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**THE LIFE CYCLE OF VOLUNTARY ASSOCIATIONS IN THE UNITED STATES,
1972-2001**

A Dissertation in
Political Science

by
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Abstract

Groups are one of the primary means for the public to engage government and one of the most important. Elections may be the most studied means of representation in democratic systems, but groups are able to provide more information concerning public preferences in a form that is also accessible to government. After all, government is faced with a state of information abundance and groups help filter that information. It is little wonder then that so much literature focuses on group influence.

However, the literature on groups misses a crucial element of group influence the context that it occurs in. Group populations can take many different types of actions in order to influence government, but how those actions are perceived and received by government depends on the traits of group populations. The age of the group system, its size and how entrenched groups are with government have unique effects on group representation. For example, issues with a large population of groups experience more competition between interests, but also generally have a larger audience in government given the ties between groups and policy-making. Smaller group communities may be less competitive, but small communities also have fewer opportunities for representation. The traits of groups affect how they interact with government, but the traits of group populations are severely understudied in political science. Specifically research aimed at explaining group population traits are too few. Furthermore, due to data limitations the generalizability and even the importance of this work have been called into question.

This dissertation focuses on those questions. Namely what affects the traits of group populations and more specifically how the political environment affects group traits? This is accomplished by using new data on national level voluntary associations in the United States from 1972-2001 from the Encyclopedia of Associations Project. This work compliments the existing literature on group traits by making it more generalizable and further adds to it with insights from several other group literatures. The most significant of these additions is a greater focus on ecological processes namely the interdependence of group traits and the persistent nature of these traits driven by the behavior of entrepreneurs. While previous work on interest group ecology has gone a long way in the study of this important question data limitations have prevented the findings of this work to be as comprehensive as possible.

The results of the various statistical analyses contained in this dissertation suggest that group population traits follow ecological processes with highly persistent tendencies and high levels of interdependence amongst traits. This dissertation also finds that individual group characteristics partially those associated with an ability to influence government positively affect survival and are related to increased group formations and decreased failures. Finally, the analyses suggest that many of the traits of group populations are dependent on the political environment, but that the environment filters through the group system through different traits. In other words, some environmental factors affect group formation, while others affect group failure.

These findings suggest several things concerning groups and group representation. In particular they demonstrate that maintenance of the status quo and a bias towards higher resource interests that are engaged with government start with group population traits themselves. In total this dissertation offers a broad range of findings concerning the context of group representation and suggests that further work is necessary to do the discipline's continued interest in group influence justice in the future.

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To mum, I wish you were still here to see this.

Chapter 1

Why Study Group Populations? The Context of Representation

Groups are at the core of politics as politics is fundamentally concerned with how groups act collectively. Yet our understanding of politically relevant groups (groups engaged in the same issues as government) is generally limited to how groups form through collective action and what groups do once they are formed. Understanding groups requires more than that though as the population of groups is forever changing. New groups form, old groups fail and the total number of groups is constantly in flux because of this life cycle. Following their creation groups form their own communities and must work hard to survive. From a political perspective understanding the population of groups may seem interesting, but unrelated to questions of representation and group action. After all, if democracy can continue to function with the successful formation of groups and if these groups can engage in political action how does the group life cycle matter for questions of representation?

The traits of group populations determine the context of group actions. Group power varies due to group size, resources and political connections and each of these things are positively correlated with stability and survival (Walker 1983). The continued survival of a group affects representation as well. For example, survival leads to higher levels of expertise and name recognition over time. These traits allow potential members and political actors to seek out existing groups bolstering group representation (Hansen 1991). Younger groups also have interesting effects on group action by bringing new ideas and new actors into the population. Furthermore, the size of the group population itself signals the total level of public concern over an issue (Gray and Lowery 1995b). Understanding the population traits

of groups matters immensely from a political perspective as they affect how groups interact with government.

Together group formations, population sizes, survival rates and failures form a detailed picture of group populations that explain the context of group actions. For example, groups focused on commerce in the United States have had a large and relatively stable population size for the last thirty years coupled with long survival rates. These traits have helped with the entrenchment of commerce groups in political institutions. The power of commerce focused groups to affect policy is debatable, but the amount of lobbying they engage in and their ability to protect the status quo is clear (Wawro 2001; Hall and Deardorff 2006; Yackee and Yackee 2006; Baumgartner et al 2009). The traits of commerce groups certainly help these interests maintain their relationships with government. During this same period the number civil rights groups has grown, but civil rights groups are not as entrenched with government. Initially a high number of group formations coupled with a low number of group failures drove this growth. More recently the number of group failures has increased and survival rate has been relatively low when compared to commerce groups. The population traits of civil rights groups mean that despite their growth and public concern over civil rights issues they are less politically entrenched than commerce groups.

The most interesting finding concerning these two sets of groups is not how their population traits differ, but why their population traits differ. The base survival rates for groups involved in commerce and those focused on civil rights are statistically indistinguishable. Differences in the environments these groups face and not the issues they deal with are the primary determinates of differences in their populations. The statistical analyses in this dissertation demonstrate that when the environment changes so do the population traits of related groups. If two group populations involved in different issues face the same environment their populations take on similar traits making the context of their

actions also similar. The environment that groups face plays an important part in determining their success or failure in representation.

One example of a changing environment that further fueled changes in the population traits of groups is social welfare. Social welfare groups in 1960s had high survival rates, but were few in numbers with the creation of new groups a relative rarity. This led to a stable and experienced group community. Despite their numbers social welfare groups proved instrumental in the reforms to social welfare that occurred during the Johnson administration (Schulman 1995). The establishment of these programs and the continued attention they required changed the political environment for social welfare in the coming decades. Following the reforms far more government, media and public attention on social welfare existed helping fuel a more than doubling of the number of social welfare groups in just 15 years from 1970-1985. The environment again changed in 1996 when major reforms to the welfare system in the United States were passed. These reforms that were intended to decrease government involvement in social welfare also led to a decline in the number of social welfare groups.

The population of social welfare groups has also affected the political environment. From 1985 to 1995 the size of the population was stable, but group turnover continued to increase leading to two things. First, over time fewer groups from the Johnson era were well entrenched with government due to failure. Second, new groups with new ideas continued to be created to maintain the stable population size. Together these traits promoted reform and meant that fewer groups interested in protecting the status quo existed to counter mobilize against change. The traits of the population of social welfare groups are important to understanding how and why sweeping reforms to social welfare were signed by a Democratic president after being passed through a Republican Congress. Group population traits are equally important for understanding the context of other issues as well.

Understanding group population traits helps make sense of group representation. The traits of group populations affect the context of group actions. However, knowing the founding rate, population density, survival rate and failure rate of groups is not enough. How these population traits operate must also be understood. What leads to a high number of groups or a stable population? What leads to the survival of groups or the formation of new groups? These and other questions concerning group traits can be addressed through ecological perspective of groups (see Aldrich, 1979; Hannan and Freeman 1989; Lowery and Gray 1995). Group action aimed at influencing government is not as effective from a small group population with high turn-over as it will from a large and stable population of groups. Why certain population traits occur is just as important as knowing the traits themselves and how those traits filter representation. Past group ecology literature has found that group populations are partially self regulating with equilibrium densities based on their current environment (e.g. Aldrich and Staber 1988 ;Hannan and Freeman 1989) and reactive to changes in the environment itself (e.g. Gray and Lowery 2000; Nownes and Lipinski 2005).

The political environment groups face is key to explaining the population traits of groups, while group representation is affected by group population traits. Groups affect government and government affects groups. The majority of research on groups in political science focuses on the first part of that statement, the effect of groups on government. However, understanding how government affects groups through group population traits is necessary to comprehend the context of group actions. Government is affected by group actions and partially determines the context of those actions by helping shaping the traits of group populations. Government influences the representation it experiences and although this influence is indirect it is nevertheless important. A stable political environment perpetuates a stable population of groups and context for group representation to occur in. If government does not change then group population traits are less likely to change as well.

Work considering the population of groups provides two important lessons for political scientists. The first is how government behavior affects the traits of group populations. Government affects society and citizens in many ways. One of these ways is through the groups formed by the public that in turn affects group representation. The second is the context in which groups operate. Group population traits differ by issue, but the primary cause for differences in group traits is the environment groups face. Group population traits further affect each other as group formation, density, survival and failure are necessarily interdependent. Furthermore, population traits themselves tend to be persistent where one of the best determinates of current traits are the values of those same traits in the previous period.

This dissertation focuses on the population ecology of groups in an effort to add to the limited, but important literature on the subject of group populations. Previous work has modeled population and environmental level effects on group populations within states using primarily cross-sectional data (e.g. Gray and Lowery 2000) and longer national level time series for specific group populations (e.g. Nownes and Lipinski 2005). No studies of politically relevant groups have focused both on the general population of groups and over a significantly long time period. This dissertation changes that by using original data from the Encyclopedia of Associations Project (EAP) covering all national level voluntary associations in the United States from 1972-2001. That innovation alone makes the results of this dissertation more generalizable across associations and over time than existing research. The use of long time series further allows for several theoretical insights from other group literatures to be applied to politically relevant groups. Persistent time series processes dominate group population traits and this has generally been overlooked in previous work due to data limitations. Group numbers, their formations and failures are all persistent with current values closely linked to previous values. Largely this is due to the nature of voluntary

associations as a density dependent population. Due to density dependence associations have a carrying capacity based on the environment that groups follow leading to persistent group traits (Pianka 1972; Odum and Barrett 2004). This density dependent process is in many ways controlled by the entrepreneurs that form groups (Salisbury 1969). Due to the persistent nature of groups and density dependence entrepreneurs are able to judge how many new groups can be formed and how many old groups are likely to fail based on previous values. Entrepreneurs apply this information when deciding to form or disband groups and as a result the formation and failure rates are persistent and closely tied to their previous values. The persistence of these traits then drives the persistence of group densities. Furthermore, by considering group population traits together and over time the interdependence of these traits beyond the concept of density dependence and the behavior of entrepreneurs can be more fully investigated.

Studying group population traits instead of individual groups has its advantages. Representation rarely occurs due to the actions of a limited set of groups instead depending on the combined actions of the entire group community. Group representation occurs through the sum of a group population's parts with the actions of the population of groups as a whole determining group influence. The aggregation of representation that occurs on the issue level makes a population level analysis necessary for understanding the context of group actions. However, this work also focuses on the traits of individual groups when possible by investigating the effects of group membership, activity and resource information on group population traits. More specifically this dissertation considers the stability of these characteristics for newly formed groups, how these characteristics affect group survival and the occurrence of these characteristics in failed versus continuing groups.

This dissertation analyzes the four main traits of group populations; formation rates, population densities, survival rates and failure rates. Combined these four traits represent the

life cycle of groups through their formation, their lives and their failures. These traits further present a complete picture of the population ecology of groups on the aggregate level. To completely study these traits this dissertation must not only draw on political science, but also on sociology, business and even ecology literature to develop appropriate models related to these traits. The next section discusses these literatures in turn with the goal of synthesizing a set of theoretical expectations concerning what affects group population traits. This is followed by a description of the group data that is used to test these expectations and an outline of this dissertation's remaining chapters.

Studies of Group Populations

A large body of work across the disciplines of political science, sociology, economics and business considers the process by which groups form (e.g. Clark and Wilson 1961, Olson 1965, Walker 1983, Hannan and Freeman 1989; Perrow 1992; Gray and Lowery 1995a; Aldrich and Ruef 2006; Scott and Davis 2007) and several scholars have even model the growth of various types of groups based on a single issue (e.g. Aldrich and Staber 1988; Hannan and Freeman 1989; Chong 1991; Hansen 1991; Minkoff 1997; Nownes 2004; Johnson et al 2007). However, these same literatures have had less of a focus on the survival of groups following their formation despite the clear parallels between the processes of group formation and maintenance (e.g. Walker 1983; Hannan and Freeman 1989; Gray and Lowery 2000). Therefore, while much has been written on group populations over the years the insights of these literatures across many disciplines is rarely considered in combination with one another. Part of the goal of this dissertation is to bridge the gaps between these various group literatures to create models of group population traits based on the accumulated knowledge of each. To accomplish this goal key work in each of these literatures is discussed and then synthesized into a set of expectations concerning group population traits broadly

(see Andrews and Edwards 2004 for a similar approach to theory building). This section begins by briefly reviewing each of these literatures and then develops a set of expectations concerning the factors that affect the traits of group populations. Specific hypotheses based on this framework are discussed in detail in the related substantive chapters.

The most obvious place to start when considering the group life cycle is with the literature concerned with group formation, specifically the collective action literature. Work on collective often presents group formation as a dilemma as the costs of forming a group are difficult to overcome. The problems associated with group formation are more difficult still due to the free rider problem where the benefits of a group can often be had by members and non-members alike (Olson 1965). However, groups do form when the costs of group membership are offset by benefits or other mechanisms. For example, entrepreneurs poised to gain a particularly large benefit from the creation of a group lower the costs for potential members in order to help the group to form (Salisbury 1969). Multiple sources of benefits beyond material wealth, such as being part of a community of like minded people, can also help offset the costs of forming a group (Clark and Wilson 1961). While groups comprised of a particular industry or profession offer members larger material benefits with less conflict through focus and a clear set of similar goals (Olson 1965; Scholzman and Tierney 1986). There are many avenues for the rational formation of groups, but they all depend on the weighing of the costs and benefits associated with group formation (Moe 1980; Hansen 1985; Rothenberg 1988).

Empirical studies of group formations have focused not just on the characteristics of individual groups, but on how large scale changes in the political environment have shaped the group system over time. These studies have demonstrated that changes in the government's funding system for groups made groups less costly to form (Walker 1983) and that changes in the level of government attention made interest groups more beneficial

(Chong 1991). Further work has demonstrated that group formations and numbers are related to revamps of the Congressional committee system that have allowed for greater group involvement in policy-making (Rosenbloom 2000) and changes in technology that have further facilitated organization on the national level (Walker 1991; Berry 1997).

The majority of this literature like the collective action literature focuses on the formation of individual groups. The insights from this body of work cannot be directly applied on the aggregate level, but the collective action literature provides two valuable insights that can. First, it is hard to form a group as the effort and resources involved in group formation often far outweigh the benefits. This is especially true for individual group members due to the free-rider problem. Second, that entrepreneurs, additional incentives and a focused group membership can change the calculus of collective action. Together these two insights coupled with the findings concerning the wider group system demonstrate that group formation and group numbers change based on the environment. While individual group characteristics clearly matter for collective action so do outside factors that also change the calculus of group formation.

The effect the environment has on group populations is the main focus of sociological studies of groups. The focus on the environment is driven both by theoretical motivations and by data. For example, record keeping for many of the most interesting group populations like the civil rights movement and the Vietnam anti-war movement is particularly poor due to the nature of movements themselves. Although the key concept of environmental influence on group population traits started even farther back with a focus on groups as a creation of society (see Stinchcombe 1965). Other sociological work on groups has continued this environmental focus. For example, organizational sociology studies have noted how competition for resources affects the traits of group populations (Aldrich 1979). Further work in this tradition finds strong environmental effects on the population of trade associations

over time and a degree of stability in the size of that population over time (Aldrich and Staber 1988). Other recent sociological work on groups includes findings on the environmental affect of violence on the formation and number of ethnic newspapers (Olzak and West 1991) and that changes to regulations have led to the emergence of low-power FM radio stations in large numbers in recent years (Greve, Pozner, and Rao 2006). The common thread in this literature is that the factors which comprise a group's environment are significant to explaining group population traits.

Work on the population ecology of interest groups has also focused heavily on the environment that groups face. This focus is both due to theoretical expectations and because of data limitations particularly a lack of long time series data. The interest group ecology literature has found evidence that the population density of state level groups changes with the number of potential constituents, as government goods and services change and as the level of political stability fluctuates (Lowery and Gray 1995). Similar work on the national level has found evidence that issue salience negatively affects the likelihood of group failures (Nownes and Lipinski 2005). The interest group ecology literature has also focused heavily on the population level process of density dependence. Density dependence states that other group population traits are affected by the number of existing groups. Event count models of the formation rate of gay and lesbian rights groups in the United States found evidence of a curvilinear relationship between group formation rates and the number of existing groups. At low group population levels density is associated with increases in the group founding rate up until the point of equilibrium density after which higher densities lead to decreases in the group founding rate (Nownes 2004). Other work on the state level has found evidence that high population densities decrease group formation rates although this effect is conditional on the composition of the group system with certain types of groups more negatively affected by higher densities (Gray and Lowery 1995a; 2001). These analyses further demonstrate that a

relationship between the environment and group population traits exists. They further indicate that group population traits are interdependent. The interest group ecology literature despite its limitations provides several valuable insights about the effect of environmental and population level factors on the population traits of groups.

Work in organizational ecology focuses on firms asking why they are formed, survive and fail (Hannan and Freeman 1989, Carroll and Hannan 2000). The main focus of this research is on ecological processes with population traits modeled interdependently and on themselves due the persistent nature of group populations. This focus on the self-regulating nature of group populations is partially born out the data and partially from the literature's dependence on theories of ecology. With longer and more complete time series data organizational ecology scholars have also found strong evidence of curvilinear density dependence between density and other group traits (Hannan and Freeman 1989). Like any density dependent population firms have a carrying capacity based on the environment. Beyond this carrying capacity firms cannot reliably survive in the environment and under which the environment is not being fully utilized (Pianka 1972; Odum and Barrett 2004). To maintain the carrying capacity and equilibrium group density the founding and failure rates of groups must remain relatively stable as well. This stability driven by the density dependence of groups leads to persistent group population traits. This density dependent process is in essence the result of the behavior of the entrepreneurs that form groups (Salisbury 1969). Due to the persistent nature of groups entrepreneurs are able to judge how many groups might form and must fail in the current period based on previous behavior. By using this information when deciding to form new group or disband existing groups entrepreneurs cause persistent formation and failure rates. The persistence of these traits further drives the persistence of group densities. Work on organizational ecology has also found that individual group characteristics affect group population traits. In particular this research has found that

group activities, membership characteristics and resources have a large effect on group survival rates (Hannan and Freeman 1989; Carroll and Hannan 2000). Finally, this literature also notes that competition between different types of organizations, such as between large brewers like Miller and small microbreweries, is also an important factor in explaining group population traits (Carroll and Swaminathan 2000). To account for this the density and founding rates of other sets of organizations are often included in statistical models as measures of resource-partitioning.

The differences between these literatures exist both because of the questions being asked and differences in available data. The organizational ecology literature is focused on explaining the population traits of firms. This research benefits from the most detailed and complete data in comparison with other literatures and is able to focus on ecological processes in greater detail because of this. Sociology mainly focuses the effect of the environment on groups as groups themselves are viewed as social constructions. The sparseness of detailed data for many groups of interest to sociologists has driven a strong environmental focus in the study of group population traits. Work in political science has focused on individual, population and environmental level factors on all stages of the group life cycle. However, the main part of this focus has been on group formation with few studies conducted on other group population traits. This limitation is partially due to a lack of good time series data that further restricts the interest group ecology literature in terms of the ecological processes it can test. There are more similarities between the findings of these different literatures than differences and none of the work discussed in this section directly contradicts each other. Therefore, drawing on each of these literatures is a valid way to build expectations concerning the life cycle of politically relevant groups.

Combined these literatures suggest that group founding rates, population densities, survival rates and failure rates are a function of individual, population and environmental

level factors (see Scott and Davis 2007). Individual group characteristics that affect group traits are resources (see Walker 1983; Hannan and Freeman 1989; Lowery and Gray 1995) and characteristics that alter the level of benefits groups receive (see Olson 1965, Hannan and Freeman 1989). On the population level interdependent group traits and persistent traits due to density dependence and the behavior of entrepreneurs affect the traits of group populations (see Pianka 1972; Hannan and Freeman 1989; Odum and Barrett 2004). Findings concerning density dependence have consistently demonstrated that a curvilinear relationship between density and other group traits exist based on equilibrium density. Specifically that the group formation and survival rates are higher until equilibrium is reached and lower afterwards with the opposite being true for group failures (see Hannan and Freeman 1989; Gray and Lowery 2000; Nownes and Lipinski 2005). The environmental factors that affect group population traits include the general pool of resources for groups (Carroll and Hannan 2000; Greve, Pozner, and Rao 2006) and the attention and actions of other important actors in the environment (see Hannan and Freeman 1989; Olzak and West 1991; Lowery and Gray 1995; Minkoff 1997; Nownes and Lipinski 2005). Overall, group population traits are a function of individual group characteristics, population level factors and the environment groups face.

The next section discusses the population of groups studied in this dissertation and focuses on how this population is bounded.

Defining a Population: National Level Voluntary Associations in the United States

In population ecology bounding the population that is being studied is just as important as theory. The nature of the population being studied affects everything from theory, to models, to the implications that can be drawn from the work. A bounded population means a population that has been defined with a clear delineation of what is and what is not included in the population. The focus of this dissertation is on the population

traits of national level voluntary associations in the United States. Voluntary associations consist of individual members or groups that form an association willingly for a common purpose other than profit. Several of these groups are what would commonly be called interest groups, while the majority of voluntary associations are not involved in advocacy activities at any particular time. However, these groups engage in advocacy when an issue that concerns them appears on the agenda as these existing groups are the most capable of exploiting policy windows due to their formalized existence (Kingdon 1995) and are the most likely groups to be entrenched with government due to a continued history and perceived level of expertise on their chosen issue (Hansen 1991). Voluntary associations represent latent interest groups that advocate when it is in their interest to do so. National level voluntary associations therefore offer a more complete look at politically relevant groups than an investigation of interest groups alone. While the use of this data means that direct ties to government are not as strong as with a population consisting of only formal interest groups, voluntary associations depict a more complete picture of how group representation actually occurs (Sabitier 1992; Gray and Lowery 2000).

The population of national level voluntary associations in the United States has grown greatly over time, from roughly 10,000 such associations in 1966 to over 22,000 associations in 2001. Arguments have been made that this huge growth in associations since World War II is due to changes in funding sources (Walker 1983), revamps of the Congressional committee system (Hansen 1991; Rosenbloom 2000; Davidson and Oleszek 2004), and changes in technology that have facilitated organization on a national level (Walker 1991; Berry 1997). Since 1956 Gale Research and later Thompson/Gale Research has published a semi-annual (until 1974) and later annual volume of national level voluntary associations contained in the United States called the *Encyclopedia of Associations*. Intended to act much like a phone book this directory of associations is the publisher's best attempt in any given year to capture

the total number of national level voluntary associations operating in each volumes copyright year. The *Encyclopedia* is therefore is an excellent resource for the creation of a time-series dataset on national level voluntary associations in the United States, which is demonstrated by other research that has employed this resource (Minkoff 1997; Martin et al. 2006; Johnson et al 2007).

Two main selection criteria must be met for a group to be included in the *Encyclopedia*. The first is that an association is national level with a focus and/or membership that exists in more than one state or locality. The second is that the association is a voluntary association meaning that the association's membership joins by choice for some common goal other than for profit. These two criteria exclude the vast majority of formal organizations in the United States namely local groups and businesses. With these two criteria the publisher of the *Encyclopedia* has done a strong and consistent job of documenting national level voluntary associations over time.

The EAP classifies each association by a Policy Agendas Project major topic code based on a description as well a subject and keyword produced by the publisher. Major topic codes classify associations by the issue each group deals with and allows for the investigation of group systems based on issues. This classification system further allows the data to be matched to aggregate level data on government behavior, media and public attention contained as part of the Policy Agendas Project. The Policy Agendas Project organizes and classifies a variety of public and political agendas over time according to their issue content allowing for cross agenda analyses and a complete picture of dynamic political processes. The population of associations investigated in this dissertation is further restricted to politically relevant associations meaning groups that are involved in issues that government deals with. The consistent aggregation of issues allows for detailed population level analyses of voluntary associations in which the context of group actions and representation occurs.

Related to this discussion is the use of the terms group and association. This dissertation focuses exclusively on the voluntary associations discussed in this section, but the terms group and association are used interchangeably in this dissertation. Each of the individual associations that make up the dataset is voluntary and non-profit seeking and fits the definition of voluntary associations discussed above. However, many associations are in fact made up of other groups and not individual members (Salisbury 1984). This introduces some ambiguity to the population of associations that is studied in this dissertation as the distribution of membership and non-membership groups is unclear. The uncertain composition of the association system means that is unclear if the findings of this dissertation apply to all associations or only some part of the association system. The insights and findings offered in this dissertation must not be over generalized to all groups or offered as proof of these processes operating in more specific subpopulations. Citizens groups, business interests and other subpopulations may act differently, but the general population of voluntary associations in the United States follows the various processes found through this dissertation's statistical analyses.

Using the *Encyclopedia of Associations* to produce a time series dataset of voluntary associations is not without limitations. The publication suffers from some obvious and some not so obvious shortcomings that further bound the population. Central to this is that groups need to be known to the publishers to be included in the *Encyclopedia*. That groups must be noticed by the publisher to be included in the *Encyclopedia* means that short lived groups are unlikely to be included in the *Encyclopedia* and therefore the data used in this dissertation. This means that a bias towards survival has inherently been introduced in the data as short lived groups are also the most likely to fail. This bias away from short lived groups decreases the founding rate of groups, increases the survival rate and decreases the failure rate. It may even bias the population density of groups downward if an issue is particularly dominated by

short lived associations. Systematic bias is always a concern for statistical analyses, but as this bias exists across all issues and through the entire time period investigated in this dissertation the analyses are still valid. However, they can only provide accurate inferences in relation to the population of associations contained in the *Encyclopedia*. The bounded population that this dissertation focuses on is therefore in the most specific of terms national level voluntary associations in the United States engaged in governmental issues that have lasted for four years or more.

The inherent bias towards group survival that exists in relation to the EAP data is an important distinction bounding the population. This bias is especially important in relation to analyses of group founding rates. The survival bias means the analyses of group founding rates contained in this dissertation specifically focus on new groups that have managed to survive at least four years as opposed to all newly formed groups. This fact does not in any way harm the analyses contained in this dissertation, but it does restrict the inferences that can be drawn from those analyses. Other qualities of the EAP data that affect how the data is analyzed, but that do not further restrict the population of associations studied are discussed in detail in Chapter 2.

The next section presents an outline of the remaining chapters contained in this dissertation.

Chapter Outline: Founding Rates, Population Density, Survival and Failure Rates

This dissertation considers the effects of individual, population and environmental level factors on the population traits of national level voluntary associations in the United States from 1972-2001. To accomplish this, the rest of this dissertation takes the following form.

Chapter 2 introduces and describes the data used to undertake this dissertation's analyses, the EAP dataset that categorizes and traces all national level voluntary associations in the United States from 1972-2001. The chapter starts by discussing the types of associations included in the *Encyclopedia* and how the EAP has made use of this data. Next it describes the multiple imputation techniques used to create yearly group density, founding rate and failure rate data by issue. It further compares these imputed series to examine if the expected relationships between these population traits are present between the imputed series to demonstrate the validity of these imputations. Finally, the chapter presents detailed analyses of how the use of secondary data has affected the time series of voluntary associations contained in the EAP. Secondary data is defined as data that was originally gathered for some purpose that than it is currently being used for. The use of secondary data in statistical analyses presents many potential hazards concerning inference and modeling and this chapter investigates those potential problems.

Group formation has been a key question for political scientists for many decades and is the logical place to start examining the life cycle of voluntary associations in Chapter 3. Theories of entrepreneurs, rational group formation and formulations of membership calculus have led work focused on explaining why some groups form and others do not. From a mobilization standpoint group formation is an important question. If an issue does not warrant the formation of an association it cannot be as well represented as an issue with associations that overcome the collective action dilemma. Groups of various strengths and sizes form around nearly all issues though and make this signal complex to study especially on an individual group level. Chapter 3 examines the individual characteristics of newly formed groups by summarizing group level variables over several years. It further models the effects of aggregate population and environmental level factors on the founding rate of associations by issue and in general. By examining the differences in founding rates over

time due to these factors changes in group formations can be understood without directly accounting for the dog that did not bark, associations that failed to form.

The population of voluntary associations in the United States unsurprisingly experiences growth over most of the time period investigated by this dissertation. However, equilibrium and even decline prove to be just as common from an issue to issue standpoint despite the growth of government, a growing GDP and an ever-growing population of citizens in the United States. Chapter 4 focuses on the population density of voluntary associations and how the environment has played a key role in explaining group populations. To accomplish this, Chapter 4 models the effects of population and environmental level factors on the population density of voluntary associations generally. Density is measured and tested both as a count and as relative density, the percentage of groups devoted to each issue relative to the total number of politically relevant groups. These model group populations by issue independently and in competition with one another over limited government agenda space and environmental resources. Combined the tests of both measures tell a more complete story of the effects of the population of groups and the environment on group densities than either analysis alone.

The collective action dilemma does not end once a group has formed. The cost benefit analyses associated with collective action extend into organizational maintenance. Chapter 5 considers how the continued effects of the collective action dilemma affect individual group survival. Analyses of individual groups model how individual, population and environmental level factors affect the survival of voluntary associations. Survival is of course the most important objective of any group that has successfully formed as groups that do not survive can never achieve their goals and see the costs associated with group formation and maintenance wasted. Additionally, the characteristics of the groups that survive also

influence the composition of the group system and bias it towards certain opinions.

Furthermore, only living groups can influence government and can act on policy windows.

Groups like all things are subject to decay and eventual failure. Studying individual group survival tells part of the story of the end of group lives. The aggregate group failure rate investigated in Chapter 6 tells the other. Group populations experience different failure rates based on population and environmental level factors and turnover is important to understanding group representation. Even a population with a large number of groups has a hard time influencing government if the failure rate is so high that the majority of groups fail before they gain access to government. Chapter 6 compares the individual characteristics of failed groups to continuing groups by summarizing group level variables over several years. It further models the effects of aggregate population and environmental level factors on the failure rate of associations generally and tests for separate effects for age and density dependence on group failure rates. By considering failure rates and individual group survival in separate chapters and analyses this dissertation is able to compare how groups and group populations react to the environment.

Chapter 7 concludes this dissertation by comparing the results from the four substantive chapters to tell a complete story of group traits relation to the political environment. While work on the population ecology of groups in political science is limited it certainly has value. Group formation is viewed as a means by which citizens can interact with government, but the number, survival and level of turnover for groups involved in an issue are equally important. Group traits have fundamental implications for the context of group representation. By considering the effects of individual, population and environmental level factors on the life cycle of voluntary associations this dissertation provides insights into the context of group representation and how government itself partially shapes that representation. Chapter 7 focuses on how each of the factors investigated in this dissertation

filter through the group system and how they change the make-up of the group system itself. For example, this dissertation finds evidence that public attention increases group formation rates, but decreases group survival. These findings demonstrate that public attention leads to the replacement of existing groups through new groups that introduce new ideas to the group system while further undermining established channels of group representation that take time for all groups to build. Increases in public attention to issues leads to change, but breaks down group ties to government making group representation in general less effective at the same time.

Chapter 2

The Encyclopedia of Associations: A Bounded Population

The population of national level voluntary associations in the United States has grown greatly over time, from 9,874 groups in 1966 to over 22,382 associations in 2001 (see Figure 2.1). Arguments have been made that this huge growth in associations since World War II is due to changes in funding sources (Walker 1983), revamps of the Congressional committee system (Hansen 1991, Rosenbloom 2000, and Davidson and Oleszek 2004) and changes in technology that have facilitated organization on the national level (Walker 1991 and Berry 1997). However, until now no dataset has existed that traces national level voluntary associations over time to allow the testing of these and other hypotheses concerning group population traits. The Encyclopedia of Associations Project (EAP) has changed that with the introduction of a forthcoming panel dataset of national level voluntary associations, gathered every five years from 1966 to 2001. This chapter describes the population of national level voluntary associations contained within the EAP dataset. It further describes how I have imputed counts, founding and failure rates from the data. Finally, it presents analyses of the EAP data as a secondary data source to allow it to be properly matched other time series data sources including socioeconomic variables and Policy Agendas Project data. The Policy Agendas Project organizes and classifies a variety of public and political agendas over time according to their issue content allowing for cross agenda analyses and a complete picture of dynamic political processes. These analyses present strong evidence that the EAP data generally reflects the system of voluntary associations in the four years prior to each volumes publication year.

[insert Figure 2.1 about here]

What is the Encyclopedia of Associations Project?

Since 1956 Gale Research and later Thompson/Gale Research has published a semi-annual (until 1974) and later annual volume of national level voluntary associations contained in the United States called the *Encyclopedia of Associations*. The *Encyclopedia* is intended to act much like a phone book that potential members and other interested parties can use to locate relevant groups. This directory of associations is the publisher's best attempt in any given year to capture the total number of national level voluntary associations operating in each volume's copyright year. The annual nature and meticulous search process make the *Encyclopedia of Associations* an excellent resource for the creation of a time series dataset on national level voluntary associations. The *Encyclopedia's* empirical value has been demonstrated previously by other research that has employed this resource in specific areas of interest (Minkoff 1997; Martin et al 2006; Johnson et al 2007).

Two main criteria must be met for an association to be included in the *Encyclopedia*. The first is that an association is national level, in other words its focus and/or membership exists in more than one state or locality. This means that the goals and the interests of the group are focused on the nation as a whole and not on regional or state specific issues. The second criterion is that the association is a voluntary association. By definition a voluntary association is an association whose membership joins by choice for some common goal or goals other than profit. Following these two criteria the publishers include a wide variety of groups from the Sierra Club to the United Autoworkers Union to Bobs International, an association comprised of people with the forename Robert that holds an annual national convention with awards that include the best shish ka-Bob. Despite including all groups

matching Gale's definition of a national level voluntary association by following these two criteria the publisher excludes the vast majority of formal organizations in the United States namely local/state groups and businesses. It is with these two criteria that the publisher of the *Encyclopedia* has done a consistent job of documenting national level voluntary associations over time.

By itself the *Encyclopedia* includes a classification for each association by a subject, such as Trade and Business, Health or Social Welfare, and by a keyword that further highlights the basic purpose of each association. These keywords are more detailed descriptions within subjects, such as textiles, cancer or homeless, and focus on the basic purpose of the group. The classification system used in the *Encyclopedia* has been used in a consistent manner since the 1959 with minor changes to the subject names overtime.¹ Using these classifications as well as a brief abstract describing each association, the EAP has further classified each association by a PAP major topic code to match the extensive datasets on government and media activity in the United States since World War II. Major topic codes are intended to classify associations by the issue each group deals with, such as health, the environment, and defense.

[insert Table 2.1 about here]

Using the PAP coding scheme extended for the EAP (see Table 2.1) research assistants classified each association and further matched it to its previous entry contained in the *Encyclopedia* for every five years from 1966-2001. The matching of groups to their other

¹ The only major change in the 1966-2001 time period is the addition of an interesting but incomplete section on Fan Clubs in 1987.

entries over time produces a panel dataset of national level voluntary associations.² Creating this panel dataset was a time and resource intensive task, but the choice to code every five years was based on an investigation of the *Encyclopedia* that revealed that less than 10% of all associations contained in the *Encyclopedia* survive for fewer than five years. A five year sampling procedure assures that the vast majority of associations (greater than 90%) are captured in the EAP dataset. The five year sampling process therefore produces a workable dataset of all national level voluntary associations in the United States as determined by Gale Research.

