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Political Transformation and the Misconception of Stability

Abstract
Recurrent, intrastate conflict is a challenging outcome that academics and practitioners are grappling with. Scores to hundreds of variables and indicators have been applied and attributed to understanding why violence emerges, changes, and how violence and conflict terminate. However, the dynamics and unpredictability of conflict duration and termination is not widely studied or understood. Although conflict and violence are complex phenomena, can a particular mechanism that generates oscillations and sometimes chaotic and unpredictable behavior within a conflict-affected state be explained?

This paper applies complexity theory and multi-species competition models to effectively understand recurrent, intrastate conflict in multiple cases across the globe. A conflict-affected state can demonstrate the following outcomes: (1) oscillations and other forms of cyclic behavior that are widely attributed to recurrent conflict; (2) coexistence; or (3) competitive exclusion in which one actor group dominates. During an intrastate conflict actors use three strategies (institutionalization, providing security, and providing economic opportunity) to claim power and defeat competing actors. However, actors are unable to defeat one another when their strategies are inefficient. Inefficient strategies lead to oscillating and unpredictable behaviors within a conflict-affected state, thus propelling that state further into conflict. When these three strategies are efficiently used violence decreases and/or becomes increasingly discriminate as other actors are outcompeted. Subsequently, oscillating and unpredictable behaviors become more uniform and predictable as the state transitions from one of conflict to one of peace.
I. Introduction

Why do some states experience recurrent, intrastate conflict and why do other states not? Recurrent conflict is important within the international relations (IR) discipline because an estimated 1.5 billion people live in post-conflict and conflict-affected states and nearly all of intrastate conflicts are recurrent. Since the early 1990s, intrastate conflicts emerged at a rate of ~2.3 per year and end at ~1.85 per year, increasing their duration from a majority of intrastate conflict lasting 2 years during the Cold War to ~16 years during the post-Cold War era. An overarching emphasis within the conflict literature explains conflict recurrence as related to the relevant strength of state governance and its political and economic institutions. Weak central governments are attributed to 25 out of 30 active conflicts, of which most began over 10 years ago.

States plagued by intrastate conflict are not the only states to suffer the consequences of destruction. Conflict has detrimental effects for not only neighboring states, but also for the international system as a whole. A 2015 United Nations (UN) Report documented that for the first time since World War II the number of refugees displaced from their home state exceeded 50 million as a result of conflict. Internationally displaced persons from conflict-affected states are pouring into states already stressed from years of conflict and/or severe infrastructure (i.e.

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2 Libya is the exception.
political, social and/or physical) deficiencies. Consequently, porous borders and weak state infrastructure can lead to non-state actors (NSA) to organize and compete with the centralized government for political power. Low levels of governance and institutional capacity and/or legitimacy in combination with an undisciplined NSA group and uncommitted and inconsistent third party actor(s) results in an increased likelihood of a state returning to conflict.

The dynamics of recurrent conflict and the propensity towards oscillations of peace and festering violence among competing actors is the phenomenon this paper examines. In this paper I argue that strategy selection is the mechanism that influences the outcome of a state experiencing conflict. This paper contributes to the current research by not only offering a novel theoretical framework and formal model, but explains both recurrent and non-recurrent intrastate conflict.

The puzzle and central question this paper addresses is:

Why do some conflict-affected states revert back to conflict, while others do not?

For the purposes of this paper, an oscillation is repetitive variation of population abundance through time. Systems that experience oscillatory behavior are attracted to one of two different points: (1) equilibrium, or (2) settling near but never at equilibrium. Equilibrium is an outcome of all interacting variables settling at a specific solution, point or outcome within the system.

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9 Throughout the remainder or this paper, NSA represent the leading authoritative figure from a homogenous group that follow unitary goals. This is an over-simplification and a wide deviation from reality, but this assumption is appropriate for empirical analysis.


Equilibrium is stable if the system returns to this point after small perturbations (i.e. shocks) and unstable if the system moves away from equilibrium after a small perturbation. Oscillatory behaviors can be less varied and more predictable, which are indicators of a system settling at equilibrium (e.g. seasonal oscillations that exist in nature) or unpredictable and highly variable in which the system does not settle at an equilibrium (e.g recurrent conflict). These examples of oscillations approaching or not approaching equilibrium demonstrate a population shifting between alternative phases. For example, oscillatory behaviors within a conflict-affected state can experience shifts between alternative phases of conflict or peace, which is an example of a system settling near but never at equilibrium. Conversely, a conflict-affected state that transitions from political to criminal violence is an example of a system at equilibrium.

Strategies are used by actor groups within a conflict-affected state with the aim of achieving political power. Strategies within this paper are not understood in the traditional, rationalist perspective which is heavily applied to game theory; that is, strategies are not an actor making decisions dependent on what other actors do. This paper is not contributing to research on decision-making or risk-taking, rather this paper is contributing to how legitimacy and capacity affect the conflict outcome of warring parties which is measured by fluctuations in population abundance.

In the following section of this paper I present previous quantitative findings within the study of conflict onset and recurrence and briefly discuss the dominant theory in conflict and peace studies, rationalism. I argue against a rationalist approach for intrastate conflict onset and recurrence and offer an alternative theory called complexity theory.

**II. Conflict Onset and Recurrence: A Literature Review**

*Quantitative Analyses Associated with Conflict Risk*

Why is conflict recurrent? Theorists from anthropology to sociology have argued why intrastate conflict occurs and recurs. Particular variables are widely accepted as explanation to why conflict occurs or terminates. Quantitative studies point to low GDP, high unemployment, high

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infant mortality, low education rates, mountainous terrain, ethnicity and a history of intrastate conflict. However, why is conflict resolution seemingly difficult to manage if there is a general acceptance within the literature of these particular variables? One cannot apply specific variables such as raising the conflict-affected state’s gross domestic product (GDP) or increasing the literacy rate among the population or incorporating security sector reform (SSR) and expect an outcome of peace after years of conflict. In agreement with Call, there are not one or a few variables that explain peace or recurrent intrastate conflict.  

