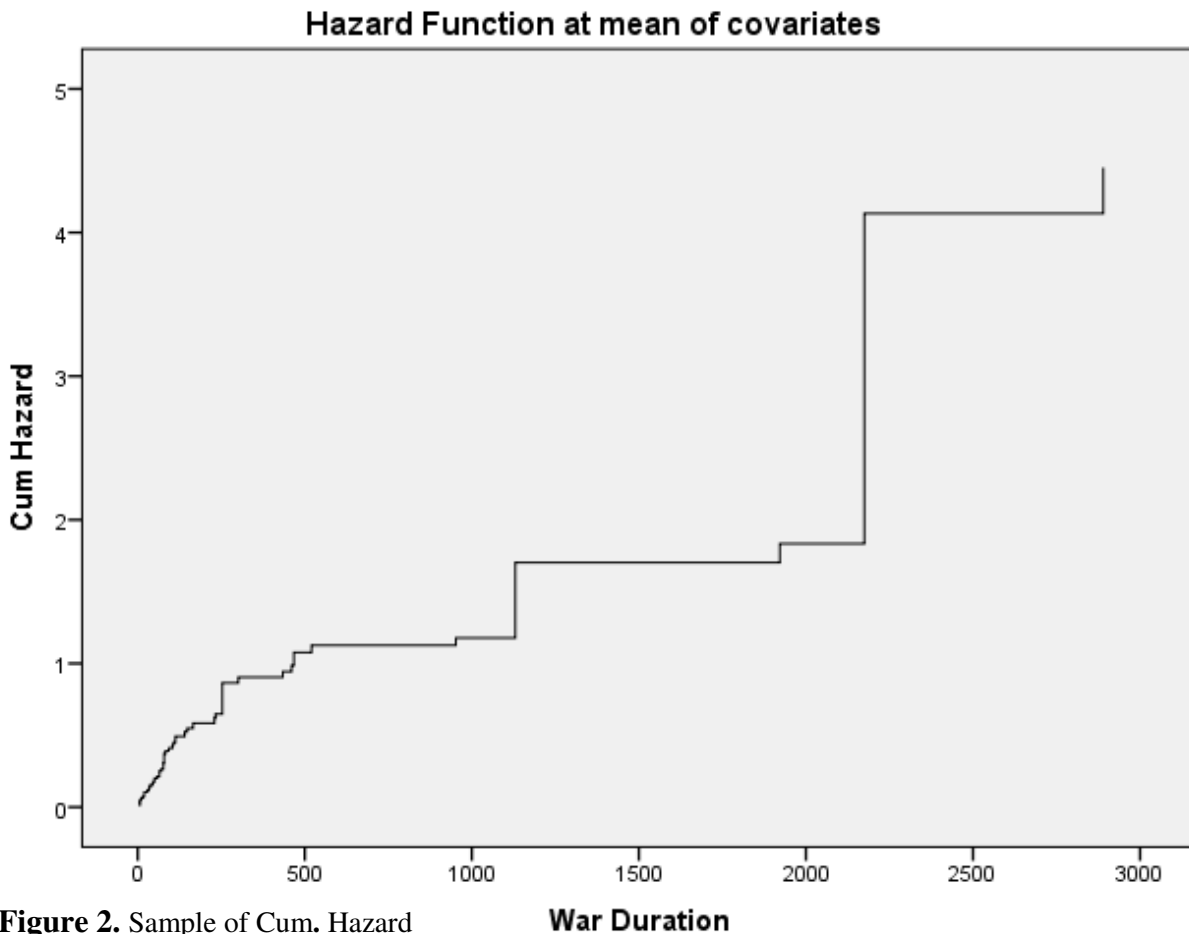
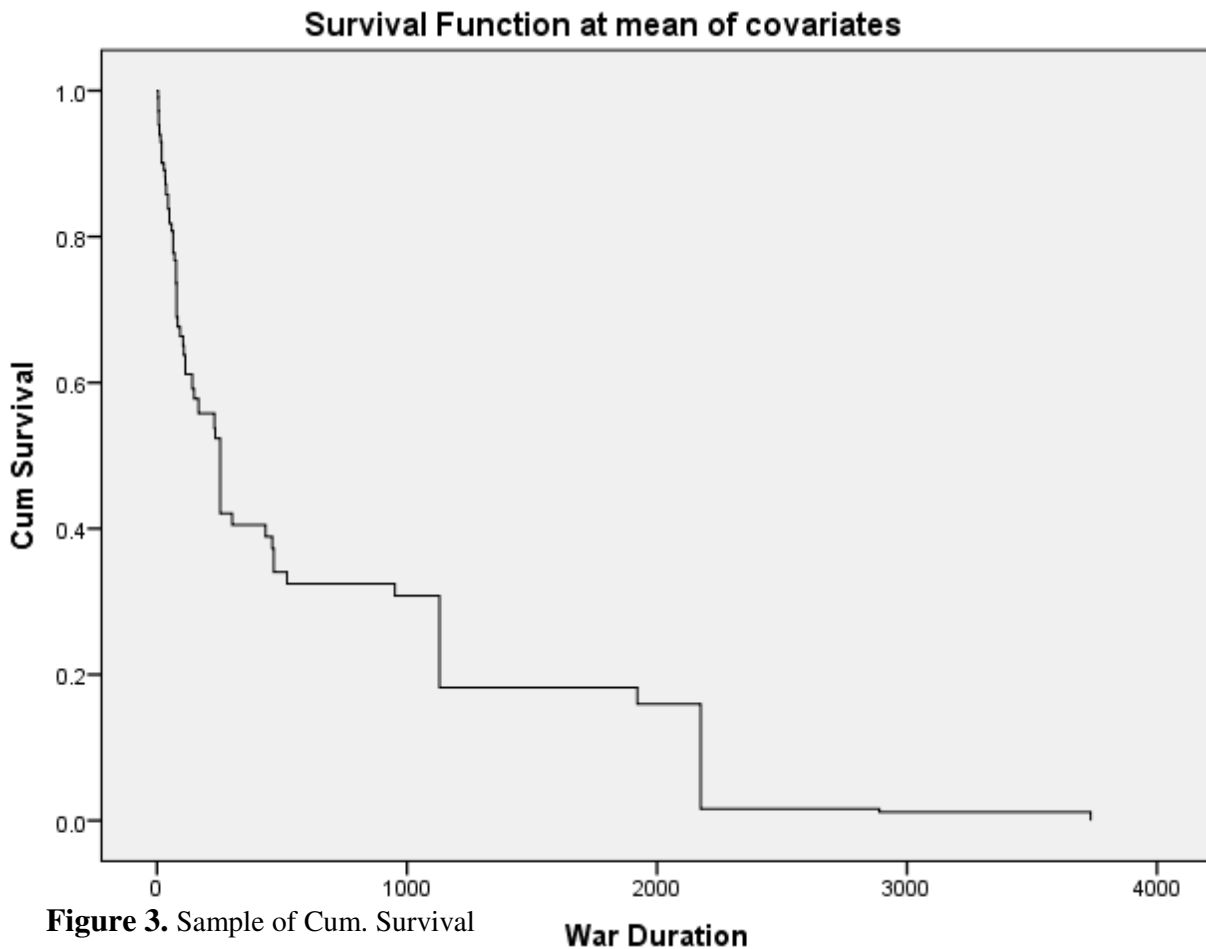


Figure 2. Sample of Cum. Hazard

Figure 2 shows the cumulative hazard of the population of wars. As war duration increases, the cumulative hazard of event termination increases. It should also be evident that while there is a somewhat linear relationship, any model that attempted to impose a direct linear fit would fail to accurately represent the hazard. There is another way of looking at this however, and that is by looking at survival.