Group Counts

While the use of a five year sampling procedure appropriately captures the population of groups contained in the *Encyclopedia* it also makes it necessary to impute the data between each of the observed time points for yearly group population traits, such as the yearly count of associations by issue. As the EAP is a time series data source that approximately follows a linear trend in the count of associations by issue a linear imputation is both possible and appropriate. However, additional information for the missing years on the total number of groups was also gathered based off of a count of entries in each volume. By combining the linear imputation with the known total of groups in each year additional variation in the group counts between observed time points can be calculated. This leads to a two step imputation process starting with a linear imputation and is detailed below. This two step process is completed for all politically relevant groups contained in the *Encyclopedia*.

Politically relevant groups are groups that deal with the issues covered by government and includes all issues covered in Table 2.1, excluding codes created for the New York Times,

² Name changes and group mergers were also accounted for with this process as the *Encyclopedia* lists former group names, the groups included in mergers and other data that allows for the accurate tracking of individual groups over time.

EAP datasets and other groups (topic 99). The political relevance of groups is therefore determined by the original PAP codebook that covers all of the activities that Congress, the president and other national level governmental actors deal with.

The linear imputations by issue are calculated by first recoding family groups as law and ideological groups as government to allow the EAP data to be matched to other PAP datasets as detailed in the EAP codebook (see Appendix). The count of groups by issue is then calculated for the missing data points by averaging the change in counts between each coded year. This linear imputation is presented for associations by each issue area in Figure 2.2 in a stacked count graph that presents the count of associations by issue and in total through the top line of the figure.

[insert Figure 2.2 about here]

In Figure 2.2 it is clear that the population of national level voluntary associations has grown over time and that it has diversified. The associations in the *Encyclopedia* include a greater share of health, social, and other types of associations over time. Commerce and economy group populations have remained remarkably stable with little to no growth in the number of associations over time. It is also clear from Figure 2.2 that this purely linear imputation has its limitations as variance in the count only occurs between real data points. By combining this linear imputation with the additional information for the missing years on the total number of groups a more detailed account of group numbers is possible.

This additional information is used to more accurately match the real, but unmeasured count. This is accomplished by first dividing the linear imputed counts for each issue (see Figure 2.2) by the total imputed count resulting in a percentage of groups by issue. These percentages for each issue in each year are then multiplied by the known group count. The

resulting measure combines the linear imputation of group percentages by issue with the known count of groups and provides greater variance for the group count series based on real data. The resulting series by issue is presented in Figure 2.3 in a stacked count graph.

[insert Figure 2.3 about here]

The imputed counts by issue in Figure 2.3 more closely follow the patterns in the known total group population (see Figure 2.1). They also still highlight the same changes in health and social groups and the stability of commerce and economy groups over time found through the purely linear imputations. It is safe to say that this data series more closely matches the actual, but unknown count for groups by issue in the missing years than a purely linear imputation and is the most appropriate to use for statistical modeling.

Several scholars have studied the growth of groups in a single issue in the past (e.g. Hannan and Freeman 1989; Chong 1991; Hansen 1991; Minkoff 1997; Johnson et al 2007). Yet, surprisingly no one has systematically studied the growth of the group system in the United States over time despite the large body of work that considers the process (e.g. Olson 1965; Walker 1983; Hannan and Freeman 1989; Perrow 1992; Aldrich and Ruef 2006; Scott and Davis 2007). The creation of the EAP dataset and the imputations calculated from it will help to change that.

Group formations

Counts of associations by issue do not tell the entire story of association life as life also involves birth and death. Another important measure when considering the population of groups is their founding rate. In other words, the number of new groups formed in each year. Population counts and founding rates have been shown to affect each other in previous

research. Low group counts are associated with higher founding rates, but only until a stable group density is reached. Once the count of groups reaches a stable number higher group densities lead to decreased founding rates. This population dependent process affects all groups, but variation in founding rates between issues is possible. For example, commerce is as issue area with a stable group count and might have higher founding rates compared to other issues. This hypothetical scenario would mean that although a stable number of groups concerned with commerce existed the population of groups is relatively young. An issue area with so many new groups is not as entrenched with government as an issue area with an older group population as it takes time to gain the trust of government and expertise as a group (Hansen 1991). Founding rates modify the effectiveness and meaning of group populations by issue area and are an important part of the story of representation through national level voluntary associations in the United States.

Through the use of the EAP dataset the number of groups founded between each observed data point is calculated. As the EAP is a panel dataset if a group exists at one observed point, but does not exist at the previous observed point it is clear that the group was founded between those observed points. However, imputing a linear trend in the number of group formations by year and issue is not as direct and simple as with group counts. The data allows for the direct calculation of the number of newly founded groups between each observed time point, but not the number of groups founded in each year. Therefore, a different method of imputation must be used.

First, the total number of group formations by issue are averaged over each gap of missing data. This average is then combined with the known total number of groups founded in each period to add trend to the imputation of group formations. This is accomplished by assuming a linear trend between the average group formations at one period's midpoint to the average at the next period's midpoint and continuing that trend until the start of the next

period. The resulting estimate of group formations totals to the known count of formations over each period and is based on the trend in the average group formations between periods. This estimate remains linear, but trends based off of changes in the average number of group formations by issue. This version of imputed group formations by issue is presented in Figure 2.4 in a stacked count graph.

[insert Figure 2.4 about here]

The group formations by issue in Figure 2.4 demonstrate some interesting patterns, particularly when compared to the imputed group counts in Figures 2.2 and 2.3. For example, the number of newly formed health groups varies quite a bit from 1972-2001, but the count of health groups during this same time period steadily increases. By comparing Figures 2.2-2.4 it is clear that the number of groups by issue and the number of newly formed groups by issue are independent processes that vary even when the other remains stable.

It is also clear from Figure 2.4 that a purely linear imputation of group formations has limitations as well. Unlike with group counts there is no easy way to gather data on the true number of newly founded groups for the missing data points. However, the number of newly founded groups is not as worthwhile to study as the formation rate. While often treated as synonymous with each other, group formations and the founding rate do differ in their definition. The founding rate is best defined as the number of new group formations relative to the total number of groups. A raw count is one way to measure the formation rate, but a better way when comparing across issues is a ratio of the number of new group formations divided by the total number of groups. This creates a more comparable measure across issues. For example, a raw count treats an increase of 10 groups in a 10 group and a 100 group issue area as the same, but a ratio measure treats the increases as a 100% and 10% increase in the

founding rate respectively. To calculate this ratio measure the imputed formation counts are divided by the imputed counts of groups from the percentage method. The resulting formations rates provide greater variance and are more closely match the unknown formation rate than a purely linear imputation. The formation rates by issue are presented in Figure 2.5 individually for each issue.

[insert Figure 2.5 about here]

Figure 2.5 demonstrates a similar pattern in formation rates across the majority of issues that is largely unsurprising. While these group populations differ in the issues they deal with they all face the same national level environment, the same economy, and the same political leaders environmental factors that affect group formation rates generally regardless of issue. Furthermore, this measure exhibits the same general patterns as the raw counts presented in Figure 2.4, such as the fluctuations in the health formation rate over time.

Group failures

Groups eventually come to an end. When considering the life cycle of voluntary associations over time it is also important to consider the end consequence of life, death. The failure rate of groups is another important measure that can be calculated from the EAP. Failure rates are also heavily tied to group population counts as well as founding rates, but like with founding rates the failure rate of groups varies independently from these other measures. Group populations tend to follow an equilibrium process where the total number of groups fluctuations around the ideal carry capacity of the environment they face. Therefore, even small changes in the environment and founding rates lead to adjustments in the failure

rate of groups. Failure rates express the volatility of group systems and can similarly speak to representation

From EAP data the number of group failures between each observed data point is calculated by measuring the number of groups that exist in the current period, but are not included in the next period. A linear imputation of group failure rates is created by trending the average number of group failures from one period's midpoint to the average at the next period's midpoint and continuing that trend until the start of the next period. The resulting estimate of group failures over each period totals the known count of failures for each period. This linear estimate of group failures is based off of changes in the average number of group failures by issue as well as the total number of observed failures in each period. Imputed group failures by issue are presented in Figure 2.6 through a stacked count graph.

[insert Figure 2.6 about here]

In Figure 2.6 a steady increase in the number of failures by issue over time is demonstrated. This could be due to several factors including the increasing number of groups (see Figures 2.1-2.3) and increased levels of competition between groups. As with the other linear imputations the data represented in Figure 2.6 has its limitations and data on the true number of group failures for the missing data points is also not easy to gather. Yet, the number of group failures by issue is not the best way to understand group failures. The failure rate defined as the number of group failures relative to the total number of groups is a better and more appropriate measure.

To calculate this ratio measure, the imputed group failures are divided by the imputed counts of groups from the percentage method. The resulting failure rates are more appropriate

for statistical analyses by providing greater variance and more closely matching the true, but unknown failure rates. Failure rates for each issue individually are presented in Figure 2.7.

[insert Figure 2.7 about here]

The imputed values in Figure 2.7 demonstrate a greater variety in the pattern of group failure rates than is seen in group counts (see Figure 2.3) and group formation rates (see Figure 2.5). While group formation rates generally decrease and group counts generally increase across all issues from 1972-2001 group failure rates increase, decrease and are more variable by issue. The failure rate of groups may in fact be the most responsive to population dynamics and the environment then as the higher variability in failure rates must have some cause.

The imputed group counts, founding rates and failure rates provide a general overview of group population traits by issue. This broad look at the life cycle of groups based on the issues they deal with allows for the testing of established and new theories on groups and their interactions with the environment. Additionally, knowledge of these broad population traits speaks volumes about representation. Groups are the primary means other than elections by which citizens interact with government and group population traits affect the context of that representation. For example, young group populations do not have as much access to government or expertise, but older populations experience greater competition between groups. These and other types of group population traits filter group activities affecting how groups interact with government and other actors.

Comparing Population Traits

Group founding rates, population densities and failure rates are interrelated as they describe the life of group systems. Due to the inherent relationship between these different population traits a distinct pattern in how they relate to each other is expected given previous findings in organizational and interest group ecology work (e.g Hannan and Freeman 1989; Nownes and Lipinski 2005). These expectations are as follows. Group founding rates are negatively related to group density as fewer groups form as the group population nears its equilibrium density. Group founding rates are also negatively related with group failure rates as these measures move in opposite directions in order to produce and maintain equilibrium group densities. Finally, group failure rates are positively related to group density as increases in the number of groups means more groups exist that can fail and higher levels of competition between groups occurs. Figure 2.8-2.11 present group formations, founding rates, density, failures and failure rates for civil, defense, foreign and government groups. Both raw counts and rates are presented as the calculation of the founding and failure rates is accomplished by dividing these raw counts by the population density and this may have unexpected consequences for the expected relationships between density and these rates.

[insert Figures 2.8 – 2.11 about here]

Despite concerns over the expected relations due to how the rates were calculated the results in Figures 2.8-2.11 show that both the raw numbers and rates follow the expectations of how group formations, densities and failures relate to each other. In each of four issues presented in these figures formations decrease as both density and failures increase, while failures increase as density increases. There is a good deal of variation in the slope of these lines and these relationships are not consistent for the entire time period for each issue. For example, foreign groups have a declining failure rate until an abrupt increase in the failure

rate over a few years towards the end of this time period. Furthermore, the majority of issues see an increase in the formation rate of groups towards the end of this time period. This pattern may be due to an overcorrection in the failure rate or because a new growth in these group populations is starting. In general, the patterns expected due to previous research on group ecology are matched for each issue the majority of the time. Similar patterns exist for the other fifteen issues undertaken by politically relevant groups with no outstanding exceptions. This evidence follows the findings of previous work on group populations and suggests that the growth in the group system early on in this period matches ecological processes and is not due to development of the *Encyclopedia* as a resource where the refinement of the search process over time could have easily led to an apparent growth in groups. Therefore, Figures 2.8-2.11 show that the growth in associations observed in the EAP is real and not an artifact of the creation of the dataset itself. It further adds to the validity of the founding and failure rate measures as appropriate ways of measuring these group population traits over time as they match the expected interdependencies between themselves and density from previous group research.

Public Affairs Data

In addition to the five year sampling of the entire *Encyclopedia of Associations*, the EAP project has also gathered more detailed data on the public affairs section of the *Encyclopedia*. The groups contained in this section represent organizations with an active and engaged membership that works to oversee and steer group activities. The activities of public affairs groups are generally focused on influencing public policy and often the US population as a whole, such as groups focused on national security.

Data on the public affairs section was gathered on average for every 2 years from 1964 to 1999 based on the availability of historical volumes of the *Encyclopedia*. Besides the

more frequent sampling additional information was also gathered from the public affairs section that was not included in the coding process for the entire EAP dataset. This additional information includes data on individual group membership, staff and budget numbers when such information was listed. Several other dichotomous variables were also coded, such as a dummy indicating if the association engaged in government action, one indicating if it took up a social cause and another indicating if its membership was professional. An analysis of the public affairs section revealed that less than 10% of groups are included in the *Encyclopedia* for fewer than 5 years, a finding that was used when considering the sampling procedure for the entire *Encyclopedia of Associations*. Work on coding the additional variables contained in the public affairs section further revealed it to be too time consuming of a task to be feasible for the entire project. This was especially true as moving from coding a single section to the entire *Encyclopedia* made the creation of a panel dataset more difficult by complicating the search and matching process for continuing entries as associations are sometimes reclassified by the publisher over time.

The group composition of the public affairs section itself is quite diverse, including groups involved in nearly all of the issues represented in the complete EAP dataset. However, as the section focuses on groups interested in public policy certain issue areas are better represented than others. These areas include civil, defense, foreign, government and ideological groups (see Table 2.1 for complete issue names). Furthermore, when considering the public affairs data in relation to other outside data sources government and ideological groups are joined into a single category according the instructions outlined in the EAP codebook (see Appendix). The similarity of the data contained in public affairs section to the entire EAP dataset is demonstrated in Figure 2.12.

[insert Figure 2.12 about here]

In Figure 2.12 counts for each of the two datasets as well as the correlation between these counts of the well represented issue areas are presented.³ Civil, defense, foreign and government groups contained in the public affairs section closely follow the overall imputed count of associations. This visual evidence is further supported by the high correlation coefficients between the count of groups contained in the public affairs section and all groups contained in the EAP on each issue. These findings demonstrate that the public affairs section provides a viable sample of the population of national voluntary associations contained in EAP for these four issues. This allows for a more detailed analysis of the data generating process discussed next and for individual level analyses of the four well represented issue areas contained in the public affairs section.

The Encyclopedia of Associations is a Secondary Data Source

Much of the data used in political science is by definition secondary data. Secondary data is defined as data that has been gathered by someone else and/or is being used for some purpose other than what it was originally intended for. Oftentimes the use of secondary data does not cause much of problem for research. This is especially true when a secondary dataset has been used and scrutinized for many years allowing the strengths and shortcomings of the data to be well understood. However, researchers should always take care to understand the details of even these well-established datasets and not to use them for research that goes outside the bounds of what the data actually measures. Completely new data sources created from information for a purpose other than its original intention face many

³ Note that for the purposes of this and other analyses ideological groups have been recoded as gov't as prescribed by the EAP codebook.

potential hazards. To limit or even eliminate the possible problems associated with secondary data several questions concerning the original data must be answered.

The first and most important question is also the most obvious, but often overlooked question. What is the original intention for the data? The purpose of the data as well as the audience it was intended for can play a large role in the data generating process. In the case of the *Encyclopedia of Associations* the goal of the original volumes was to create a comprehensive list of national level voluntary associations in the United States. The *Encyclopedia* also lists information on name changes and group mergers allowing the users of the *Encyclopedia* to trace individual groups over time as they evolve and change. The published editions themselves are owned by libraries and schools serving as a reference text confirming their need for accuracy and usability. The *Encyclopedia* is also a source for businesses like event organizers to identify possible clients and this focus introduces a bias towards larger and better established groups.

Complimenting this first question is what is the credibility of the source? In the case of the *Encyclopedia* the publisher, Thompson/Gale Research, is responsible for producing many reference texts similar to the *Encyclopedia of Associations*. Like most businesses the publisher values the strength of its reputation. However, a detailed investigation of the coverage of the *Encyclopedia* and many other sources for environmental groups revealed that the *Encyclopedia* did not capture a representative sample of such groups (Brulle et al. 2007). All resources have idiosyncratic biases based off of various factors from the search process to the definitions being used to bound the population. When using secondary data sources these biases are generally unknown and are often not even considered. The investigation into the coverage of the *Encyclopedia* for environmental groups revealed a bias towards large and mainstream groups when compared to other data sources. While a comprehensive comparison of the *Encyclopedia* to a similar data sources for all issues over time is not feasible the same

sort bias for all issues is likely to exist. The bounding of the population of groups included in the *Encyclopedia* is one clear source for this bias as the *Encyclopedia* by definition contains national level, voluntary associations in the United States. From this definition and the related search process very few groups with a regionally based membership make it into the *Encyclopedia*.⁴ The investigation of Brulle et al. (2007) into the coverage of the *Encyclopedia* for environment groups focuses on the volume's coverage of environmental social movement groups. This combined with the bounding of the population contained in the *Encyclopedia* makes the reason for the bias noted by the authors clear. By focusing on the *Encyclopedia*'s coverage of social movements their investigation into the *Encyclopedia* overlooks that the data is focused only on voluntary associations a definition and bounding that does not accurately describe all social movement groups especially as many social movements are not necessarily nation level. However, a bias towards large and established groups no doubt exists in the *Encyclopedia* for the types of groups it is intended to cover. This bias is both because of the strict definitions it employs and the fact that larger and better known groups are easier to identify. Therefore, inferences drawn from analyses of this data do not apply to all groups, but speak well to established group systems.

The next question is how was the secondary data source itself was created? Specifically, has the secondary data source been generated from primary or secondary data itself? Not surprisingly the publishers do use secondary data to compile the *Encyclopedia*'s volumes. Survey responses, published press documents and internet searches all help the publishers to create the description for each association and to classify each into their own classification scheme by section and keyword. The use of survey data and press releases in particular means that the description of an association contained in the *Encyclopedia* may

⁴ Only 1.2% of groups of the well represented issues in the public affairs having a primarily regional membership or focus.

only represent the public relations face of an association. An association called the Salt Institute for instance states that its primary goal is to educate the public about the health benefits from a healthy sodium intake as well as the many common and uncommon uses for salt in our everyday lives. In reality the goal of the Salt Institute is not public education, but to promote the use of salt so that the various companies that are members of the group can make greater profits. Research assistants in charge of coding the *Encyclopedia* according to PAP topic codes were aware of this incentive to misrepresent in group abstracts and were trained to deal with them by using the implied meanings of the group abstracts rather than the literal meanings when appropriate resulting in groups like the Salt Institute being properly coded as a commerce association. At best the coding of associations was still only based on the best interpretation of well trained researchers on the carefully spun association mission statements. The EAP therefore represents an educated assessment of the public face of national level voluntary associations over time and may not be based on the entire focus of each association.

Another important question concerning secondary data is primarily a concern for time series data created from secondary data sources. That question is when was the data published or more importantly what was the observation point? This question often requires a broader look and analysis of the data than noting the copyright year in a published volume or the publication date of survey data. Surveys for instance take time to run and publishing a dissertation of any sort also requires time. Field work dates and the point at which data gathering stopped to finish a manuscript can both have large effects on the interpretation of data. The data contained in the *Encyclopedia* is in effect the best information available to the publisher at the time of publication. In recent years the *Encyclopedia* is a snapshot at a point in time of Associations Unlimited the electronic searchable database of national level voluntary associations maintained by the publisher.

There are a few logical problems that exist with the accuracy of the *Encyclopedia* in capturing all national level voluntary associations in a given publication year. In a perfect world all new associations would be instantly recognized by the publisher, changes to association descriptions would also be made in real time and associations that failed would be removed in the same year that they disappeared. Even in this perfect world new associations and changes to existing associations could occur an entire year before being listed in a new volume of the *Encyclopedia* creating a lag between the real the observed world. Of course the perfect world does not exist and in reality it takes time to recognize the existence of new groups, to make changes to the entries for each association when appropriate and to remove groups that no longer exist from the *Encyclopedia of Associations*. The important question is how much time is there between changes in the real world and the observed changes presented in the *Encyclopedia*.

As the EAP database is a unique dataset the comparison of this dataset to other sources, the common way to address this problem, is not an option. However, by careful examination it is possible to compare the *Encyclopedia* to itself overtime. One important variable often included in the description of each association is a recorded founding date that lists the self reported year that an association attributes to its creation. While using the reported founding date instead of an association's first inclusion to map the groups included in the *Encyclopedia* seems like the most logical option, there are two problems that prevent this. First, not all entries report a founded date with roughly 10% of groups failing to do so. There appears to be no pattern to the listing of founding dates with even major and well known associations, such as the Grammy Foundation that awards the like named Grammy Awards each year lacking a founded date. An imperfect solution to the problem is to use the year a group was first included in a published volume in those missing cases. However, as Figure 2.13 shows the difference between founding dates and first inclusion while often just

1-6 years is regularly far longer. In fact a maximum of 129 years between the reported founding date and a group's first inclusion in the *Encyclopedia* is noted in Table 2.2 which presents summary statistics for this figure, both overall and for the first 10 years difference.

[insert Figure 2.13 and Table 2.2 about here]

The data used to produce this analysis comes from well represented issues in the public affairs dataset that is shown to closely match the patterns of group counts contained in the entire EAP dataset. The analysis only includes associations contained in the data that are new additions to the *Encyclopedia of Associations* at each publication date. As the public affairs dataset was not gathered on a yearly basis only years that had a coded volume in the previous year were used to help prevent a biasing towards longer differences. This resulted in observations from 9 different time points spanning 25 years.

One might assume that given the extreme disparity between some groups' founded dates and the publication year of the *Encyclopedia* that the publishers have not done a particularly good job of identifying certain associations. However, the two selection criteria necessary but not sufficient for inclusion in the *Encyclopedia of Associations* are that a group is a voluntary association and that it is national level. Groups often change with the rare business group developing into a voluntary association over time and the majority of national level groups starting out as regional or state level organizations. Given these two possible changes for groups over time and the others that could occur it is perfectly reasonable for a group to attribute its creation to a time before it met the publisher's selection criteria. This further means that groups may exist for a considerable amount of time as some other type of group and/or with a different membership composition before becoming a national level voluntary association.

With the possible reasons for the differences between first inclusion and a groups reported founding date in mind Figure 2.13 and Table 2.2 can be understood more fully. The changing nature of many groups prevents them from being included in the *Encyclopedia* when they are first founded. So does the search process for groups that requires time to identify new groups. The results in Figure 2.13 are therefore a combination of the effects of the search process and the selection criteria. The selection criteria in particular make reported founding dates inappropriate to identify when a group became a national level voluntary association. These two factors result in a poisson distribution with a fat tail in the analysis making the use of the mean or median values a poor estimate of the expected difference between when a group is first included in the *Encyclopedia* and when it first became a national level voluntary association. Even when only considering those groups with a ten year difference or less the mean and median values are inappropriate. It is safe to assume that as the number of years difference increases the percentage of differences due to the search process decreases, while the percentage of differences due to group changes increases. A better estimate of the expected difference between first inclusion and when a group became a national level voluntary association that accounts for these factors is the mode of 4 years. The mode measures the most common difference between group founding dates and their first inclusion. This finding indicates that the best way to match the data in the *Encyclopedia* to other outside data is to use a 4 year lag as the published editions best match the real world as it was 4 years prior to each volumes copyright date. While this measure is not exact and several groups form after and before this 4 year difference it is the best general estimate and closely matches aggregate estimates of group population traits due to the time series processes they follow.

The time between an association's creation and its first inclusion in the *Encyclopedia of Associations* is not the only concern over the lag structure of the *Encyclopedia*. Updating,

which is the time it takes for the publisher to change the information contained in each entry, is also an important question to have answered. The speed of updating affects the length of time it takes for changes in the descriptions of associations to be made and the delay between a change and when it is noted through the coding process of the EAP. More importantly updating determines how quickly failed associations are removed from the *Encyclopedia*. Measuring the length of time it takes for group information to be updated is also assessed by comparing the *Encyclopedia* to itself over time. As mentioned earlier groups included in the public affairs section have been coded in more detail than in the entire EAP dataset. Included in this additional coding is information on the budget, membership and staff numbers of associations. While the activities and the description of groups may never change if the group itself maintains its original purpose one or more of these numbers will in reality change in every year. By measuring how often this information is updated how quickly groups are removed from the *Encyclopedia* once they fail is estimated.

Utilizing only those associations contained in the public affairs section that report one or more resource variables the number of years between changes in resource information is calculated. This is done for those groups which survive to another observation point as a difference in the rate at which continuing and failing groups update is expected. The resulting measure is presented in Figure 2.14 with summary statistics for all and only the first 10 years of differences in Table 2.3.

[insert Figure 2.14 and Table 2.3 about here]

As Figure 2.14 shows the resource information for many groups is updated after only 1 year, but updating occurs at a maximum of 34 years the total length of time this data considers. Approximately 14% of groups that report resource information never update it.

These groups are generally shorter lived and are excluded from the analyses as it is unclear if the group would have been updated if it survived to another edition. The data in Figure 2.14 indicates that updates follow an exponential distribution and the mean and median values are therefore meaningful. The summary statistics reported in Table 2.3 indicate that group information is updated every 4 years on average with several groups being updated more frequently and many being updated much more rarely.

The same measure as above, but exclusively for groups which failed immediately after each observation is presented in Figure 2.15 with summary statistics in Table 2.4.

[insert Figure 2.15 and Table 2.4 about here]

The results in Figure 2.15 are quite similar to the results for continuing groups in Figure 2.15 in the shape of the distribution, but there are some important differences. While the majority of updates occur after a single year, a second peak in the data is found at the 4 year mark. Additionally, the proportion of updates occurring after several years is higher with failing groups than continuing groups indicating that a lack of updating may be associated with increased group uncertainty. The mean and median values for this series presented in Table 2.4 further support that groups are updated every 4 years and the visual evidence in Figure 2.15 adds increased confidence in this conclusion particularly for failing groups.

Summary

The EAP dataset demonstrates the number, founding and failure rates of national level voluntary associations in the United States from 1972-2001 and is the first dataset of its kind to cover a wide range of issues historically. The source data is gathered from a published volume that was designed to act much like a phonebook serving as a reference text of all

national level voluntary associations as determined by the publisher. While the reputation of the publisher and the general quality of the printed volume make it an appropriate resource answering a variety of questions concerning the use of secondary data resources highlight a few concerns. First, the *Encyclopedia* appears to have a bias towards larger, mainstream associations. While biased data is not ideal the consistent bias towards established groups allows for robust statistical analyses of this particular group population. Instead the bias towards larger and more mainstream groups means that any inferences that are drawn concerning this data must be limited to established groups. The small percentage of regional associations further supports this as in general only those groups with a true national level membership and focus are included in the *Encyclopedia*.

The largest hurdle in using the EAP dataset is the establishment of the lag between the *Encyclopedia*'s copyright year and the actual year it represents. Detailed analyses of the differences between group founding dates and first inclusion and of the average length of time it takes to update existing associations offer strong insights. Combined these analyses demonstrate that the data in the *Encyclopedia* most closely matches the group system 4 years prior to the publication date. The nature of the *Encyclopedia* makes it impossible to determine from the EAP dataset when every group was founded and failed. The 5 year sampling procedure adds to this problem, but the lag structure of the *Encyclopedia* itself means that problems with establishing the lag structure would exist whether the data was gathered every year, every 5 years or every 10. Calculating group counts, founding and failure rates by issue instead of focusing on the details of individual groups leads to more reliable aggregate values. By lagging these imputed values by 4 years a detailed look at the aggregate group life cycle that closely matches reality is produced and further allows for the inclusion of outside data sources in statistical analyses.

The 4 year lag between the real and observed group system provides a further explanation for the bias towards large and mainstream groups in the *Encyclopedia*. Shorter lived groups are generally smaller and less mainstream hence their short life span. Therefore, a smaller proportion of small and less mainstream groups make it into the *Encyclopedia* due to the lag between formation and first inclusion. This further demonstrates that any inferences drawn from analyses of the EAP data must only focus on established groups.

Concerns over bias and lag structures do not mean the EAP dataset cannot be used for robust empirical analyses on a variety of topics. No other resource exists that captures the historical growth of groups in the United States across a full range of issues. While addressing and being aware of these concerns is important they do not prevent the EAP data from being used to test a range of new and existing theories on groups. However, caution must be exercised whenever using this data. Properly applied knowledge of the EAP dataset's secondary nature allows it to be matched to other datasets and for appropriate inferences to be drawn.

Figure 2.1: All National Level Voluntary Associations, 1966-2001

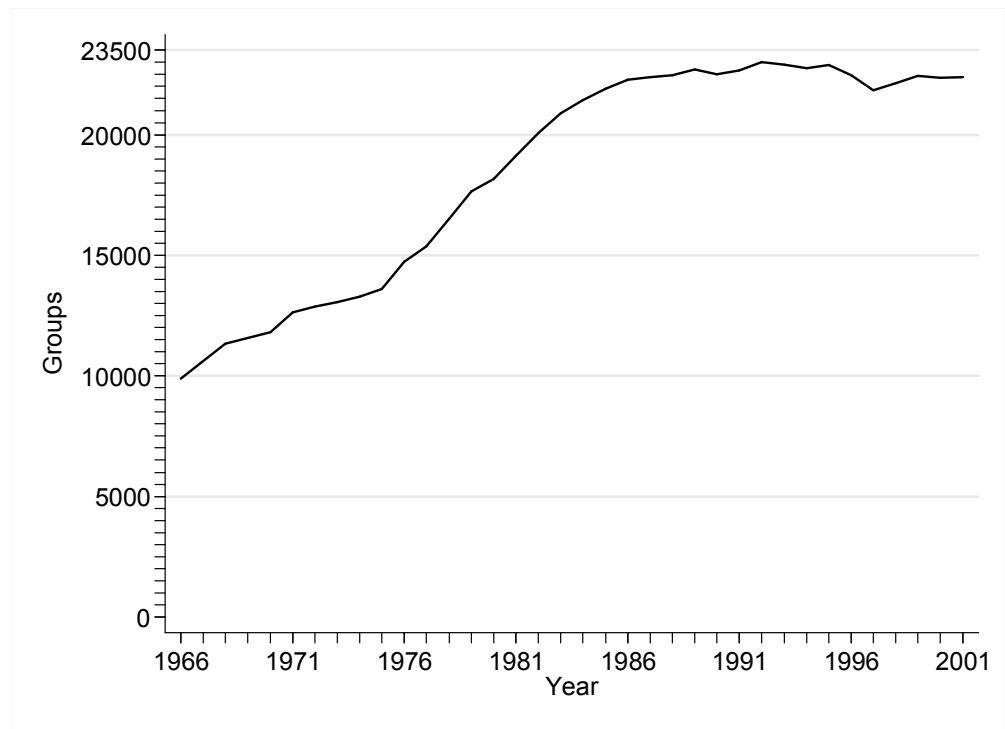


Table 2.1: Encyclopedia of Associations Project Topic Codes

Topic	Abbreviation	Name
1	Economy	Macroeconomics, taxes, and the economy
2	Civil	Civil Rights, Minority Issues and Civil Liberties
3	Health	Health
4	Agriculture	Agriculture
5	Labor	Labor, Employment, and Immigration
6	Education	Formal Education System
7	Environment	Environment
8	Energy	Energy
10	Transport	Transportation
11☐	Family	Family Issues
12	Law	Law and Crime Issues
13	Social	Social Welfare
14	Housing	Community Development and Housing Issues
15	Commerce	Banking, Finance, and Domestic Commerce including Business and Corporate Issues
16	Defense	Defense
17	Science	Telecommunications, Mass Media, Space, Science and Technology
18	Trade	Foreign Trade
19	Foreign	International Affairs and Foreign Aid
20	Gov't	Federal Government, Public Policy Generally
21	Lands	Public Lands and Territories, Indian Affairs, Forest Management, and Government Dams, Water, and Irrigation Projects
24‡	State	State and Local Government and Policy
26‡	Weather	Weather and Natural Disasters
27‡	Fire	Fires
29‡	Sport	Sports and Recreation
30‡	Death	Death Notices
31‡	Church	Churches and Religion
32☐	Ideological	Ideological, Social Cause, and Political Groups
40☐	Arts	Performing, Fine and Creative Arts
41☐	Culture	Culture, Heritage and History
42☐	Hobbies	Hobbies, Collectors, Amusements and Clubs
99	Other	Other and Miscellaneous