Although academics are able to provide some clarification to risk factors associated with conflict onset and recurrence, they are unable to explain why particular conflicts were recurrent and why others terminated. Variables found to be correlated, associated, and/or demonstrated a relationship with conflict and violence are highly subjective. In-depth quantitative analyses over recent years found a significant difference between variables that are correlated with conflict onset and variables that are correlated with recurrence. Many researchers do not even attempt an analysis of why conflicts recur and do not recur. For example, Toft’s case study selection in Securing the Peace found that 22% of civil wars recurred while 78% did not recur. Why did 78% not recur? Toft does not offer any explanations or allude to a particular mechanism to explain the almost 8 out of the 10 cases that did not experience a recurrence of conflict. Similarly, Walter’s analyses of variables associated with recurrent intrastate conflict were barely significant and did not account for missing data or interaction effects. Moreover, her one caveat is a major one; that is what are the mechanisms behind good governance that lead to a peaceful outcome after years of conflict? Walter’s numerous covariates do not explain what her question asks, which is why civil wars repeat, mostly from 2003 onwards. Her most significant variables, “rule of law and political rights”, demonstrates a significant result, but among other

issues, a statistical association between “political and legal institutions” over the more traditional explanations of grievance and opportunity to recurrent conflict does not explain to the reader why this is this case. The large number of control variables in Walter’s analysis, for instance, leads to Montgomery and Nyhan’s critique of “bloated specifications that decrease efficiency without necessarily decreasing omitted variable bias”, meaning model uncertainty and the size of the model space is not handled appropriately. Moreover, robustness tests, offered by the previous statistical studies mentioned, demonstrated contradictory variables and do not offer alternatives to resolve these issues. Throughout Walter’s analysis she admits that she cannot explain the mechanisms behind this relationship between variables. As Hedström and Swedberg argued, the more poorly social sciences are at “incorporating the actual generative mechanisms into the statistical model, the stronger the ‘effect’ of the class variable will appear to be”. This observation further muddles Walter’s results because one cannot decipher if these relationships between variables are the result of an inability to determine the mechanism behind the observed effect.

**Rationalism: The Dominant, but Inadequate Theory for Explaining Recurrent, Intrastate Conflict**

Throughout the 1990s and present-day, the dominant theory in conflict studies is rationalism. Rationalism argues that actors in a conflict are rational and can resolve the conflict once these actors understand the causes of the conflict through the most efficient means necessary; that is, gathering information to maximize an actor’s utility. Rationalist approaches to conflict weigh the cost conflict inflicts on the actors involved in comparison to more peaceful alternatives. A rationalist looks at cause and effect and believes that removing an element that is causing the conflict will prevent or terminate future or current conflicts. Within conflict studies, rationalists argue that warring parties and states break out into war because war is used as a tool to resolve

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disagreements through the mechanisms and models of bargaining theory,24 credible commitments25 and/or misrepresentation of information, which are utilized as incentives to use force preemptively (also known as the security dilemma).26 For instance, rationalists theorize conflict onset as a consequence of uncertainty, in which uncertainty arises over the distribution of power.27 This approach to conflict onset enables rationalists to shift the discourse from wars as a ‘game ending move’28 to studying the processes of conflict and bargaining.29 However, many of these game theory methods emphasize interstate war onset and not intrastate conflict onset and recurrence. There are a few exceptions, nevertheless. Intrastate conflict onset is argued as a cost and benefit calculation related to a conflict-affected state’s GDP per capita and growth.30 Cost and benefit calculations can be summed up as when opportunity cost of conflict decreases, the probability of conflict onset increases. Researchers have applied rationalist approaches to argue that if one can identify the incentives of the warring parties then one can quell the violence and find a suitable resolution to the conflict.31

Although rationalist methods are still dominant in the highly complex post-9/11 world, these methods are unable to reliably predict or explain the uncertainty that consumes actors in conflict-affected states.32 Rationalists assume that both groups want compromise to avoid war, which places too much emphasis on information diffusion rather than understanding the historical causes of conflict. Rationalist methodologies focus on individual relations and preferences within static institutional constraints, which are linear, additive and do not account for dynamic,

multiple elements. Additionally, rationalist methodologies are “poorly-suited” for longer temporal sequences, and faces difficulty when switching in and out of multi-levels of analysis. Also, a focus on individual choices rather than the group is in contrast to how segmented societies operate, which are prevalent in many states plagued by recurrent, intrastate conflict. For example, tribal and ethnic loyalties take precedence over the individual in Afghanistan; therefore, applying a method such a rationalist framework to understand how the Taliban emerged is obsolete. Moreover, within conflict and peace studies, the majority of rationalist studies involve state-centric strategic interactions, which is inappropriate for analyzing intrastate conflict.

To conclude, since the end of the Cold War, many academics and practitioners have repeatedly applied cause and effect measures for a variety of conflicts, rather than appreciating that the agency and structure involved have complex interdependencies, which do not lead to predictable outcomes. This rationalist approach of cause and effect is a consequence of viewing a conflict-affected state as complicated. Complicated systems are predictable, in which different components can be added to create a more complicated system or taken apart and analyzed individually. Academics and policymakers erroneously treat these conflicts as complicated systems, which are resolved through predictable, formulaic linear cause-and-effect variables and processes. Alternatively, I argue that a conflict-affected state is a complex system. A complex system recognizes that recurrent, intrastate conflict involves complex, interrelated variables which are non-linear (the system produces asymmetric relations between variables). Complex system relationships can lead to unanticipated outcomes, which are defined as changes in parts of the conflict or post-conflict environment that leads to unintended outcomes.

**Complexity Theory**

A complex system is a set of interconnected and interdependent variables that change and evolve over time, in which a change in each variable depends on influences and interactions from other variables. Complexity emphasizes feedback to create emergent properties, how institutions adapt and evolve and how behaviors change through interdependent relationships. Complex systems are unpredictable because each component cannot be appreciated without understanding the relationship among other components in a non-linear way. Where complexity differentiates from the status quo within the politics and IR discipline is that complexity applies several variables that interact, change, and emerge to create new variables, which is more representative of the dynamics within a conflict-affected state system.

Generally, quantitative IR, conflict and peace studies test a large amount of variables that are statistically significant at the expense of predictive power. This emphasis and over-reliance on significant variables hinders a comprehensive understanding of why some conflicts are recurrent. Conversely, complexity theory can be utilized to produce models based on statistically significant results to develop baselines and thresholds to input into a more holistic and dynamic model. For instance, universal statistical benchmarks are widely reported within conflict and peace studies, and building a model that demonstrates general mechanisms can capture the importance of various interacting variables, dependent on the context and temporal snapshot of the case under analysis. This methodological perspective precludes disagreement to which statistically significant variables are more important than others; rather it is the interdependencies within a specific context that matter. For example, the debate on whether or not power-sharing is detrimental or helpful toward conflict resolution and democracy promotion or whether socio-political variables take precedence over economic variables are not of highest importance within a complexity framework, but how they are interdependent within a specific context. Also, complexity theory re-emphasizes the importance of both exogenous and endogenous variables in which interactions produce emergent behaviors that cannot be predicted through a linear cause and effect formula.