Under Figure 3, survival of wars is graphed. So as war duration increases, the population that was once at 100% of all wars from 1938 to 2007 diminishes down to almost zero by the time 3000 days is reached. Together the two graphs show that the survival and hazard functions, while not exactly the same, are intimately connected.

Another key part of hazard models is parameterization. That is, how the hazard rate is distributed over time. This is important to consider, as different hazard functions have different assumptions for how variables will change over time. For example, if one examines the relative mortality risks of a wild rabbit population, the hazard rate would be very high in the beginning, drop over time, and then increase after a few years, as the animals age. The same might be assumed of war duration. A graph of such a hazard rate resembles a bowl or parabola as in Figure 4.

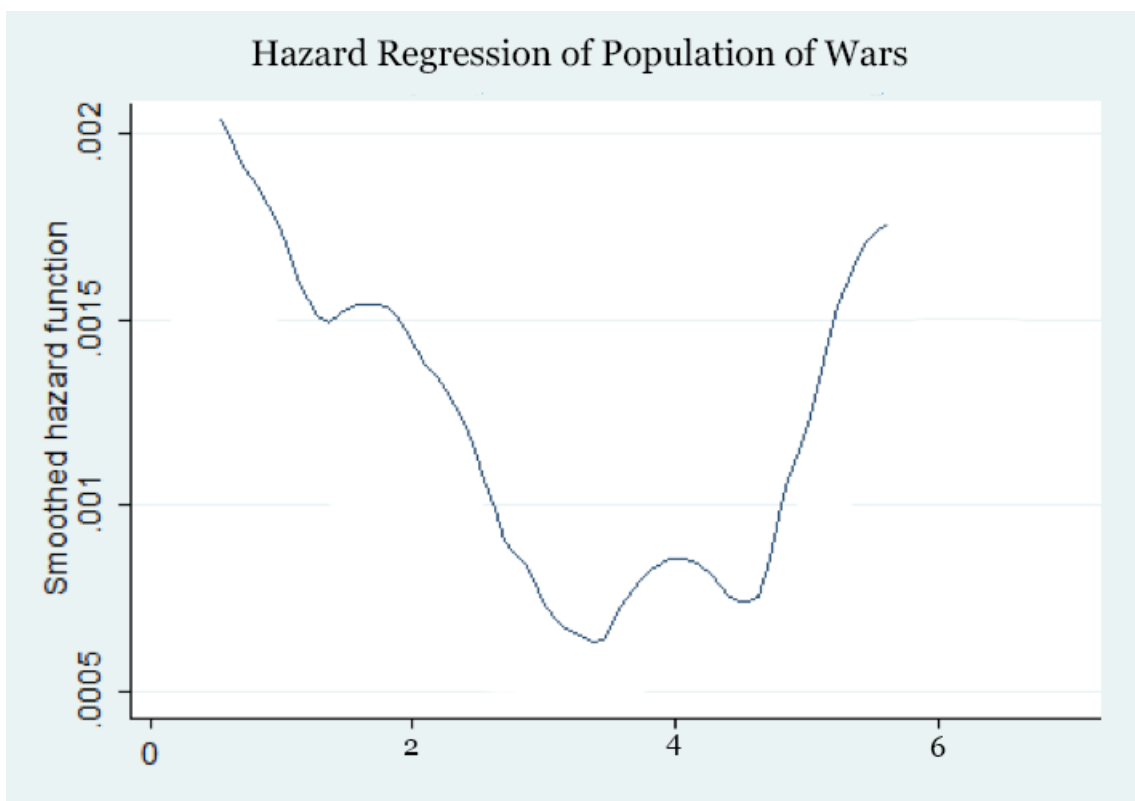


Figure 4. Sample of Hazard Rate

Some models such as exponential or log-normal assume that as time goes on, the relative risk will keep increasing. Such a hazard rate would be considered to have positive duration dependence (Bennet and Stam 1996: 244). Other models like the Weibull allow for positive, negative (when the likelihood of experiencing the event decrease over time), or no duration

dependence. Because I include TVCs, a model that can incorporate them is needed. The most widely accepted and used models that incorporate TVCs in war duration analysis are the Weibull and Cox Proportional Hazards model (Box-Steffensmeier and Jones 1997; Box-Steffensmeier and Zorn 1998).

While the Weibull model is useful, it does make assumptions about the shape of the baseline hazards. In situations where the hazard rate is unknown or ambiguous (e.g. conscription with war duration), the optimal choice is the Cox model, which makes absolutely no assumptions about the base hazard rate (Meernik and Brown 2007:75). The Cox model works like this because it operates on the assumption of proportionality, which is the assumption that the hazard rates of different phenomena remain proportional over time and do not fluctuate (Box-Steffensmeier and Zorn 1998). Another way to think of this is to consider two drugs, A, and B, that are used to treat hospital patients. If these two drugs have proportional hazard rates to each other, then for any time t , when drugs A and B are examined, the ratio will be the same. If drug A has a hazard rate of 2.5 during the first day relative to drug B, then it will have that same hazard rate on day 200. The hazard ratios for drug A and B, if graphed over time, can never cross because they are proportional to one another. However, if drug A's effectiveness decreases over time, so that on day 200 its relative hazard ratio to that of drug B is 10, they will be non-proportional. In political science, most models tend to violate the proportional assumption, but this does have a work around (Box-Steffensmeier, Reiter, and Zorn 2003).¹⁵

¹⁵ If one suspects that a variable has violated proportionality, a global test can be conducted to determine if the assumption has been violated.