‡ - Indicates an addition from the New York Times Codebook

☐ - Indicates an addition from the Encyclopedia of Associations Codebook

Figure 2.2: Linear Imputed Group Densities by Issue, 1966-2001

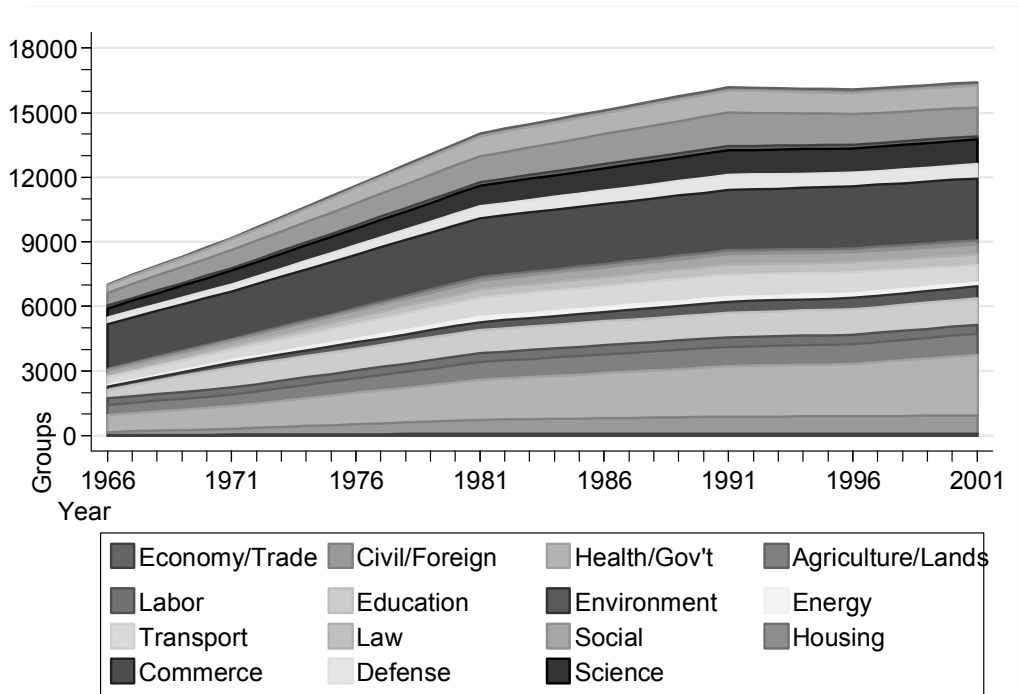


Figure 2.3: Percentage Imputed Group Densities by Issue, 1966-2001

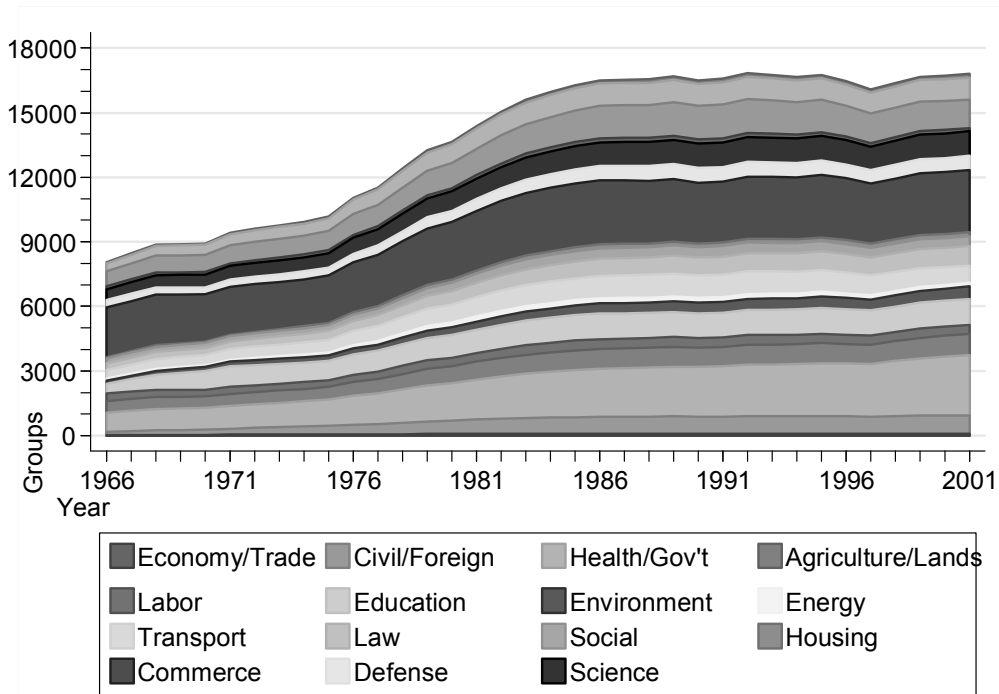


Figure 2.4: Linear Imputed Group Formations by Issue, 1972-2001

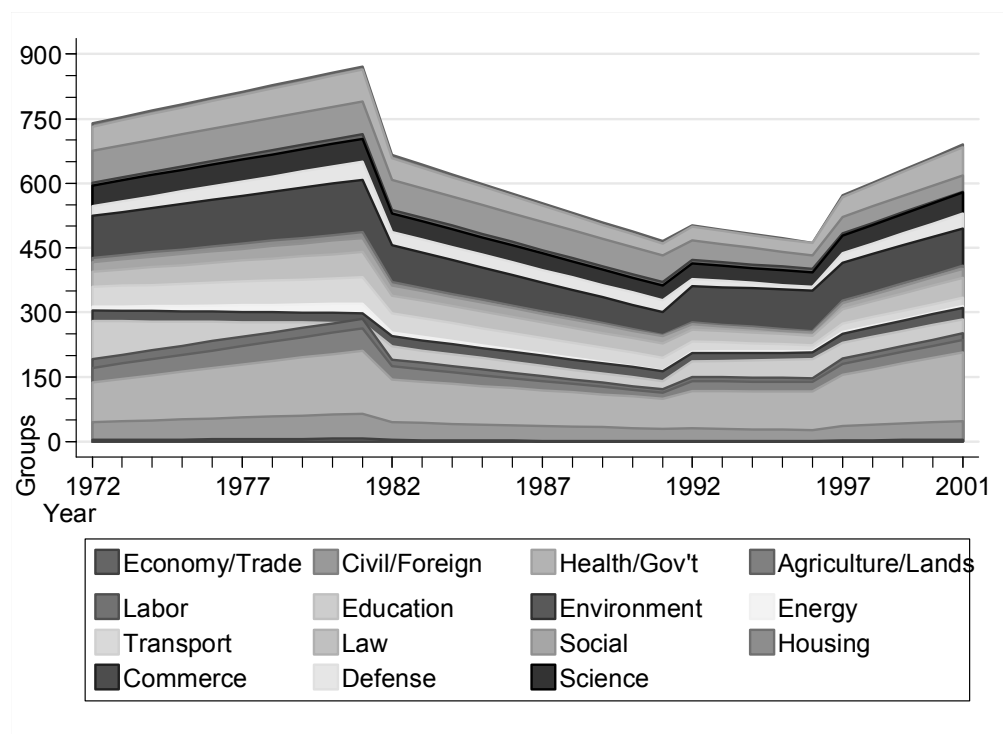


Figure 2.5: Imputed Founding Rates by Issue, 1972-2001

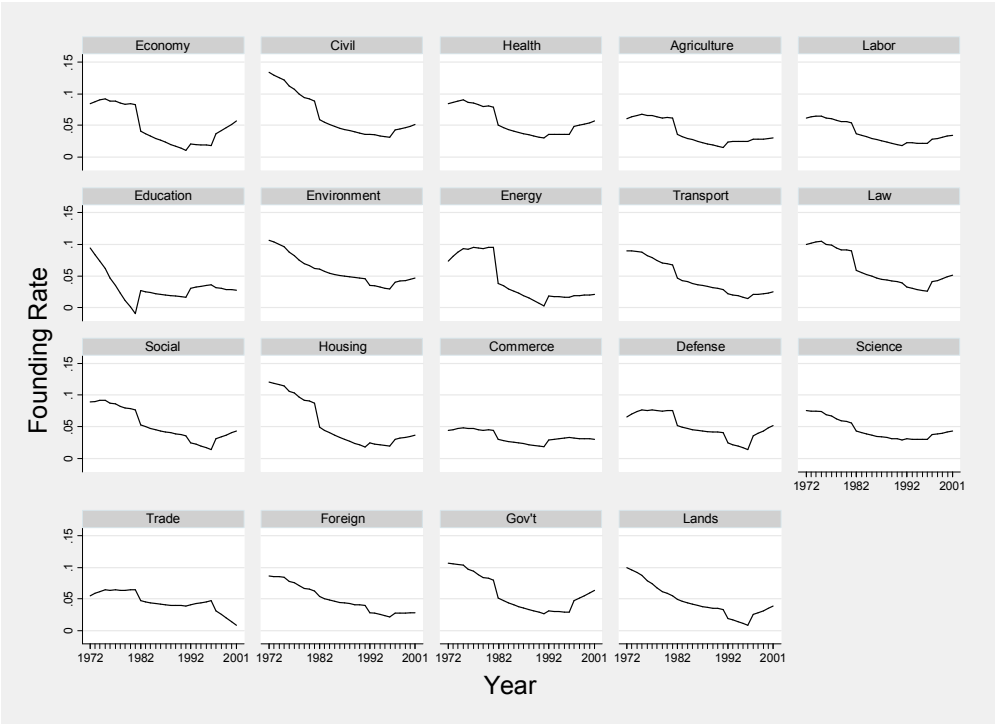


Figure 2.6: Linear Imputed Group Failures by Issue, 1972-2001

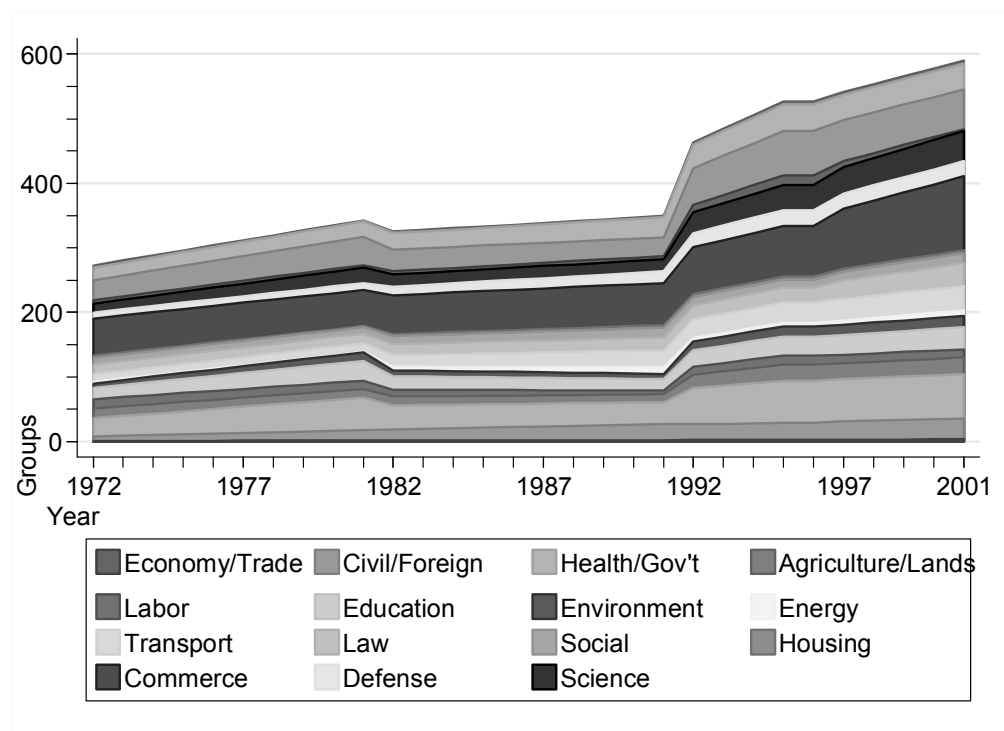


Figure 2.7: Imputed Failure Rates by Issue, 1972-2001

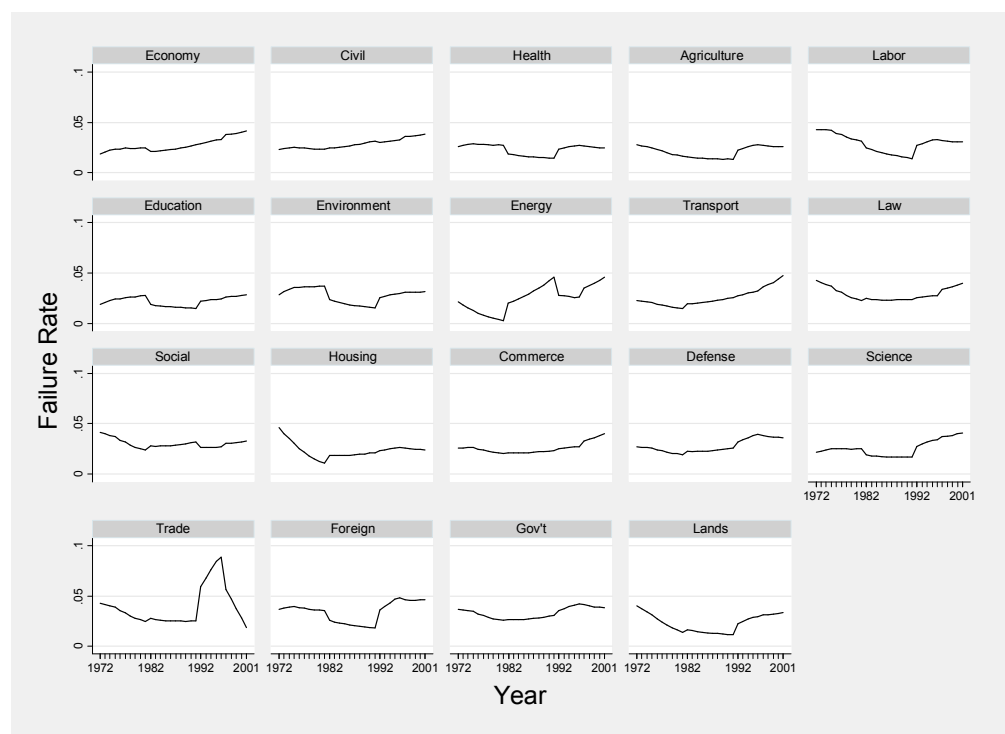


Figure 2.8: Civil Group Density, Founding Rates, Failure Rates, Formations and Failures, 1972-2001

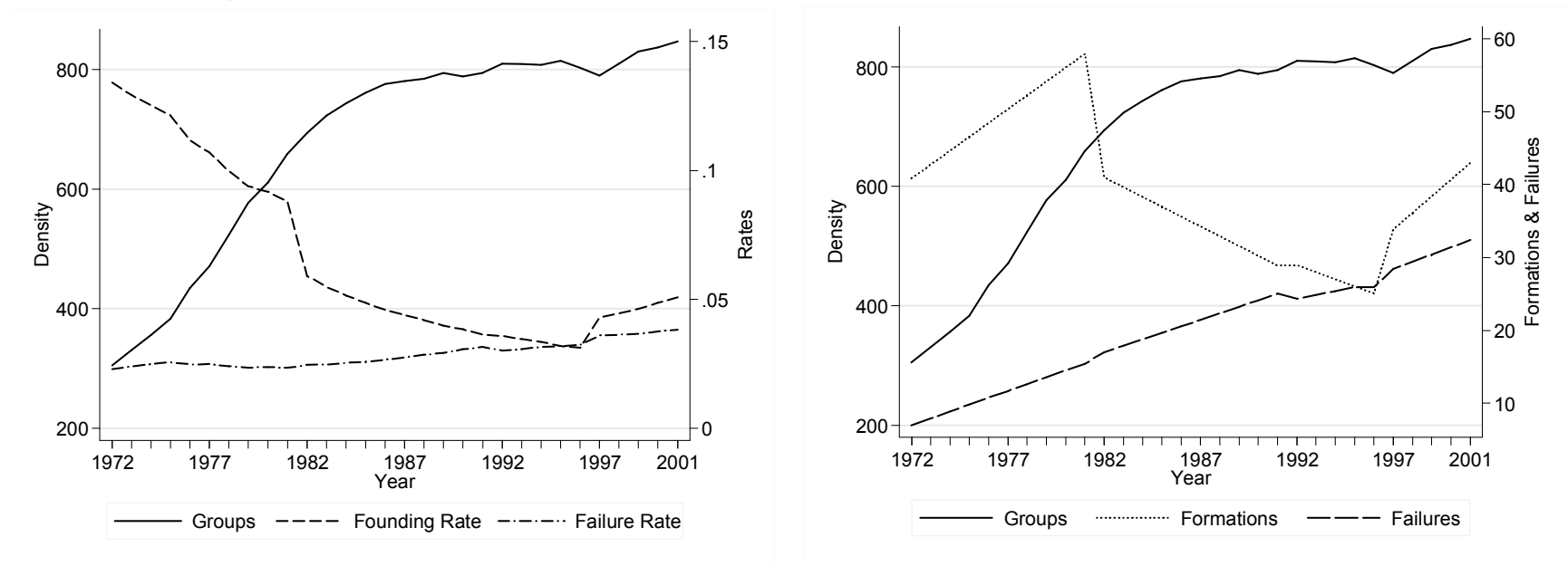


Figure 2.9: Defense Group Density, Founding Rates, Failure Rates, Formations and Failures, 1972-2001

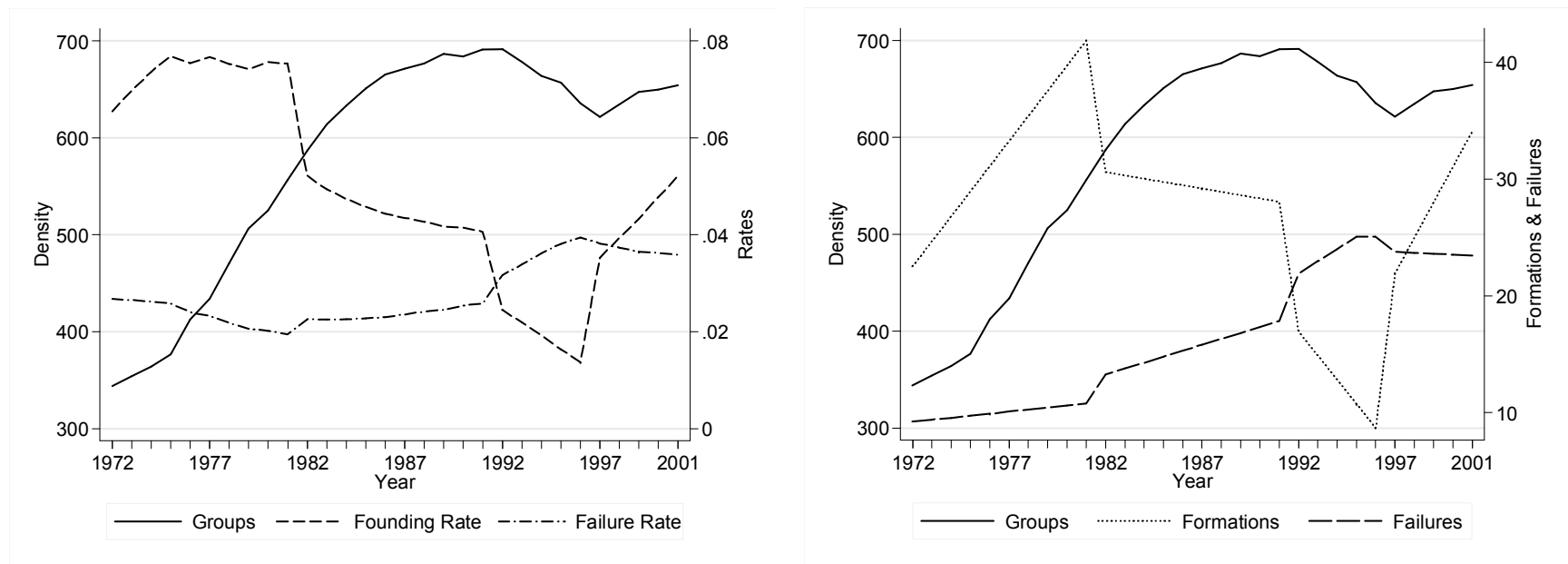


Figure 2.10: Foreign Group Density, Founding Rates, Failure Rates, Formations and Failures, 1972-2001

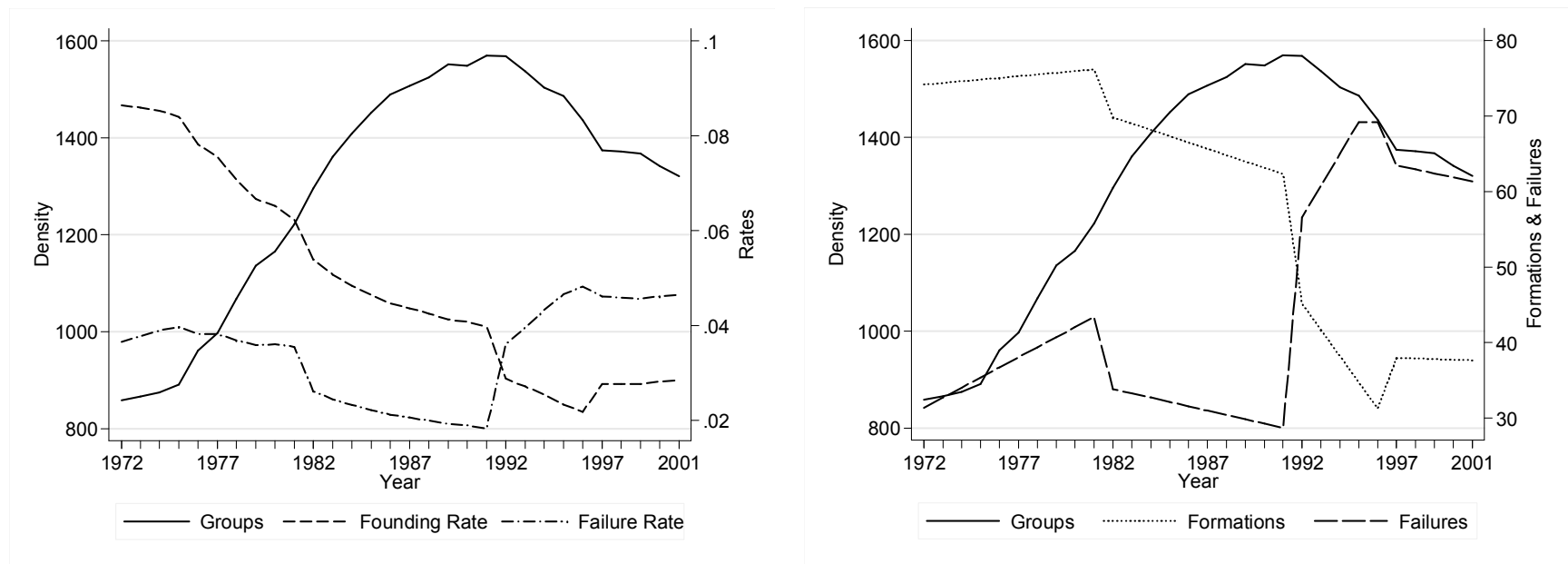


Figure 2.11: Gov't Group Density, Founding Rates, Failure Rates, Formations and Failures, 1972-2001

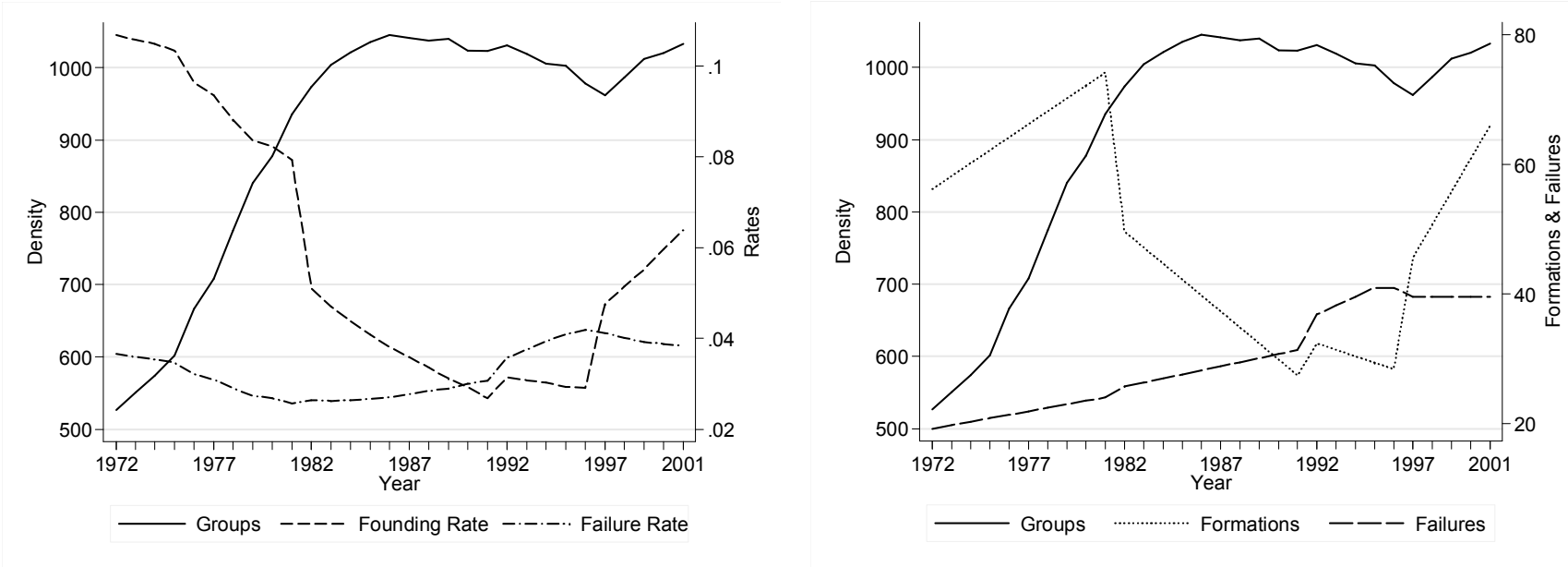


Figure 2.12: Comparison of Group Counts for Public Affairs and All Sections, 1966-1999

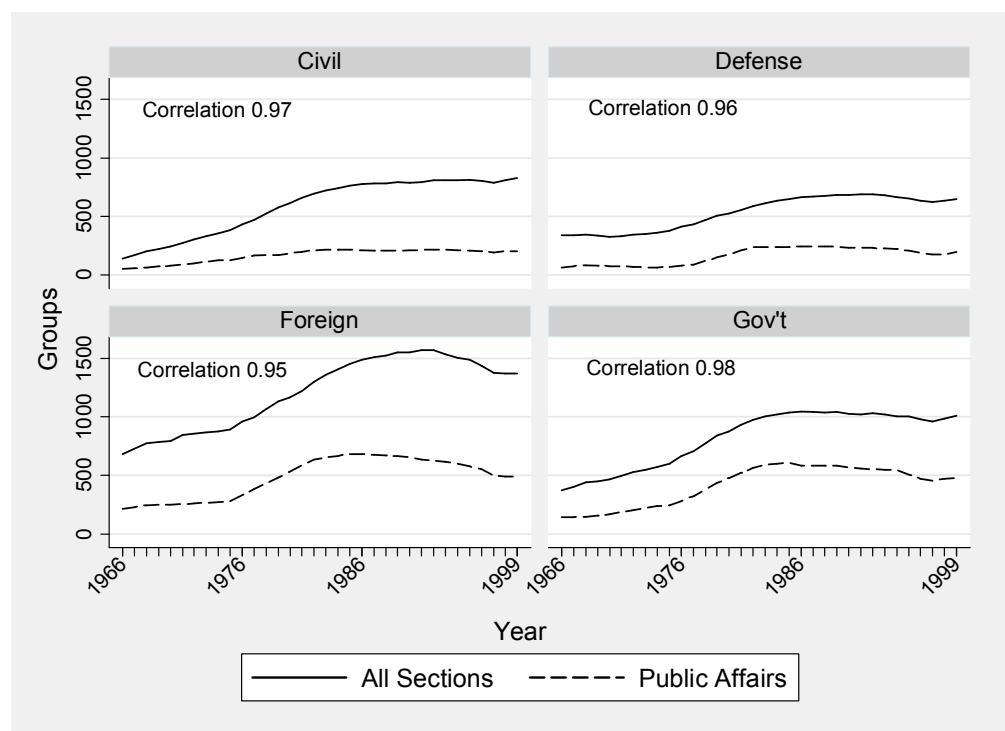


Figure 2.13: Count of Differences between First Entry and Founded Date

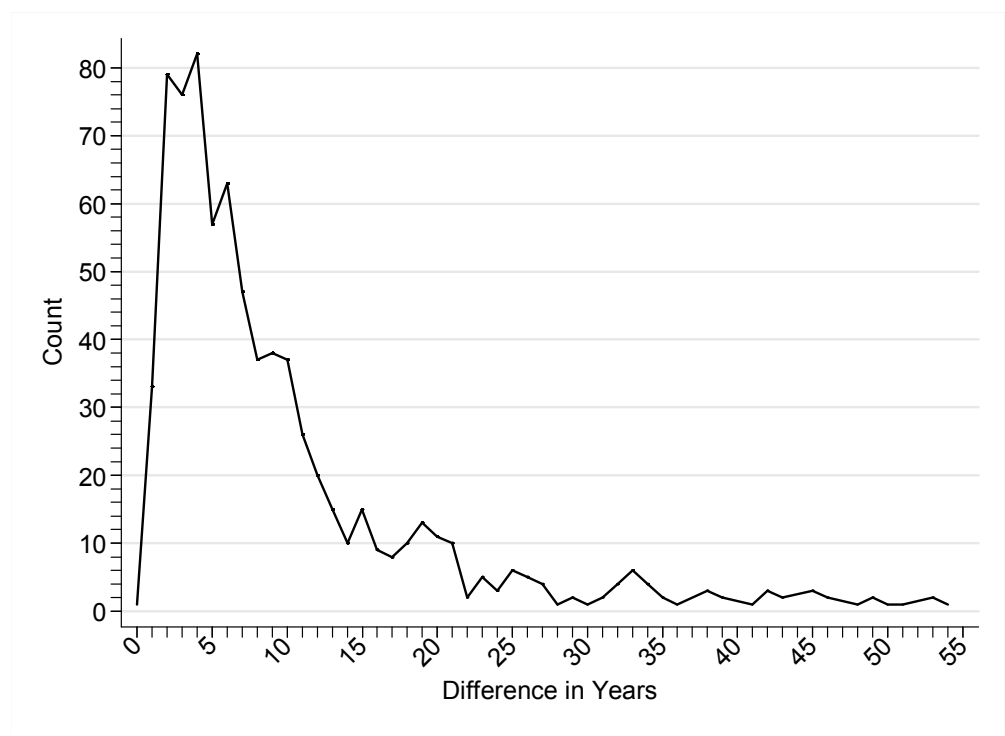


Table 2.2: Summary Statistics on the Differences between First Entry and Founded Date

	Mean	Median	Mode	Min	Max
All Years	10.5 years	6 years	4 years	0 years	129 years
First 10 Years	5 years	5 years	4 years	0 years	10 years

Figure 2.14: Group Updating Time, Continuing Groups

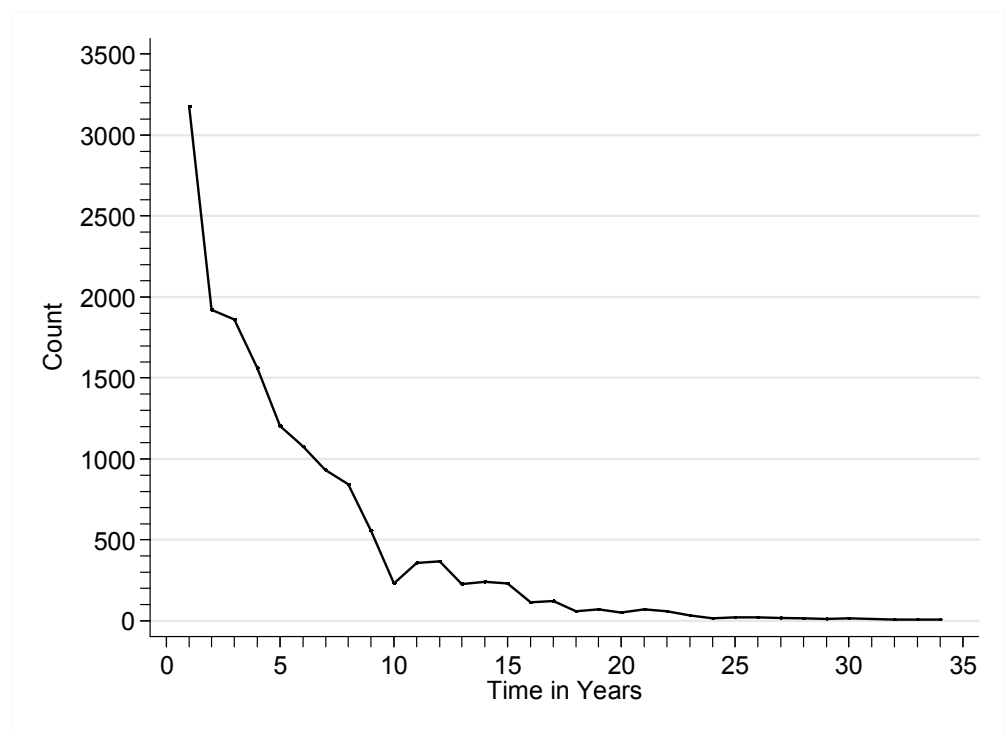


Table 2.3: Summary Statistics on Group Updating Time, Continuing Groups

	Mean	Median	Mode	Min	Max
All Years	5.5 years	4 years	1 year	1 year	34 years
First 10 Years	3.9 years	3 years	1 year	1 year	10 years

Figure 2.15: Group Updating Time, Failed Groups

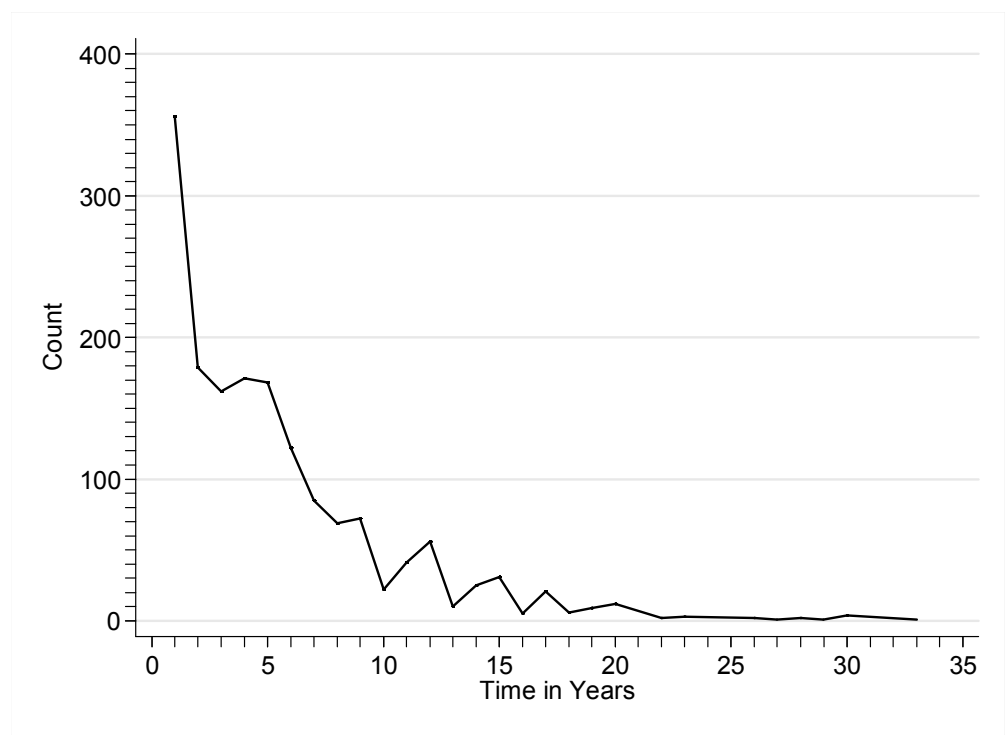


Table 2.4: Summary Statistics on Group Updating Time, Failed Groups

	Mean	Median	Mode	Min	Max
All Years	5.4 years	4 years	1 year	1 year	33 years
First 10 Years	3.9 years	4 years	1 year	1 year	10 years

Chapter 3

Finding Benefit: Explaining Group Formation Rates in the United States

Representation is fundamental to democracy. There is little room to argue that the ability to influence politicians is one of the key tenants of democratic systems. While a great deal of work on representation focuses on electoral behavior asking how and why citizens vote the way they do, far less work considers the how and why of group creation. Alongside and between elections groups function as one of the main means for public representation. Groups further elaborate public preferences and can react to events and other dynamic processes that elections alone cannot address at a quick enough pace. Answering why groups form on issues like the economy, social welfare and defense is key to understanding not just the group system, but also the very nature of representation in a democratic society.