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From an epistemological perspective, complexity theory is fundamental for comprehending uncertainty. Uncertainty is high because the conflict environment is sensitive to both exogenous and endogenous variables and interactions which are constantly shifting as new variables and interactions emerge. Thus, one cannot resolve the conflict purely by implementing a static law or policy reform and expect all those involved to comply in a neat, linear organizational process. Rather, because a conflict-affected state is more likely to have weak institutional structures, poor economic opportunities and corrupt security organizations these highly adaptive structures produce uncertainty at a higher magnitude through non-linear interactions.

Lastly, complexity theory perceives the international system as self-organizing in which relationships develop at the micro level (i.e. individuals and their rules) and emerge into patterns of behavior that give rise to institutional order at the macro level (i.e. group dynamics to interstate level behaviors). Della Porta is one of the only academics who examined all levels simultaneously to explain the emergence of patterns of behavior, which sometimes organize into collective behaviors of political violence. Additionally, Schelling’s mathematical and formal modeling approach to emergent and self-organizing behaviors facilitated a better understanding to how agents can interact and create unanticipated behaviors through incremental steps. Similarly, Turchin demonstrated from a biological, historical and political point of view that societal rise and collapse mechanisms can be examined from the micro-level, which feedback and create patterns at the macro-level.

In summary, a conflict-affected state is best understood as a complex system. Conflict-affected states can be modeled to demonstrate both the complexities within the state and why states respond differently given similar reform measures and policies. This paper demonstrates why some states experience recurrent conflict and why others do not. Furthermore, there are not one or a few variables that can explain recurrent conflict; rather it is the interdependencies and

interactions between these variables that create emergent behaviors that give rise to unanticipated outcomes.

The following section introduces the reader to how an interdisciplinary approach of multi-species competition and coexistence theory can help explain dynamic behaviors in a conflict-affected state that can give rise to unpredictability through the complexity framework and how this interdisciplinary analysis is beneficial to understanding intrastate conflict outcomes, including recurrent intrastate conflict.

III. Ecological and Social Dynamic Systems and Hypotheses

Theoretical and empirical research within the natural sciences found that competition for resources can generate oscillations and chaotic behavior when modeling population dynamics.\(^{45}\) Competition is defined as “opposition among social entities independently striving for something of which the supply is inadequate to satisfy all”.\(^{46}\) Within the natural sciences, a resource is defined as “a factor which, through some range of availabilities, leads to higher population growth rates as its availability is increased and which is consumed, in the broad sense, by the population”.\(^{47}\) Previous ecological research theorized that a species’ niche, or the role and requirements a species fulfills to survive and reproduce, within an ecosystem could only hold as many species as there were resources available. This theory is known as the ‘competitive exclusion principle’ and argues that the number of species coexisting is not expected to exceed the number of resources available.\(^{48}\) However, a more realistic scenario is one in which there are more species than resources which is a hallmark of competition. When there are fewer resources than there are species, what happens when there are more species competing for fewer resources than are available? Do these species become extinct? Do they adapt? Or do they become


competitive to either outcompete other species or improve their chances for coexistence? Similarly, a consequence of human social systems that experience intrastate conflict is mitigated by more actors competing for power than there are power structures available. Violence can become a tool in the attempt to maintain control when other actors emerge in competitive confrontation over political power. However, some conflict-affected states appear to survive in a state of coexistence rather than continue fighting. How do actors compete or coexist in a state that has low institutional legitimacy and government capacity combined with low economic opportunity other than through corrupt and nepotistic channels of governance?

During the 1960s and 70s, ecologists discovered a counter-theory to the competitive exclusion principle. They observed that a ‘paradoxical’ excess number of species were surviving in circumstances where there was less resource availability than there were species. This occurred when multiple species did not reach a state of equilibrium because of variability in species abundance over time. That is, when there are more species than resources then a species’ population does not remain constant, nor does a species grow to its carrying capacity (i.e. the maximum population size of the species within an environment that can sustain the population given the environment’s resource availability or the maximum an actor group can project its power given its strategy selection), but oscillates at high variability over time at higher and lower species densities. These species are existing in a highly complex environment, where non-linear relationships between and among other species, resources, and their environment produce emergent behaviors that give rise to different competitive outcomes.

Why are these ecological findings important to understanding recurrent, intrastate conflict? The ‘paradox’ that an excess of species can survive in circumstances in which there is less resource availability than species is relatable to how NSA groups and government actors fight for years and sometimes decades with various warring actor groups oscillating in power and sheer

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49 This theory is called the ‘paradox of the plankton’ from Hutchinson’s 1961 article. Hutchinson was the first to question why so many phytoplankton species could coexist when the number of phytoplankton species exceeded the number of limiting resources, which was in direct opposition to the widely accepted competitive exclusion principle. Hutchinson theorized that these phytoplankton could coexist because they were not at equilibrium. See Hutchinson, G. (1961) “The Paradox of the Plankton”. The American Naturalist. 95 (882):137-145.

numbers or how third party actors who try to resolve and manage the conflict can propel the conflict into more intense violence.\textsuperscript{51} Understanding population dynamics from an ecological perspective can lead to a fuller comprehension to why conflict is not only recurrent, but why some conflicts terminate by stalemates, ceasefires, or how and why conflict transitions from political to criminal violence. Also, one may better understand competition between and among warring actor groups, as competition can influence social adaptation within a state (\textit{e.g.} institutional evolution, political re-organization, re-structuring of social communities and cultural change through lagged variables). I argue that dependent on a state’s history, actors and their strategies interact with the ultimate goal of competitive exclusion; that is, one actor group defeats all other actor groups to obtain power and dominance within the state under analysis. These interactions and the strategies applied by the actor groups determine the outcome of a conflict-affected state.

This paper contributes to the current research by not only offering a novel theoretical framework and formal model, but explains both recurrent and non-recurrent intrastate conflict. Few researchers attempt to answer why different conflicts shift toward a trajectory of peace or recurrence, or why other conflicts end in victory or still, why some conflicts transition from a state of political to criminal violence (\textit{e.g.} El Salvador) simultaneously in one theoretical framework. Based on complexity theory and ecological modeling I hypothesize four outcomes (\textit{i.e.} three hypotheses) a conflict-affected state may experience. Table 1.1 demonstrates these different hypothesized outcomes dependent on actor group strategies in a conflict-affected state. This paper hypothesizes that recurrent conflict can result in the (1) conflict remains recurrent as observed through oscillating and unpredictable behaviors by actors in a conflict or post-conflict environment; (2) coexistence of actors in a conflict or post-conflict environment; or (3) either government actors or a NSA are in power in a post-conflict environment. The following subsections argue for these three hypotheses, which are later tested to answer why some conflict is recurrent and why others are not.