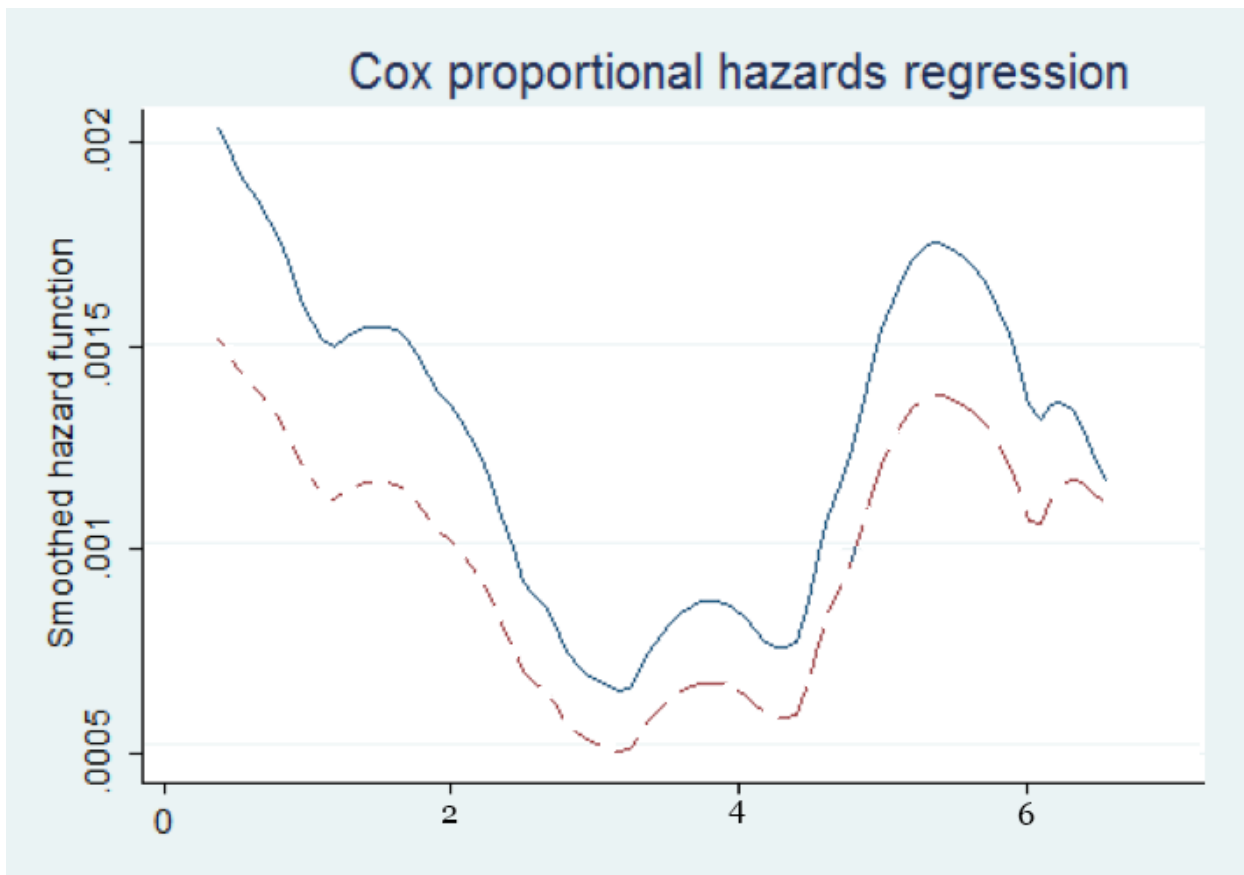


Figure 5. Sample of Proportional Hazard Rates

A graphical representation of these proportional hazards might resemble Figure 4, but include two different lines representing the different hazard ratio. Notice in Figure 5 that although the hazard rates are different, they are proportional to each other at any given time.

Since both the Cox and Weibull hazard models can be used once a dataset is properly constructed, testing the proportional hazards assumption is simple. This can be done with global and detailed variable tests outlined by Box-Steffensmeier, Reiter, and Zorn (2003). Both models can also be examined side-by-side to see if a semi-parametric Weibull hazard model is a better fit for describing the hazard ratios of war duration and the covariates.

V. Survey Questions

With large data studies, the focus is often on correlation. Theory, as mentioned in an earlier section, can be used to supplement and provide the needed context to understand the relationship between dependent and independent variables. The same is true with case studies.

With the rapid proliferation of AVFs in Europe, it was important to understand why these governments decided to end or maintain their long-standing traditions of conscription. To this end, I created a script for asking about the state's current conscription policy. I then called up each European embassy in Washington DC using the publically provided number and attempted to contact members of the embassies' defense attaché that were fluent in English.¹⁶ Attempts to contact the United State Department of Defense were also made.

Though there are many other countries that could have been surveyed, there are a few reasons for European countries and the United States being chosen. The first is that the United States was assumed to be the easiest to contact. Second, European has transitioned the quickest in the last 20 years away from conscription compared to other world regions. Though common wealth countries like Canada or Britain were viable survey candidates, there have been many cases studies to explain them already, and their reasons for transitioning were well documented and available in English. Finally, time was a limiting factor with contacting embassies.

Be aware that the survey answers are intended to illuminate the statistical findings and provide context for the results, rather than as only for refuting the data.

¹⁶ For the complete script and exhaustive details regarding the survey, see notes-1-4.

Results and Discussion

I. Non-TVC Models

Table 1. *One Observation Per State Participant in Interstate Wars 1938-2007*

	Observations	Sum	Mean	Median	Std. Deviation	Min	Max
War Duration in days	180	92106	511.71	99	784.500	5	3735

The total numbers of observations are 180 events (states participating in war). Though the mean and standard deviation seem intimidating, this is a typical of duration studies, and a good reason to use survival analysis. Table 1 and Figure 6—a simple count graph—both show that, though half of interstate wars between 1938 and 2007 lasted less than 100 days, there are no serious outliers exhibiting a strenuous effect on the duration data.