The study of group formation has historically been the domain of the collective action literature that questions how and why some groups form when others do not. One of the key difficulties with group formation is that the benefits of group membership are often shared with nonmembers making the cost of forming or joining a group difficult to overcome (Olson 1965). Many groups do however form due to the various mechanisms that can help offset costs. Entrepreneurs that gain a large benefit from a group reduce costs of membership (Salisbury 1969), different types of benefits can further offset the costs of membership (Clark and Wilson 1961) and groups with small and tight knit memberships can often gain more benefits than similarly focused but larger groups (Olson 1965). The key lesson from the collective action literature is that the benefits of group formation must outweigh the costs for

a group to form rationally (Moe 1980; Hansen 1985; Rothenberg 1988). Understanding the factors that affect group formation is essential to understanding group representation as only those groups that overcome the collective action dilemma are later able to affect government. While advocacy may not be the main focus of every group, most representation beyond elections is expressed through groups.

The main problem that has limited studies of group formation is that very little information exists concerning the groups that did not form. Studying the individual group characteristics of formed groups is both interesting and informative, but does not go far enough. Groups that failed to form may have offered the same benefits and had the same membership characteristics as the groups that did form. A unit of analysis other than the individual group is necessary then to understand the factors that affect group formation. By studying the aggregate group formation rate rather than individual groups, group formation can be looked at as a dynamic process that increases or decreases as the factors affecting group formation change (Gray and Lowery 1995a; 2001). While investigating the group formation rate rather than the formation of individual groups means that group characteristics still fall by the wayside, the effects of other factors from the environment groups face can be better investigated (Hannan and Freeman 1989, Carroll and Hannan 2000).

Despite the value of studying aggregate group formations the group formation rate has largely been ignored in scholarly research because of a lack of good time series data on group populations. This chapter uses new data on national level voluntary associations in the United States from 1972-2001 to start a new direction in group research. To accomplish this, individual level data on newly formed groups is first presented and discussed to provide insight in the characteristics of newly formed groups. The group formation rate by issue is next investigated though the use time series auto-distributed lag models to test the effect of population and environmental level factors on group formation rates. This chapter finds

evidence that the founding rate of associations is persistent, that the founding rate increases as competition amongst groups increases and that increases in environmental resources are related to increased founding rates.

The rest of this chapter takes the following form. First, literatures on collective, interest group ecology, organizational ecology and organizational sociology are discussed in relation to group formation. Next, a series of hypotheses based on these literatures specific to politically relevant national level voluntary associations are presented. Data on individual group characteristics is then discussed and investigated through summary statistics and graphical presentations. Following these descriptive statistics the data used to test this chapter's hypotheses along with the analyses of that data using time series methods are presented. Finally, the chapter concludes by summarizing the results and discussing what these findings mean for representation as well as the type of groups that form on the national level in the United States.

Understanding Group Formation Rates through Group Formation

To understand the group formation rate an understanding of group formation itself is needed making the collective action literature the most logical place to start. The formation of groups has often been called the collective action dilemma as the cost of forming and joining a group is difficult to overcome. The problem of group formation is made more difficult still as the benefits a group provides often affect not just its members, but non-members as well leading to the free-rider problem. That group benefits are often had without paying any of the costs of joining or creating a group makes the choice of whether or not to become a member that much more difficult (Olson 1965). However, groups do form rationally when the calculus of group membership can be overcome by offsetting the costs of joining. Entrepreneurs poised to gain a particularly large benefit from the creation of a group often

offset the costs that potential members face when it is in their best interest to do so (Salisbury 1969). Multiple sources of benefits beyond material wealth can also help offset the costs of forming a group (Clark and Wilson 1961). While particularly focused groups with small memberships related to a particular industry or profession, such as trade unions, can offer members larger material benefits with less conflict (Olson 1965; Schlozman and Tierney 1986).

While there are many avenues to rational group formation the fundamental problem remains the same in that the benefits of group formation must outweigh the costs for a group to form (Moe 1980; Hansen 1985; Rothenberg 1988). The collective action literature primarily focuses on individual group or group membership calculus and solutions to the collective action dilemma also focus on individual group characteristics. However, the calculus of group formation is affected by groups themselves, the group system and the environment it operates in.

Empirical work on interest group formation has focused on how the group system and the environment effects group formations. Finding that changes in the funding system that made groups less costly to form (Walker 1983) and changes to government attention that made interest groups more beneficial to form (Chong 1991; Lowery and Gray 1995) are both significant predictors of group formations. Other work has suggested that formation rates and the associated density of groups is related to revamps of the Congressional committee system that have allowed for greater group involvement in policy-making (Rosenbloom 2000) and changes in technology that have further facilitated organization on a national level (Walker 1991; Berry 1997).

The effect the environment on group formation is the main focus of sociological studies of group formation. Research on social movements, such as the civil rights movement and the anti-war movement during the conflict in Vietnam, focus on the environment groups

face as record keeping and even the bounding of these group populations is often a very difficult task (see Stinchcombe 1965). Organizational sociology has also focused heavily on the environment, in particular how competition for resources affects the group population (Aldrich 1979). More focused studies on trade associations find both strong environmental effects and a level of stability in the population of trade associations over time (Aldrich and Staber 1988). Recent sociological work on groups has retained an environmental focus and includes findings on the environmental impact of violence on ethnic newspapers (Olzak and West 1991) and that changes to regulations have led to the emergence of low-power FM radio stations in large numbers in recent years (Greve, Pozner, and Rao 2006). The common thread in this literature is that the factors that comprise a group's environment can be significant and in some cases the key variable explaining group formation rates.

The formation rate of groups is also affected by the number of existing similar groups and is another important finding concerning group formation rates known as density dependence. Event count models of the formation rate of gay and lesbian rights groups in the United States have found evidence of a curvilinear relationship between group formation rates and the number of existing groups. In small group populations density is associated with increases in the group founding rate up until the point of equilibrium density, then at higher densities the group founding rate decreases (Nownes 2004). Other work has found evidence with shorter time series and more cross-sectional data that high population densities decrease group formation rates although this effect is conditional on the composition of the group system, with certain types of groups more negatively affected by higher densities (Gray and Lowery 1995a; 2001).

Work in organizational ecology on the formation rate of firms has focused heavily on density dependence and the persistent nature of the group founding rate itself (Hannan and Freeman 1989, Carroll and Hannan 2000). Partly this focus on the self-regulating nature of

group populations is born out the data as longer and more complete time series data has allowed organizational ecology scholars to more completely model the relationship between density and founding rates finding strong evidence of a curvilinear relationship. Specifically, that at low levels of density founding rates are high, but as density increases and nears equilibrium founding rates are lower. Any population that is density dependent has a carrying capacity beyond which more members of the population cannot reliably survive in the environment and under which the environment is not being fully utilized (Pianka 1972; Odum and Barrett 2004). To maintain equilibrium group populations in a relatively stable environment the founding and failure rates of groups must remain relatively stable as well. This stability driven by the density dependence of groups leads to a persistent association founding rate and means that one of the best possible predictors of the current founding rate is the previous founding rate.

The persistent association founding rate suggested by density dependence has another mechanism as well as groups do just magically appear because there is space for them in the environment. When Salisbury (1969) first introduced the notion of entrepreneurs to group formation he recognized them as a means to offset the costs of group formation when the benefits for the entrepreneur were significantly great. While these benefits can be material, they can also be selective or purposive increasing status or backing a selected ideology or policy (Clark and Wilson 1961; Wilson 1995, p. 196). Indeed as Jordan and Halpin (2004) found in their work on small businesses material as well as other benefits both explain the involvement of entrepreneurs in groups. The costs entrepreneurs face when forming a group decrease when there is space in the environment for new groups, but that how much space exists at any point is unknown. However, due to the persistent nature of groups and density dependence entrepreneurs are able judge how many new groups can be formed in the current period based on how many successfully formed in the previous period. Through

entrepreneurs using this information about the previous formation rate the resulting formation rate is made persistent and closely tied to its previous value.

The formation rate of groups is a function of three main factors, individual group traits, the environment that groups face and the population traits of the group system. While individual group characteristics are important to determining if any single group will form, very little information exists concerning the groups that did not form. Without data on the groups that did not form, testing the casual relationship between individual group characteristics and group formation cannot be made reliably. As such this chapter reports, but does not test individual group characteristics on group formation.⁵

Unlike individual group characteristics, the environment and population traits of groups both provide variation in relation to the group founding rate. By analyzing the formation rate of groups changes to the environment and population traits of groups can provide strong statistical inferences concerning aggregate group formation. The group formation rate then depends on the environment that groups face (Walker 1983; Chong 1991; Lowery and Gray 1995; 2001; Greve, Pozner, and Rao 2006), density dependence (Hannan and Freeman 1989; Gray and Lowery 1995a; 2001; Nownes 2004) and the persistent nature of group founding rates (Pianka 1972; Hannan and Freeman 1989, Carroll and Hannan 2000; Odum and Barrett 2004).

The next section discusses several hypotheses based on these theoretical insights relating to voluntary associations. This chapter uses data on national level voluntary associations in the United States that represents a sample of national level politically relevant

⁵ While it is possible to test how differences in the average levels of individual variables affect the formation rate cross-sectionally and over time this is still misleading. For example, while it may be the case that less groups form when the groups that do form have fewer resources, it does not necessarily mean that less resources were available for groups. Due to the convoluted nature of any inferences that could be drawn from testing the effect of individual group characteristics on the group formation rate no attempt at these sorts of analyses is made in this paper.

groups, in other words groups that deal with the same issue areas as government. Voluntary associations represent a more complete sample of the groups that engage government than the traditional definition of interest groups as many groups affect and are affected by government whose purpose is not advocacy alone (Sabitier 1992; Gray and Lowery 2000).

Hypotheses

The founding rate of voluntary associations by issue area goes beyond collective action. Groups have various levels of resources, different memberships and distinct goals all of which affect their ability to form. While studying the attributes of successfully formed groups on an individual level is informative these statistics cannot assess the attributes of those groups that failed to form. Measuring the associations that did not form is a very difficult task especially over time as not only is information on groups that failed to form hard to gather, but determining how to bound the population of nearly formed groups is a tough theoretical and empirical question that can have large effects on any inferences. A suitable alternative path to understanding the formation of groups is to consider association founding rates. This section discusses two sets of hypotheses concerning the founding rate of associations. Namely, how group population traits regulate association founding rates and how the environment potential groups face effect association founding rates.

Population Level

The founding rate of associations by issue area is a persistent process where one of the best predictors of the current founding rate is the previous founding rate. Group formation is a continual process where some associations form faster than others. As such, group founding rates exhibit inertia and occur continuously. Furthermore, voluntary associations are density dependent and as such have a carrying capacity based on their environment. When

the population density of groups is in equilibrium, group founding and failure rates must remain relatively stable in order to maintain that equilibrium. It is possible that the founding rate under and over corrects itself over time, such that high founding rates in the previous year are associated with lower founding rates in the current year. However, a stable and continual process of group formation is more likely when considered in combination with the inertia behind group formation. This density dependent process is in many ways controlled by the entrepreneurs that form groups as they recognize that in general a similar number of new groups can be formed in every year and use the previous year's formation rate to judge how many groups to form in the current year. Due to the persistent nature of founding rates the founding rate of associations in the previous period will therefore have a positive effect on the founding rate in the current period.

H1: The previous year's founding rates will have a positive effect on the current year's founding rates.

Density dependence is clearly an important characteristic of group populations and how they self-regulate. Density dependence as a concept states that the founding rate of associations is in part determined by the number of similar groups that currently exist. At low population densities founding rates are higher as groups form to take up the available space. However, once equilibrium density is reached founding rates decrease as groups only form to maintain the equilibrium population density by offsetting the group failure rate (Hannan and Freeman 1989; Gray and Lowery 1995a; 2001; Nownes 2004). Another way of thinking of this is that more groups form when the competition between groups is limited and new groups are needed to reach the environmental carrying capacity. At or near the equilibrium population density group competition increases as different groups vie for the same

environmental territory. This increase in competition means that new groups do not form in order to increase the population density of groups, but simply to replace those groups that fail because of competition. Therefore, competition amongst groups has a stronger effect on group formation rates during periods of equilibrium population densities than density dependence. The population of groups investigated in this chapter is quite stable for the majority of the 1972-2001 period and as such density dependence does not play as significant of a role in the group founding rate as competition. Measuring the degree of competition between groups is not a particularly easy task, but a proxy that also operates on the population level exists, the failure rate of groups in the previous year. Increases in completion measured as an increase in the group failure rate has a positive effect on the current founding rate.

H2: The previous year's failure rate of associations by issue will have a positive effect on current founding rates.

Environmental Level

The formation rate of groups is also affected by the environment that groups face with the environment affecting all groups in similar ways. As latent interest groups, voluntary associations are highly dependent on the political environment. In particular group formations are affected by the level of government attention to an association's chosen issue.

Government attention to the issue a potential group is concerned with gives that group further reason to form. While it is true that existing groups are more likely to affect government (Hansen 1991) and are better able to act on policy windows that attention provides (Kingdon 1995) continued attention to an issue also alters the calculus of group formation by increasing the potential benefits of participating in the political debate. The debate itself further

increases the carrying capacity of the group system by allowing more groups to form and exist than before. Government attention leads to increases in the possible benefits of formation and the equilibrium population density. Therefore, high levels of government attention to an issue further increase the formation rate of associations concerned with that issue.

H3: Increased government attention has a positive effect on association founding rates by issue.

Government action has a similar effect on group formation rates as government attention. While government attention indicates the potential for increased benefits when forming a new group, government action sends the same signal to potential groups with increased certainty. Government actions in line with group goals show that government is willing to act and directly feeds into group benefits. Furthermore, government action counter to the goals of a potential group can encourage counter mobilization by increasing the costs of not forming in an attempt to revert the changes that have already occurred (Leech et al 2005). Government action can also create new specialties for existing group populations, such as the new issues related to social welfare stemming from Johnson's Great Society that helped motivate a large growth in social welfare groups perpetuated by the founding of new associations (Schulman 1995). Therefore, government action can further increase the carrying capacity of the group system well beyond government attention, as government action can create entire new venues for group activity within issues. Government action on an issue therefore serves to increase the founding rate of associations by issue.

H4: Increased government action has a positive effect on the founding rates of associations by issue.

The public as individuals or as groups make up the membership of associations. Increased public attention increases the carrying capacity of the group system as more potential members become available for the formation of new groups. For example, the level of public attention to the Iraq War has clearly led to an increase in the number of groups interested in defense. Furthermore, while government attention can and does occur over a host of issues at any one point in time the public agenda tends to be more narrowly focused on specific issues and can therefore lead to a greater increase in the carrying capacity of the group system than government attention. Since the public make up the membership of groups and given the directed focus of public attention increases in public attention increase the founding rate of associations by issue.

H5: Increased public attention has a positive effect on the founding rates of associations by issue.

Available resources also have a large effect on the founding rate of associations. The creation of voluntary associations is luxury that is not as important to most members of the public as necessities, such as food, shelter and even other luxuries like entertainment. However, when the public has a large amount of disposable income associations form on the full gambit of issues that government deals with as people's other needs can also be met. Variation does occur as more popular associations and those involved in more important issues are the first groups to form when resources are high, but the total effect on associations due to increased resources is positive across issues (Hannan and Freeman 1989; Carroll and

Hannan 2000; Greve, Pozner, and Rao 2006). Changes in the available public resources further affect the carrying capacity of the group system as groups are made up of individuals that must determine whether or not being part of a group is in their interest. When individual resources decrease other priorities tend to outweigh the potential benefit from joining a group. However, during times of economic prosperity when individuals have more disposable income the luxury of membership in an association increases and more groups are able to form. Therefore, as environmental level resources increase so does the founding rate of associations.

H6: Increased environmental level resources have a positive effect on the founding rate of associations.

The next section discusses data on individual group characteristics for newly formed groups and summarizes these characteristics through a series of figures and summary statistics.

Data – Individual Group characteristics

To investigate newly formed groups and the founding rate of groups, two sets of data are used in this chapter both from the Encyclopedia of Associations Project. The first is the public affairs dataset that has been coded in greater detail and allows for a summary of individual group traits for newly formed associations in four different well represented issue areas. These four issue areas include: Civil Rights, Minority Issues and Civil Liberties;

Defense; International Affairs and Foreign Aid; and Government Operations.⁶ A summary of individual level group characteristics for groups that have formed in each year is presented in the next subsection through a series of figures and tables. This provides details about the types of groups that have formed over time and is presented for every three to five years from 1982 to 1998. This spacing is due to how the dataset was gathered and means that this set of newly formed groups includes groups that have formed anywhere between one and five years previously.⁷

Individual level group characteristics are mostly measured as a series of dummy variables and are coded 1 for the presence of an characteristic and 0 otherwise. Many different characteristics could be coded from the *Encyclopedia*, but for the purposes of this chapter only those characteristics that relate to the literatures discussed concerning group formation are presented. For instance, while it may be interesting to know how many veterans groups formed in each year this sort of group characteristic is not directly linked to the group founding rate as discussed in this chapter and is therefore not investigated.

The first of these dummy variables, group government action, measures if a group engages in government advocacy as determined by the description of group activities contained in the *Encyclopedia*. For politically relevant groups, engagement in government action affects their ability to form through an increased likelihood of obtaining benefits. The next dummy variable measures if a group has a professional membership. This variable is also coded based on the group descriptions contained in the *Encyclopedia* that clearly

⁶ In the version of the dataset used in this paper's analyses the issue code for Ideological, Social Cause and Political Groups, which are also consistently listed in this section has been combined with Government Operations to match the other Policy Agendas Project data as is prescribed by the Encyclopedia of Associations Project codebook.

⁷ While the data used in this section was gathered for every 2 to 3 years, only those years where the preceding year was also coded are used. This ensures that the newly formed groups included in this data were first added to the *Encyclopedia* at the observed time point.

indicate if group memberships consist of doctors, journalists, retired military personal or other professional groups that increase benefits and decrease conflict making group formation easier. A final dummy variable measures whether not a group is formed inside the beltway, determined by a District of Columbia mailing address. As the population of associations investigated in this chapter focuses on politically relevant national level associations, most of these groups are likely to be located where they can best affect national government.

Group resources are the primary determinate of whether or not a group forms as resources speak directly to costs. The resource information presented in the *Encyclopedia* is generally self reported by groups and is spotty at best. It does however contain information on group budgets, membership numbers and staff for many groups. A series of figures in the next subsection presents an overview of each of these measures overtime for those groups presenting such information.⁸ Since the *Encyclopedia* does not consistently report this information for all groups and even fewer groups present data on all three resource measures a resource index variable is also investigated.

This index of group resources assumes that since groups choose whether or not to report resource information that no information on any of these resources is informative. Furthermore, the index also assumes that reporting different levels of resources for one of more resource variables indicates a certain level of group resources overall due to the correlation between each of these resource measures. The resulting categorical variable formed from this index is coded 0 when no resource information is reported by a group. The variable is coded 1 if some resource information is reported, but less than the resources required to be coded as level 2. Is coded 2 if staff is greater than 10, and/or if membership is

⁸ Almost none of the missing data on resources are true zeros and may be due to group secrecy as much as low resources. They are therefore treated as missing data for the purposes of the individual resource figures.

greater than 10,000, and/or if the reported budget is over \$100,000, but was less than the resources required to be coded as level 3. Finally, this variable is coded 3 if staff was greater than 100, and/or if membership is greater than 100,000, and/or if the reported budget is over \$1,000,000.

The next subsection presents summary statistics and graphical inspections of the above individual group characteristics for the sample of groups contained in the public affairs dataset of the Encyclopedia of Associations Project. This is presented not as a test of any of the hypotheses listed in this chapter, but instead to give as sense of the characteristics possessed by associations formed during this period.

Summary of Individual Group characteristics

The characteristics of newly formed groups are the logical place to start when considering the group founding rate. However, the lack of data on groups that failed to form severely limits the inferences that can be drawn concerning the relationship between these variables and group formation. This data serves to provide context for the groups that exist in the system and not as a test of this chapter's various hypotheses. Table 3.1 presents summary statistics of group government activity, professional membership and a location inside the Washington, D.C. beltway for newly formed groups in the public affairs section for every three to five years from 1982-1998.

[insert Table 3.1 about here]

A quick look at the percentages of newly formed groups that possess each of these individual group characteristics shows persistence in the number of groups with each characteristic over time. While the number of newly formed groups fluctuates the percentage

of groups that have each individual characteristic remains relatively stable. This is not surprising. While these and other group characteristics, such as resources, are important for individual group formation there is no reason to believe that the collective action process and the characteristics of newly formed groups would change much from year to year. However, in 1998 a possible downward trend in the number of new groups with each of these characteristics is observed. Changes to the environment groups are facing and/or the existence of a stable equilibrium group density could in part explain this shift in conjunction with the low number of newly formed groups in 1998 when compared to the other years. Despite the slight variation in these characteristics late in the period it seems safe to say that these group characteristics remain relatively stable for newly formed groups over time.

Group resources are no doubt one of the most important individual level group characteristics affecting formation as resources allow groups to pursue their goals and help them overcome the costs of collective action when a group is first forming. Three key resource variables are listed in the *Encyclopedia of Associations*: membership, staff and budgetary numbers. Figures 3.1-3.3 present membership, staff and budgetary information excluding missing data in the form of boxplots for every three to five years from 1982-1998. Boxplots show the minimum, maximum, lower quartile, upper quartiles and median for each of these resource measures allowing for a quick visual comparison of the values and variation in these resources in each observed year. As some groups occasionally possess very high membership, staff or budgetary numbers these plots have excluded extremely large outliers to assist in their presentation.

[insert Figures 3.1, 3.2 and 3.3 about here]

Figures 3.1-3.3 also demonstrate persistence in group resources is also observed. Specially, membership and staff numbers at each observed time point are relatively consistent for newly formed groups. While there is variation in the maximum values for each of these characteristics, there is a large degree of similarity over time particularly when it comes to the median value for each for these two resources. Group budgets on the other hand have seemingly increased overtime. In part this is because the reported values, rather than constant dollars have been used in this figure, but inflation alone cannot explain this large uptick in the reported resource information for newly formed groups. Reforms to how lobbying groups report their spending during this time is one likely explanation for the change in reported resource information for newly formed groups as changes to lobbying rules have forced engaged groups to keep better records of their budgets and this more detailed recordkeeping has likely transferred to the data listed in the *Encyclopedia of Associations* (Baumgartner et al 2009).

The resource information contained in the *Encyclopedia* is however incomplete with the majority of groups listing only partial or even no resource information across the three resources variables. In line with the discussion in the data section an index variable that measures no, low, medium and high resources based on a combination of these three variables is presented in Table 3.2.

[insert Table 3.2 about here]

Similar to the other statistics presented in this section there is persistence in the resource index adding validity to the measure given the persistence of its component parts. In Table 3.2 it is worth noting that there are fewer newly formed groups that fall under the no resource category than under the low resource category, but that far more groups with

relatively low levels of resources form than would be expected given theories of rational group formation. As with the other individual group characteristics the persistence of the resource index over time suggests that the characteristics of newly formed groups do not change much from year to year.

Group populations and in particular the environments they face are however much more likely to change from year to year. The next section presents the population and environmental level data used to test the hypotheses developed in this chapter.

Data – Population and Environmental Level Factors

Group Formation Rate

Dynamics in the group formation process can be investigated on an aggregate level in relation to the population of groups and the outside environment. In other words, studying the group formation rate can provide a great deal of insight into why groups form given the outside world. The second set of analyses in this chapter focus on testing the population and environmental level hypotheses developed in this chapter. This is accomplished through time series analyses of the group founding rate by year for the entire Encyclopedia of Associations Project dataset across all issues that government deals with for the period 1972-2001.

The dependent variable in these analyses is the founding rate of groups by issue, year.⁹ This number is the number of new groups that were formed in each volume of the *Encyclopedia* by issue divided by the total number of groups also by issue in each year. The founding rate is dependent on the number of groups already involved in each issue area. For example, while fifty groups may have been formed in 1980 and 1990 on a particular issue differences in the total number of groups involved in the issue in those two years leads to

⁹ For the statistical analyses this measure is multiplied by 100 for purposes of interpretation, but this does not alter any inferences. The same is done for the lagged failure rate.

different founding rates. The use of this measurement of the group founding rate allows for a better comparison across issues than a raw count of newly formed groups as an increase of one hundred groups in two issue areas has a stronger effect representation in the area with fewer groups.

Methods

To test the hypotheses listed in this chapter on group founding rates by issue and over time, time series and time series cross-sectional analyses are both used. For the nineteen major topics that government deals with according to the Policy Agendas Project coding scheme (see Table 2.1) variation in the founding rates by issue is sure to occur. However, the population and environmental factors that affect founding rates should operate in the same manor for each of these issues. While some evidence suggests that group populations separated by issues have different economies of scale responding to environmental pressures at different speeds the direction of those effects remains the same (Lowery et al 2005). Furthermore, as each hypothesis is nonspecific to any particular issue pooling all groups into a single time series cross-sectional analysis of group founding rates is a valid method to test for common patterns in the formation rate of voluntary associations generally. Therefore, both time series auto-distributed lag (ADL) models for each issue and a time series cross-sectional auto-distributed lag model for all issues pooled into a single sample are tested in this chapter. ADL models employ a lagged version of the dependent variable as a control or independent variable on the right hand side of the equation as a means of dealing with serial autocorrelation. Model specification tests of the founding rates for each issue suggest that the

use of an ADL model is appropriate.¹⁰ Furthermore, an ADL model is a well established means for testing hypotheses concerned with group formation rates.

Population Level

The founding rate of groups is in part a self regulating process dependent on other group population traits. Group founding rates themselves are persistent with one of the best possible predictors of the current founding rate for groups being the previous founding rate. The persistent nature of group founding rates is caused by the inertia of group formations over time as well as the nature voluntary associations as density dependent population. As a density dependent population voluntary associations have an equilibrium population density and in order to maintain that equilibrium the founding rate of voluntary associations must remain relatively stable a process led by the actions of entrepreneurs that consider this persistence when calculating how many groups to form in the current year. A lagged founding rate variable is included in the model to test H1 that the previous year's founding rate has a positive effect on the current year's founding rate. This variable also serves to address the time series nature of the founding rate series.

The founding rate of associations is further regulated by the degree of competition amongst groups. Higher group densities increase competition; however, in a largely stable population a more accurate measure of the level of competition amongst groups is the group

¹⁰ Panel unit root tests and unit root tests for each individual panel suggest that the founding rate and the count of group formations are both unit roots across all issues. However, given the knife-edge nature of these tests and the inherent persistence introduced to these measures through the imputation process this result is questionable as unit root tests cannot easily distinguish between integrated data and highly autoregressive data especially over a short time period. Alternative analyses employing an error correction framework to address the possible unit root problem produce the same general inferences as the ADL model presented in this chapter. The exception relates to H1. An autoregressive process as tested in this chapter suggests that entrepreneurs are heavily informed by the previous founding rate in their decision to form new groups in the current period. An integrated process suggests that entrepreneurs collectively have perfect memory producing the same founding rate in each year with some error. As the results are otherwise consistent and an autoregressive founding right is more likely theoretically the ADL model is used in this chapter.

failure rate. To account for this and to test H2 that failure rate of associations in the previous year has a positive effect on the current years founding rate, a measure of the failure rate of associations by issue area is included in the model.¹¹ This variable has been constructed in the same way as the dependent variable as the number of group failures divided by the total number of groups by issue.

Environmental Level

National level voluntary associations engaged in the issues that government deals with are politically relevant and the founding rate of these groups is most likely to be affected by both political and public factors on the environmental level. The environment that potential groups face is based on the levels of action and attention of other actors on the issues they deal with. This chapter uses measures of government action, government attention and public attention from the Policy Agendas Project that follows the same issue based coding system as the Encyclopedia of Associations Project as well as data on public resources to test the four environmental hypotheses listed in this chapter dealing with group formation rates.

Government attention to an issue can come in many different forms, such as speeches like the State of the Union address or commemorative legislation that can do anything from express concern over a disease outbreak overseas to the naming of federal buildings. On the national level Congressional attention is generally the most influential as Congress is charged with national level policy and contains representatives from each state and territory within the United States. Given its purpose and make-up Congress is the most likely to be attended to by the public and the associations they form and congressional hearings provide both a tool and a means for Congress to signal its concern over issues. To measure Congressional attention

¹¹ A contemporaneous failure rate was also tested in place of the lagged value and led to positive, but insignificant results. Suggesting that founding rates adjust based on only what has happened and not what might happen in the group system.

the number of hearings on each issue is divided by the total number of hearings in each year, resulting in the percentage of hearings by issue, year. This measure is used to test H3 that increases in government attention to an issue increases the founding rate of associations involved in that issue. The percentage of hearings on an issue increases when Congress sees a problem, wants to make changes to policy or when it simply wants to indicate concern over an issue.¹²

Like government attention, government action can be measured in several ways, such as bureaucratic mark-up or executive orders. However, also like government attention Congressional action should be the most important on the national level due to the purpose and the make-up of Congress itself. To measure Congressional action the number of statutes on each issue is divided by the total number of statutes in each year, resulting in the percentage of statutes by issue, year. Statutes are additions and changes to the law representing the final direct action taken by Congress on each issue.¹³ This measure of government action is included in the analyses as a test of H4 that government action on an issue increases the founding rate of associations involved in that issue.

The level of public attention to an issue is best measured as the level of salience on that issue, as salience measures how prevalent an issue is in the public's mind and therefore the level of public attention. To measure issue salience the Policy Agendas Project's random sample of the New York Times Index was used. Specifically the number of sampled stories

¹² An alternative measure of government attention was tested in place of Congressional hearings. This measure State of the Union mentions highlights the presidential agenda for the year ahead. Calculated as the number of policy mentions by issue divided by the total number of mentions in each year, resulting in the percentage of presidential attention by issue, year. The use of this variable generally led to slightly poorer fitting models and was insignificant.

¹³ Like with government attention, an alternative measure of government action was also tested in place of Congressional statutes. The percentage of executive orders by issue year was used as a measure of presidential action. Executive orders make law and are the primary means through which the president can take action separate from Congress and other government actors. This measure demonstrated consistently positive, but insignificant results.

on each issue was divided by the total estimated number of stories present in the index in each year resulting in the sampled proportion of stories by issue, year.¹⁴ This measure is further multiplied by 100 to assist in interpretation due to the way that it has been constructed. Media attention is logically tied to public attention as the media affects and is affected by public attention meaning that increases in media attention to an issue in the sample are related to increased salience and public attention. Public attention is included in the analyses as a test of H5 that increased public attention to an issue leads to an increased founding rate for associations involved in that issue.

Resources also affect the founding rate of associations on the environmental level. This chapter focuses on environmental level resources that affect all associations, rather than resources that affect associations on an issue by issue basis. Given that voluntary associations are made up by members of the public it is the public's own resources that are the most likely source to affect the formation of voluntary associations generally. To capture the relationship between public resources and group formation the change in GDP per capita in constant dollars is used. The two variables that comprise this variable, GDP and the population of the United States, generally increase over time leading to an integrated series for both as well as in the resulting combination GDP per capita. This makes the raw GDP per capita an inappropriate measure for the effect of environmental resources on association founding rates. However, by differencing this measure fluctuations in the amount of disposable income for possible members is captured. The change in GDP per capita is included in this chapter as a test of H6 that increases in environmental level resources lead to an increased association

¹⁴ This measure was used instead of a proportion based on the total sample size in each year as the number of stories present in the New York Times index has changed based on changes to the format of the New York Times itself as well as other factors. Using a version of the variable based on the proportion of stories in the total sample size led to insignificant results, but did not alter the model's other inferences.

founding rate. Associations are a luxury to most people and the formation of groups is dependent on level of disposable income available to possible members.

Each of these environmental variables is tested both contemporaneously and with a one year lag in separate models. The formation of new groups is not an instantaneous process suggesting the use of lagged environmental variables. However, the final decision point for forming or not forming a group occurs only once and means that the current environment may in fact be the most important when it comes to group formation.¹⁵

Controls

Inspection of each of the individual founding rate series further revealed a common pattern for the majority of all issues as is evident in Figure 3.4. This pattern is closely associated with the growth and equilibration process that the population of groups by issue each experienced. Specification tests revealed that this pattern is tied to negative density dependence where higher group densities lead to lower group formation rates. Controlling for the density of groups by issue was sufficient to address the pattern and remove any residual autocorrelation from the analyses.¹⁶

[insert Figure 3.4 about here]

¹⁵ A lag of one year in this case is in reality a lag of five years from the reported copyright date of the *Encyclopedia of Associations* as the analysis of differences in reported founding rates and update times indicated a four year lag between the reported copyright year and the actual year each volume represents. For a more detailed investigation and discussion of this finding see Chapter 2.

¹⁶ Density dependence is generally theorized to be curvilinear, with low group counts tied to high founding rates and with founding rates decreasing as the group system nears equilibrium. In the case of this data as founding rates have already begun to decline the test of this general hypothesis and the use of a curvilinear population density variable are inappropriate. A version of the analysis testing for curvilinear density dependence led to much poorer fitting models, but led to the same general inferences for each of the independent variables in the model.

Theoretically there is no difference in how group formation rates react to the population and environmental level variables presented above based on issues. Group formation rates will however differ on average by issue as the general goals of each issue area and other unaccounted for factors will lead to separate equilibrium processes. Therefore, in the time series cross-sectional model that pools all issue areas into a single analysis fixed effects by issue area are used to control for the average founding rate of associations by issue with government operations as the omitted category, as it both represents one of the largest issue areas and it remains relatively stable over time.¹⁷

The next section presents time series analyses of the group formation rate by issue following from the hypotheses developed in this chapter.

Analyses

Table 3.3 present time series analyses of group formation rates for each of the issues that government deals with using lagged environmental variables. It further presents a time series cross-sectional analysis that tests these same hypotheses on group formation rates with all of the groups by issue area pooled into a single model (with fixed effects by issue omitted from Table 3.3).