\textsuperscript{51} Within this paper, NSA groups are aggregated for model simplification. For a quantitative study regarding the inferential consequences (Type I and II errors) of aggregating NSA interests and behaviors, see Shellman, S., Hatfield, C., & Mills, M. (2010) “Disaggregating Actors in International Conflict”. \textit{Journal of Peace Research} 47(1): 83-90.
The next section provides an overview of the hypotheses proposed within this paper and how a formal model is most suitable to test these hypotheses, which is demonstrated in subsequent sections.

**Hypotheses 1: Oscillatory Behaviors of Intermediate Strategy Selection Give Rise To Recurrent Conflict**

Conflict-affected states can exhibit irregular behaviors that are observed as unpredictable oscillations of actor populations. A conflict is recurrent because there is no one warring actor group that is dominant within a conflict. None of the actor groups are dominant because these groups are applying *intermediate strategies* against other actor groups. Within an ecological environment, multiple and competing species that require an intermediate intake of resources is observed through oscillations in an actors’ population abundance.\(^5^2\) When actor groups are using intermediate strategies to compete with other actors, these groups are exhibiting behaviors of

"impermanent coexistence", where actors are not truly coexisting, but alternating in dominance through time.\textsuperscript{53}

Oscillations and unpredictable behavior are an observable outcome of an actor group applying an intermediate strategy. Strategies are used by actor groups within a conflict-affected state with the aim of achieving political power. Actors are unable to defeat one another because their strategies are not sufficiently effective within their environment or system; that is, the strategies used are intermediate. I define intermediate strategies as \textit{those which prevent competing actors from defeating their opponents, while maintaining the level of performance necessary for survival with the aim of achieving political power}. Survival here means the ability for actors to compete with other actors by applying particular strategies at some capacity. Thus, \textit{actors who use an intermediately efficient strategy within a conflict-affected state will experience recurrent conflict}. The use of this strategy leaves the actor group vulnerable to competition for power. Attributes that are applicable to intermediate strategy selection include a decentralized, but organized NSA, third party actors that have limited funds and/or intervention efforts that are not supported by their home country and government actors that are moving toward reform, but are still highly corrupt in various areas of governance.

Strategies at intermediate levels inhibit competing actors from performing at their highest and most efficient capacity, while maintaining the level of performance necessary for survival. This inability to use strategies efficiently leads to oscillating and unpredictability in a conflict-affected state. A state that experiences recurrent conflict is a consequence of actor groups who are not strong or powerful enough to use strategies to influence their position of political power, so one actor does not dominate the system. This inability leads to violence because of a sense of powerlessness among actors vying for particular strategies to demonstrate dominance. Thus, oscillations and unpredictable behavior is an outcome of an actor applying an intermediate strategy.

These oscillatory behaviors which are a consequence of actor groups applying intermediate strategies are formally known within the mathematical and ecological sciences as \textit{heteroclinic cycling}. Heteroclinic cycles connect \textit{unstable equilibria}, so a system experiencing a heteroclinic cycle cannot settle at equilibrium.\textsuperscript{54} A heteroclinic cycle spirals away from equilibrium at irregular intervals. One consequence of a heteroclinic cycle that is measurable is oscillations of population abundance among multiple species in excess to resource availability through time. These observations are observed in both animal and plant species as diverse as lizards to plankton to rainforest canopies.\textsuperscript{55} Because the species are oscillating in population abundance, competitive effects do not allow for one species to dominate, nor can all species coexist at the same time. This type of competition, in which different actors fluctuate overtime by applying intermediate strategies, is known as an intransitive competition.

Intransitive competition is the type of competition experienced by actor groups in a state experiencing recurrent conflict. For example, one can apply the analogy of the childhood rock-paper-scissors games to illustrate the argument of heteroclinic cycling. The strategy of actor A is dominated by B, which is dominated by C, which is dominated by A demonstrates that an equilibrium is never reached; rather there is a cyclic succession of populations which are almost entirely composed of A, B, or C. The three actors survive because their strategies do not dominate one another’s; instead their intermediate strategies allow competing actors to fight for power. Intransitive competition among actors leads to oscillatory behaviors and chaotic fluctuations within population abundance, which is mathematically visualized as a heteroclinic cycle. A heteroclinic cycle oscillates because one actor group cannot defeat other actor groups because actors are using intermediate strategies to compete with other actor groups for power. Over time, the conflict-affected state appears highly chaotic and unpredictable because of these

oscillating and highly variable behaviors. In summary, I argue that a conflict-affected state suffering from recurrent conflict is experiencing the phenomenon of heteroclinic cycling.

**Figure 1.1** Hypothesis 1: Actor Groups using Intermediate Strategies results in a Heteroclinic Cycle

Figure 1.1 illustrates populations experiencing heteroclinic cycling. Heteroclinic cycles are observed as oscillatory behaviors that are hypothesized to occur in a state experiencing recurrent conflict. The vertical axis is population abundance and is the count of actors in each actor group (1, 2 or 3). The horizontal axis is actor group dominance oscillating through time in day increments. As the figure illustrates, there is not one actor that dominates and excludes the other 2 actor groups. Actors are unable to defeat one another because their strategies are not sufficiently effective.

Additionally, heteroclinic cycles do not have constant frequency but slow down over time. This means that a heteroclinic cycle does not exist indefinitely through time and space. Rather, a heteroclinic cycle erodes as an actor group become increasingly dominant over time. A heteroclinic cycle lengthens in response to small changes in the system’s parameter values that result in a sudden qualitative change in the system’s behavior. A heteroclinic cycle is sensitive to these parameter changes because a heteroclinic cycle is not settled at equilibrium. This change in the system’s parameter values is more widely known as a bifurcation. As a heteroclinic cycle lengthens, a bifurcation is evident when the cycle collapses and transitions or ‘flips’ into an

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alternate phase. As a heteroclinic cycle erodes it can reach a critical transition, or more widely known within the social science literature as a tipping point, in which the current system flips into an alternative phase. This alternative phase can be one political to criminal violence, from a conflict to a stalemate/ceasefire or a phase of peace. Other alternative phases include one of a limit cycle (see following sub-section) which involves coexistence of the remaining actor groups, or competitive exclusion, in which one actor group defeated competing actor groups for political dominance (see later sub-section). For instance, cases that experience the lengthening of a heteroclinic cycle will find that the cycle collapses with the emergence of a stronger NSA (e.g. the Taliban) or government reform. However, an intervention and/or splintering of rebel groups can further perturb this system into tighter oscillatory behaviors, thus extending the cycle and increasing the likelihood for recurrent conflict.