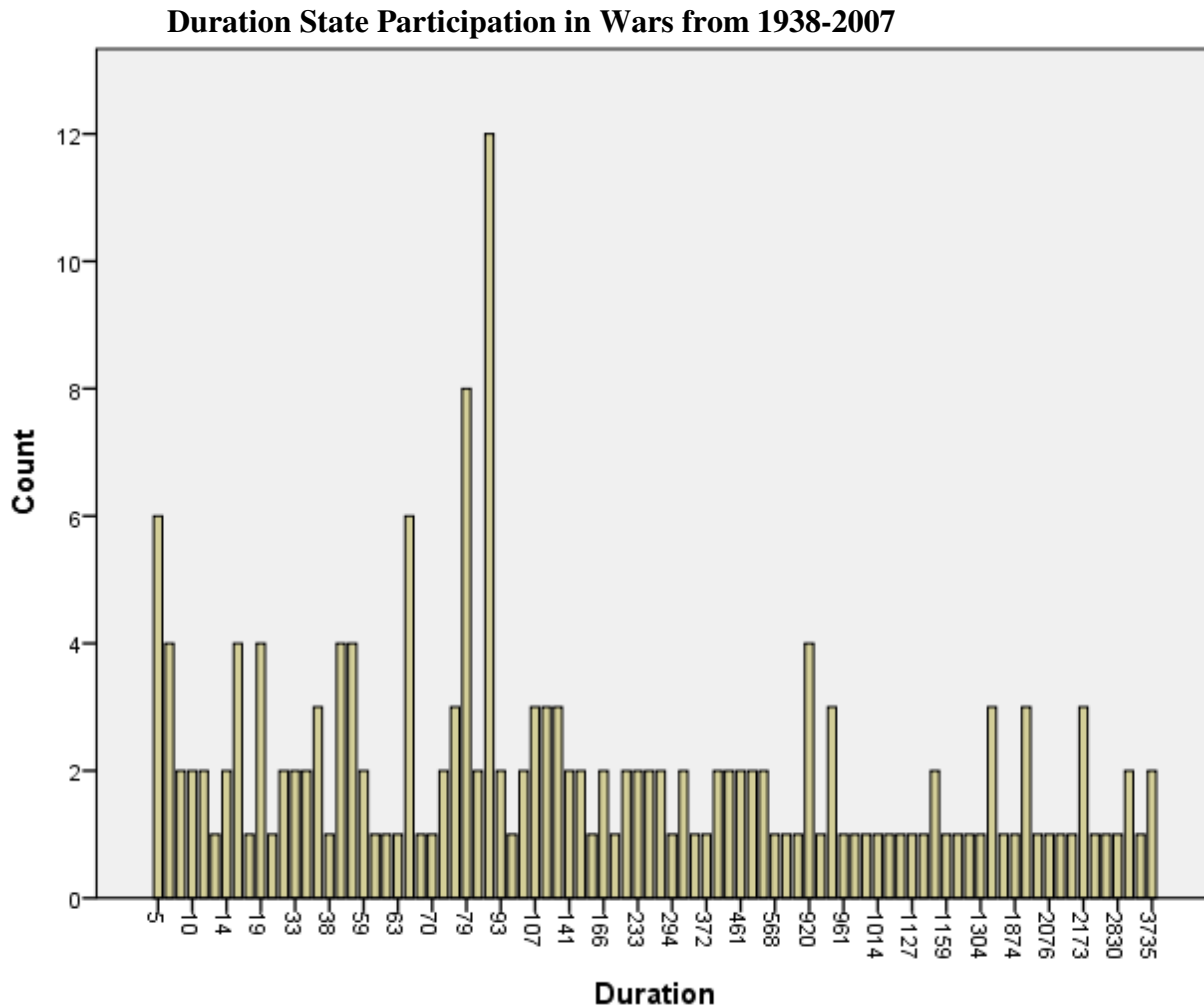


Figure 6. Count graph war duration per state

To get a clearer idea of the relationships between war duration, conscription, and regime type, I first analyzed the non-TVC data using both Weibull and Cox hazard models to see if there were any trends or discernable differences between the two models. I also used the non-TVC model to see examine how politicians behave on the onset of war. The first test examined the effects of conscription, democracy, and initiator on war duration. The second included the battle death variable. The results of the two tests are provided below in table 2 as Model 1.a and Model 1.b. The relationships between war duration and both initiator and conscription are statistically significant at a p value of 0.05 and have hazard ratios that differ from the base hazard ratio. Democracy is neither significant nor has a ratio that diverges from one, so it does not influence the model.

Given the results, an initiating state is 1.432 to 1.552 times more likely to terminate the war at any given moment than a state that was not an initiator. Thus initiation under the non-TVC model is associated with shorter wars. In contrast, conscription that has a hazard ratio of 0.711 is associated with longer wars. Therefore, a country that conscripts will be 0.711 times less likely to experience the termination event (Figure 6). It is also noteworthy that both the Weibull model and the Cox proportional hazard model predict roughly the same hazard ratios and p-values for war duration.

Table 4 breaks apart the distribution of states that have the qualities of conscription, democracy, and initiator status to evaluate the individual means and distributions of each. Look at them and then the hazard ratios, explains why the ratios are being produced. The mean war duration of countries that conscript is 599.22 days, while the mean for countries that have AVFs is 342.2 days.

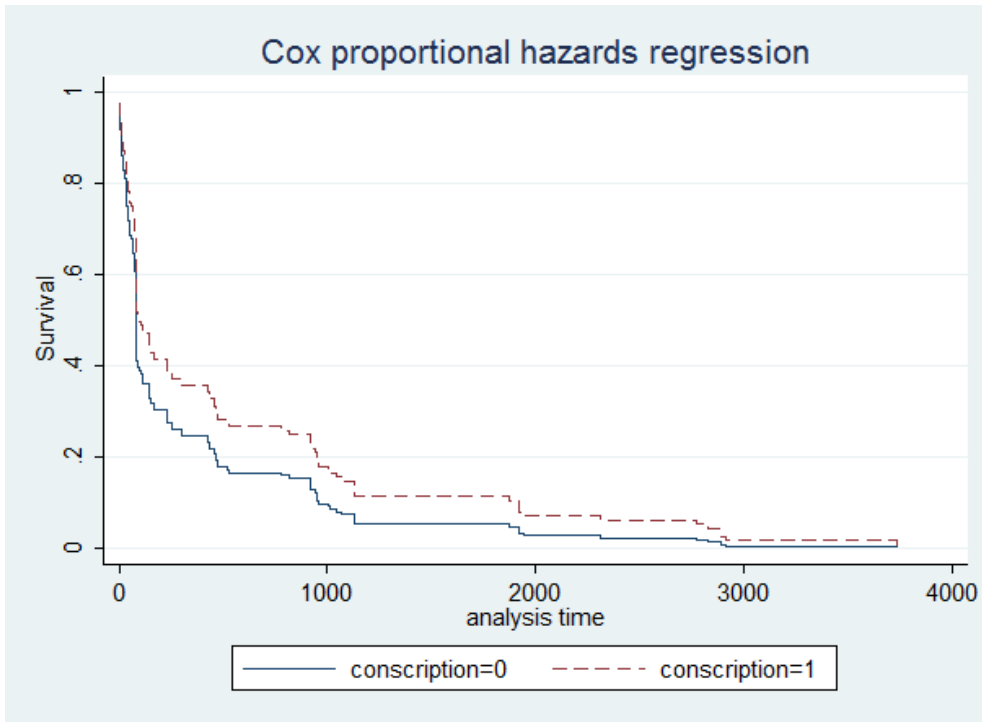


Figure 7. Comparison of Cumulative Survival for State With and Without Conscription

Table 2. Hazard Ratios from 1938-2007 Non-TVC N=179

Variables	Model 1.a- Cox	Model 1.b- Weibull	Model 2.a- Cox	Model 2.b- Weibull	Model 3.a- Cox	Model 3.b- Weibull	Model 3.c Weibull
Initiator	1.432 (0.251)**	1.551(0.274)**	1.447(0.254)**	1.583 (0.28)***	1.358 (0.25)*	1.4614 (0.272)**	1.401 (.246)**
Conscription	0.711 (0.122)**	0.669(0.114)**	0.760 (0.132)	0.726 (0.124)*	0.801 (0.151)	0.765 (0.146)	0.995 (0.18)
Democracy	1 (0.102)	0.996 (0.01)	0.995 (0.01)	0.989 (0.01)	0.994 (0.11)	0.987 (0.01)	1.054 (0.195)
Unlogged Battle Deaths			0.999 (0)*	0.999 (0)**	0.999 (0)	0.999 (0)*	
Logged Battle Deaths:							0.686*** (0.038)
Military Exp.					1 (0)	1 (0)	1 (0)
Military Per.					0.999 (0)	0.999 (0)	0.999(0)
T Population					1 (0)**	1(0)**	1***

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. Standard errors are in parenthesis.