[Insert Table 3.3 about here]

The results in Table 3.3 are mixed both in terms of the hypotheses presented in this chapter and across issues. For nearly all issues and in the pooled model the lagged founding rate variable is positive and significant indicating that the founding rate by issue and for

¹⁷ Using other issues as the omitted category had no effect on the coefficients for independent variables contained in the model.

associations is persistent in line with H1 that the previous year's founding rate has a positive effect on the current year's founding rate. In trade the coefficient for the lagged founding rate is greater than 1, which suggests an explosive time series process where a high founding rate in the previous year leads to an even higher founding rate in the current year. However, the removal of this or any of the other individual panels from the pooled model does not alter any of the inferences drawn from Table 3.3. Finally, the calculation of the long run equilibrium for the pooled model reveals that on average each year consists of 3.36% new groups and further indicates that the formation of new groups is persistent, but a small share of the overall number of groups in each year.

The results for the lagged failure rate are a mix of both positive and negative values for each of the individual issues and are significant or approach significance in several cases. The coefficient for the lagged failure rate is positive and significant for the pooled model. These results offer mixed evidence for H2 that increases in the failure rate of groups increase the founding rate of groups by issue. This finding suggests that a common positive effect of the lagged failure rate exists across all issues and that new groups are founded in competitive environments to replace failed groups.

Lagged government attention which is positive, but insignificant in the pooled model receives only minor support with positive and significant coefficients in the areas of energy and trade. The remaining issue areas are insignificant with both positive and negative coefficients. These findings provide no evidence for H3 that increases to government attention increase the founding rate of groups.

Similarly weak results are found for government action with a positive, but insignificant coefficient in the pooled model. Two significant, but negative coefficients in agriculture and defense for government action are also found. Combined these findings

provide no evidence in support of H4 that increases in government action increase the founding rate.

The results for the lagged public attention variable included as a test of H5 that increases in public attention increase the founding rate are mixed as are the results for the environmental resources that tests H6 that increases in environmental resources increase the founding rate. Both are positive and marginally significant in the pooled model, but are a mix of positive and negative for individual issues with the only significant result being a negative coefficient on public attention for the economy. While these results provide little evidence in support of H5 and H6 they do suggest that positive relationships for public attention and environmental resources may exist for groups generally following some other time series process.

The results for the density control variable generally match expectations. The coefficients for this variable are significant in several of the individual issue areas indicating that founding rates decrease as the population of groups increases in line with Figure 3.1. In the pooled model the coefficient is also negative and significant (-0.0004*). The constants across each of the individual models also match expectations in that there is a great deal of variation between them. This is further supported by specification tests concerning the fixed effects (omitted from Table 3.3) that demonstrate that there is variation in the founding rate by issue. These differences in the base founding rates indicate that the equilibrium founding rate by issue also varies.

The mixed findings for the independent variables included in this model across issues and in the pooled analysis may have more to do the lag structure of the independent variables than the validity of this chapter's hypotheses. As discussed in the data section groups take time to form suggesting that lagged environmental variables would be the most appropriate to test this chapter's hypotheses. However, the decision point for forming a group only happens

once and may occur in the current environment. Table 3.4 replicates the analyses in Table 3.3, but instead uses contemporaneous environmental variables.

[insert Table 3.4 about here]

In Table 3.4 the results for the lagged founding rate and lagged failure rate offer similar evidence to the analyses in Table 3.3. The significant and positive coefficients for both variables in the pooled model offer support for both H1 and H2. In the pooled model using contemporaneous variables the long run equilibrium founding rate is 3.20% again supporting persistence, but demonstrating that the number of new groups in each year is a relatively small percentage of the total number of groups. Also similarly to the previous analyses government attention is positive and insignificant in the pooled model providing no support for H3.

The remaining environmental variables, government action, public attention and environmental resources all have positive and significant coefficients in the pooled model. However, the coefficient estimates for these variables on individual issues are quite mixed with few significant results although they are generally positive. These findings offer support for H4, H5 and H6 that government action, public attention and environmental resources have a positive effect on group founding rates generally across group types.

Also in Table 3.4 the results for the density variable fit expectations that founding rates decrease as the population of groups increases due to negative density dependence. In the pooled model the coefficient value is negative and significant (-0.0004*). Further in several of the individual issue areas the findings for density are negative and significant further supporting the observed relationship. As with the lagged analyses the constants also

vary by panel and according to the omitted fixed effects indicating that there is variation in the equilibrium founding rate by issue.

The next section summarizes the analyses presented in this chapter and concludes by discussing what these findings and the summary of individual group traits mean for representation through the group system in the United States.

Conclusion

This chapter provides evidence that population level factors affect group formation rates. Particularly that the founding rate of associations is a persistent process and that increases to the failure rate in the previous year positively affect the current group founding rate. These findings are generally robust across issues and for the entire population of politically relevant groups through the use of pooled analyses. The founding rate of groups is therefore very persistent as the formation of groups happens continuously over time due to inertia and the need for relatively stable founding rates to maintain equilibrium group densities. Furthermore, this chapter shows that new groups are founded to replace failed groups suggesting that some variation in the founding and failure rates of groups can occur while still maintaining a stable equilibrium group density over time.

This chapter's analyses also suggest that the environment affects group formation rates generally. Contemporaneous positive and significant effects for government action, public attention and environmental resources were found in the pooled model. As a robustness check a version of the model including both the lagged and contemporaneous environmental variables was also tested, but is not presented in this chapter and this analysis only provided support for the contemporaneous relationships. A two year lag, one year lead and every combination of these lags and leads were also tested alongside the contemporaneous measures and significant results were only found for the contemporaneous

variables. While these environmental results are not robust across issues, they suggest that the founding rate of the group system generally is responsive to what the government is doing and what the public is paying attention to. This chapter also suggests that the resources available to groups generally affect the founding rate that of new voluntary associations. These results are only evident in contemporaneous analyses suggesting that groups make the final decision concerning whether or not to form based on the current environment.

The results in this chapter's time series analyses combined with the descriptive statistics on individual newly founded groups offer some interesting insights into group formation rates. The most robust finding is that formation rate is primarily a self regulating process dependent on the previous founding rate. This chapter also presents evidence that increases in the previous failure rate lead to increases in the current founding rate. When these two findings are compared to the individual descriptive statistics the strength of these two processes becomes clear. While there is some variation in the individual group characteristics demonstrated in Tables 3.1-3.2 and Figures 3.2-3.4 these group characteristics remain largely stable over time. The outcome is that the same sorts of groups enter the system year in and year out. If the environment was the primary factor affecting group formation rates more variation in these statistics would be expected.

There are however environmental effects for the group system generally. Measured as the change in GDP per capita environmental resources have a positive effect on the formation rate suggesting that formation rates increase as disposable income increases. The descriptive statistics on group resource characteristics in Table 3.2 and Figures 3.1-3.3 demonstrate that the resources of newly formed groups remain relatively stable with some variation. Government action and public attention also affect the group formation rate generally, but there is little variation in the characteristics of groups over time as seen in Table 3.1. This suggests that the environment can help encourage possible groups to form, but that variation

in the types of groups that form may not be driven by the environment. While more groups engaging in government activity would be expected during high levels of government action and more citizens groups would be expected during high levels of public attention this does not occur as the variation on these group characteristics is very low.

The group formation rate is a function of the group system itself and the environment it faces. The strength of the self-regulating processes that govern group formation rates and the stability of individual group characteristics for newly formed groups both indicate that individual groups are largely in charge of their own destiny when it comes to group formation. The robustness of individual group characteristics despite the general effects of the environment on group formation speaks volumes about representation. The findings in this chapter suggest that groups form because of the processes of collective action that have been discussed for decades. While the environment makes it possible for more groups to form those groups are not any different in their individual characteristics than the groups that form in less welcoming environments. Environmental resources, government action and public attention generally affect the formation rate of groups, but the characteristics of the groups that form remain relatively stable.

Groups follow an equilibrium process where the population of groups tends to fluctuate around an ideal number based on the carrying capacity of their environment (Lowery and Gray 1995; Nownes and Lipinski 2005). Group populations maintain equilibrium through a persistent founding rate determined by the entrepreneurs that form groups. The findings of this chapter further suggest that the characteristics of newly founded groups are largely independent from the environment and that while there may be a bias towards the creation of business groups (Walker 1991; Smith 2000) that bias may rest with individual group formations themselves. If so, biases in the group system could be overcome by motivated entrepreneurs (Salisbury 1969), increased nonmaterial benefits (Clark and

Wilson 1961) or other means to increase the benefits of joining a group while cutting the costs of membership. The simple reality is however that business interests will almost always be able to absorb the costs of being part of a group more than members of the public.

The overall outlook for representation is far less grim than the low levels of variation in group characteristics might suggest though. While there is stability in the characteristics of newly formed groups the constant influx of new groups due to the persistent group formation rate driven by the behavior of entrepreneurs means new ideas are constantly being introduced. Furthermore, while the group formation rate is relatively stable from year to year (see Figure 3.4) it is free to vary even during times of equilibrium group density. While changing the color of representation in the group system no doubt takes time the rate of change can slow down or speed up as new groups and their members demand. Certain group characteristics will always be an advantage in group formation, but the constant formation of new groups means that the ideas and motivations behind each newly formed group can change the group system in other unmeasured ways.

Table 3.1: Individual Group characteristics Over Time

Year	Gov't Activity	Professional	Beltway	Total Groups
1982	140 (58.3%)	26 (10.8%)	65 (27.1%)	240
1985	160 (64.5%)	48 (19.4%)	79 (31.9%)	248
1990	208 (58.1%)	55 (15.4%)	114 (31.8%)	358
1994	47 (64.4%)	15 (20.5%)	28 (38.4%)	73
1998	15 (46.9%)	5 (15.6%)	6 (18.8%)	32

Figure 3.1: Membership Boxplots of Groups, 1982-1998

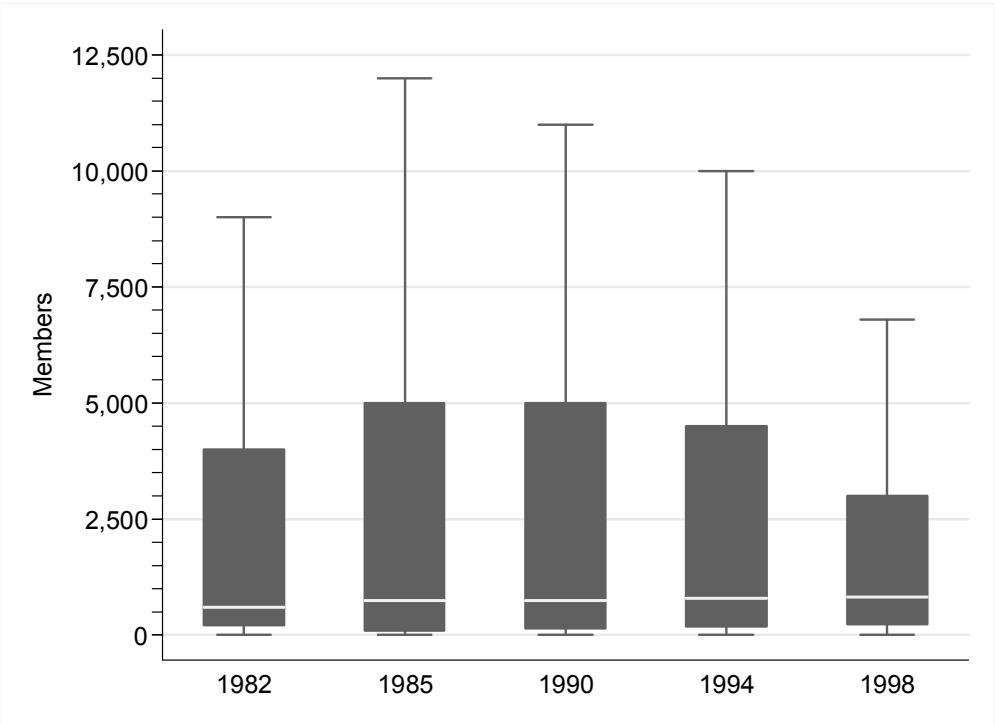


Figure 3.2: Staff Boxplots of Groups, 1982-1998

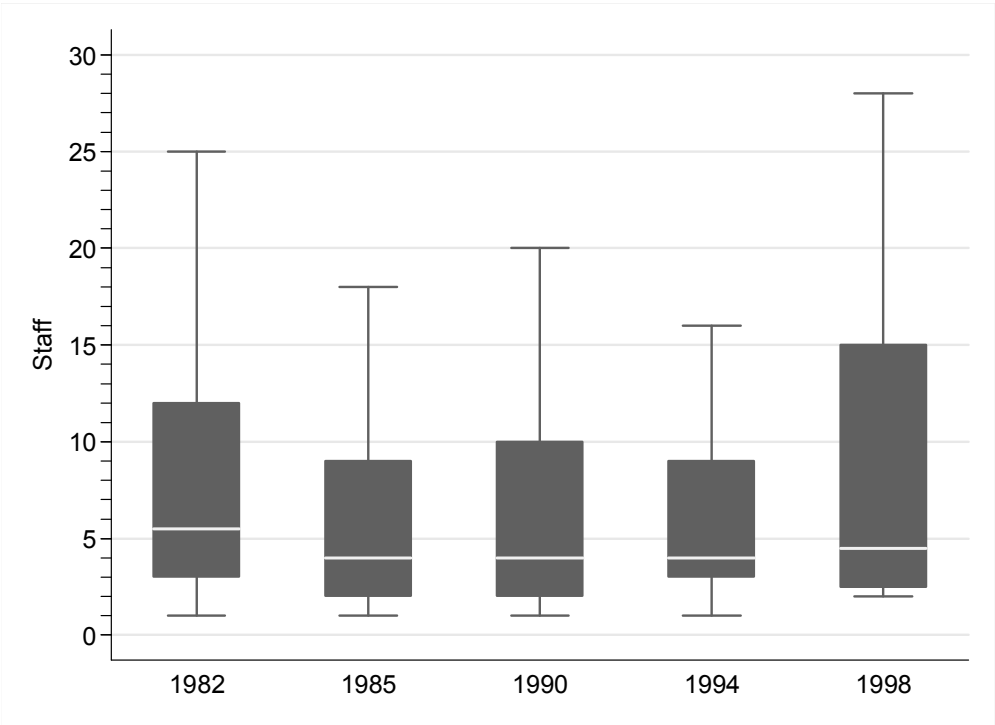


Figure 3.3: Budgets Boxplots of Groups, 1982-1998

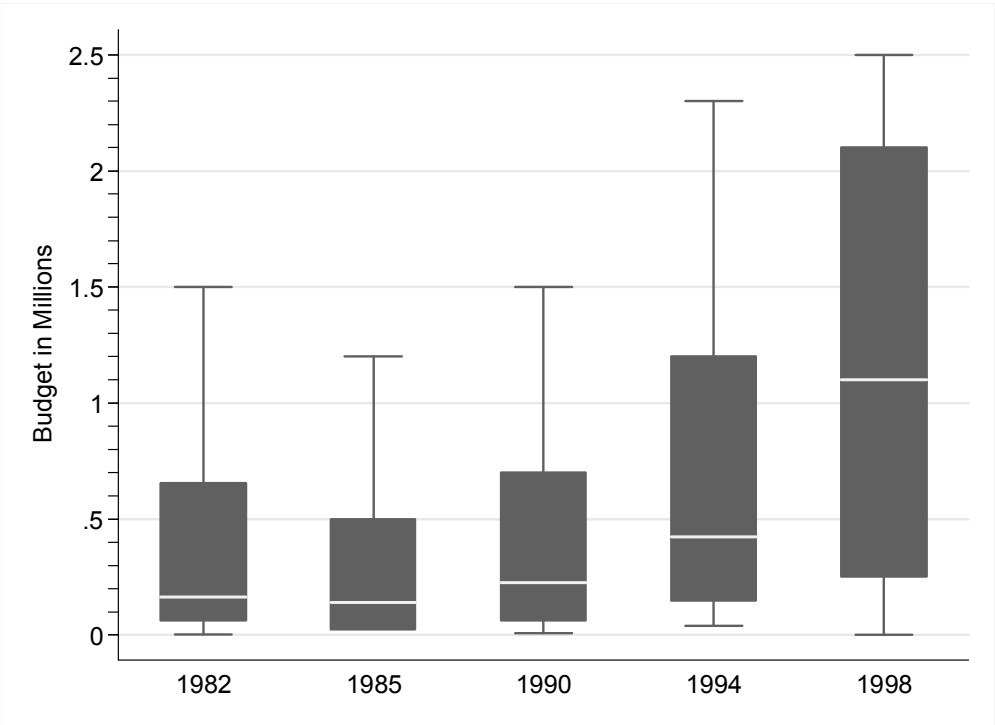


Table 3.2: Summary of the Resource Index Over Time

Year	No	Low	Medium	High	Total Groups
1982	66 (27.5%)	125 (52.1%)	40 (16.7%)	9 (3.8%)	240
1985	41 (16.5%)	133 (53.6%)	58 (23.4%)	16 (6.5%)	248
1990	80 (22.3%)	177 (49.4%)	77 (21.5%)	24 (6.7%)	358
1994	22 (30.1%)	29 (39.7%)	14 (19.2%)	8 (11.0%)	73
1998	5 (15.6%)	15 (46.9%)	5 (15.6%)	7 (21.9%)	32

Figure 3.4: Founding Rates by Issue, 1972-2001

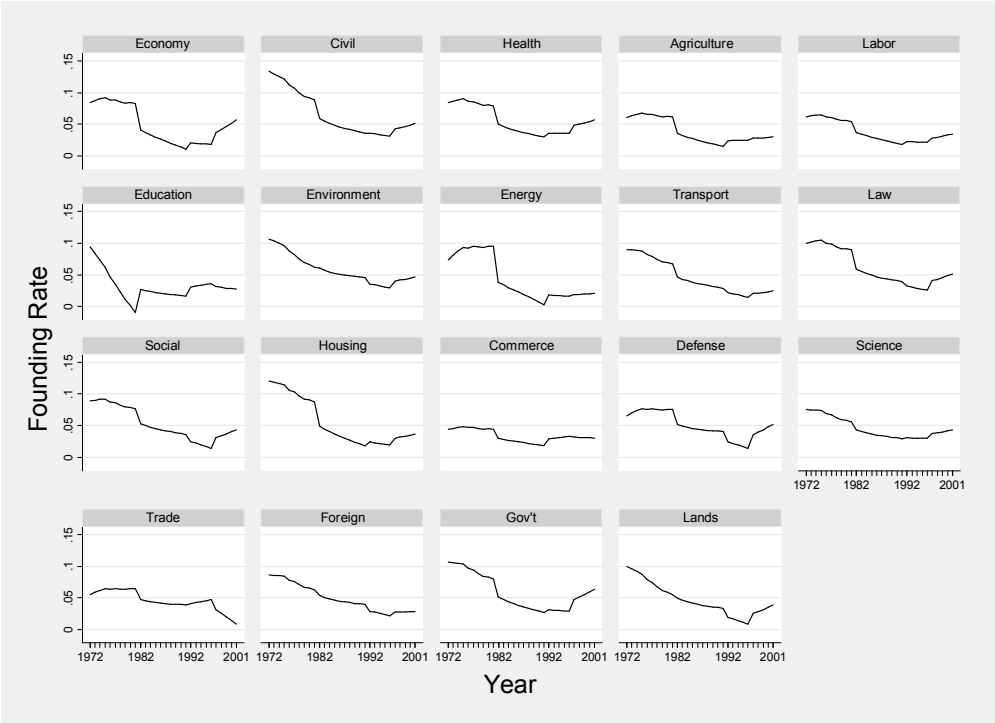


Table 3.3: Auto-Distributed Lag Models of Group Founding Rates with Lagged Environmental Variables, 1972-2001

	Economy	Civil	Health	Agriculture	Labor	Education	Environment	Energy	Transport	Law
FoundingRate _{t-1}	0.807*** (0.109)	0.629*** (0.113)	0.752*** (0.191)	0.795*** (0.086)	0.718*** (0.066)	0.752*** (0.128)	0.843*** (0.106)	0.480† (0.238)	0.477* (0.190)	0.709*** (0.112)
FailureRate _{t-1}	0.290 (0.325)	0.774* (0.310)	0.145 (0.523)	0.293 (0.178)	-0.074 (0.146)	-0.480 (0.456)	-0.002 (0.110)	-0.411 (0.483)	-0.876† (0.475)	0.686* (0.265)
GovtAttention _{t-1}	-0.060 (0.158)	-0.047 (0.231)	0.022 (0.125)	0.175 (0.146)	-0.149 (0.126)	0.154 (0.190)	-0.095† (0.053)	0.531* (0.233)	0.011 (0.112)	0.118 (0.119)
GovtAction _{t-1}	0.099 (0.190)	-0.120 (0.186)	-0.050 (0.051)	-0.186* (0.071)	0.043 (0.060)	-0.237 (0.147)	0.043 (0.044)	-0.116 (0.123)	0.003 (0.065)	0.083 (0.077)
PubAttention _{t-1}	-59.517* (25.636)	-23.277 (19.155)	12.638 (15.499)	-4.837 (20.404)	2.536 (11.105)	24.467 (32.974)	12.439 (12.534)	-15.163 (14.008)	1.534 (7.500)	-6.255 (6.889)
Resources _{t-1}	-0.179 (0.296)	0.132 (0.199)	0.048 (0.257)	-0.128 (0.182)	0.104 (0.132)	-0.367 (0.368)	0.241† (0.122)	-0.051 (0.402)	0.080 (0.147)	0.025 (0.226)
Density _t	-0.084** (0.024)	-0.009** (0.003)	-0.001 (0.001)	-0.003† (0.001)	-0.010* (0.005)	0.005 (0.005)	0.000 (0.002)	-0.033** (0.010)	-0.006* (0.003)	-0.004* (0.002)
Constant	7.940** (2.212)	6.599* (3.029)	1.750 (2.624)	2.358 (1.804)	5.808* (2.374)	-4.630 (6.057)	0.698 (1.754)	7.574* (3.523)	9.883* (4.562)	2.093 (2.506)
R ²	0.956	0.984	0.938	0.962	0.976	0.862	0.984	0.941	0.986	0.971
Durbin's H	0.442	0.962	0.069	1.525	0.478	0.879	0.746	0.721	1.069	0.632
	Social	Housing	Commerce	Defense	Science	Trade	Foreign	Gov't	Lands	All
Founding _{t-1}	0.769*** (0.099)	0.808*** (0.158)	0.700*** (0.107)	0.864*** (0.136)	0.443*** (0.109)	1.079*** (0.086)	0.606** (0.171)	0.879*** (0.091)	0.756*** (0.134)	0.901*** (0.014)
Failure _{t-1}	0.022 (0.420)	0.413 (0.463)	0.154 (0.133)	0.084 (0.352)	0.126 (0.074)	-0.044 (0.050)	-0.330† (0.166)	0.736* (0.290)	-0.017 (0.260)	0.120*** (0.033)
GovtAttention _{t-1}	-0.120 (0.212)	-0.231 (0.212)	0.061 (0.070)	-0.052 (0.103)	0.157* (0.058)	0.280* (0.117)	-0.017 (0.051)	-0.085 (0.056)	0.019 (0.075)	0.024 (0.020)
GovtAct _{t-1}	-0.064 (0.116)	0.203 (0.147)	-0.006 (0.039)	-0.159** (0.047)	0.021 (0.047)	-0.125 (0.079)	0.016 (0.037)	0.002 (0.026)	0.018 (0.020)	0.002 (0.010)
PubAttention _{t-1}	-28.078 (44.018)	-38.202† (21.841)	-1.075 (1.937)	-1.249 (6.703)	-3.920 (3.893)	12.396 (10.469)	-1.148 (1.898)	2.439 (3.547)	-2.190 (22.626)	2.108† (1.161)
Resources _{t-1}	0.273 (0.228)	0.245 (0.274)	-0.115 (0.129)	0.120 (0.209)	0.047 (0.081)	-0.177 (0.188)	0.145 (0.098)	0.027 (0.228)	0.333† (0.170)	0.103† (0.053)
Density _t	-0.010† (0.006)	-0.017 (0.022)	-0.001** (0.000)	-0.005† (0.003)	-0.005*** (0.001)	-0.009 (0.009)	-0.004* (0.002)	-0.001 (0.002)	-0.017 (0.015)	-0.000* (0.000)
Constant	5.721 (4.091)	3.501 (5.620)	3.472* (1.517)	4.985 (3.502)	7.094*** (1.507)	0.421 (1.752)	8.251† (4.126)	0.051 (3.113)	2.605 (2.669)	0.070 (0.244)
R ²	0.966	0.976	0.919	0.953	0.987	0.936	0.990	0.969	0.977	0.939
Durbin's H	0.481	1.384	0.118	0.377	0.257	0.024	0.739	0.327	0.822	

Note: * p ≤ .05, ** p ≤ .01, *** p ≤ .001, † p ≤ .10; N = 29 for individual issues; N=551 (19 issues * 29 years) in the pooled model

Table 3.4: Auto-Distributed Lag Models of Group Founding Rates with Contemporaneous Environmental Variables, 1972-2001

	Economy	Civil	Health	Agriculture	Labor	Education	Environment	Energy	Transport	Law
FoundingRate _{t-1}	0.721*** (0.109)	0.752*** (0.126)	0.829*** (0.173)	0.737*** (0.095)	0.743*** (0.071)	0.838*** (0.175)	0.941*** (0.117)	0.712** (0.232)	0.543*** (0.159)	0.769*** (0.139)
FailureRate _{t-1}	0.734* (0.314)	0.892** (0.299)	0.167 (0.651)	0.144 (0.182)	-0.114 (0.138)	-0.054 (0.501)	0.036 (0.140)	0.053 (0.489)	-0.679† (0.377)	0.345 (0.257)
GovtAttention _{t-1}	0.000 (0.156)	0.334 (0.237)	0.053 (0.141)	-0.223 (0.150)	-0.028 (0.115)	0.017 (0.185)	-0.050 (0.063)	0.375† (0.206)	0.159† (0.077)	-0.067 (0.119)
GovtAction _{t-1}	0.272 (0.188)	-0.084 (0.178)	-0.039 (0.057)	0.033 (0.077)	0.050 (0.063)	-0.044 (0.136)	-0.054 (0.050)	0.039 (0.115)	-0.025 (0.054)	-0.127 (0.077)
PubAttention _{t-1}	33.423 (24.998)	2.427 (18.556)	13.102 (13.757)	15.658 (22.500)	1.026 (9.203)	22.843 (36.615)	-9.537 (14.132)	0.675 (12.223)	12.381* (5.751)	0.095 (7.417)
Resources _{t-1}	0.673* (0.281)	0.190 (0.185)	0.308 (0.222)	0.329† (0.188)	0.238† (0.131)	-0.688† (0.344)	-0.060 (0.136)	0.840* (0.370)	0.160 (0.117)	0.400† (0.230)
Density _t	-0.043† (0.022)	-0.006† (0.003)	0.000 (0.001)	-0.003† (0.002)	-0.012* (0.005)	0.007 (0.004)	0.001 (0.003)	-0.013 (0.009)	-0.005* (0.002)	-0.002 (0.003)
Constant	1.223 (2.330)	1.992 (3.391)	0.634 (2.577)	3.752† (2.117)	5.940* (2.252)	-7.170 (5.592)	0.369 (2.031)	1.019 (3.461)	7.087† (3.550)	2.420 (2.896)
R ²	0.956	0.985	0.9458	0.9564	0.9779	0.8625	0.9799	0.9479	0.9905	0.9713
Durbin's H	0.388	0.237	0.100	0.003	0.005	0.52	0.889	0.190	0.108	1.859
	Social	Housing	Commerce	Defense	Science	Trade	Foreign	Gov't	Lands	All
FoundingRate _{t-1}	0.761*** (0.102)	0.711*** (0.148)	0.801*** (0.107)	1.021*** (0.169)	0.540*** (0.110)	1.061*** (0.078)	0.588*** (0.155)	0.843*** (0.096)	0.845*** (0.124)	0.904*** (0.013)
FailureRate _{t-1}	0.191 (0.403)	-0.296 (0.466)	0.164 (0.125)	0.555 (0.421)	0.166† (0.089)	-0.072 (0.052)	-0.292 (0.185)	0.386 (0.321)	0.226 (0.191)	0.118*** (0.032)
GovtAttention _{t-1}	-0.081 (0.215)	-0.438† (0.245)	0.006 (0.068)	-0.101 (0.135)	0.059 (0.063)	0.186* (0.112)	-0.047 (0.051)	-0.026 (0.059)	-0.024 (0.107)	0.021 (0.020)
GovtAction _{t-1}	-0.123 (0.119)	-0.001 (0.142)	0.007 (0.037)	0.084 (0.054)	0.031 (0.052)	0.176* (0.072)	0.003 (0.034)	0.024 (0.022)	0.001 (0.019)	0.019* (0.009)
PubAttention _{t-1}	-40.251 (41.373)	4.297 (20.941)	3.131 (1.956)	3.743 (8.487)	3.365 (4.276)	20.467 (9.774)	0.474 (1.905)	2.396 (3.278)	0.405 (22.196)	4.188*** (1.142)
Resources _{t-1}	0.232 (0.231)	0.455† (0.265)	0.158 (0.117)	0.465† (0.262)	0.051 (0.086)	0.197 (0.172)	0.002 (0.100)	0.315 (0.213)	0.028 (0.182)	0.237*** (0.050)
Density _t	-0.010† (0.005)	-0.032 (0.021)	-0.001* (0.000)	-0.001 (0.003)	-0.004*** (0.001)	0.005 (0.008)	-0.004† (0.002)	-0.002 (0.003)	-0.004 (0.013)	-0.000* (0.000)
Constant	5.465 (3.718)	7.779 (5.453)	2.130 (1.534)	-1.406 (4.158)	5.364** (1.518)	-2.510 (1.552)	7.853† (3.893)	0.591 (3.503)	0.675 (2.622)	-0.190 (0.239)
R ²	0.9668	0.9775	0.9264	0.9329	0.9857	0.9459	0.9892	0.9699	0.972	0.942
Durbin's H	0.053	0.379	0.038	0.727	0.047	0.644	0.034	0.015	0.790	

Note: * p ≤ .05, ** p ≤ .01, *** p ≤ .001, † p ≤ .10; N = 29 for individual issues; N=551 (19 issues * 29 years) in the pooled model

Chapter 4

Political Effects on Group Populations

Subsystem is a bit of a dirty word these days as is policy network, iron triangle and the myriad of other names given to the nebulous series of interconnections between organized interests, government agencies and elected government. While the difficulties with bounding and quantifying subsystems have led the discipline to study its component parts in more focused ways the basis for the theory is sound. However, all the connections proposed by subsystem literatures have not yet been fully tested and in particular how government affects groups is one relationship that has almost gone unresearched.

The number of groups involved in an issue is an important piece of the group system and of representation in general. Through their activities groups are the primary means by which the public interacts with government beyond elections. What determines how many groups exist is not just a matter for those concerned with interest group behavior then, but also for those interested in representation and the democratic process more generally. The number of groups involved in an issue provides context for group action. For example, issues with a large population of groups experience more competition between interests, but also have a larger audience in government given the ties between groups and policy-making. On the other hand, smaller group communities may be less competitive, but they also have fewer opportunities for representation. The environment groups face and in particular their political environment matters from the standpoint of representation.

Group populations are largely self-perpetuating though. High group population numbers tend to persist feeding a need for government attention that in turn feeds back into

high group population numbers. Once a certain number of groups exist on an issue their actions help fuel the environmental factors needed to maintain those group numbers through processes of representation, such as lobbying. However, what first determines the equilibrium density of groups is the need for groups based on the environment particularly on the attention and actions of the government and the public. Changes in the levels of these factors lead to changes in the density of the group system despite its persistent nature. While group densities and the environment both affect each other changes in the environment are the main source for changes in group densities.

This chapter focuses on explaining how the political environment affects group population densities. Following from interest group ecology work on group densities this chapter builds a broader time series perspective for explaining group densities by employing insights from organizational ecology, organizational sociology and collective action literatures. Focusing on the density of politically relevant groups on the national level, this chapter presents several hypotheses concerning the self-regulating nature of group systems and how the political environment affects group population densities. Using data from the Encyclopedia of Associations Project on national level voluntary associations from 1972 to 2001 the chapter tests these hypotheses against two different measures of group population densities. It finds that in general the population density of voluntary associations is a persistent process that increases as founding rates increase and decreases as failure rates increase. It also finds that government and public attention have positive effects on the population density of associations when populations by issue are considered relative to the total number of voluntary associations.

The rest of this chapter takes the following form. First, it discusses various literatures that speak to the population density of groups. It then presents a series of hypotheses based on this discussion for politically relevant voluntary associations. The data used to test these

hypotheses as well as two different ways of measuring group population densities is discussed. Analyses of this chapter's hypotheses on these two measures of group population densities are then presented. Finally, the chapter concludes by summarizing and explaining the different results in further detail and discusses what these findings mean for representation through voluntary associations in the United States.

Group Density

Voluntary associations are a density dependent population. Like all density dependent populations groups have a set carrying capacity based on their environment. As long as the environment groups face remains relatively stable so does the size of the group population and the population traits that govern it including the formation rate of new groups and the failure rate of existing groups. The group population tends towards the environmental carrying capacity as beyond it more groups cannot reliably survive and under it the environment is not being fully utilized (Pianka 1972; Odum and Barrett 2004). The number of groups in a system is highly dependent on the previous number of groups as once an equilibrium population density is reached the group population density is largely self-regulating (Hannan and Freeman 1989; Carrol and Hannan 2000). The previous population density is therefore one of the best possible predictors of the current population density of groups especially in established group systems. The group population density is also a direct function of both the number of groups being founded and the number of groups failing. The founding rates of groups have a positive effect on group population density and the failure rates of groups have a negative effect (Hannan and Freeman 1989; Carrol and Hannan 2000). While these findings are fundamental for understanding the functioning of group populations they are also rather limiting as they only focus only on the time series processes that govern the population density of groups

The persistence of group densities has another mechanism driving it beyond simple ecological processes as groups do not just appear or disappear based on environmental space. Entrepreneurs tend to dominate much of the group system offsetting the costs of group formation and deciding when the benefits for continuing a group are too low (Salisbury 1969; Jordan and Halpin 2004). While benefits can be material, selective or purposive the level of benefits particularly in relation to the environment often change causing entrepreneurs to reevaluate their positions (Clark and Wilson 1961; Wilson 1995, p. 196). The costs entrepreneurs face when forming a group decrease when there is space in the environment for new groups and costs can also increase as the environment changes, but the details of the environment are generally unclear. However, due to the persistent nature of groups and density dependence entrepreneurs are able to judge how many new groups can be formed and how many old groups are likely to fail based on previous behavior. Entrepreneurs apply this information when deciding to form or disband groups and as a result the formation and failure rates are persistent and closely tied to their previous values. The persistence of these traits then drives the persistence of group densities as group densities are a function of their previous value plus new groups and minus failed groups. The previous density and the founding or failure rate then help explain the current level of density, but do little to explain changes in density or how that level was determined in the first place.