Figure 1.2 demonstrates actor groups competitively surviving through heteroclinic cycling. Over time population abundance fluctuates at either very low population levels or near or at the actors’ carrying capacity. The figure clearly demonstrates how a heteroclinic cycle lengthens over time, eventually reaching a bifurcation and allowing one actor to dominate as the phase of conflict transitions to an alternative phase.
Why do these previous two figures only represent 3 actor groups? Based on previous studies, a minimum of 3 species (*i.e.* actors) and 3 resources (*i.e.* strategies) are required to demonstrate oscillating behavior and unpredictable behavior.\(^{57}\) Formulas of 2:2, 2:1, 1:2, and 1:1 may demonstrate periodic cycling (*e.g.* limit cycling) that are much more predictable. An example of a limit cycle is the fighting season in Afghanistan and Pakistan, in which certain times of the year observe an increase in fighting due to seasonal patterns. This formula of 3:3 is the base of my formal model, in which 3 actor groups apply 3 strategies at different levels within a conflict-affected state.

Lastly, a major property of heteroclinic cycling is that invasion (*i.e.* when third parties intervene) of new actors are delayed and infrequent, meaning the longer a delay of intervention strategies

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by third parties, in combination with inconsistent commitments, the more likely a conflict will sink deeper into a phase of recurrent conflict. Moreover, third parties can be viewed as producing increased unpredictability within a conflict-affected state because most third parties intervene when the conflict is at its most severe and is highly unpredictable. Thus, third parties can be detrimental to ending a recurrent conflict dependent on the timing of the intervention; that is, after a conflict established a phase of recurrence, intervention efforts will be more costly and less successful.

To conclude, a heteroclinic cycle involves intransitive interactions, which is well known to exhibit non-equilibrium and non-linear dynamics within a system,\(^58\) which leads to my first hypothesis:

\[H1: \text{Recurrent conflict is experienced as a heteroclinic cycle if all actor groups (3 out of 3) use a strategy that is intermediately efficient.}\]

As previously mentioned, heteroclinic cycles can experience a bifurcation resulting in the dissolution of a heteroclinic cycle as the system flips to an alternative phase. These alternative phases can be one of coexistence or competitive exclusion. A phase of coexistence is the second hypothesis within this paper and is introduced in the following sub-section.

**Hypothesis 2: Periodic, Cyclical Behaviors of Least Inefficient Strategy Selection give Rise to Coexistence**

Social and ecosystems are complex systems, meaning that such systems respond and adapt to changes within their environment from both external and internal stimuli. The simplest phase of a complex system is a phase of equilibrium, in which the phase remains constant through time. As previously discussed, equilibrium is stable if the system returns to equilibrium after small perturbations and unstable if the system moves away from equilibrium after small perturbations. Cycles\(^59\) are more complex phases of equilibrium as the system is not constant, but repeats at regular intervals through time. A system that experiences cycling at regular intervals is called

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\(^{59}\) This type of cycling discussed in this sub-section is regular and attracts to a point of equilibrium, which differs from what is experienced as a heteroclinic cycle. In contrast to limit cycles, a heteroclinic cycle spirals away from equilibrium at irregular intervals.
limit cycling. To illustrate, predator and prey ecological models are more commonly associated with limit cycling behavior between different species over time. The cyclic behavior of a predator consuming all of its prey leads to the eventual starvation of the predator until the model begins anew with the input of prey. The predator-prey limit cycle is an example of a system experiencing stable coexistence. A limit cycle occurs when actors vary in population abundance, which alternates in succession. If an actor group expands beyond its carrying capacity (i.e. the maximum an actor can project its power given its strategy selection) then a competing actor begins to expand if strategies used by other competing actors are insufficient. A limit cycle has constant frequency, and is stable meaning it would take a large perturbation to disrupt the cycle.

A post-conflict environment that leads to coexistence and limit cycling requires tradeoffs of strategy selection, meaning an actor who has high strategy selection for one area will have low strategy selection for another. Within ecology, coexistence occurs when a species’ niche is slightly different from neighboring or closely interacting species, which is an example of strategic trade-offs. Coexistence is observed theoretically and empirically within natural ecosystems because a species manages their growth rate within their niche and not their competitor’s. This difference is inclusive of the type of resources a species is limited by and the spatial properties of the species versus required resources utilized by a species’ predator and/or competitor. This means that actor groups coexist because their niches are slightly different from a neighboring actor, and because their strategies are less efficient.

Coexistence can occur in conflict-affected state if strategic trade-offs is high and/or if the actor groups are using strategies least efficiently. I define low strategies or least efficient strategies as those that enable coexistence between or among competing actor groups because competing actor groups’ niches are slightly different from other actor groups, thus allowing for strategic

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trade-offs. Actors who use the least efficient strategy within a conflict-affected state will experience coexistence among actor groups.

Figure 1.3. Hypothesis 2: Actors Groups using the Least Efficient Strategies resulting in a Limit Cycle

Figure 1.3 illustrates actor groups experiencing limit cycling. Limit cycles are observed as oscillatory behaviors which are hypothesized to occur in a state experiencing coexistence of actor groups. The vertical axis is population abundance, which is the count of actors in each actor group (1, 2 or 3). The horizontal axis is actor group dominance oscillating through time in day increments. This figure is a mathematical representation of a conflict-affected state that transitioned from political to criminal violence. Although population abundance differs and fluctuates for each actor group, all actor groups are coexisting. Once one can see that over time the population remains stable, which is reflective of the actor groups using the least efficient strategies.

Therefore, a second outcome this paper hypothesizes when actor groups use strategies least efficiently is an outcome of stable or unstable coexistence. I argue that actors experiencing an outcome of coexistence are a consequence of strategies applied by actor groups which are least efficient because both warring parties are either too powerless or become too interdependent to outcompete one another (see Figure 1.4). Attributes that are applicable to the lease efficient strategy selection include unorganized NSA, uncommitted third party actors, and corrupt and highly nepotistic government actors. Coexistence is reinforced through positive feedback because an actor group is applying inefficient strategies to compete with other actor groups. This argument leads the following hypothesis:
**H2a:** If all actor groups (3 out of 3) use a strategy that is least efficient then the outcome will be one of coexistence.

Within a conflict-affected state, coexistence occurs when warring parties are too powerless to implement effective reform. A recurrent conflict that results in coexistence results in the following two outcomes dependent on whether or not a conflict-affected state has reached stable or unstable equilibrium. Therefore I hypothesize that,

**H2b:** A post-conflict state suffering from criminal violence is experiencing *stable coexistence* through the phenomenon of *limit cycling*.