Table 3. Test of Proportional-Hazards Assumption

rho	Rho	Chi2	df	Prob>Chi2
Initiator	-0.02181	0.06	1	0.7989
Conscription	0.01787	0.04	1	0.8330
Democracy	-0.04058	0.21	1	0.6451
Contiguity	-0.08135	0.94	1	0.3319
Population	0.07053	0.48	1	0.4863
Military Exp.	-0.09155	1.14	1	0.2866
Military Per.	-0.14404	2.38	1	0.1231
CINC	0.13085	2.68	1	0.1013
Global Test		5.70	8	0.6805

Table 4. *Non-TVC State Participant in Interstate Wars 1938-2007*

Conscription	Democracy	Initiator	Std.		N
			Mean	Deviation	
0	0	0	502.79	692.201	24
		1	137.78	141.615	9
		Total	403.24	613.718	33
	1	0	365.75	609.070	16
		1	103.10	117.264	10
		Total	264.73	494.480	26
	Total	0	447.97	655.647	40
		1	119.53	126.906	19
		Total	342.20	563.923	59
1	0	0	620.48	911.982	58
		1	484.79	771.141	24
		Total	580.77	870.626	82
	1	0	744.18	835.593	28
		1	344.70	903.148	10
		Total	639.05	860.057	38
	Total	0	660.76	884.828	86
		1	443.59	800.696	34
		Total	599.22	864.103	120
Total	0	0	586.04	851.019	82
		1	390.15	676.058	33
		Total	529.83	806.724	115
	1	0	606.57	775.713	44
		1	223.90	638.942	20
		Total	486.98	752.189	64
	Total	0	593.21	822.433	126
		1	327.42	661.098	53
		Total	514.51	785.800	179

This resilience is tested in Model 2.a and Model 2.b by controlling for battle deaths, one of the most contentious variables in conscription literature. Battle deaths are statistically significant in both cases, but have a weak interaction. Interestingly, though it does not influence the hazard ratios of the three main variables, it does have an interaction with conscription by

making it less relevant and having the hazard rate approach 1. Adding more control variables (see Models 3.a and 3.b) further decreases the statistical significance of conscription, but does not change the conscription variable's hazard ratio. Notice that aside from the p values, the Weibull and Cox model produced very similar relationships. Given the similarities in these results, an examination of the TVC is necessary to acquire a better understanding of the relationship between war duration and conscription.

The final model, 3.c, was tested to remove the issue of wide variance in battle death data and create discernable a pattern to measure for the hazard model. It is also common practice within the literature. Unlike the unlogged version, logged battle deaths during a war are statistically significant and are directly related to how long the war is. However, this could be endogeneity since the longer a war goes on, presumably there are more opportunities for this number to go up. What is interesting is that conscription loses all statistical significance, and its hazard ratio gets the closest to 1 yet. Without the ability to run a TVC test for battle deaths though, it will be hard to say which is which.

II. TVC Models

Table 5. *TVC Per State Duration Participant in Interstate Wars 1938-2007*

DV	Observations	Sum	Mean	Median	Std. Deviation	Min	Max
War Duration	443	312709	715.58	428	802.996	5	3735

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. Standard errors are in parenthesis.

With the TVC model, there are many more observations because variables are examined and put into the model each year. Every additional year that a war goes on per state adds another observation. Notice that the mean and median are significantly higher, because most of the

additional observations are the yearly updates of the TVC. This is to be expected. Recall earlier that the median war length is 99 days. Since observations are taken at the beginning of each year with the TVC, that means at least half of the wars are no longer counted since they lasted less than a year, while the larger wars generate additional observations that gradually increase the mean. The same number of wars is still being observed, but the number of observations has increased drastically. This is a good example of how traditional OLS regression would not work in this instance because the mean is misleading once TVCs are included.

Table 6. Hazard Ratios for War Duration from 1938-2007 with TVC

Variables	Model 4.a- Cox n=443	Model 4.b- Weibull n=443	Model 5- Weibull n=443	Model 6- Weibull n=383	Model 7- Weibull n=383
Initiator	1.484**	1.567***	1.462**	1.559**	1.433*
Conscription	0.774	0.749*	0.732*	0.862	0.855
Democracy	1.210	1.165	1.390*	1.644	1.453*
Military Exp.				1	1**
Military Per.				0.999**	0.999**
Population				1**	1**
Contiguity			1.3672*		1.504*

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 6 shows the results of Model 4.a and Model 4.b, which examines the same variables as Model 1.a and Model 1.b, but now uses the TVC observations to account for yearly changes in the covariates like conscription and total population. There are a few striking differences in the results between the two. First, conscription is no longer statistically significant. Second, democracy is now presenting a hazard ratio higher than 1, meaning that a democratic regimes have shorter wars. Once again, the Cox and Weibull model produce similar results. Though I run both models for each test, the rest of the models presented are Weibull, as it is the more robust parameterization. Its shape is fitting the ratios more accurately.

As with the Non-TVC Model 3.a and 3.b, the control variables are introduced in Models 5, 6, and 7. With Model 5, 6, and 7, initiation is still statistically significant regardless of the control variables. Conscription, though, has an interesting pattern. As more control variables are added, its significance decreases and its hazard ratio approaches 1. This may mean that as more variables are brought in to explain war duration, conscription becomes increasingly less important, hinting that while conscription is a factor, it is an output of war scenarios, not an influence. This should not be taken for granted, as the control variables are population and military variables, which are directly related to conscription. Therefore, conscription should not be dismissed immediately. This can be seen in model 5, where the hazard ratio of conscription decreases further after contiguity is controlled for.

Democracy has a small impact on war duration using these models. Though its hazard ratio is higher than 1, democracy is statistically significant only after control variables are included. This could mean that its interaction could be explained by some third, unknown variable.

III. Post-WWII

Table 7. Hazard Rates for War Duration Post WWII N=317

	<i>Model 8- Weibull</i>	<i>Model 9- Weibull</i>
Initiator	1.388076*	1.365123*
Conscription	0.739726*	0.7007057**
Democracy	1.345914*	1.516685**
Contiguity		1.314791

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

To see if it has anything to do with the conscription and longer war participation in WWII, I then test to see if democracy is relevant post WWII. Looking at Table 7, ratios are similar between tests included and excluding WWII. Despite the similarities, excluding WWII

from the dataset increases democracy’s significance while decreasing the significance of initiator and contiguity. The difference in contiguity’s significance may be because WWII was mostly fought between contiguous states in Europe. The hazard ratios then are independent of the largest war in the data set.