Studies on the population density of interest groups have tended to focus more on the environment groups face and how changes to the environment affect group numbers rather than the self-regulating processes that affect group population densities. This focus is both due to theoretical expectations and because of data limitations, in particular a lack of long time series data that would allow for more complete ecological investigations. The interest group ecology literature has found evidence that the density of groups changes with the number of potential constituents, as government goods and services change and as the level

of political stability fluctuates (Lowery and Gray 1995). Other research that employs density as an independent variable has found evidence that the group founding rate increases up until the point of equilibrium density after which the founding rate decreases (Nownes 2004). This same line of research has also found evidence that the failure rate of groups is low during periods of group growth, but increases at high population densities (Nownes and Lipinski 2005). Further work focused on group founding and failure rates have found similar relationships between the density of groups and these population traits, but that the strength of these connections is conditional on the composition of the group population (Gray and Lowery 1995a; 2001). These findings further demonstrate that a relationship between these traits and density exists. The interest group ecology literature has faced many limitations in terms of data in the past, but it provides several valuable insights about the effect of environmental factors on the population density of groups. It further supports the relationships between the founding and failure rates to density proposed by the organizational ecology literature.

Work on the population traits of interest groups has focused on how the group system and the environment affect groups finding that changes in the funding system that made groups less costly to form (Walker 1983) and changes to government attention that made interest groups more beneficial (Chong 1991; Lowery and Gray 1995) are both significant to group formation and group population densities. Still further work has suggested that the size of the interest group system is related to revamps of the Congressional committee system that have allowed for greater group involvement in policy-making (Rosenbloom 2000; Davidson and Oleszek 2004) and changes in technology that have further facilitated organization on a national level (Walker 1991; Berry 1997). These findings suggest that the population density of groups is tied to the political environment and that the overall number of groups has grown due to funding reforms, changes to the Congressional committee system and changes to

technology. While modeling each of these larger interventions independently is difficult and is not a goal of this chapter these insights demonstrate a strong connection between group population numbers and their environments. Furthermore, these findings suggest that the overall number of groups has grown during the time period this chapter investigates.

Studies of social movements tend to focus heavily on the environmental effects on group densities due to the nature of social movements and the data limitations that studying such groups brings (see Stinchcombe 1965). Work in organizational sociology further focuses on the relationships between groups and their environments, particularly how competition over scarce resources affects group populations (Aldrich 1979). More specialized studies on trade associations based on this research have found both strong environmental effects on groups and a level of stability in the population of trade associations over time (Aldrich and Staber 1988). Other work has broadened the focus of sociological group research beyond social movements and formal organizations, but the focus on environmental influences on group densities remains. Amongst these studies is work finds a positive effect of violence on the density of ethnic newspapers (Olzak and West 1991) and that finds that changes to broadcasting regulations have positively affected the creation of low-power FM radio stations in large numbers in recent years (Greve, Pozner, and Rao 2006). The common thread in sociological work focused on groups is that the factors that comprise a group's environment can be key in explaining group population densities with many different environmental factors affecting group populations.

The collective action literature that focuses on the costs of forming or joining a group is also important for understanding group population densities. The costs of group membership are often difficult to overcome and costs continue on into a group's life. Groups form and are maintained rationally when the benefits of membership outweigh the costs (Walker 1983). Entrepreneurs poised to gain a particularly large benefit from the creation of a

group often offset the costs that potential members face as it is in their best interest to do so (Salisbury 1969). Multiple sources of benefits beyond material wealth can also be highlighted and considered in relation to the costs of a group (Clark and Wilson 1961). While particularly focused groups with small memberships related to a particular industry or profession provide more material benefits than other types of groups as well (Olson 1965; Schlozman and Tierney 1986). There are many avenues to rational group formation and maintenance, but the fundamental problem with the calculus of collective action remains the same regardless in that the benefits of a group must outweigh its costs for it to form or be maintained (Moe 1980; Hansen 1985; Rothenberg 1988). Collective action literature primarily focuses on individual group or group membership calculus as do the solutions to the collective action dilemma. When maintenance is aggregated across all groups factors that increase possible benefits or that decrease relative costs control the population density of groups through the mechanisms of rational group maintenance.

Combined the findings from these various literatures indicate that group population densities are a function of the self-perpetuating nature of the group system and the environment that the system faces. Individual group characteristics do affect individual group formations and failures, but if one group fails to form or fails based on its own characteristics another will form in its place if the environment remains stable due to the persistence of group densities. The population density of voluntary associations is therefore insulated from the life cycles of individual groups.

Hypotheses

The population density of voluntary associations can in many ways be related to the level of public concern over issues. Groups themselves vary and some like the Sierra Club in the case of the environment tend to particularly dominate the system. Yet, no issues have a

single super-group dominating the entire system outright nor are any issues comprised of only abnormally small groups. In reality all issues have large, small and medium sized groups in similar proportions making density is a good measure of public interest as the correlation between the number of groups and the number of people concerned over an issue is without a doubt quite high (Lowery and Gray 1993). This section discusses population and environmental level hypotheses relating to the population density of national level voluntary associations in the United States.

Population Level

The population density of groups is sticky. Like all density dependent populations groups have a carrying capacity based on their environment. Densities higher than the carrying capacity are corrected by increased group failures due to the inability for the environment to sustain more groups. Population densities under the carrying capacity lead to more group formations as the environment is not being fully utilized by the existing group system. Group formation and failure rates are affected by similar processes as well as a degree of inertia due to the time it takes new groups to form and for existing groups to fail. This density dependent process is in many ways controlled by the entrepreneurs that form groups and decide when existing groups should fail. The benefits entrepreneurs receive from forming or maintaining a group change with the environment, but the environment itself is uncertain. However, recognizing the persistence of group populations entrepreneurs use the previous year's formation and failure rates to judge how many groups can form and must fail in the current year and this persistence feeds into group densities as well. It is no surprise then that the population of voluntary associations is a persistent process as the carrying capacity of the group system is generally maintained. If this process was not persistent the formation of new groups and the survival of existing groups would be determined independently from

group density at each observed time point. This of course does not occur as groups are density dependent and the strongest predictor of the current population density of associations is the previous year's population density due to the persistence of groups themselves.

H1: The previous year's population density of associations has a positive effect on the current year's population density.

The population density of associations is a sum of three separate measures, the previous population density, the failures of groups and the formation of new groups. Including all of these processes through a lagged dependent variable, the current failure rate and the current founding rate would lead to a perfectly predicted model due to simple arithmetic and does not account for the root causes of association density. Nevertheless, including both the lagged population density of associations and the current founding rate in the same model is appropriate and has been suggested by numerous organizational ecology models as increases in the number of new groups are generally a sign of growing populations. Increases to the current founding rate therefore lead to increases in the population density of associations.

H2a: Association founding rates have a positive effect on population density of associations.

An alternative to testing the effect of the founding rate of associations on the population density of associations is to consider the failure rate of associations. More group failures are a sign of a declining group population density. This relationship has also been suggested numerous times by various ecological models. Increases in the current failure rate therefore lead to decreases in the population density of associations.

H2b: Association failure rates have a negative effect on the population density of associations.

Both versions of hypothesis 2 relate to the fact that the population of groups is in part determined by the general life cycle of groups. Testing these hypotheses separately also adds to the environmental level tests by providing a robustness check of their effects on population density in relation to two different and strong population processes. If results are found for an environmental variable when controlling for one process, but not the other it would suggest that the environmental factor works through the population process tested in the model with insignificant results. For example, if government action is significant in models that account for the group founding rate, but not the failure rate this would suggest that government action affects the population density of voluntary associations through the failure rate of groups.

Environmental Level

The population density of groups by issue tends towards an equilibrium density. This equilibrium value is determined by the environment that groups face and is often called the environmental carrying capacity. Many different things may affect the environmental carrying capacity for groups, but opportunities and resources are the two primary environmental factors that affect the population density of groups (Walker 1991; Lowery and Gray 1995).

One of the largest environmental opportunities for politically relevant groups is government attention. The level of government attention helps determine the carrying capacity of the group system as attention signals a willingness for government to engage issues and a need for a certain level of representation. Increased government attention can

signal that a place for more groups in the population exists and can further reinforce the need for existing groups by providing them with a continuing purpose and opportunity to pursue their goals. Government attention affects the population density of groups by encouraging new group formations and bolstering the survival rate of existing groups when it increases. The population density of associations is positively related to changes in government attention.

H3: Increased government attention has a positive effect on the population density of associations.

Government action presents another opportunity for groups. Like with government attention, government action signals the willingness of government to act and can highlight a need for more or less representation depending on its level. When government action increases on an issue new groups form to mobilize in support of or against a new direction for policy (Leech et al 2005). Furthermore, government action provides a stronger signal than government attention as government action provides a clear signal to potential groups that government is willing to act on an issue. However, existing groups just as often fail following government action as survive as government action may fulfill the purpose of existing groups or may just as easily set back their goals both of which decrease the opportunity for existing groups to survive by decreasing possible benefits. While government action encourages higher group founding rates and lower group survival rates government action always increases the carrying capacity of the group system creating a greater need for representation. Therefore, the population density of voluntary associations is positively affected by government action.

H4: Increased government action has a positive effect on the population density of associations.

Associations largely consist of individual members of the public that must decide whether or not to join a group. Public attention tends to be more narrowly focused than government attention concentrating on one or a few hot button issues at any point in time. For example, in the 1960s and 70s many groups concerned with the conduct of the Vietnam War and veteran's issues existed due to a high level of public attention. As public attention increases so does the carrying capacity of the group system as more members of the public are likely to join new and existing groups given the general public concern. Furthermore, as public attention tends to be more narrowly focused on specific issues it has the potential to provide a greater increase in the carrying capacity of the group system than government attention that exists on all issues at varying levels. The direct link between potential group members and public attention strengthens the connection between public attention and an increased group carrying capacity. Since the public make up the membership of groups and given the directed focus of public attention, increases in public attention lead to increases the population density of groups.

H5: Increased public attention to issues leads to increased association population densities.

The population density of associations is determined by both opportunity and resources. Environmental level resources have a large affect on the population density of associations as voluntary associations are luxuries that are not as important for most members of the public as necessities or even other luxury goods, such as entertainment. When the public has disposable income groups form and are maintained over the full gambit of issues

that government deals. However, as possible members face trade-offs with their own resources associations decline in importance increasing group failures and decreasing group formations. Variation occurs as less popular associations and those involved in less important issues are the first to fail or not form, but the total effect of decreased resources on associations is negative (Walker 1983; Hannan and Freeman 1989; Greve, Pozner, and Rao 2006). In this way, changes in the available public resources further affect the carrying capacity of the group system. Individuals when deciding to join new or existing groups must determine whether or not being part of a group is in their interest. When individual resources decrease other priorities tend to outweigh the potential benefit of being a group member, but during times of economic prosperity the luxury of membership in an association is easier to afford. Therefore, as environmental level resources increase so does the population density of groups.

H6: Increases in environmental resources have a positive effect on the population density of associations.

Group density also depends on another environmental factor namely the number of potential group members. The number of groups increases as the number of potential group members increases as there are simply more people with more opinions to represent (Lowery and Gray 1995). Therefore, increases in the number of constituents in the United States increases the carrying capacity of the group system. While the size of the group system is determined by other environmental factors as well the number of potential members is always related to more groups. Therefore, increases in the number of constituents positively affect the population density of groups.

H7: Increases in the number of constituents has a positive effect on the population density of voluntary associations.

The next section discusses the data used to test each of the hypotheses listed in this chapter. It pays particular attention the measurement of group population density discussing two ways the concept of density can be measured.

Data

To test this chapter's hypotheses concerning the general effects population and environmental level factors on group population densities data from the Encyclopedia of Associations Project is used from 1972-2001. The *Encyclopedia* is the publisher's best effort to capture all voluntary associations in the United States in a given year and covers all of the issues that government deals with. Therefore, the data presents a consistent count of voluntary associations by issue over time. The analyses in this chapter pool these issues into general models of group population density looking for patterns in how each of the factors outlined in the previous section affect the population density of voluntary associations generally rather than issue specific patterns.

The population density is often measured as the count of groups, but the measurement of group density can be given further context relative to the environment as well. A relative measure of group density is more important from the standpoint of representation as the share of group attention given to each issue matters more for a government focused on priorities than the total number of actors involved (Bevan and Jennings 2011). As such, two alternative versions of population density are tested in this chapter. The first version is the number of associations in the *Encyclopedia* by issue and such a raw count of groups is of course a suitable way to operationalize group population densities (Lowery and Gray 1993). However,

as each count by issue is measured independently from the environment that groups operate in counts may not be the most appropriate measure for testing environmental effects on group population densities.

The second version of population density tested in this chapter is the count of associations by issue over the total number of politically relevant associations contained in the *Encyclopedia* in each year measuring the density of groups relative to the entire voluntary association system.¹⁸ In order for the population density of one issue to rise using this measure another issue or issues must fall in their densities. Furthermore, the growth in the voluntary association system over this time period does not alter the resulting measure as the overall number of groups can grow without changing relative densities if that growth is uniform across all issues.

While groups involved in different issues operate independently from one another their fates are in fact interdependent. As politically relevant groups dealing with the issues government faces voluntary associations are closely linked to government and its processes. Government makes bounded, but rational decisions (Simon 1957) with limited resources (Jones and Baumgartner 2005) leading to interdependent decision-making processes where trade-offs between issues must be made (True et al. 2007). The result of this interdependent decision making process is that certain core functions of government tend to dominate the political agenda when their need is high diminishing attention to other issues (Jennings et al. 2011). Attention to an issue like defense during the Vietnam War led to more defense oriented groups, but groups concerned with other issues were at a disadvantage politically and had lower relative densities as a result. That group populations by issue change disproportionately due to environmental factors (Lowery et al. 2005) also supports this point

¹⁸ Other group types, such as cultural organizations and fan clubs are excluded from this total. Both because they should have a density that is independent from the political environment and because fan clubs in particular are inconsistently included during this time period.

as some groups can benefit from environmental factors more than others. Furthermore, work on interest group ecology demonstrates that a general carrying capacity for groups by type and not necessarily by the issues they deal with exists (Lowery and Gray 1995) suggesting that differences in group densities occur relatively rather than in absolutes. Groups involved in different issues operate independently, but prioritization in the political environment and the limited pool of members and resources available for voluntary associations means that if one issue area wins another or several others must lose. While other research has found little evidence of interdependence between group types and issues (Singh and Lumsden 1990; Aldrich et al 1994) the prioritization of issues by government is such a dominating force that effects are sure to exist when considering the entire system of voluntary associations. The relative density of groups then better captures the interactions between group population densities and the political environment than a raw count. The number of voluntary associations in an issue may be affected by one set of environmental factors and the share of the total population of associations an issue receives may be affected by another set. The use of the two measures of group population densities in this chapter allows these differences in the effect of environmental factors to be tested.

Figure 4.1 presents both measures of group density from 1972-2001 for four select issues; civil rights, defense, foreign affairs and government operations groups.

[insert Figure 4.1 about here]

While both of these measures exhibit similar dynamics across these four issues there are differences in the properties of each measure and similar patterns and differences occur across each of the issues government deals with not just these four.

Methods

Error correction models are used to test this chapter's hypotheses on the two versions of the dependent variable. For both measures nineteen major topics are used to categorize associations that deal with issues from health, to defense and government operations. While there is variation in the number of groups by issue area, all group populations by issue should be affected by the environment in the same way suggesting pooling. As this chapter focuses on the general effects of the environment on group population densities as well as the different means by which density can be measured pooled regressions are also the most practical.

Both measures are therefore tested using pooled error-correction models. The use of error correction models for these measures is primarily motivated by the presence of a unit root process in both versions of dependent variable that is addressed by differencing the dependent variable. Following the error correction framework models include the both long-run and short-run effects for the independent variables.¹⁹ To further address the growth in the count of groups trend and trend squared are also included in the analyses of the raw count and capture the decreasing rate of growth in associations overtime and the resulting equilibrium density across issues.²⁰

Population Level

The population density of groups is a persistent process with the best predictor of the current density being the previous density. As a density dependent population groups tend to

¹⁹ Short run effects for environmental resources are not however included as this measure is already differenced to match theoretical expectations.

²⁰ Excluding either trend squared or both trend and trend squared from the statistical models leads to the same inferences with one important exception. Constituents remains positive, but is insignificant in several of the model specifications, an unlikely finding. However, as the US population continues to grow past equilibrium group density not accounting for the declining growth in group density is the likely cause of this result.

follow the carrying capacity of their environment leading to a persistent group population density. This persistence is demonstrated through the integrated nature of the two versions of the dependent variable offering support for H1 due to the perfect memory from year to year. While not a test of H1 the previous year's density is included in the models for both measures to capture the rate of adjustment to disequilibrium, in other words how quickly density returns to its equilibrium value following a shock.

The population density of groups is further regulated by the formation of new groups and the failure of old groups. While the previous density plus new formations and minus group failures perfectly measures the current number of groups the inclusion of group formation and failure rates in separate models is informative and the lagged founding and failure rates are included in the analyses in separate versions of each model as tests of H2a and H2b the positive and negative effects of group formation and failures rates on the population density of groups respectively.²¹ These measures were constructed as the number of group formations and failures in each year divided by the total number of politically relevant groups for each issue.²²

Environmental Level

The population density of voluntary associations in the United States is affected by both political and public factors on the environmental level. The environment that potential

²¹ Inclusion of both lagged founding and failure rates in the same model led to generally the same inferences, but this version of the model is likely over specified. The one exception is the positive, but insignificant result for government attention in the relative density analyses. This finding is likely due to government attention working through both the failure and founding rates combined and the likely over specification of the model.

²² While less suitable for statistical analyses due to the imputation process versions of these variables using the raw count of group formations and failures were also tested. These analyses led to the same inferences across all model specifications.

groups face is a combination of levels of government action and attention, public attention and available resources.

On the national level government attention to an issue is most closely related to Congressional attention. Congress is charged with national level policy and contains representatives from every part of the country. Furthermore, Congress and its members are the main target for the lobbying efforts of voluntary associations. What Congress is paying attention to at any one point in time is evident from Congressional hearings that provide both a tool and a means for Congress to signal its concern over issues. To measure Congressional attention the number of hearings on each issue by year was divided by the total number of hearings resulting in the percentage of hearings by issue, year. This measure is used to test H3 that increases in government attention have a positive effect on the population density of voluntary associations.²³

Like government attention, government action in the form of Congressional action is the most important form of government action on the national level due to the purpose and the make-up of Congress itself. In particular Congressional action through the passage of laws has the widest ranging and most significant effects on the public and the associations they form. To measure Congressional action the number of statutes on each issue was divided by the total number of statutes in each year, resulting in the percentage of statutes by issue, year. Statutes are additions and changes to the law, and represent the final direct action taken by Congress on each issue.²⁴ This measure of government action is included in the analyses

²³ An alternative measure of government attention was tested in place of Congressional hearings. This measure State of the Union mentions highlights the presidential agenda for the year ahead and was transformed in the same way as Congressional hearings. The use of this measure led to generally similar findings, although positive and significant effects were found in the models testing the raw count of groups. Why the raw count should respond to presidential attention in the State of the Union and not Congress is unclear and as such these results are omitted from this paper.

²⁴ An alternative measure of government action was also tested in place of Congressional statutes. The percentage of executive orders by issue year was used as a measure of presidential action. Executive orders

to test H4 that government action has as positive effect on the population density of voluntary associations.

The level of public attention to an issue is best measured as the level of salience on that issue. Salience measures how prevalent an issue is in the public's mind. To measure issue salience the Policy Agendas Project's random sample of the New York Times Index was used by taking the number of sampled stories divided by the total estimated number of stories present in the index in each year resulting in the sampled proportion of stories by issue, year.²⁵ This measure is further multiplied by 100 to assist in interpretation due to the way that it has been constructed. Public attention is included in the analyses as a test of H5 that increased public attention has a positive effect on the population density of voluntary associations.

Environmental resources also affect the population density of voluntary associations. The memberships of voluntary associations consist of members of the public and the public's own resources have the largest effect on the population of voluntary associations generally. To capture the relationship between environmental resources and group population densities, change in GDP per capita in constant dollars is used. The two series that comprise this variable, GDP and the population of the United States, continually increase over time leading to an integrated series for both as well as in the resulting combination GDP per capita. This

make law and are the primary means through which the president can take action separate from Congress and other government actors. This measure led to the same general inferences in most of the models, but also led to positive and significant results in the count model. In part this may be due to the large number of 0s in the series as executive orders are rarely passed on every issue from year to year and certain issues, such as defense which has a high population density are more likely to receive executive orders. As with the results for the State of the Union Address why these results should occur for presidential, but not Congressional action for the raw count is unclear and these results are omitted from the paper.

²⁵ This measure was used instead of a proportion based on the total sample size in each year as the number of stories present in the New York Times index has changed based on changes to the format of the New York Times itself as well as other factors. Using a version of the variable based on the proportion of stories in the total sample size led to insignificant results, but did not alter the other inferences of each model.

makes the raw GDP per capita an inappropriate measure for the effect of environmental resources on the population density of voluntary associations. However by differencing this measure fluctuations in environmental resources are captured. The change in GDP per capita is included in this chapter as a test of H6 that increases in environmental level resources positively affect the population density of voluntary associations.

The number of potential group members measured as the US population in millions is also tested as one final environmental variable. While the US population contains many individuals ineligible for voting both non-citizens and children can and sometimes are the members of groups making a broad measure more appropriate. The use of the voting age population or the number of registered voters instead of the US population also leads to the same inferences in the statistical analyses, but poorer fitting models. The number of constituents is included as a test of H7 that increases in the number of potential members positively affects the population density of voluntary associations.

Each of these environmental variables is tested with a one year lag as changes to the population density of voluntary associations are not instantaneous. The use of contemporaneous effects and two year lags leads to generally the same inferences although these models were poorer fitting suggesting that the effects of these variables are persistent, but that the environment takes time to affect the population density of groups.²⁶

Controls

The population density of voluntary associations for each issue should react in the same way to the population and environmental level variables tested in this chapter. The

²⁶ A lag of one year in this case is in reality a lag of five years from the reported copyright date of the *Encyclopedia of Associations* as the analysis of differences in reported founding rates and update times indicated a four year lag between the reported copyright year and the actual year each volume represents. For a more detailed investigation and discussion of this finding see Chapter 2.

population density for each issue will however differ on average through separate equilibrium processes based on the nature of each issue. Therefore, each set of analyses includes fixed effects by issue area to control for differences in the average population density by issue.

The next section presents pooled analyses on the two versions of the dependent variable discussed in this section.

Analyses

Table 4.1 presents time series cross-sectional auto-distributed lag models for the count of associations by issue with no rate, founding rates and failure rates in separate models with fixed effects by issue (omitted from Table 4.1).

[insert Table 4.1 about here]

The results in Table 4.1 are generally consistent across the three model specifications. The lagged count is small, negative and significant in each model with coefficient estimates of approximately -0.0375 indicating that shocks to the density of associations tend to persist matching the findings from the unit roots tests that offer evidence in support of H1 that the population density of groups is a persistent process. The lagged founding rate is positive and significant in model 2. This matches the expectation that the formation rate of new groups has a positive effect on the population density of groups. The lagged failure rate is negative and significant in the model 3 matching the expectation that increases in the failure rate of groups leads to a decrease in the group population density.

The results for the number of constituents are positive and significant in the long run across each of the models. This provides support for H7 that increases in the number of constituents lead to higher population densities. It is important to note that this result

disappears if trend and trend squared are not controlled in the model and the declining rate of growth in voluntary associations can be seen visually in Figure 4.1. Why the growth rate of associations has declined over time as the population of the United States has continued to increase is not a question addressed in this chapter, but this pattern is likely the result of other environmental factors limiting the carrying capacity of the group system despite population growth.

The tests of the other environmental variables provide no support or are counter to the expectations in H3-H6. In the long run government attention is insignificant and changes signs from model to model, while government action and environmental resources are negative, but insignificant offering no support for the positive effects of either on group population density. Public attention is negative and significant in both the long and the short run offering evidence counter to the positive expectations outlined in the H6. Combined these findings offer evidence that increases in public attention lowers the population density of groups. Finally, the trend and trend squared terms are both negative and significant indicating an increasingly fast decline in the growth of voluntary associations over time.

The count of groups is an important trait of group populations, but because of the limits of government attention and the interdependence of groups based on resources the share of the group system devoted to each issue is important to study as well. The analyses in Table 4.2 list pooled error-correction models for density relative to the total number of politically relevant groups. This is done with no rate, founding rates and failure rates again in separate models with fixed effects by issue in each (omitted from Table 4.2).

[insert Table 4.2 about here]

The results in Table 4.2 are generally consistent with those in Table 4.1, but offer some results counter to the previously discussed analyses. In Table 4.2 the lagged relative density measures the error correction rate. Across all models the error correction rate is negative, near zero and significant. This measure indicates the rate by which changes to the relative density are corrected over time and the small value indicates that shocks to the relative density of associations tend to persist matching the findings from the unit roots tests that offers evidence in support of H1 that the population density of groups is a persistent process.

Many of the remaining results are similar to the results presented in Table 4.1. Like in the count analyses the lagged founding in model 2 is positive and significant in Table 4.2. This matches the expectation that the formation rate of new groups has a positive effect on the population density of groups. The lagged failure rate is negative and significant in model 3 matching the expectation that increases in the failure rate of groups leads to a decrease in their population density. The lagged constituents variable is positive and significant in model 2 matching the count analyses, but not in the other models As constituents is significant in the best fitting model it is safe to say these analyses offer support for a positive and significant effect of increases in the US population on relative group density. Unlike with the analyses in Table 4.1 the inclusion of a trend and trend squared in specification tests not presented here does not alter the results as the relative density itself addresses the declining growth in associations by its own construction.

Government attention in the long run measured by lagged government attention is positive and significant across all three of the model specifications and offers robust support for the expectation that increases in the level of government attention to issues have a positive effect on the relative density. Short run effects measured as the change in government attention are positive and near significance in the model with no rate, suggesting

that the population density of groups may have some level of response to short term shocks in the level of government attention by issue.

Lagged public attention is positive and significant in models 1 and 3. This offers some support for the expectation that increases in public attention have a positive effect on the relative density of groups. The null finding for model 2 that includes the lagged founding rate further suggests that the effect of public attention on the population density of groups may filter through the formation of new groups alone. The existence of no short run effects for public attention suggests that temporary shocks in the level of public attention do not have a major effect on the relative population density of groups. This finding for public attention in Table 4.2 is a complete reversal from the results in Table 4.1. This suggests an interesting relationship where levels of public attention lead to a decrease in the number of groups, but that a greater share of the entire group system is given to those groups with higher levels of attention. One possibility for this finding is that when attention to a issue is significantly high groups tend to consolidate around that issue decreasing group numbers while other groups suffer and are less able to form and be maintained increasing relative density.

The hypotheses in this chapter do not distinguish between short-run and long-run effects for each proposed relationship. However, it is not surprising that the positive and significant effects for government and public attention happen in the long run as the population of voluntary associations is relatively stable and resistant to change depending more on history rather than short term shocks as both group formations and group failures take time to occur.

The effects for government action are consistently negative and insignificant for both the lag and change variables. The effects for the lagged change in environmental resources change signs based on the model specification, but are insignificant. Combined these findings

offer no support for a positive effect of government action and resources on the population density of groups.

It is clear from these two sets of analyses that how the population density of groups is measured matters and can have a major effect on the results. While the majority of previous work only focuses on the raw count of associations the interdependence of group populations due to limited resources and the functioning of government suggest that both measures should be studied to fully understand how group population densities are determined. The next section summarizes the results presented in this chapter and further discusses what these two sets of analyses mean for group representation.

Conclusion

This chapter tests several hypotheses concerning the effects of population and environmental level factors on the population density of voluntary associations. Analyses are completed for two different measures of group population densities and while these measures differ both mathematically and theoretically several common findings for both measures do exist. Namely, that the population density of groups is persistent process, that the population density increases as the founding rate increases, decreases as the failure rate increases and that the increases in the number of constituents leads to higher group population densities. Combined these findings demonstrate the robustness of the population density of voluntary associations.

Other findings are not shared in the analyses of both measures. These findings include evidence that the relative population density is positively affected by government and public attention. They also include evidence that the population density of groups measured as a count is negatively affected by public attention. The context of environmental factors matters then in how they can affect the population density of voluntary associations.

Counter to this chapter's hypotheses the analyses of the count of associations suggest that population density of groups is negatively affected by public attention. The complexity and persistence of the time series processes that govern the raw count of voluntary associations are the most likely source for this finding. Density is integrated, has a declining growth rate over time, is heavily affected by both the founding and failure rates and depends greatly on the number of constituents. It is possible that these processes determine the overall number of voluntary associations and not necessarily the share of associations devoted to each issue. While the count of groups is the logical place to start when considering group population density it does not go far enough as the independence of the count measure from the overall size of the group system means that the interdependence of groups based on limited government attention and shared resources is not accounted for. After all, the difference between 10 and 100 of anything cannot really be judged without understanding context. While informative and in the tradition of previous ecology research the results of this chapter for the raw count of groups cannot be judged alone. Instead this chapter's other findings and why differences in the results for this chapter's environmental hypotheses exist between measures must also be understood.

The findings in support of positive effects for government and public attention in the analyses of relative density relative run counter to the insignificant effect for government attention and the negative and significant effect for public attention in the count models. The relative population density of groups highlight trade-offs between associations based on the total size of the voluntary association system. For the density of one issue area to increase in a given year one or more population densities in other issue areas must decrease as the total proportion of groups across all issues will always sum to 100% by the design of the measure. Therefore, this measure allows for winners and losers in the population of groups relative to each other. Zero growth in an issue when others issues have grown over the same period

results in a decrease in the population density for the issue with zero growth. Further, an increase in the number of groups does not necessarily translate into an increase in relative density as the number of groups on other issues may have grown even more. While many factors affect the total number of voluntary associations this relative measure is largely insulated from those effects as differences in the population densities of different issue areas are measured relative to each other. For example, while the number of groups involved in commerce issues remains relatively stable from 1972-2001 the growth of the majority of other issues areas during this same time period means that the relative density of commerce associations has been decreasing relative to the total population of groups over time.

Combined the results in this chapter suggest that the population density of groups is somewhat insulated from the political environment through robust time series processes. Indeed the total number of groups appears to be governed by the nature of the group system, the number of constituents and not necessarily the political environment. Due to the fact groups are density dependent and that entrepreneurs make judgments concerning group formation and disbanding based on previous behavior the population density of groups is persistent and strongly tied to group formation and failure rates. However, the relative population density demonstrates how the environment can positively affect the share of the voluntary associations dedicated to each issue. These results suggest that government attention and public attention increase the relative density of groups, but that the political environment does not positively affect the number of groups. There are clear and logical reasons for these differences based on the measurement of the dependent variable.

This chapter's findings suggest that the population of groups is affected in two unique ways by the political environment. While population level processes, such as the persistent nature of the group population and the positive effect of group formations on density exist regardless of how the group population density is measured the political environment does

not affect group densities consistently across measures. The total number of groups is only negatively affected by the political environment. These results suggest that the number of groups involved in an issue is only driven down as public attention increases. However, the percentage of all groups involved in an issue is positively affected by both government and public attention. Combined these two findings suggest that the carrying capacity of the group system is generally maintained, but that the share of groups devoted to issues is altered based on the level of public and government attention. The group system changes based on the issues government and the public prioritizes. The number of groups involved in each issue is largely predetermined by the carrying capacity of the group system and groups or potential members must work within the existing carrying capacity rather than shaping policy through increasing or decreasing the number of groups. The context of representation based on the size of group populations is relatively insulated making mass movements and mobilization that much more difficult as the majority of representation must occur within the group system that exists rather than shaping a new one. Overall the findings in this chapter suggest that the number of voluntary associations may not be determined by the public it represents, but that the share of associations devoted to each issue represents both public and government attention.