**H2c:** A post-conflict state suffering from the unpredictability of a stalemate or ceasefire is experiencing *unstable coexistence* which can transition to the phenomenon of *heteroclinic* or *limit cycling*.

Based on hypotheses 2b and 2c, I argue that two different outcomes can occur when an actor group uses strategies at their lowest level of efficiency: (1) a transition from politically violent state to a state dominated by criminal violence, or (2) a stalemate/ceasefire. Intrastate conflict in weak states with a smaller and/or a less organized insurgent movement are more likely to result in an outcome of stalemate, which usually results in recurrent violence and conflict.\(^{64}\) Therefore, the realistic likelihood of a post-conflict environment achieving stable coexistence after a stalemate or ceasefire is very unlikely.\(^{65}\) Outcomes of ceasefire/stalemate are not only unlikely, they quickly become unstable as a post-conflict environment ending in a stalemate or ceasefire will likely recur or transition into a limit cycle.

Prevalent examples of a limit cycle are post-conflict states saturated in criminal violence. For example, a lack of economic opportunity in both El Salvador and Guatemala fostered high levels of organized crime and gang violence following their respective peace agreements.\(^{66}\) Within El Salvador high levels of gang violence are the consequence of combatant groups that maintained and carried over their networks, which were formed during years of civil war. One of the main

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causes for the Guatemalan civil war (1980-1996) was lack of economic opportunity and Guatemala is still one of the poorest countries within Latin America. 67 The post-conflict environment in Guatemala became a hotbed for organized crime and gang violence as agreements signed during the process did not materialize resulting in insecurity, distrust, human rights violations and corruption.68

In contrast to heteroclinic cycling, which represents recurrent conflict environments that are unpredictable, a limit cycle is more similar to coexistence environments because actors are oscillating among more predictable equilibria. Furthermore, a major property of limit cycling during third party intervention is that the intervention is fast and frequent, which usually results in permanent coexistence. Thus, a key difference between heteroclinic cycling and limit cycling is a function of invasion rates versus displacement rates (i.e. an emergent actor group outcompetes other actor groups).69 Furthermore, a conflict-affected state can transition after a bifurcation to a limit cycle or a state of peace if a third party intervention effort is early, timely and consistent. Conversely, a limit cycle can transition into a heteroclinic cycle dependent on the quality of the intervention, how quickly a third party intervenes before the violence intensifies, when an intervention takes place and a third party’s motivations behind the intervention.

Hypothesis 3: A Dominant Actor Group of Most Efficient Strategy Selection gives Rise to Competitive Exclusion

Ecologists argue that if two or more species are limited by the same resource, then initial conditions of the species in combination with the species that is most efficient at maintaining reproduction rates at the lowest resource level will outcompete other species.70 The phenomenon is called ‘competitive exclusion’ and occurs when one species dominates and subsequently outcompetes all other species for resource availability. Intrastate conflict onset begins with most

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NSA groups as weak and unorganized who rely on support from third party actors.\textsuperscript{71} If the central government is unable to defeat a NSA group early in the conflict, then the prognosis for a successful conflict resolution grows increasingly unlikely, while the risk for conflict recurrence increases.\textsuperscript{72} Thus, dependent on initial conditions and strategy selection, an actor group can defeat other actor groups and end a conflict in victory. Examples of competitive exclusion are a government or NSA victory.

Competitive exclusion is an outcome when all competing actor groups, with the exception of one, was out-competed because the victorious actor group applied more efficient strategies in comparison to its competitors. I define the most efficient strategies as \textit{those which prevent all competing actors with the exception of one from defeating their opponents with the aim of achieving political power}. Thus, an \textit{actor group who uses the most efficient strategy within a conflict-affected state will be victorious}. However, if each actor group uses a strategy at their highest level, then the victor depends on initial conditions. Competitive exclusion is an outcome in which recurrent conflict is least likely to occur. The more organized, powerful, influential and legitimate an actor group, the more likely that actor will efficiently use strategies to out-compete other actors for dominance within a conflict-affected state. However, in most intrastate conflict and especially in recurrent intrastate conflict environments are correlated with weak institutions, poverty and delayed third party interventions.

Thus, actor groups, at most, can efficiently use one of these strategies at a time. Competitive exclusion is the final outcome this paper hypothesizes involving conflict-affected states and is as follows:

\textit{H3: } A conflict ends with a victory through \textit{competitive exclusion} if at least one actor group (1 out of 3) uses a strategy(ies) that is most efficient.

Figure 1.4. Hypothesis 3: An Actor Group using the Most Efficient Strategies resulting in a Competitive Exclusion

![Graph illustrating competitive exclusion](image)

Figure 1.4 illustrates actor groups experiencing competitive exclusion. The vertical axis is population abundance, which is the count of actors in each actor group (1, 2 or 3). The horizontal axis is actor group dominance oscillating through time in day increments. Most cases that result in a competitive exclusion outcome can be traced to the winner’s initial conditions. By day 15, one actor group’s strategy selection proved to be the most efficient as actor group 3 outcompeted actor group 1 and 2.

Competitive exclusion is the outcome of an actor group who uses the most efficient strategies to outcompete other actor groups. Attributes that are applicable to high strategy selection include highly disciplined and organized NSA, committed and well-funded third party actors, or progressive, transparent and legitimate government actors. Although competitive exclusion is one of the outcomes hypothesized for this paper, competitive exclusion will not be discussed and analyzed in detail.

**Summary of Hypothesized Outcomes**

In summary, this paper applies a general understanding of the natural science theoretical concepts of competition and coexistence of actor groups to social science conflict environments. Table 1.2 demonstrates hypothesized outcomes that are observed in a conflict-affected state.
Table 1.2  Hypotheses for Intrastate Conflict