IV. Interactions

Table 8. *TVC Democracy Interactions Per State Participant in Interstate Wars 1938-2007*

Democracy	Mean	N	Std. Deviation	Minimum	Maximum	Sum	Median
0	525.35	116	804.652	5	3735	60941	129.00
1	486.98	64	752.189	5	2912	31167	79.00

The final models to consider, models 10 and 11, examine the direct relationship hypothesized between democracies and conscription. If my hypothesis (and DPT) is correct, then when democracy and conscription are paired together as an interaction variable, they should have a hazard ratio greater than 1. While Table 8 hints that democracies have a lower mean war length than non-democracies, model 10 and 11 reveal that the proposition does not hold. Conscription, even as an interactive variable, has a hazard ratio of less than 1. In fact, the only significant finding in the model is that democracies that initiate wars have more than double the risk of war termination. This is not surprising, as several authors have discussed this (Reiter and Stam 2002).

Table 9. *Democracy Hazard Ratios from 1938-2007 using Weibull Hazard Models*

Variables	<i>Model 10- Democracy (1)</i>	<i>Model 11- Democracy (0)</i>
Initiator	2.042 (0.551)***	1.23(0.175)
Conscription	0.711 (0.192)	0.841 (0.271)

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. Model 9 Prob>Chi = 0.0108. For model 10, Prob>Chi = 0.425.

Tests were also conducted with the interaction variables in the whole that were coded 1 if a country conscripted and was a democracy and 0 if they lacked either of those traits. The

variable across all conditions was insignificant with a p -value of 0.5 or higher. Using Polity's regime-type ranking between 0-20 produced almost identical results to a democracy scale of 1 or 0. This implies that although both have little impact on war duration, they are both measuring essentially the same components, showing that the polity score is a good measure for democracy.

The insignificance of contiguity should not be troubling. Considering that contiguity is the number one predictor of war, it might be assumed that it would be significant for war duration. However, the results make perfect sense. Contiguity predicts the onset of war, not the continuation of war. If most wars occur between countries next to each other, it stands to reason that the duration of the wars would vary and thus contiguity cannot be used as a stable predictor of war duration.

From these results it can safely be said that initiator matters when it comes to influencing the duration of war participation, especially if the initiator is a democracy. For regime type, being a democracy increases the risks of war termination to a degree. Furthermore, there was no evidence that regime type interacts with conscription in any significant way to influence war duration. Conscription though, is associated with longer wars. Essentially, once a country is engaged in a war, neither conscription nor conscription paired with democracy increase the chances of the war ending.

V. Survey Results

The results (See notes 2-4) for exploring why many European countries have switched from conscription to AVF were unsurprising and reflected the general consensus in the literature. Of the 27 European countries whose embassies I attempted to contact, only three offered substantial answers. The first of these is Denmark, which offered its unique perspective on the draft, where they are going about phasing it out, though it does not call it that, by slowly

reducing its demand for conscripts. The second country that responded was Finland, which currently has the draft and has no intention of removing it. According to Finland, conscription is currently popular with the public, and in their 2012 report the Finnish Government's CBA of MMS concluded that conscription is cheaper than AVFs and also provides a public service.

The final country to respond was Sweden, which stated that it is slowly phasing out the volunteer army, and emphasized that all the forces that were recently in Afghanistan and going abroad for missions belonged to an AVF. The demobilization of Sweden's army was presented as a fact of the 21st century because there are no longer any threats directly around the country that necessitate a system of rapid military mobilization. The reasoning is similar to Denmark's and even Finland's. European countries are considering the economic cost of conscription, immediate national security threats, and the need for highly trained small operative units.

Conclusion

Given the results, there is some evidence that conscription, regardless of regime type, is associated with longer wars. These findings fall into line with a realist interpretation of international relations, where terrain that is being fought on, the strategies commanders employ, and the number of total actors are more important than domestic politics such as constituent opinions. These results also collaborate Bennet and Stam's (1996) findings regarding war duration, regime type, and initiator. Though they did not test for conscription or the interaction variable of conscription with democracy, they found that "the estimated effects of total population, the ratio of states' populations, and the ratio of force quality were near zero" (253).

Though the results contradicted my hypothesis, these are exciting results and offer new insight into the popularly held notions of what conscription does, especially in the United States. It is easy to think of the Vietnam War as a great example of conscription being a mitigating

force, but this can be misleading (Anderson 2011). Examining the dates for American military withdrawal from Vietnam and the draft shows that the draft had officially ended after the last draftees had left Vietnam. The problem is that the war has left an institutional scar on America even though it is a single event (Anderson 2011). The best way to understand how this type of mechanism actually worked is to consider the two examples of democratic countries that were conscripting during war, and then ended conscription while the war was still ongoing. There are two questions now: (1) why does conscription have a similar risk regardless of regime type, and (2) why is conscription associated with longer wars?

For the first question, there are clear examples of Great Britain before the Crimean War and the United States before and during the Spanish American War where the citizenry were eager for war, to the point that they pushed officials to declare war (Gaubatz 1999).¹⁷ During World War II, the Canadian government vowed not to conscript its citizenry when it decided to help Britain. Eventually, and this was mostly due to a lack of volunteers, Canada was forced to begin conscription (Gaubatz 1999). Another example is Australia during the Vietnam War. While Australia's involvement in the war paled to that of the United States, there was an active movement to both end conscription and withdraw from Vietnam. Then, after Australia ceased sending conscripts overseas to fight, the opposition actually increased further until it finally withdrew. The public viewed the war as a waste of time, independent of the conscription policy. They were not upset that they were being conscripted, but that the government was conscripting them to fight a war they did not support. Margaret Levi (2006) offers up similar examples of democracies not wanting to conscript during World War I such as Australia and Britain. Eventually, due to a lack of recruits, they had to conscript to survive. During the end of WWII,

¹⁷ This is probably the most blatant example imaginable of a jingoistic population desiring war with another country, where more than 1 million American sought to enlist during the start of the war (Gaubatz 1999: 41).

both Australia and New Zealand instituted conscription policies again because they needed more troops as the war dragged on (Smythe and Prasad 1968). That may be the key to the length. If this had not been a war for survival, would democratic countries have chosen to conscript?

For the second question, explaining the results involving conscription's relationship with war duration (especially regarding democracies) is tricky until one stops considering it from a DPT perspective. As discussed earlier, DPT implies that conscription is unsavory to elected officials because it makes the population pay. As citizens are conscripted and pay the costs of war through time or casualties, they let their discontent be known to the elected officials and punish them in the next election cycle. This mechanism is in place in instances where a war could happen and if a war is ongoing. This is not regime type, where the mechanism between cause and duration of a war can be separated. The theory works the same way in both cases, but my data does not show this. It could also be that, as Kriner and Shen (2009) found during the Korean and Vietnam Wars, American populations that suffered the heaviest casualties become politically apathetic.