Figure 4.1: Density and Relative Density for Selected Issues, 1972-2001

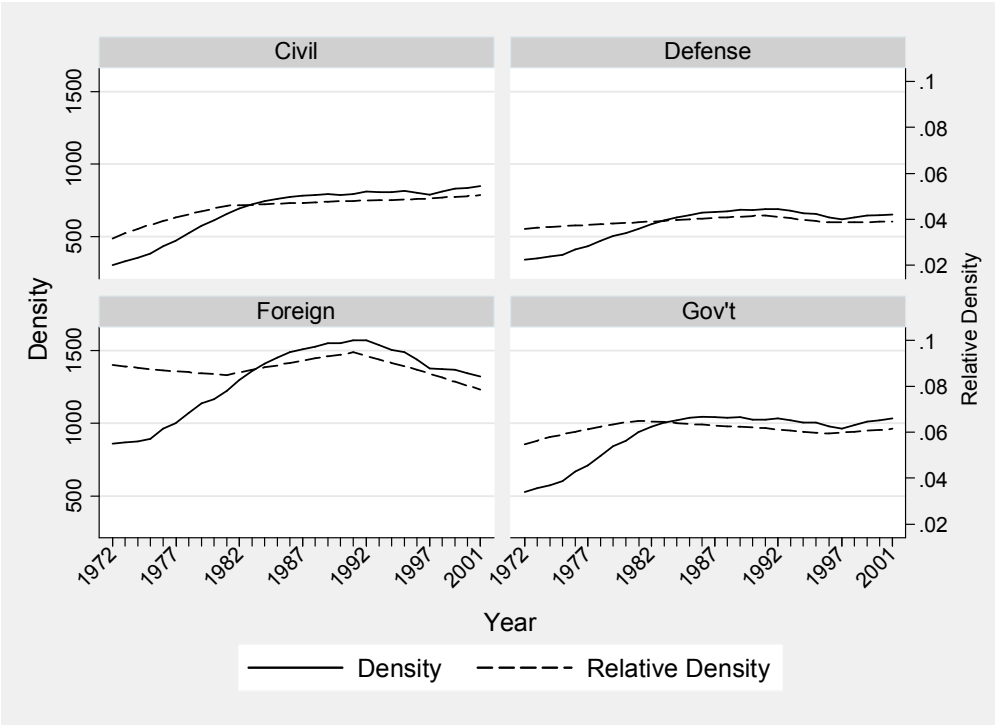


Table 4.1: Error Correction Models of Group Density, 1972-2001

	Model 1	Model 2	Model 3
Density _{t-1}	-0.0367*** (0.0073)	-0.0392*** (0.0071)	-0.0386*** (0.0072)
FoundingRate _{t-1}		363.1979*** (70.5378)	
FailureRate _{t-1}			-428.5106*** (126.1118)
ΔGovAttention _t	-0.3725 (0.7554)	-0.7230 (0.7407)	-0.6646 (0.7528)
GovtAttntention _{t-1}	0.1599 (0.7341)	-0.7015 (0.7360)	-0.2297 (0.7357)
ΔGovtAction _t	0.0881 (0.3135)	0.1224 (0.3062)	0.0520 (0.3106)
GovtAction _{t-1}	-0.2338 (0.4228)	-0.1822 (0.4129)	-0.2887 (0.4188)
ΔPubAttention _t	-137.3956** (51.0344)	-114.3306* (50.0277)	-134.9416** (50.5298)
PubAttention _{t-1}	-209.4207*** (43.5520)	-204.0112*** (42.5343)	-202.1030*** (43.1707)
Resources _{t-1}	-2.2339 (1.8414)	-2.1410 (1.7980)	-2.0308 (1.8240)
ΔConstituents _{t-1}	3.1999 (3.0666)	2.1510 (3.0010)	4.5555 (3.0621)
Constituents _{t-1}	8.9244*** (1.2202)	7.3311*** (1.2309)	9.5224*** (1.2208)
Trend	-11.0533*** (1.5991)	-5.9066*** (1.8538)	-12.8096*** (1.6654)
Trend ²	-0.2905*** (0.0428)	-0.2936*** (0.0418)	-0.2838*** (0.0424)
Constant	-1717.4580*** (246.1066)	-1451.4770*** (245.7729)	-1816.0920*** (245.3716)
R ²	0.3718	0.4023	0.3855

Note: * p = .05, ** p = .01, *** p = .001, † p = .10; N=551 (19 issues * 29 years)

Table 4.2: Error Correction Models of Relative Group Density, 1972-2001

	Model 1	Model 2	Model 3
Relative Density _{t-1}	-0.0556*** (0.0049)	-0.0515*** (0.0048)	-0.0575*** (0.0048)
FoundingRate _{t-1}		1.1135*** (0.1811)	
FailureRate _{t-1}			-2.3201*** (0.3744)
Δ GovAttention _t	0.0048† (0.0026)	0.0040 (0.0025)	0.0027 (0.0026)
GovtAttention _{t-1}	0.0081*** (0.0025)	0.0060* (0.0024)	0.0050* (0.0024)
Δ GovtAction _t	-0.0002 (0.0011)	-0.0002 (0.0011)	-0.0003 (0.0011)
GovtAction _{t-1}	-0.0005 (0.0015)	-0.0006 (0.0014)	-0.0007 (0.0014)
Δ PubAttention _t	0.1853 (0.1776)	0.2101 (0.1717)	0.2372 (0.1718)
PubAttention _{t-1}	0.3071* (0.1385)	0.1550 (0.1361)	0.4952*** (0.1372)
Resources _{t-1}	-0.0015 (0.0063)	-0.0044 (0.0061)	0.0021 (0.0061)
Δ Constituents _{t-1}	-0.0030 (0.0101)	-0.0019 (0.0098)	0.0029 (0.0098)
Constituents _{t-1}	0.0002 (0.0003)	0.0011*** (0.0003)	0.0004 (0.0003)
Constant	0.2046*** (0.0551)	-0.0755 (0.0701)	0.2232 (0.0533)
R ²	0.2348	0.2866	0.2873

Note: * p = .05, ** p = .01, *** p = .001, † p = .10; N=551 (19 issues * 29 years)

Chapter 5

Continuing the Collective Action Dilemma: The Survival of Voluntary Associations in the United States

Representation is one of the key concerns of political science as it goes to the very heart of democracy. Large volumes of research on the representation of citizens focus on electoral behavior, the opinion-responsiveness of government and on interest group advocacy to name just a few of the ways that representation in democracy is studied. Despite the high level of interest in representation some questions particularly on the representation of groups are left unanswered.

A great deal of work has focused on the collective action dilemma that questions how and why some groups form when others do not. The formation of groups is an important process as beyond voting in elections groups are the main means for the public to interact with government. While advocacy is not the main purpose of all groups, advocacy and non-advocacy groups alike can and do engage government when issues that concern them land on the political agenda. Furthermore, public concerns over issues are expressed through groups more often and more effectively than through individuals. While it may be true that the public chorus “sings with a strong upper-class accent” it is also true that in order for public to be effectively represented in the first place it must sing as a chorus regardless of any bias towards certain voices (Schattschneider 1960).

What affects the formation of groups is an important and interesting question, but does not even tell half the story of groups and their place within democratic representation. Collective action is a continual process and not just a dilemma that must be overcome in

order for a group to form. The continuing maintenance of an association is just as important as its original formation. If a group does not survive the fact that it overcame the collective action dilemma in the first place is a moot point (Walker 1983). Groups must survive in order to serve their purpose in gaining benefits for their members and representation through groups requires experienced, well known and politically entrenched associations that are all characteristics that take time to develop (Hansen 1991).

What affects the survival of groups therefore directly affects group representation in government. The traits of group populations, their average age and the factors that affect group survival rates all affect group behavior and how that behavior is viewed by government. Representation is not just about the actions a group takes, but the context of those actions as it is not just what is said or done that affects representation, but who is saying or doing it.

Despite the importance of understanding group survival from the standpoint of representation the factors that affect the longevity of groups are not well understood. This chapter tests several factors that are theorized to affect group survival rates guided by literature on collective action, interest group ecology, organizational ecology and organizational sociology. These factors include individual group characteristics, population and environmental level factors. To accomplish this data from the Encyclopedia of Associations Project public affairs dataset is used to test these factors on a representative sample of national level voluntary associations across several issues over a 26 year span. These analyses of group survival rates are conducted by way of parametric accelerated failure time (AFT) analyses using shared frailty to control for different group formation dates. The results demonstrate strong support for the majority of this chapter's hypotheses including significant positive effects for group and environmental level resources, government attention, group engagement in government action, a District of Columbia office, professional

group memberships and involvement in a social cause on group survival rates. These findings also include counterintuitive and significant negative effects for public attention on group survival.

The rest of this chapter takes the following form. First, several literatures related to the survival of groups are discussed. Next, a series of hypotheses relating specifically to voluntary associations and based on these literatures are presented. The data and methods used to test each of those hypotheses are then discussed in detail. The analyses as well as graphical interpretations of the results follow. Finally, the chapter concludes with a brief summary of this chapter's findings and discusses what these findings mean in relation to group representation and the kinds of groups that survive for the public to join.

A Theory of Group Survival

To survive, groups must first be formed. The formation of groups has generally been viewed as dilemma or a problem that is difficult to overcome primarily due to the free rider problem where the benefits of group membership can often be had by non-members (Olson 1965). Many groups do however form when the costs or benefits of membership are altered. Entrepreneurs that gain a particularly large benefit from the creation of a group often offset the costs that potential members face (Salisbury 1969). Multiple sources of benefits beyond material wealth can also change the value of forming a group (Clark and Wilson 1961). Particularly focused groups with small memberships related to a single industry or profession, such as trade unions, provide greater material benefits than other types of groups as well (Olson 1965; Schlozman and Tierney 1986). Nevertheless, the fundamental problem facing collective action remains the same in that the benefits of group formation must outweigh the costs for a group to form rationally (Moe 1980; Hansen 1985; Rothenberg 1988). While the collective action literature generally focuses on formation and not the

survival of groups a similar logic can be applied to group survival. Theoretical and empirical evidence demonstrates that the same processes affect both group formation and organizational maintenance or survival (Walker 1983; Hansen 1985; Rothenberg 1988). The calculus behind collective action continues on beyond group formation and the benefits for maintaining the group must continue to outweigh the costs for the group to survive (Chong 1991; Cigler 1991). Even successfully formed groups therefore continually face the collective action dilemma.

Beyond the collective action literature interest group ecology studies have focused on the traits of group populations, such as group population densities and failure rates. The largest limitation of this research has always been data in particular a lack of long time series data that allows for more complete ecological investigations. Due to these limitations this work generally considers more restricted models than the ecological literature it is based on with a strong emphasis of group population densities in a cross-sectional set-up. This work has found that the population density of groups changes with the number of potential constituents, as government goods and services change and as the level of political stability fluctuates (Lowery and Gray 1995). Tests of group failure rates have also been conducted by this literature using limited time series and have focused on the effect of density dependence on the failure rate of groups finding that high population densities increase group failure rates, but that this effect is conditional on the composition of the group system with certain types of groups more negatively affected by density (Gray and Lowery 1995; 2001). Event history analyses of the failure rate of gay and lesbian rights groups in the United States have further found evidence of density dependence in the form of a curvilinear relationship with group failure rates in that it decreases the likelihood of failure at low densities and increases the likelihood of failure once the equilibrium population density is reached (Nownes and Lipinski 2005). The interest group ecology literature provides several valuable insights about

the effect of group population and environmental factors on group traits like the group failure rate.

Political groups are not the only kind of groups that exist in society. Organizational ecology scholars consider what factors influence the population traits of firms within a particular industry or state (Hannan and Freeman 1989, Carroll and Hannan 2000). Unlike the interest group ecology literature more complete data sources allow organizational ecology studies to focus on firms with a life cycle perspective investigating why firms are born, what determines their numbers, and what factors influence how long they survive. Like the work of Lowery and Gray (1995), organizational ecology scholars predict that the number of firms in the environment is dependent on the number of firms already in the system. In other words, the population of firms self-regulates through curvilinear density dependence in the form found by Nownes and Lipinski (2005). Work on organizational ecology has also found that individual group characteristics also affect group survival rates, such as group activities, membership characteristics and resources that all have a large effect on group survival (Hannan and Freeman 1989; Carroll and Hannan 2000). The organizational ecology literature has found that activities that increase group benefits further increase group survival, that certain membership characteristics can increase group survival based on the industry in question and that higher group resources lead to longer survival rates.

Sociologists interested in groups focus heavily on the effect of the environment on group traits. This theoretical concern with the effect of environmental factors on group population traits started early on and separate from collective action and organizational ecology literatures and still drives the majority of work on group populations in sociology today (see Stinchcombe 1965). Sociological research on groups is often forced to ignore individual level data due to data limitations. For example, record keeping for many of the most interesting social movements, such as the civil rights movement and the anti-war

movement during the conflict in Vietnam, is particularly poor due to the nature of movements themselves. Organizational sociology continues sociology's focus on the environment in particular how competition for resources affects group populations (Aldrich 1979) and work on trade associations in this tradition finds strong environmental effects on the population of trade associations over time (Aldrich and Staber 1988). Other sociological work on groups still continues with an environmental focus and includes findings such as the effect of violence on increasing the number of ethnic newspapers (Olzak and West 1991) and that changes to regulations have led to the emergence of low-power FM radio stations in large numbers in recent years (Greve, Pozner, and Rao 2006). The focus on the environment groups face has also found evidence that related organizations can have a reinforcing effect on each other, such as with the positive effect of civil rights protests on the women's movement (Minkoff 1997). The common thread in this literature is that the factors that comprise a group's environment can be significant and in some cases the key variables explaining group population traits.

Group survival is determined by a mix of individual group characteristics, density dependence and the environment groups face (see Scott and Davis 2007). Individual group characteristics that affect the survival rate of groups are a professional membership (Olson 1965; Schlozman and Tierney 1986), high resources (Walker 1983) and characteristics that change the type and level of benefits groups can offer their members (Clark and Wilson 1961; Moe 1980; Hansen 1985; Rothenberg 1988). Density dependence exists in group systems as a clear equilibrium population density of groups exists. Before reaching equilibrium increases to the group population density are associated with continued survival as the survival of existing groups is necessary for the group population density to reach equilibrium. Once the equilibrium population density is reached any increase in the group population density is associated with a decreased survival rate that maintains equilibrium

density (Hannan and Freeman 1989; Gray and Lowery 1995a; 2001; Nownes and Lipinski 2005). The environmental factors that affect group survival include the general pool of resources for groups (Hannan and Freeman 1989; Carroll and Hannan 2000; Greve, Pozner, and Rao 2006), the amount of attention given to the system by other important actors and how much activity those same actors are undertaking (Hannan and Freeman 1989; Olzak and West 1991 Lowery and Gray 1995; Minkoff 1997; Carroll and Hannan 2000). Overall, group survival is a function of individual group characteristics, density dependence and environmental level factors.

The next section discusses several hypotheses concerning the survival of national level voluntary associations in the United States. Specifically how individual, population and environmental level factors affect the survival of associations. Voluntary associations represent a more complete sample of politically relevant groups than the traditional definition of interest groups as associations represent both actively engaged interests and groups that will engage in advocacy if an issue concerning them receives attention (Sabitier 1992; Gray and Lowery 2000).

Hypotheses

Voluntary associations represent both active and latent interest groups, groups that engage in advocacy when an issue that concerns them hits the agenda. Therefore, voluntary associations depict a more complete picture of group representation in the United States than the population of formal interest groups alone. However, the same three sets of factors affect the population traits of voluntary associations as formal interest groups. This section presents three sets of hypotheses relating to the individual, population and environmental level factors affecting the survival of voluntary associations in the United States. The hypotheses that follow are grouped based on these three levels.

Group Level

When considering the survival of associations the most appropriate place to start is with the characteristics of groups themselves. In particular individual group activities and membership characteristics that not only affect what the groups look like and how they function, but the lives of groups as well. The first set of hypotheses discussed in this section focus on the characteristics of groups and how these characteristics affect the survival of groups.

The groups contained in the *Encyclopedia of Associations* represent both organized interests and latent interest groups, groups that can and will engage in political advocacy if an issue that concerns them emerges on the government's agenda. Groups that actively engage government have an ecological advantage as they are more likely to provide material benefits for their members through these interactions. Furthermore, the longer groups survive and are able to gain experience in the issues that concern them the more likely they are to be taken seriously by government policymakers (Hansen 1991). Therefore, groups involved in government action survive longer than groups that do not engage government as they are more likely to offer material benefits for their members.

H1: Groups involved in government action survive longer

Group involvement in government action is important, but groups can affect government without direct interaction. While measuring other forms of group engagement is difficult groups based close to national level government are more likely to be noticed by government regardless of their level of engagement. Associations located inside the District of Columbia beltway are in close proximity to government and other important actors

involved in national level policy. Like with government action groups based inside the DC beltway can provide their members with more material benefits. The increased likelihood that a group based inside the DC beltway will provide material for its members means that associations located in DC survive longer than associations based elsewhere.

H2: Groups located inside the DC Beltway survive longer

National level voluntary associations often have a wide focus appealing to a large range of possible members by tackling issues that affect a large portion of society. Groups aimed at wider issues that affect society as a whole are not only able to build and maintain a strong membership (Walker 1983), but are also well recognized in society and provide a range of benefits that can appeal to a large cross-section of the population. However, such groups can be difficult to manage when their memberships grow too large as larger group memberships lead to more disagreements internally for groups (Truman 1951, Olson 1965). Nevertheless, groups successfully formed from a broad membership demonstrate an ability to manage conflict by overcoming the collective action dilemma. Many social cause groups have a large group membership and the benefits that large memberships can bring in terms of resources help offset the costs associated with internal disagreements. Other social cause groups maintain a smaller membership base that receives a wider range of benefits without the increased conflict that large groups bring. Groups involved in social causes survive longer than groups that are not as they are able to attract and maintain strong memberships and offer a wider range of benefits to their members.

H3: Associations involved in a social cause survive longer

A narrow membership base also helps survival and small focused groups are the most likely to overcome the initial collective action dilemma (Olson 1965; Walker 1983).

Professional associations whose membership comes from a single industry or occupation are less likely to experience internal conflict and can often provide their members with more benefits. Such groups are also more likely to be sought out by government as they are able to more directly represent industries and have a higher level of expertise than other groups (Hansen 1991). Professional associations survive longer than groups that have a wider membership as their homogeneous nature makes it easier for these groups to maintain group order and achieve goals.²⁷

H4: Associations with a membership from a single industry or occupation survive longer

Perhaps the most important individual level characteristic for group survival is resources. The more resources a group has the longer it survives. In particular the higher the membership, money and/or staff of a group the better equipped it is to pursue benefits (Walker 1983). Large group memberships can be unruly (Truman 1951), but if a group is able to successfully form with a large membership it has demonstrated an ability to manage conflict and can benefit from the increased resources associated with larger memberships. Beyond membership, money also positively affects the survival of groups as more capital allows groups to pursue goals and number of staff groups possess further facilitate group goals. Membership, budget and staff numbers are all highly correlated with each other and indicate an association with greater resources. While it is true that too large or broad of a membership can negatively affect a group, that money is not equally important for all types

²⁷ Hypotheses 3 and 4 may seem to be contradictory, but there are just as often complimentary in the data. Groups that focus on a social cause, but that maintain a professional membership do exist and experience a higher survival rate than those groups that only exhibit one of those characteristics.

of groups and that a large staff is not needed for some groups to function well each of these resources positively affect survival in similar ways due to their high level of correlation.

H5: The more resources an association has the longer that association survives.

Population Level: Density Dependence

Between individual group characteristics and environmental level factors is the effect of the group population itself. The population of voluntary associations is density dependent meaning that the survival of groups is affected by the number of groups in the population. As a density dependent population voluntary associations have an environmental carrying capacity that they tend to follow (Pianka 1972; Odum and Barrett 2004). When group populations are below their equilibrium density groups experience higher survival rates as group survival is necessary for the equilibrium population density to be reached. Once in equilibrium increases to the group population density lead to a decrease in the survival rate of groups as the system corrects itself returning to the equilibrium population density (Hannan and Freeman 1989; Gray and Lowery 1995a; 2001; Nownes and Lipinski 2005). Groups are most likely to survive when the competition between groups is limited that is when the carrying capacity of the group system has yet to be reached, but at or near the equilibrium population density group competition decreases the group survival rate. The relationship between group population density and association survival is curvilinear with density increasing the group survival rate up to the equilibrium population density and then decreasing association survival beyond that point.

H6: The population density of associations is curvilinearly related to association survival first increasing survival and then decreasing survival beyond the equilibrium population density.

Environmental Level

Group survival is also affected by the environment that groups face. The third set of hypotheses contained in this section focus on environmental effects on group survival. In particular the political environment that groups face based on the issues they deal with.

Voluntary associations are highly dependent on the political environment particularly the level of government attention. Government attention on a group's chosen issue signals higher benefits for continued survival. For example, a veteran's association is more likely to survive when healthcare benefits for veterans are being considered by government as an opportunity to change policy is clear. Furthermore, government attention to an issue also increases the carrying capacity of the group system by decreasing competition between groups based on density dependence. Increased government attention increases benefits and decreases costs for associations leading to increases in the survival rate of associations.

H7: Increased levels of government attention to an issue increases the survival of associations involved in that issue.

Government action affects groups traits in a less clear manner than government attention. Continuing the veteran's group example, if new legislation was passed that increased benefits for the dependents veterans groups primarily focused on those changes may dissolve as their primary goal has been accomplished. On the other hand, groups seeking a wider range of treatment options may fail recognizing that the costs of the new policy have put their goals out of reach. While groups concerned with other veteran's issues unrelated to healthcare should not be affected one way or the other. Given that government attention has a negative or no effect on individual group survival the total effect on the issue level will be

negative. Government action on an issue is associated with a decreased survival rate for groups dealing with that issue.

H8: High levels of government action on an issue decreases the survival of associations involved in that issue.

Public attention to issues is the primary environmental resource affecting association survival. Groups are made up of mostly individuals and the issues the public is concerned with are the most likely issues for members of the public to get involved in. The level of public attention to national security following 9/11 not only served to increase the number of groups related to the defense of the United States, but helped guarantee a place in the group system for existing groups focused on defense. Public attention serves to increase the carrying capacity of the group system and increases the ability for groups to survive as new members get involved in existing groups. Increased public attention has a positive effect on the carrying capacity of the group system and increases the involvement by members of the public in existing groups leading to an increased survival rate of groups.

H9: Increased levels of public attention on an issue increases the survival of associations involved in that issue.

Perhaps the most important environmental factor affecting association survival is resources. Voluntary associations are in a sense a luxury. When the public has a large amount of disposable income associations survive on the full gambit of issues that government deals with. However, as the public faces trade-offs with their own resources associations begin to fail. Variation does occur as less popular associations and groups involved in less important

issues are the first to fail, but the total effect on associations due to decreased resources is negative (Hannan and Freeman 1989; Carroll and Hannan 2000; Greve, Pozner, and Rao 2006). Changes in the available public resources affect the carrying capacity of the group system in the same way as government and public attention. The memberships of voluntary associations are made up of people that must constantly evaluate whether or not being part of a group is in their interest. As the public's own resources decrease members face trade-offs with other priorities. However, during times of economic prosperity the luxury of membership is easier to afford and therefore as environmental level resources increase so does the survival rate of associations.²⁸

H10: Increased environmental resources increase the survival of associations.

The next section discusses the data and methods used to test these hypotheses.

Data and Methods

To test the hypotheses presented in this chapter the Encyclopedia of Associations Project public affairs dataset is used to measure the survival of a subset²⁹ of associations from

²⁸ While each of the hypotheses detailed in this section is potentially competitive real groups face possess every combination of the individual level characteristics discussed above in many different environments. While this characteristic of the data suggests that conditional effects between these ten hypotheses do not exist, the results of the statistical analyses of these hypotheses focus both on individual variable effects and the combined effects for a series of hypothetical associations with different characteristics and environmental factors.

²⁹ This subset of associations excludes new associations added in the last year of analysis. Additionally, an alternative version of the dataset that excluded all groups founded before the time period being investigated, 1974-1999, was also created. The analyses using this data led to generally the same inferences with two exceptions. First, group government action remained positive, but was only marginally significant using this alternative dataset. Given that group age and access to government tend to be related this is unsurprising, but may suggest that there is a longer term selection mechanism based on group government activity. Second, government action remained negative but was marginally significant when using this data.

1974 to 1999.³⁰ The public affairs section of the *Encyclopedia* covers the full range of issues government deals with, but provides a consistent listing of associations for four different issues classified according to the Policy Agendas Project topic-coding scheme. Those four issues are: Civil Rights, Minority Issues and Civil Liberties; Defense; International Affairs and Foreign Aid; and Government Operations.³¹ Comparing the public affairs section to the entire *Encyclopedia* revealed that there was no significant difference between the proportion of associations listed in the public affairs section and the complete dataset for each of the four sets of issues investigated in this chapter. Furthermore, through an investigation of the public affairs dataset itself over time it was clear that the four different issues included in this study remain the most prominent issue areas throughout the dataset.³²

Before discussing each of the variables used to conduct these analyses, the concept of survival analysis and the particular method used in this chapter is discussed.

Method: Accelerated Failure Time

Statistical methods used to investigate the survival or failure for a unit of interest over time come in several forms and with different names including survival analysis, event history analysis, duration analysis and reliability modeling. Regardless all forms of survival analysis focus on two distinct measures, the hazard rate, which is the percentage of units that fail at each point of analysis time and the survival rate, which is the percentage of units that

³⁰ The time period according to the copyright year is 1978-2003. However, due to the nature of the *Encyclopedia of Associations* there is a four year lag between the copyright year and the actual year being represented in each published volume (see Chapter 2).

³¹ In the version of the dataset used in this papers analyses the issue code for Ideological, Social Cause and Political Groups, which are also consistently listed in this section has been combined with Government Operations to match the other Policy Agendas Project data as is prescribed by the Encyclopedia of Associations Project codebook. The exclusion of Ideological, Social Cause and Political Groups from the dataset did not change any inferences.

³² See Chapter 2 for more details.

still survive at each point of analysis time. Analysis time is an artificial metric that measures from the start of a unit of interest until its failure or until it is not longer observed.

The analyses in this chapter focus on the survival rate as it best matches this chapter's theoretical focus and in particular a parametric accelerated failure time (AFT) model is used. AFT analyses model changes in the probability of survival over analysis time given a set of covariates. Using an AFT model provides several statistical benefits and include the fact that estimates of AFT models are robust if relevant covariates are omitted and are less influenced by the choice of parametric distributions than parametric hazard models (Lambert et al 2004).

The use of parametric survival analyses over other techniques that do not require a parametric approximation of the underlying hazard or survival rate is generally not advisable in social science research. Parameterizing the underlying survival rate for a population of interest is a difficult task that is rarely guided by theory, that cannot be easily verified and that can alter results if incorrectly specified. The Cox proportional hazards model is the most common alternative to parametric modeling and is what is known as a semi-parametric model where the underlying hazard rate is determined by the population being investigated and not set to a specific parametric function by the researcher (Box-Steffensmeier and Jones 2004). While the use of semi-parametric techniques for analyzing event data is good general advice the advantages of AFT modeling, the fact that a survival set-up better fits this chapter and that group data is closely linked to a single parameterization makes using a parametric model for this chapter's analyses appropriate.³³

The parametric model used in this chapter follows the Weibull distribution, which is a very generalizable parameterization that is highly adaptive to the underlying data. When it

³³ Alternative versions of the model which instead follow the proportional hazards set-up were also tested, including a parametric hazard model using the Weibull distribution and a Cox proportional hazards model. As expected the same inferences were gained, with all signs changing direction as these models tested the effect of each variable on the failure rate, rather than the survival rate.

comes to the survival of associations the chance of failure tends to be highest early on due to the liability of newness with the odds of failure decreasing with time. The Weibull distribution is able to capture this underlying survival rate. Additionally, the Weibull distribution can be used in both AFT models and proportional hazard rate models allowing the analyses to be conducted using both methods with the same parameterization as a robustness check.

The final version of the model presented in this chapter also accounts for shared frailty based on the starting year for each group otherwise known as the cohort year. Analysis time is an artificial metric that starts for each group when it is first founded and continues until it either fails or is no longer observed. Therefore, a group that was formed in 1975 and that failed in 1979 has the same analysis time as a group founded in 1995 and that failed in 1999. In other words, without accounting for frailty both groups are viewed as having the same base survival rate despite the twenty year difference between the two groups founded dates. Shared frailty by cohort is used to account for unmeasured characteristics affecting the survival rate based on the year a group formed. As a form of random effect, shared frailty is generally used for different subgroups in a population across the same time period, but using it as a form of random effect by cohort is also appropriate. This is accomplished by including a v_i on the right hand side of the model that multiplies the entire estimate of survival time for each cohort year. This produces a weighted average for each coefficient in the output based on a combination of estimates for all of the separate cohorts.

Dependent Variable

The dependent variable for this chapter's analyses is association survival time, which is a combination of a dichotomous variable indicating association failure and analysis time

that measures how long the association has survived.³⁴ The variable indicating group failure is coded 1 for a failure, and 0 for a non-failure indicating continued association survival. In the case of the final year of analysis if a group has not failed it is considered a censored case, which means a case where failure has not been observed yet. It is important to note that a failure is coded as 1 with the removal of a group from the Encyclopedia of Associations Project public affairs dataset. This includes several different outcomes with the most common being the failure of the group outright. However, the exact cause for removal cannot be directly determined from the dataset. Other reasons a group may be removed include the association evolving into a corporation or changing into some other non-association group type or reversion back to a regional or state focused association. While each of these presents a different type of failure for a national level voluntary association each are failures of the group to remain a national level voluntary association making this measure a valid if not particularly nuanced measure.

Group Level

To test several of the group level hypotheses a series of dummy variables are used and are coded 1 for the presence of a characteristic and 0 otherwise. The first of these dummy variables, group government action is used to test H1 that associations engaged in government action survive longer than those that are not engaged in advocacy. The government action dummy variable measures if a group engages in government action of some sort as determined from their description contained in the *Encyclopedia*. Closely related

³⁴ The *Encyclopedia of Associations* provides a founding date for a subset of random associations with no patterns in reported founding dates based on individual group characteristics. Analyses of the lag between the reported association founding dates and their first inclusion indicates that four years is the appropriate lag between an association's first inclusion in the *Encyclopedia* and its actual founding date. Further analyses on the time for association resource information to be updated also indicates that four years is an appropriate lag between group changes and updating and that the removal of a failed association also experiences a four year lag (see Chapter 2).

to the effects of government action, but independent from them is the group location. Beltway is a dummy variable coded 1 if a groups mailing address is listed as Washington DC and is 0 otherwise. Beltway is included as a test of H2 that associations located inside the DC beltway survive longer than associations located elsewhere.

An additional dummy variable measuring if a group is involved in a social cause is included to test H3 that associations involved in a social cause survive longer than groups that are not involved in such causes. Whether or not an association is involved in a social cause is also determined by the description of group activities contained in the *Encyclopedia*. A group is considered to be involved in a social cause if it focuses on wide-ranging matters beyond their own membership. For example, groups interested in issues focused on the fate of society as a whole, such as equal rights or the security of the United States, would be considered as social cause groups.

The final group level dummy variable included in the statistical analyses measures if an association is a professional association to test H4 that a professional membership increases the survival of associations. This variable is also determined by the group description contained in the *Encyclopedia*. The descriptions are quite clear concerning groups membership noting if members are doctors, journalists, retired military personal or other professionals. An association is considered to have a professional membership if the membership of the association is primarily from a particular occupation or industry.

In addition to these group characteristics a categorical resource variable is included to test hypothesis H5 that increased association resources lead to an increased survival rate. While direct measures of group resources, such as association budgets, membership and staff numbers, would be ideal the *Encyclopedia* does not consistently report this information for all groups. Even fewer groups report information on all three resource measures. However, increases in budget, membership and staff numbers are highly correlated with one another

and since each represent increased group capabilities the creation of a resource index is viable. This index of group resources makes two assumptions. First, as groups choose whether or not to report resource information that no information on any of these resources is informative. The second assumption is that reporting different levels of resources for one or more of the component resources relates to increased group resources overall. The resulting categorical variable is coded 0 when no resource information is reported by a group. The variable is coded 1 if some resource information is reported, but less than the resources required to be coded as level 2. Is coded 2 if staff is greater than 10, and/or if membership is greater than 10,000 and/or if the reported budget is over \$100,000, but is less than the resources required to be coded as level 3. Finally, this variable is coded 3 if staff is greater than 100, and/or if membership is greater than 100,000 and/or if the reported budget is over \$1,000,000. Groups reporting resource information are generally more stable and survive longer than groups reporting no resources. While groups reporting resources in excess of one or more of the measurement thresholds for each level of this categorical variable survive longer still.

Density Dependence

To test H6 that the population density of associations is curvilinearly related to association survival increasing and then decreasing survival a measure of the population density of associations by issue area and a squared version of this term are included in the model. For H6 to receive support the density term will need to be positive in the model and the squared term will need to be negative indicating a curvilinear relationship between the association survival rate and the population density of associations by issue area.

Environmental Level

The political environment that groups face is based on the levels of action and attention of other actors. The majority of environmental variables used in the analyses are adapted from the Policy Agendas Project that contains several measures of government action, government attention and public attention coded in the same issue based framework as the Encyclopedia of Associations Project.

Government attention to an issue can come in many different forms. On the national level Congressional attention is the most influential for national level voluntary associations as Congress is charged with national level policy and contains representatives from every state and territory within the United States. To measure Congressional attention the percentage of hearings devoted to each issue is used. Congressional hearings provide both a tool and a means for Congress to signal its concern over issues. Congressional attention is included in the model as a test of H7 that increases in government attention to an issue increases the survival rate of associations involved in that issue. The percentage of hearings on an issue increases when Congress sees a problem on an issue, wants to make changes to policy or when it simply wants to indicate concern over an issue.³⁵

Government action is also best measured as Congressional action on the national level due to the nature of Congress. Government action is included in the analyses as a test of H8 that government action on an issue decreases the survival of associations involved in that issue. The percentage of Congressional statutes on each issue is used to measure Congressional

³⁵ An alternative and complimentary measure of government attention was tested in place of and alongside Congressional hearings, the State of the Union Address, which highlights presidential attention to issues for the year ahead. This measure which was transformed in the same way as Congressional hearings produced consistently insignificant results. Given these results and since the majority of policymaking occurs through the legislature the use of Congressional hearings to measure government attention seems the most appropriate.

action. Statutes make law and represent the final direct action taken by Congress on each issue.³⁶

The level of public attention to an issue is best measured as the level of issue salience on that issue. Salience measures how prevalent an issue is in the public's mind and closely captures the concept of public attention. The number of stories in the Policy Agendas Project's random sample of the New York Times Index is used to measure issue salience. This story count is divided by the estimated number of articles in each year to account for differences in the number of stories per year due to formatting and other changes to the New York Times and is multiplied by 100 to assist in interpretation.³⁷ Issue salience is included in the analyses as a test of H9 that increased public attention to an issue leads to an increased survival rate for associations involved in that issue.

Finally, resources also affect association survival at the environmental level. This chapter focuses on environmental level resources that affect all associations. Issue specific resources are hard to measure especially over time as budgets, contributions and other types of resources on the environmental level are rarely complete and may be biased towards specific issues. Therefore, instead of presenting potentially misleading data measures the analyses in this chapter focus on environmental level resources that affect all voluntary

³⁶ An alternative measure of government action was also tested in place of and alongside Congressional statutes, executive orders the president's own direct policy actions. Executive orders make law and are the primary means through which the president can take action separate from Congress and other government actors. This measure also produced consistently insignificant results. As executive orders often serve to fill a gap in policymaking left by Congress or to implement minor executive changes to law and do not represent a complete policy program these results are unsurprising and make Congressional statutes a better measure of government action.

³⁷ Another important measure of public attention is public opinion. Alternative model specifications which use responses to the 'Most Important Problem' (MIP) alongside and in place of issue salience were also tested. MIP is a measure of public prioritization based on a question asked by Gallup which asks respondents to name the most important issue facing the nation. Aggregated, the MIP question produces the public's view on what issue(s) should receive the most government attention, the second most and so on and so forth. This measure proved a suitable replacement for issue salience leading to the same inferences concerning public attention. However, MIP was generally insignificant when issue salience was also included in the model. MIP has therefore been omitted from the final model

associations. The environmental level resource variable used in this chapter is the change in GDP per capita in constant dollars. The two variables that comprise this variable, GDP and the population of the United States, are generally increasing as is GDP per capita, which makes them uninformative from a survival standpoint. However by differencing this measure, fluctuations in the amount of disposable income for members can be investigated properly. Associations are a luxury of sorts and continued group survival is dependent on the public's level of disposable income. The change in GDP per capita is included as a test of H10 that increases in environmental level resources lead to an increased association survival rate.

Each of the environmental variables included in this chapter's analyses is lagged by one year in the analyses as these variables take time to affect association survival rates.³⁸ Contemporaneous effects and a lag of two years were also tested and led to the same general inferences.

Controls

In addition to the independent variables included in this chapter's analyses several control variables are used to account for issue based variation in association survival and the occurrence of regionally focused associations in the *Encyclopedia*. Issue area dummy variables are used to control for differences in the base survival rate between issues and are a form of issue area fixed effects. The base survival rate for the four issues contained in the dataset was investigated through the use of non-parametric Kaplan-Meier survival estimates presented in Figure 5.1. Through this non-parametric investigation of the base survival rate there appears to be no difference in the underlying survival rate by issue. Nevertheless, differences in the base survival rate may be more pronounced when the other independent

³⁸ A lag of one year in this case is in reality a lag of five years from the reported copyright date of the *Encyclopedia of Associations*. Analyses of differences in reported founding rates and update times indicated a four year lag between the reported volume and the actual group system exists (see Chapter 2).

and control variables in the AFT analyses have been accounted for. Therefore, fixed effects by issue are included in the model with Government Operations as the omitted issue.³⁹

[insert Figure 5.1 about here]

A further control variable measures whether or not an association is primarily a regional association. A regional association is a group whose membership is primarily based in a particular state or region despite the national level focus and associations attempting to function on the national level without a national membership are less likely to survive. Since the few regional associations included in the *Encyclopedia* fall on the line between what groups should and should not be included in the *Encyclopedia* it is inappropriate to test this as a theoretically driven hypothesis as it may be an artifact of the data collection process and not a substantive finding. A dichotomous dummy variable coded 1 if a group's membership is primarily from a particular state or region and 0 otherwise is included in the analyses as a control.