<table>
<thead>
<tr>
<th>Type</th>
<th>Prediction</th>
<th>Characteristics</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heteroclinic Cycle</strong>&lt;br&gt;-Hypothesis 1-</td>
<td>Intrastate conflicts that experience competitive intermediate strategies among invested actors and do not allow for one actor to concede defeat or another to dominate over others to achieve absolute victory (e.g. recurrent conflict)</td>
<td>If actors (∆≥3) use strategy selection (∆≥3) at intermediate efficiency, the system generates species oscillations</td>
<td>Oscillating behavior and unpredictability</td>
</tr>
<tr>
<td><strong>Coexistence</strong>&lt;br&gt;-Hypothesis 2-</td>
<td>Intrastate conflict results in the stable coexistence of invested actors as a consequence of the least efficient strategy leaving the actor vulnerable to competition for power (e.g. stalemate, ceasefire)</td>
<td>If actors (∆≥3) use strategy selection (∆≥3) at lowest efficiency, the system generates stable coexistence</td>
<td>Coexistence</td>
</tr>
<tr>
<td>-Hypothesis 2b &amp; 2c-</td>
<td>Intrastate conflict results in either unstable or stable coexistence and the following two outcomes: (b) an increased likelihood of reverting back to conflict; and/or (c) the transition from politically violent state to a state dominated by criminal violence</td>
<td>If actors (∆≥3) use strategy selection (∆≥3) at lowest efficiency, the system generates (occasionally) periodic limit cycling</td>
<td>(b) Unstable coexistence: transition to heteroclinic cycle  (c) Stable coexistence: transition to a limit cycle</td>
</tr>
<tr>
<td><strong>Competitive exclusion</strong>&lt;br&gt;-Hypothesis 3-</td>
<td>Intrastate conflict resulted in competitive exclusion of at least one of the invested actors is a consequence of the most efficient strategy selection compared to other competing actors whose strategy selection was less efficient (e.g. military or rebel victory)</td>
<td>If actor(s) (∆≥3) use strategy selection (∆≥3) at highest efficiency, the system generates competitive exclusion</td>
<td>Competitive exclusion and/or winner depends on the initial conditions</td>
</tr>
</tbody>
</table>

The following section demonstrates how actor groups and strategy selection interact to form non-linear, dynamic behaviors that can be highly unpredictable and introduces the formal model and the main mechanism hypothesized to explain recurrent conflict grounded in complexity theory.
IV. What are Strategies in a Complex System?

Within this formal model, I call the strategy selection model (SSM), strategies are not used in the traditional sense of game theory or rational choice modeling; rather strategies are the combination of different statistically significant variables that can be inputted into a formal, dynamic model to illustrate how variables interact in a non-linear way. Thus, the SSM differentiates from other formal models because the variables are interacting at different levels to produce emergent, unanticipated outcomes. This model visually and mathematically demonstrates the conflict-affected state as a complex system that changes and adapts over time.

Strategies are used by actor groups within a conflict-affected state with the aim of achieving political power. Strategies within this paper are not understood in the traditional, rationalist perspective which is heavily applied to game theory; that is, strategies are not an actor making decisions dependent on what other actors do. This paper is not contributing to research on decision-making or risk-taking, rather this paper is contributing to how legitimacy and capacity affect the conflict outcome of warring parties which is measured by fluctuations in population dynamics.

Strategy selection is the mechanism that influences the outcome of a state experiencing conflict. Tilly and others argued that collective political struggles are traditionally understood with static mechanisms and called for a transformative framework of mechanisms dynamic, in which key variables are interdependent with one another. The SSM demonstrates how variables influence and interact with one another, which produce emergent variables that affect how efficient that strategy is against competing warring actors. Although an actors’ decision-making processes and exogenous variables collectively and interdependently feedback into a conflict environment to influence a period of violence or peace, it is the strategies that are imperative in determining whether or not a conflict will recur. It is the strategies selected by actors that produce oscillating behaviors and various conflict outcomes and not one or a few correlated variables or type and strength of actors. I hypothesized that recurrent, intrastate conflicts tend to experience


intermediate strategies among invested actors, which do not allow any actor to concede defeat or for one to dominate over other actors in an absolute victory.

The strategies are a consequence of endogenous and exogenous variables that are based on empirical research and data. Within the formal model, various thresholds are applied for each variable. A threshold is a point within a system where the system is very sensitive to changing conditions. These thresholds represent variables that are selected based on past empirical research as contributing to strategy selection by competing actor groups. Strategy selection by actor groups can be low, intermediate or efficient levels. Strategy selection is dependent on the variable and parameter within each country and time period under study. For instance, a country’s GDP is different in 1980 compared to 2000 and this can affect the dynamics of the model. The values of low, medium and high are relative to the time period and other values that the variable is being compared against. This novel approach to modeling conflict will illustrate how applying dynamic models can produce new variables, which clearly illustrates why and how linear cause and effect relationships are inappropriate to complex systems. The three strategies are defined as follows:

**Strategy 1.** The first strategy this paper examines is providing institutionalization. When actors use institutionalization as a strategy in a conflict-affected state they are formalizing both informal and formal rules and norms to dominate over other rules and norms used by competing actors. If the strategy of institutionalization is used by each actor at an intermediate level then no one strategy of institutionalization can out-compete other actors. Actors who use an efficient strategy of security can out-compete an actor who uses an intermediate or insufficient use of strategy of selection.

**Strategy 2.** The second strategy this paper examines is providing security. An actor is using security at an intermediate level when that actor is temporarily effective in providing unreliable, infrequent and indiscriminate forms of protection and committing offensive acts of violence. If the strategy of security is used by each actor at an intermediate level then no one strategy of security can out-compete other actors. Actors who use an efficient strategy of security can out-compete an actor who uses an intermediate or insufficient use of strategy of selection.

**Strategy 3.** The third strategy this paper examines is providing economic opportunity. The strategy of economic opportunity is used to provide the opportunity for sustainable material growth and development for all citizens in a state. An actor applying economic opportunity at an intermediate level cannot out-compete other actors either providing this strategy at a similar level or providing this strategy at a more efficient level. Actors who use an efficient strategy of

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economic opportunity can out-compete an actor who uses an intermediate or insufficient use of strategy of selection.

The actor group can use, for example, strategy 3 the most efficiently compared to the other two actor groups. However, in most conflict-affected states, this actor group is affected by trade-offs with other strategies. This means that although an actor group may use an efficient strategy for providing economic opportunity, the same actor group uses low or intermediately efficient strategies for strategies 1 and 2. Those actors who are consistently using strategies that require tradeoffs at low efficiency will likely experience unstable or stable coexistence or recurrent conflict as a conflict outcome. For example, how different actors use different strategies can depend on the country case and period of time. For instance, NSAs (i.e. rebels, warlords) or (N) at time (t) use a strategy of security at intermediate efficiency; meaning, NSAs cannot efficiently provide sufficient levels of security that the population requires. Reasons for this inefficiency include power grabs among NSA within fractured rebel group or stronger strategy selective efforts by intervening third parties or government actors. Third party actors, (T) at time (t), apply an intermediate strategy for security as the turn-over of third parties (e.g. Blue Helmets, private military contractors, etc.) and budget cuts and/or decrease in public support from intervening states limits the level of commitment and strategy applied by third parties. The central government, or (G) at time (t) may provide security for select members or groups of the population, but fails to provide sufficient and reliable security because of a corrupt police force and/or an undisciplined military that takes advantage of minority civilian groups. Thus, all three actor groups are applying intermediate strategies in this scenario reach leads to oscillatory behaviors and increases the likelihood of recurrent conflict.