Another explanation for these results is the endogeneity issue discussed earlier, but can be interpreted with the survey question answers. Namely, states concerned for their national security are more likely to have conscription or institute it if the risks of war increase. *Visa versa*, conscription does not make economic sense among countries unconcerned with invading armies. For example, consider Europe right now and conscripted armies. While many countries in Europe have cited economic and fiscal reasons for the end of conscription, there is a more obvious trend in place. Since the fall of the Berlin Wall in 1991 and the collapse of the Soviet Union, Europe has slowly rid itself of conscription because it no longer perceives a large active force as necessary, preferring instead small, elite, and highly trained task forces for quick in and

out operations (see notes 2-4). Examining which countries in Europe still have conscription suggests that threat is what motivates the disassembly of European conscription. Countries like Finland, Turkey, Ukraine, and Belarus have maintained active conscription because they are bordered with Russia. Following recent actions by Russia in the Crimean peninsula, concern for defense has even prompted the German military to reconsider their MMS (Economist 2014; The Local 2014). Thus, countries that anticipate a potential geographical threat and worry about their safety are more likely to begin conscription. To observe war onset and ask if conscription was involved is to mislabel. It is a symptom of potential war, not a cause. It could be, as Choi and James (2008) found, that conscription is a restricting force only when civilians control the army. With the evidence at hand though, conscription must be paired with other interaction variables for it to change its risks. When it comes to war duration, conscription, and democracy, this does not matter. Conscription alone offers no protections against extended war campaigns. Rather, the results hint that conscription may be a useful predictor of insecure areas.

Some other explanations of the results are more data driven. Since conscripted armies are associated with larger wars, it is possible that as militaries have moved towards small AVF operations, conscription has faded away, as its primary use is for the large interstate wars that are the focus of this project. The COW database requirements for interstate wars and state inclusion is rather exclusive. There might also be a problem with the COW coding because it does not count civilian deaths in the casualty threshold for a conflict to be defined as a “war.”: Operation Just Cause was a fast operation and thousands died, but because civilians were not counted among the dead, it just missed COW’s threshold on deaths and was excluded .

Like most studies, these results should be taken with a grain of salt. A potential objection to this data is that my examination focused on domestic factors of the state and attempted to

measure individual state participation rather than examining the large melting pot that war becomes. There were several reasons for my decision to focus on domestic factors. State participation in a war is what is under examination in this system because of the DPT mechanisms hypothesized. Conscription as a variable is tricky to measure when more than one country is included because the systems become mixed and causality becomes hard to sort out. By making each state's participation the observation and dependent variable, the conscription variable was able to maintain a higher accuracy than is typically possible with hazard analysis studies. One possible compromise and new area of research would be to change the coding to percentages of troops conscripted in a military system. While it would be a lot of work, it would offer the most accurate and flexible measure yet of MMSs in the international relations literature.

Now, the field of international relations and the study of war is one step closer to the truth. For countries around the world, conscription can now be considered as an economic model without worrying about the economic price of long wars due to conscription.

The next step is to expand the study of war duration and conscription beyond state participation in interstate wars. The COW measure of war is exclusive, and while that is a good benchmark for large wars, it may be missing other types of conflicts that are more susceptible to the influences of conscription. Moreover, because the very shape of war is changing, conscription one day may be the best measure of an insecure state. A next step would be to run this model on COW's database of militarized interstate disputes and see if the same findings hold. Another important test would be to try to create a more reactive model that involves continuous casualties, which would probably be very, very difficult but may now be possible with modern data collection methods. Including casualties as a TVC in hazard models would be

a fantastic advancement for the field. The problem of course, is the lack of such data collection methods in the past, but perhaps we can fix this now that we know what to ask.

While my results did not support DPT, they still point out a trend in interstate wars that is significant. With enough correlations, a roadmap of war may one day be developed so that nations know where the stop sign is. We no longer have to navigate in the darkness Thucydides discussed more than two thousand years ago. What seemed chance interactions and events were probably key factors in determining wars we are finally beginning to shed light upon.

Appendices

Appendix A

Table A. Interstate Wars 1938-2007

Number	War Name	Years	Total Length (days)
1	Changkufeng War	1938	14
2	Nomonhan War	1939	128
3	World War II	1939-1945	2175
4	Russo-Finnish War	1939-1940	104
5	Franco-Thai War	1940-1941	59
6	First Kashmir War	1948-1949	434
7	Arab-Israeli War	1948-1949	65
8	Korean War	1950-1953	1130
9	Off-shore Islands War	1954	233
10	Sinai War	1956	7
11	Soviet Invasion of Hungary	1956	11
12	Ifni War	1957-1959	141
13	Taiwan Straits War	1958	93
14	War in Assam	1962	34
15	Vietnam War Phase 2	1965-1975	3735
16	Second Kashmir War	1965	50
17	Six Day War	1967	6
18	Second Laotian War Phase 2	1986-1973	1922
19	War of Attrition	1969-1970	520
20	Football War	1969	5
21	War of the Communist Coalition	1970-1971	467
22	War for Bangladesh	1971	15
23	Yom Kippur War	1973	19
24	Turco-Cypriot War	1974	10
25	War Over Angola	1975-1976	113
26	Second Ogaden War Phase 2	1977-1979	230
27	Vietnamese-Cambodian Border War	1975-1979	107
28	Ugandan-Tanzanian War	1978-1979	166
29	Sino-Vietnamese Punitive War	1979	28
30	Iran-Iraq War	1980-1988	2890
31	Falklands War	1982	83
32	War over Lebanon	1982	148
33	War over the Aouzou Strip	1986-1987	301
34	Sino-Vietnamese Border War	1987	33
35	Gulf War	1990-1991	253
36	War of Bosnian Independence	1992	37
37	Azeri-Armenian War	1993-1994	461
38	Cenepa Valley War	1995	50

39	Badme Border War	1998-2000	952
40	War for Kosovo	1999	79
41	Kargil War	1999	71
42	Invasion of Afghanistan	2001	77
43	Invasion of Iraq	2003	45

Notes

Note 1. Scripts

Phone Script:

“Hi my name is Alan Duff, I’m a student at Lawrence University in Wisconsin and I’m currently doing a research project on military conscription. I was wondering if I could ask some questions regarding “insert country’s name here” decision to (keep or remove) military conscription and who I might talk to for an official policy answer.

Anything you can tell me would be appreciated.

Thank you so much for your time.”

Email Script:

“Hi my name is Alan Duff, I’m a student at Lawrence University in Wisconsin and I’m currently doing a research project on military conscription. I was wondering if I could ask some questions regarding “insert country’s name here” decision to (keep or remove) military conscription and who I might write for an official policy answer.

In regards to this question, I’m also curious if I would be permitted to quote any or all answers provided.

Thank you so much for your time, I really appreciate this,

Alan Duff”

Countries I attempted to contact:

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Latvia, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United States.