Conclusion
The oscillating behaviors and unpredictability observed in states experiencing recurrent conflict is reflective of the various strategies actors use to claim power in conflict and post-conflict states. The dynamics that lead to recurrent conflict are a combination of weak institutions and low levels of economic opportunity and security. The actors involved in recurrent conflict use different strategies to claim power over competing actors. A recurrent conflict is hypothesized as experiencing oscillating and unpredictable behavior because strategy selection used by actors is intermediately efficient. The more organized, powerful, influential and legitimate the actor, the
more likely that actor will efficiently use all three strategies (i.e. institutionalization, security and economic opportunity) to out-compete other actors for dominance within a conflict-affected state. However, in most recurrent conflict environments actors can only efficiently use, at most, one of these strategies at a time. This inability to use efficient strategies in all three areas leads to oscillations and unpredictability within a conflict-affected state. This approach of examining strategies differs from traditional methods of analyzing actor decision-making toward cooperation and conflict or testing statistically significant variables that are associated with recurrent conflict. Examining strategies actors apply, rather than specific variables or the actors themselves allows the study of recurrent conflict toward an innovative perspective of conflict recurrence. A formal model goes a step further to reveal how variables interact with one another in a dynamic environment. This approach differs from the majority of IR publications that prioritize statistical tests as the dominant indicator to understanding the relationship between different variables and conflict recurrence. The final section in this paper introduces the reader to definitions and case study selection.

V. Definitions and Case Study Selection

The empirical analysis for this paper relies on one sources for two datasets. The data is from the Uppsala Conflict Data Program (UCDP). I used the UCDP/PRIO Armed Conflict Dataset v.4-2015, 1946 – 2014 and the UCDP Conflict Termination Dyadic Dataset v.2010-1, 1946 – 2009. A dyad episode consists of a continuous year of armed activity between the same parties. This paper examines armed conflict over government incompatibility. Government incompatibility concerns the control of the state and who and how the state should be controlled; that is, government incompatibility concerns the structure and power of the status quo versus changing the state’s political system.76 The UCDP defines conflict derived from government incompatibility as the use of armed forced between parties. Armed force is the use of a violent act to promote a party’s position, resulting in death. Incompatibilities concerning the government are the type of political system, the replacement of the central government, or the change in its

76Incompatibility is defined as the incompatible positions between warring parties “concerning the type of political system, the replacement of the central government or the change of its composition”. Government incompatibility is defined here in accordance with UCDP’s definition. See http://www.pcr.uu.se/research/ucdp/definitions/ and Appendix. The ‘type’ of the political system can include constitutional changes, government overthrow, and/or a change in cabinet members, for example. See http://www.pcr.uu.se/research/ucdp/definitions/ and Appendix.
composition. A dyad is defined by the UCDP as a conflict-affected state consisting “of two conflicting primary parties. At least one of the primary parties are state governments”. During an intrastate conflict “non-governmental primary parties includes one or more opposition organization(s). A conflict can include more than one dyad”. These datasets were filtered for government-only incompatibilities, which excluded territorial incompatibilities and all interstate conflicts.

The UCDP/PRIO Armed Conflict Dataset v.4-2015, 1946 – 2014 was applied to examine conflict onset and termination. This dataset includes all intrastate conflict from 1946-2014. After filtering for government incompatibly a total of 954 cases were selected. The 954 cases selected are inclusive of both recurrent and non-recurrent conflicts. Next, the UCDP Conflict Termination Dyadic Dataset v.2010-1, 1946 – 2009 for intrastate conflict resulted in 601 cases of recurrent armed conflict. After selecting only for cases of armed conflict over government incompatibility a total of 352 cases were selected. From these 352 cases, one case was dropped because this case (government of Somalia fighting Hizbul-Islam) was coded as “NA” for missing information regarding conflict termination. This deletion of one case results in a total of 351 cases under analysis of intrastate conflict termination and recurrence regarding government incompatibility. In summary, the application of both databases allows for an analysis of recurrent conflict (351 cases), recurrent and later terminated conflict (321 cases) recurrent and not terminated (30 cases) and non-recurrent conflict (603 cases). The UCDP Conflict Termination Dyadic Dataset are cases that are inclusive of recurrent conflict with variables that code how, when and if the conflict terminated, while the UCDP/PRIO Armed Conflict Dataset is inclusive of all episodes of conflict. I am able to overlap these datasets because each episode of conflict are coded exactly the same, which excludes the possibility of coding mismatch error and redundancy. Consequently, both databases are required in order to examine all instances of recurrent and non-recurrent conflict.

77 For a full description of all variables and definitions provided by the UCDP Dataset see Themnér, L. (2013) UCDP/PRIO Armed Conflict Dataset Codebook. Version 4-2013.
78 See http://www.pcr.uu.se/research/ucdp/definitions/ and Appendix.
VI. Conclusion

There are many variables that can contribute to conflict recurrence, but what is missing from conflict studies is a more holistic approach to identifying not only what those variables might be but also how those variables interact to produce new variables. The novelty of this paper demonstrates how both statistical analyses and formal modeling are not only complementary but also how diving deeper into quantitative methods can allow researchers a more comprehensive and satisfactory analysis of intrastate conflict. This paper seeks to contribute to the study of intrastate conflict through the strategy selection model. This model will illustrate the dynamics and complexities behind why similar indicators of risk within a conflict-affected state can lead to very different outcomes and how this methodological approach is a step towards resolving uncertainty within IR by simulating how actors apply various strategies to claim power and influence in conflict-affected states.

To summarize, complexity theory and multispecies competition models are applied to explain why some conflict-affected states experience recurrent conflict and why other states do not through the theoretical framework of complexity theory. Furthermore, this study hypothesizes the following conflict outcomes: (1) conflict remains recurrent as observed through oscillating and unpredictable behaviors by actors in a conflict or post-conflict environment; (2) coexistence of actors in a conflict or post-conflict environment; or (3) either government actors or a non-state actors are in power in a post-conflict environment. This paper argues that static, statistical tests alone are insufficient in explaining why some conflicts remain recurrent and why others do not; rather, it is the strategy an actor group applies that determines the likelihood of recurrent conflict.

With this theory – and its fundamental definitions and hypotheses – a pathway has been laid to empirically study the recurrent, intrastate conflict from an interdisciplinary perspective.
VII. References