Note 2. Denmark

Dear Alan Duff

Below you find the official answer to your request for information on the Danish conscription forwarded to the Royal Danish Embassy in Washington D.C.

The answer is drafted in the Danish Ministry of Defence.

The Defense Agreement 2013-2017 has broad support. It is signed by 7 out of the Danish Parliaments 8 political parties.

Sincerely
Jørgen Jacobsen

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Dear Alan Duff

Thank you for your request and your interest in the Danish Defense.

The Danish military conscription is a result of the latest Defense Agreement, 2013-2017, in which it was decided to maintain conscription for the time being. The Defense Agreement stipulates in part that:

“The Parties to the Defense Agreement 2013-2017 have decided that during the agreement period, conscription is maintained in all three branches of the military, but that it will be adjusted according with the current needs in the Defense. The total number of conscripts in the Defense will be reduced from around 5,000 in 2012 to around 4,200.

The adjustment should not be viewed as a gradual removal of military conscription as an institution. The Parties to the Agreement are thus agreeing that conscription in the Defense is maintained until 2020.

The Minister of Defense is authorized to increase the intake, should the need arise.

The Parties to the Agreement have furthermore agreed to maintain the “Defense Day” as a mandatory information day for all men in the year they turn 18. The mandatory information day is considered to have a positive effect on the knowledge of and interest in the different opportunities the Defense offers.”

Furthermore, I can provide you with the following supplementary information:

As a result of the former Defense Agreement, 2010-2014, a committee was established to examine the Danish conscription model. The committee included representatives from the Ministry of Finance, Ministry of Business and Growth, Center for Military Studies, Danish Institute for International Studies, the Danish Conscripts Executive Committee, the Emergency Management Agency, the Defense Command, the Defense Personnel Organization and the Ministry of Defense.

The committee released its findings in a report in May 2012. The report can be found by following the link below. A resume in English is on page 13-21:

http://www.fmn.dk/nyheder/Documents/2012_forligsdokumenter/Vaernepligtsrapport-2012.pdf

I hope this answer will provide you with the information you need to assist you in your academic research.

Sincerely

Jens Erik Dalsgaard
Staffofficer

Ministry of Defence
Personalekontoret
Holmens Kanal 42
1060 København K

Note 3. Sweden

Subj: Conscription in Sweden
Anita Lindbohm <anita.lindbohm@gov.se>
Mon 7/22/2013 2:02 PM
To: Alan W. Duff;

Attached is the link I mentioned on the phone. Please click on #2 – I hope that will provide you with the information you are looking for.

<http://www.forsvarsmakten.se/en/Search/?quicksearchquery=conscription>

Anita Lindbohm
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Note 4. Finland

Subj: Conscription in Finland
Viitasaari Markku <Markku.Viitasaari@formin.fi>
Tue 7/30/2013 12:25 PM
To: Alan W. Duff;

Alan,

I'm LTC Markku Viitasaari (FINA), and I was tasked to reply to your questions.

Thank you for showing interest in our nation's defense. I hope that this information helps you with your report and possibly increases understanding in our unique defense solution.

I was hoping to be able to send you the 2010 Wise Men's report on Conscription (Comprehensive appraisal conducted by senior members of business and academia) but unfortunately I was not able to find English translation. However -I will quote the report below. Please note that the translation is my own.

Before going in to details of our defense solution - a couple of words about Finnish geopolitical situation.

[This section has been censored at the request of Markku Viitasaari].

The Finnish Defense solution (Overarching system how to defend the nation, including legislative, economic, demographic and geopolitical factors) is based on the requirement that the

nation maintains a credible military force as a deterrent to prevent military action against it. The fundament of the deterrence is that the whole of nation will be defended (land, air, sea). This requirement is stated in the Government White Paper on defense and security of 2012. The requirement to defend the whole of country naturally leads to certain operational basic facts that can be directly interpreted to requirements in manpower. Finland being one of Europe's largest countries (in land mass) can only be defended with a relatively large land component. Also Navy's and Air Forces war-time support elements are personnel-heavy. As a conclusion - in order to defend the whole of nation a large land component is needed.

Currently the Finnish Defense Forces' war-time strength is approx. 350 000 soldiers, sailors and airmen, divided to territorial and operational (mobile) forces. This number is to be reduced to approx. 230 000 as the defense reform is completed by 2015. The majority of this manpower is assigned to Army units. This land component consists (2015) of 8 brigade sized mechanized or armored units (Finnish Army Brigades are larger than US Army Brigade Combat Teams -approx. 4 000 -5 000 soldiers), logistics support , aviation, SOF, Intelligence, surveillance and reconnaissance elements. The reductions in manpower (units) will be compensated by heavy investment in sophisticated weapons and IT -systems -however the current economic factors prevent substantial increases in defense budget to acquire these new capabilities and in the same time maintain the current force structure.

According to the Wise Men's report the cost of an all-volunteer force is -depending on the source -six to eight times more expensive than conscription. As the operational requirements are met with the future 230 000 troops, there is simply no chance of ending the conscription and change one-on-one to all-volunteer force with the current funding. The current funding would allow approximately volunteer force of 20 000. If there are no major changes in defense policy and/or force structure requirements this number is assessed inadequate at the moment.

The report also states other than economic factors that support maintaining conscription. These factors are considered important by civilian society as well as the military. These include improvement of general well-being and physical condition (The whole age class of males are introduced to healthy life and it is assessed that large number of the age group continue to live healthy life after service -> according to studies service members have healthier diet after service than before and exercise more) leadership skills, responsibility, interaction skills etc. These factors contribute mainly general society and are very difficult to value in numbers. Another contributing factor is shared experiences. When the majority of the age class have similar or identical experiences it enhances the sense of unity and the will to defend one's country. Reserve officer training , reserve NCO training and technical skills are also highly valued by the civilian society and increase the employment value of an individual.

In the end, it may be appropriate to mention the results of a yearly survey that is conducted among the population. Even though the percentage (approx. 76%) among all respondents is very high that view that Finland should defend herself against military aggression - even if the outcome is uncertain - the highest percentage is among males in age groups 17-24. The same age group of males strongly (almost 80%) view that Finland must keep conscription. This is a clear indication that young men that complete their military service believe in it and there are no strong movements in the society to end the current system. Obviously, the political decision

makers must follow the general opinion when deciding about defense issues.

I hope this gave you some information on the subject. You are welcome to quote statistics, conclusions etc. However -the first paragraph about geopolitics is not taken from any policy paper and is mainly my own interpretation for your background information. I would appreciate if you would not quote that directly. Please find below the official names of the reports;

* Finland's Defence and Security, Government's report to the parliament, Prime Minister's Office 2012

* Conscription in Finland, Working Groups report, Ministry of Defence Finland 2010

* MTS - polls, Defense Information Board's yearly survey , Ministry of Defence Finland 2011.

Do not hesitate to contact me for further information.

With best regards, Markku Viitasaari

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