The next section presents the analyses of voluntary association survival. It also presents a series of survival curves detailing these results for non-dichotomous variables and several hypothetical associations in two different political environments.

Analyses

Table 5.1 presents the parametric accelerated failure time analyses for the group, population and environmental level hypotheses. Included in this table are the basic model, the model with fixed effects and the model with fixed effects and shared frailty. Note that all

³⁹ All issues were tried as the omitted case and the same inferences were found in relation to the independent variables in these alternative models.

results are presented in time ratios that are exponentiated versions of the estimated coefficients that allow for direct interpretation of the results.

[insert Table 5.1 about here]

Interpreting the time ratios presented in Table 5.1 is much like interpreting log likelihood ratios from logistic regressions as a time ratio is a multiplicative term in which a value less than 1 indicates a decrease in survival time and a number greater than 1 indicates an increase in survival time. The time ratios multiply the base survival rate over time and create estimates of how many associations survive at each point of analysis time given the value of a particular variable. Significance for a time ratio is determined by the number of standard deviations the time ratio is away from 1 a value that indicates no change in survival time due to the ratios multiplicative nature.

Overall, each of the three model specifications presented in Table 5.1 produce similar although not identical results, but as the model with shared frailty is theoretically the most complete model specification it is the version of the model that is interpreted and discussed in this section. Before discussing the time ratios is worth noting that the significant value for theta in this model specification suggests shared frailty is appropriate. The significant value for theta indicates that there is shared frailty by cohort as significant differences in association survival rates by cohort exist. P a shape parameter for the Weibull distribution is significant indicating that the distribution is appropriate for this model. As p is greater than 1, this indicates that the base survival rate decreases overtime that goes against expectations for a strong infant mortality rate. However, with both cohort based random effects and fixed effects by issue that modify the base survival rate this result is not surprising.

The discussion of the remainder of the results is broken up by level in a similar fashion to the hypothesis section.

Group Level

On the individual level in the model with fixed effects and shared frailty presented in Table 5.1 support for each of the five individual level hypotheses is found. The significant time ratio of 1.150 for government action indicates that an association that takes government action is predicted to survive 15% longer than an association that does not. This offers support for H1 that group government action increases the survival rate of associations. The time ratio for beltway of 1.267 is significant and indicates that groups with a DC mailing address survive 26.7% longer than groups located elsewhere offering support for H2. The significant time ratio of 2.048 for social cause indicates that associations involved in a social cause survive 104.8% longer than associations not involved in a social cause and supports H3 that group involvement in a social cause increases their survival rate. The time ratio for professional membership of 1.275 that is also significant and indicates that associations with a membership based on a particular profession of occupation survive 27.5% longer than associations that are not based on such a membership supporting H4 that associations with a professional membership have an increased survival rate. The significant time ratio of 1.437 for resources indicates that for each unit increase in the categorical resource variable, an association is expected to survive 43.7% longer than an association before it on the scale and supports H5 that increased group resources increase the survival rate of groups. As this variable can take on multiple values it is best understood graphically. Figure 5.2 presents the effect of group resources on the association survival rate through each of the four categories that comprise the variable. In Figure 5.2, it is clear that group level resources matter for

association survival. However, since the survival rate has a limit a much larger benefit is observed when moving from low to medium resources than from medium to high resources.

[insert Figure 5.2 about here]

Population Level

Unlike the majority of results in Table 5.1 the results for density dependence are not robust. Significant results for density and density squared only exist in the fully specified model. However, as this is the most appropriate model support for H6 the curvilinear relationship between population density and group survival is found. To more fully understand how density dependence affects survival Figure 5.3 presents the effects of density and density squared on the association survival rate over several different population densities. In Figure 5.3 a clear increase in the survival rate is observed up until 750 groups, when the association survival rate drops below the survival rate for a group system with 500 groups. Furthermore, the survival rate of a system with 1000 groups is lower than a system with 200 groups in Figure 5.3. These effects on the survival rate of groups based on the population density of groups clearly support the existence of curvilinear density dependence.

[insert Figure 5.3 about here]

Environmental and Group level Analyses

The significant government attention variable in Table 5.1 indicates that for every 1% of the agenda dedicated to a group's chosen issue area the group survives 8% longer than a group whose issue receives 1% less attention. As this variable can take on multiple values it is best understood graphically. In Figure 5.4 the effect of, 0%, 1%, 5%, 10% and 25% of all

hearings dedicated to an issue survival rate of groups involved in that issue is compared. Clearly, there is a rather consistent increase across the range of hearing percentages with association survival increasing as government attention increases offering support for H7.

[insert Figure 5.4 about here]

The result for government action Table 5.1 is less than 1, but insignificant in the model with fixed effects and shared frailty. The size of this small and insignificant effect is demonstrated in Figure 5.5 that graphs laws in the same way as hearings. The directional effect of increases in laws in this case is a decrease in survival in line with H8, but as the effects are insignificant in the fully specified model no support for H8 is found.

[insert Figure 5.5 about here]

Public attention is significant in the analyses, but far less than 1. Therefore, increases in public attention by issue decreases the survival rate of associations involved in that issue. This runs counter to H9 that increases in public attention to an issue increase the survival rate of associations involved in that issue. Figure 5.6, presents a graphical interpretation of this effect at no stories, the 25th percentile, 50th percentile and 75th percentile story levels. As this measure is not a percentage the actual values cannot be directly understood and therefore percentiles are investigated instead. As Figure 5.6 clearly indicates increases in public attention on an issue decreases the survival rate of associations involved in that issue. However, a large number of stories are necessary to have a strong effect on survival with the change from 0 to the 75th percentile leading to roughly a 10% decrease in the survival rate.

[insert Figure 5.6 about here]

Environmental resources have a significant positive effect on the survival rate consistent with H10. The results show that that a \$1000 increase in the GDP per capita leads to a 66.4% increase in the group survival rate. While change in GDP per capita is rarely negative it does occur during the time period investigated by this chapter by as much as \$1000. Figure 5.7 presents how a \$1000 decrease, no change, a \$1000 increase and a \$2000 increase in the GDP per capita affect the survival rate of associations. As Figure 5.7 demonstrates, just a \$1000 difference in the GDP per capita between two years can have profound effects on the survival rate of associations.

[insert Figure 5.7 about here]

Controls

The control variable for regional associations is significant and below 1 indicating the groups with a regional membership have a significantly lower survival rate than groups with a truly national membership. The value of 0.60 indicates that the base survival rate for groups with a regional membership is 40% ($1 - 0.60$) lower than other groups.

The fixed effects for issue areas indicating the difference in the base survival rate for associations by issue in relation to government operations groups. These results indicate that civil rights groups survive 143.2% longer and that defense groups survive 92.7% longer than government operations groups. The results for international relations groups are insignificant. While the Kaplan-Meier non-parametric survival estimates presented in Figure 5.1 indicated that there was no significant difference between the survival rate of associations based on the issues they deal with once the effects of the independent and control variables were

accounted for in the model base differences in survival rates by the issues that groups deal with were found.

Hypothetical Groups

The results presented in the last column of Table 5.1 can also be represented in combination with one another. By doing so different group types in different environments can be compared based on the model estimates. Several different hypothetical government operations groups are described in Table 5.2 that presents the values of different individual group characteristics for each hypothetical group. Figure 5.8 presents the affect these individual characteristics have on survival in a set political environment. The environment in Figure 5.8 is one where government attention and government action are both at 10%, issue salience is at the 25th percentile, the change in environmental resources is \$1000, the group population density is 500 and the regional control variable is set to 0.⁴⁰ The main point to take away from Table 5.2 and Figure 5.8 is not about any particular hypothetical group, but that each of the variables tested in the analyses work in concert with one another to predict an association's survival rate given its particular traits and the environment it is facing.

[insert Table 5.2 and Figure 5.8 about here]

To highlight the environmental effects on groups Figure 5.9 presents the same hypothetical groups, but in a harsher environment towards group survival where government attention and action is at 5%, issue salience is at the 50th percentile, the change in environmental resources is \$0, the population density of groups is 750 and the regional

⁴⁰ The method used to produce Figure 5.8 does not allow for time varying covariates. Therefore, the estimated survival rates for the hypothetical groups listed in Table 5.2 represent a cross-section of particular group types for a set environment projected over the entire analysis time.

control variable is still set to 0. Through a visual comparison of Figures 5.8 and 5.9 it is clear that the characteristics of groups and the factors that make up the environment they face both have a strong effect on the survival rate of associations.

[insert Figure 5.9 about here]

The next section summarizes this chapter's findings and further discusses them in the context of representation focusing on what the negative effect for public attention on survival means for group representation and how this chapter's findings speak to the larger interest group literature.

Conclusion

The analyses presented in this chapter offer support for a host of hypotheses developed from literature on collective action, interest group ecology, organization ecology and organizational sociology. Combined into individual, population and environmental level hypotheses the majority of expectations are met. On the individual level this chapter's findings include the positive and significant effects for group involvement in government action, a beltway location, social cause goals, a professional membership and group resources on group survival. On the population level evidence of curvilinear density dependence in the group system is also found with the population density of groups having a positive and significant effect on the association survival rate until equilibrium density followed by a negative and significant effect once equilibrium is reached. On the environmental level positive and significant effects for government attention and environmental resources on association survival are found.

Not all of the hypotheses presented in this chapter received support. Also on the environmental level a negative, but insignificant effect for government action on the association survival rate was found. As individual government actions encourage failure for some groups, but do not affect most groups this finding is not particularly surprising. A more directed approach may be needed to fully understand how government action affects the survival of individual groups, but it appears to play no significant role in the association survival rate overall.

The negative and significant effect for public attention on association survival is however surprising. Public attention is hypothesized in this chapter to have a positive effect on association survival as public attention can draw more members and resources to existing groups while increasing the group carrying capacity. The measurement of public attention is one possible cause for this finding, but alternative analyses using the percentage of responses to Gallup's Most Important Problem (MIP) question to measure public attention was tested alongside and as a replacement for issue salience in alternative models not presented here.⁴¹ The results of these analyses demonstrate the same relationship between public attention and association survival.

This unexpected and counterintuitive finding for public attention to issues on the survival rate of associations deserves some further consideration. While public attention is clearly important for voluntary associations and can increase the carrying capacity of the group system increased public attention works against survival. Increases in public attention instead of helping support the survival of existing groups encourages new group formations while decreasing group survival rates. However, public attention may not lead to decreased survival directly as the existence of density dependence and the associated environmental

⁴¹ MIP is an appropriate measure of public attention, but certain issues such as government attention are not often mentioned by survey respondents making this measure less appropriate for statistical analyses than the measure of issue salience presented in this paper.

carrying capacity means that increases in group formations must be met with increased group failures and lower survival rates in order for equilibrium population density to be maintained. Public attention may however affect survival directly if the purpose of public attention is group replacement, but whether the effect is direct or indirect public attention still has a negative effect on association survival rates.

The other findings in this chapter suggest further implications related to group representation. Combined the individual level findings in this chapter are generally consistent with interest group literatures concerned with group characteristics that affect a group's ability to successfully advocate. This is especially true when it comes to maintaining the status quo or affecting the interpretation of passed legislation (Yackee and Yackee 2006, Baumgartner et al 2009) and access to government is also an important element of successful advocacy. That group characteristics related to government involvement and resources positively affect the survival rate of voluntary associations suggests that representation in government for groups is not only about the characteristics of groups themselves, but also about their survival (Hansen 1991). Literature studying the effectiveness of lobbying efforts would do well to consider the effect that group age has on their lobbying activities. Group survival is one element of representation that has been generally overlooked by studies of lobbying.

The findings presented in this chapter are important in relation to representation in other ways as well. Group characteristics related to increased founding rates and the ability to successfully advocate also positively affect survival. The dependence of these group traits based on individual characteristics indicates that the strongest and most elite groups are not over represented because of their successful advocacy efforts as some have suggested (Smith 2000), but because these groups simply survive the longest that in turn allows them to advocate. Government attention and environmental level resources further perpetuate the

survival of groups. A growing economy and increased government involvement in issues increase the association survival rate particularly for those groups that have the individual characteristics associated with survival. Furthermore, the negative effect of public attention on group survival has the largest effect on those groups without strong individual level characteristics. The public seemingly shoots itself in the foot by paying attention to issues when it comes to group representation. Public attention encourages group formation while discouraging survival and those groups lacking characteristics that are common for elitist interests are first to fail. Elite representation through groups is a self-perpetuating cycle based on the survival of groups themselves. Citizens groups with stronger characteristics in particular groups that take up a social cause and that have higher resources can overcome this cycle. However, the process is so engrained and favored towards business and other moneyed interests that elitist representation is here to stay. Group representation is not just about what groups do, but the context of that action as well. After all, successful group representation regardless of the findings in this chapter requires the existence and survival of the group undertaking it.

Figure 5.1: Kaplan Meier Survival Estimates by Issue

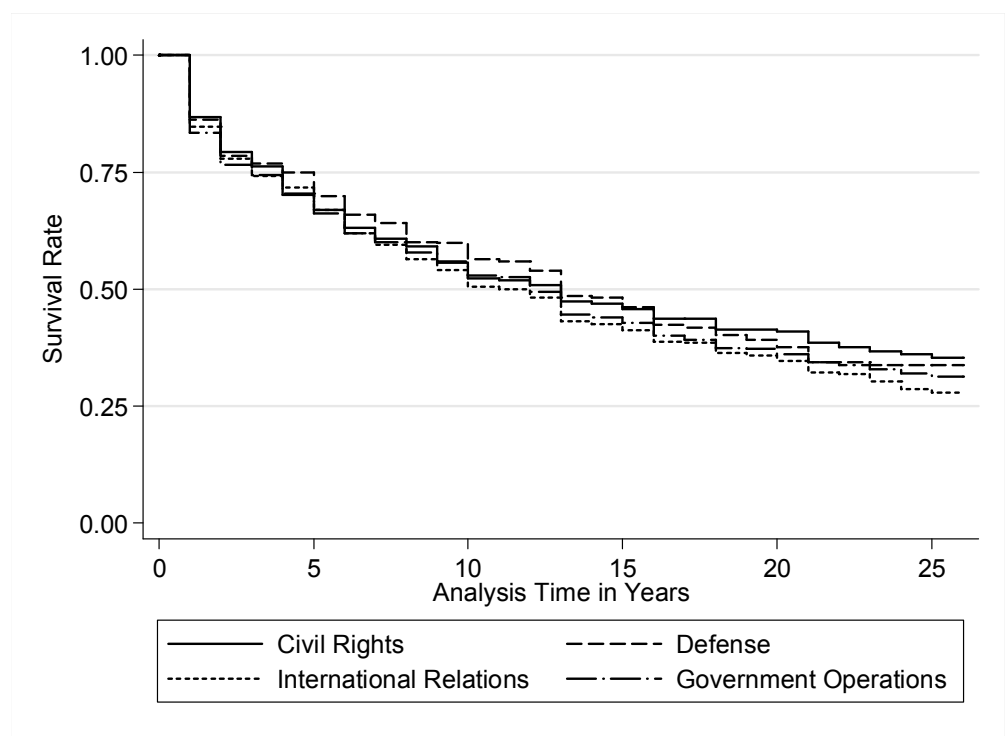


Table 5.1: Parametric Accelerated Failure Time Analyses of Association Survival

Variable	Basic Model	Model w/ Fixed Effects	Model w/ Fixed Effects and Shared Frailty
Group Action	1.131* (0.059)	1.145* (0.060)	1.150** (0.055)
Beltway	1.271*** (0.076)	1.275*** (0.076)	1.267*** (0.069)
Social Cause	2.306*** (0.261)	2.270*** (0.257)	2.048*** (0.210)
Prof Membership	1.242** (0.100)	1.238** (0.099)	1.275*** (0.092)
Group Resources	1.515*** (0.047)	1.508*** (0.046)	1.437*** (0.040)
Density	1.001 (0.001)	1.002 (0.001)	1.007*** (0.001)
Density ²	0.999 (0.000)	0.999 (0.000)	0.999*** (0.000)
Gov't Attention	1.044*** (0.013)	1.066*** (0.016)	1.083*** (0.015)
Gov't Action	0.980*** (0.006)	0.991 (0.008)	0.995 (0.007)
Public Attention	0.046*** (0.020)	0.062** (0.057)	0.010*** (0.008)
Environ Resources	1.692*** (0.080)	1.705*** (0.080)	1.664*** (0.072)
Regional	0.578** (0.105)	0.583** (0.106)	0.640** (0.104)
Defense		1.401* (0.223)	1.927*** (0.286)
International		1.292 (0.292)	0.985 (0.200)
Civil		1.818** (0.415)	2.432*** (0.505)
p	0.934*** (0.019)	0.937*** (0.019)	1.041* (0.020)
theta			0.145*** (0.066)
Log Likelihood	-4626.156	-4622.373	-4514.730

Note: * p = .05, ** p = .01, *** p = .001, † p = .10; N = 22424, subjects = 3392, failures = 1993

Figure 5.2: Group Resources on the Survival Rate

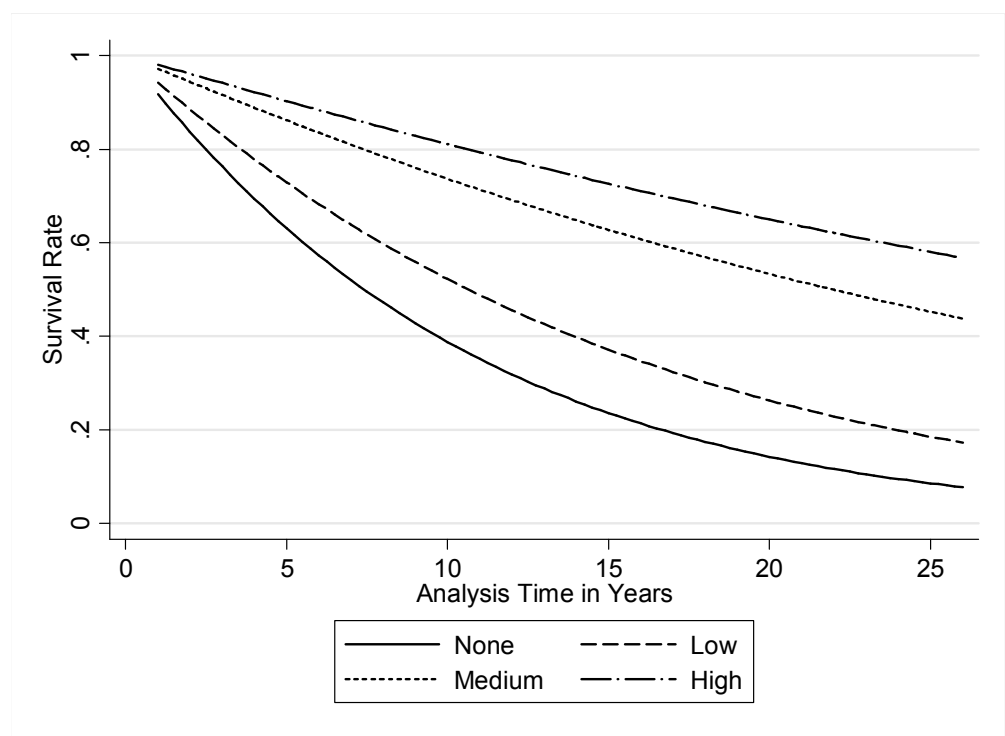


Figure 5.3: Density Dependence on the Survival Rate

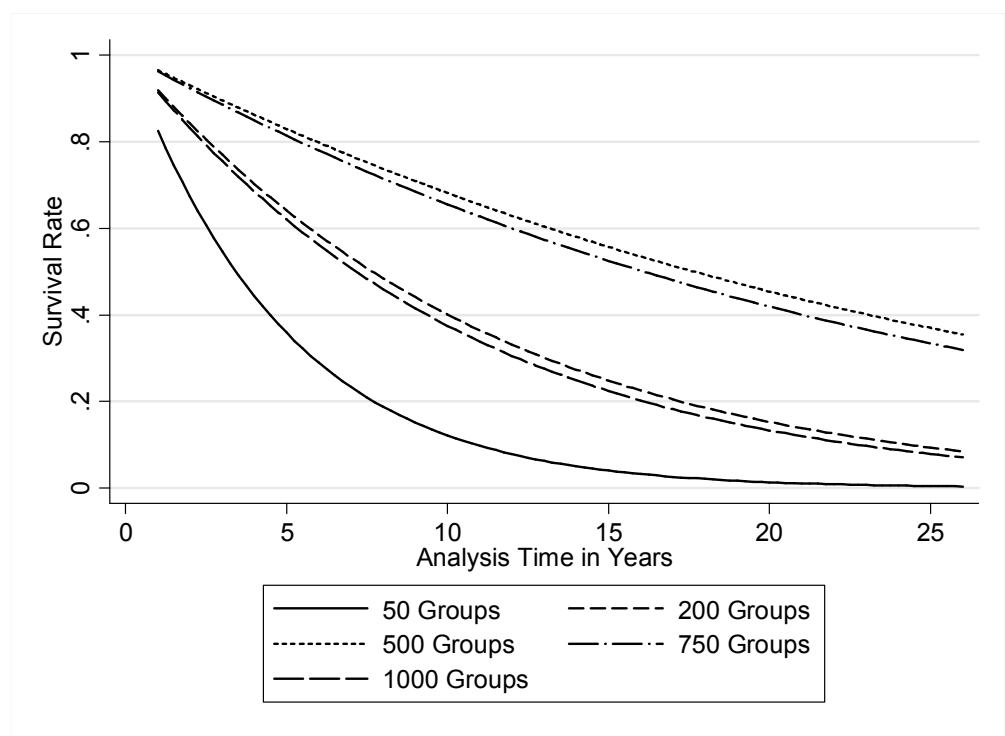


Figure 5.4: Percentage of Hearings on the Survival Rate by Issue

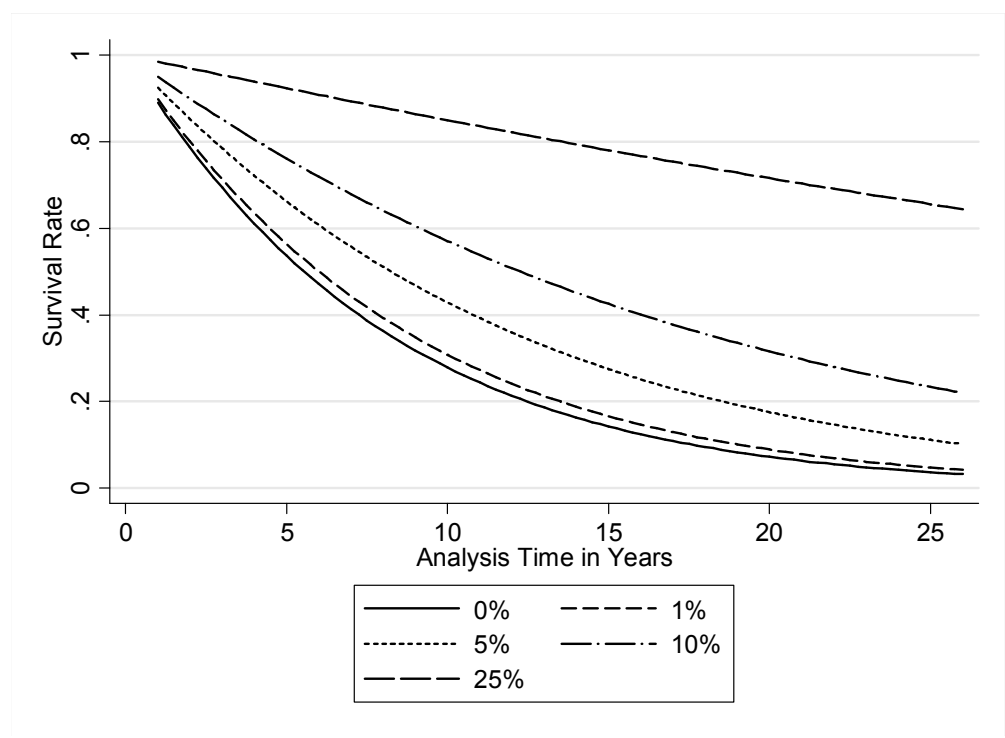


Figure 5.5: Percentage of Laws on the Survival Rate by Issue

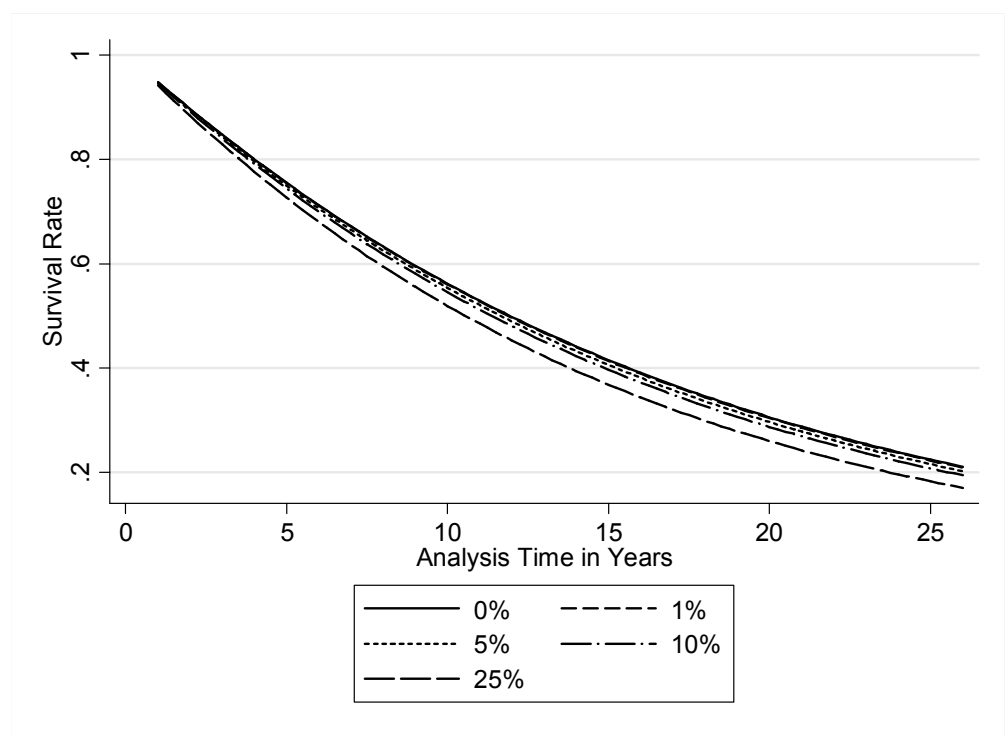


Figure 5.6: Issue Salience on the Survival Rate by Issue

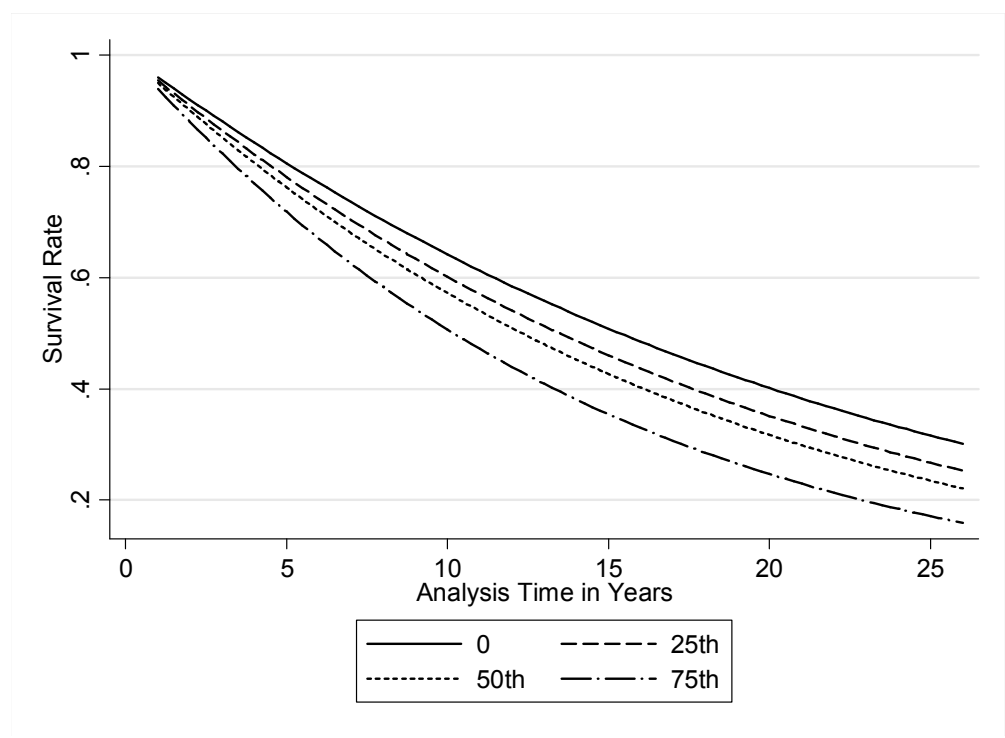


Figure 5.7: Change in GDP Per Capita on the Survival Rate

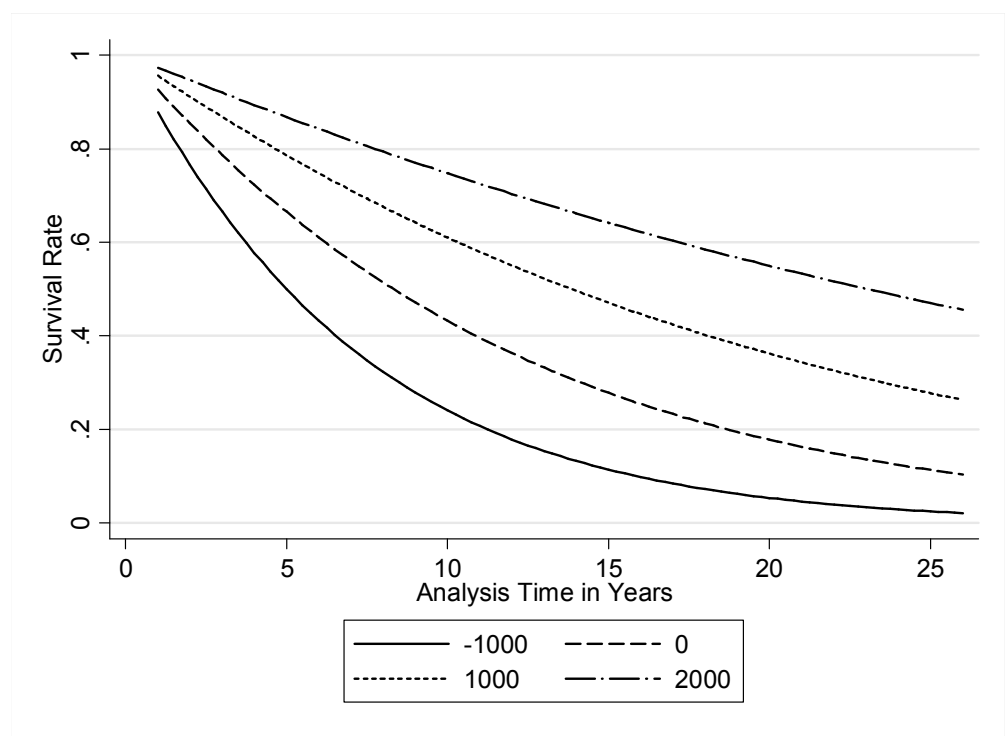


Table 5.2: Hypothetical Government Operations Groups' Characteristics

	Group A	Group B	Group C	Group D	Group E
Gov't Action	No	Yes	No	Yes	Yes
Social Cause	No	Yes	Yes	No	No
Prof Membership	No	No	No	Yes	Yes
Resources	None	Low	Medium	Medium	High
Beltway	No	Yes	Yes	Yes	Yes

Figure 5.8: Hypothetical Government Operations Groups, Environment A

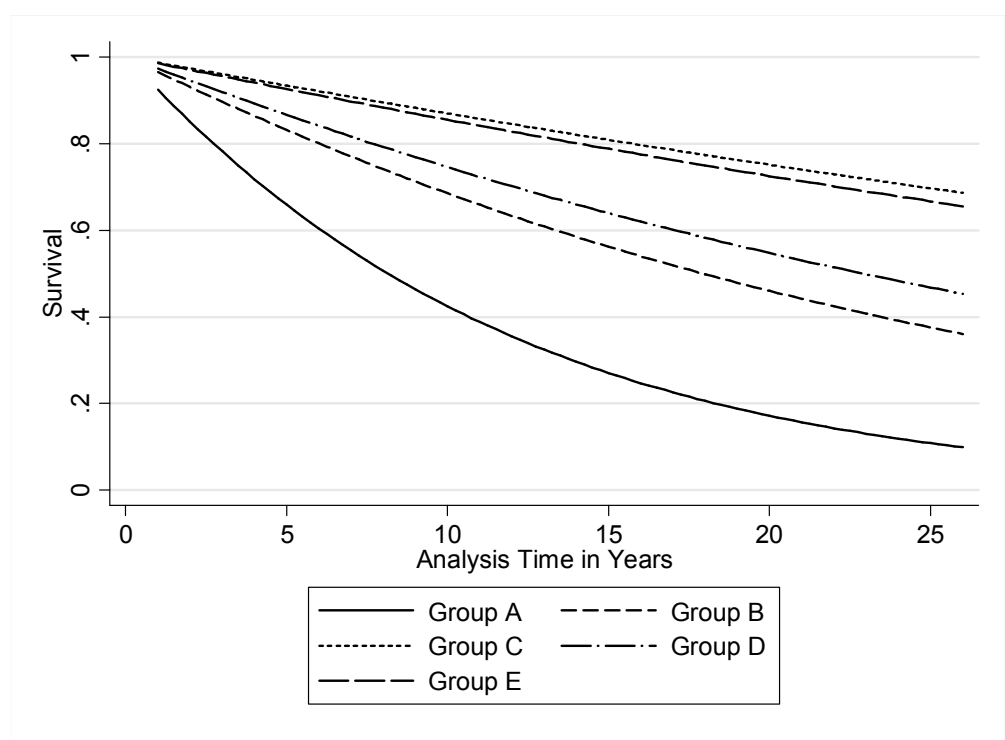
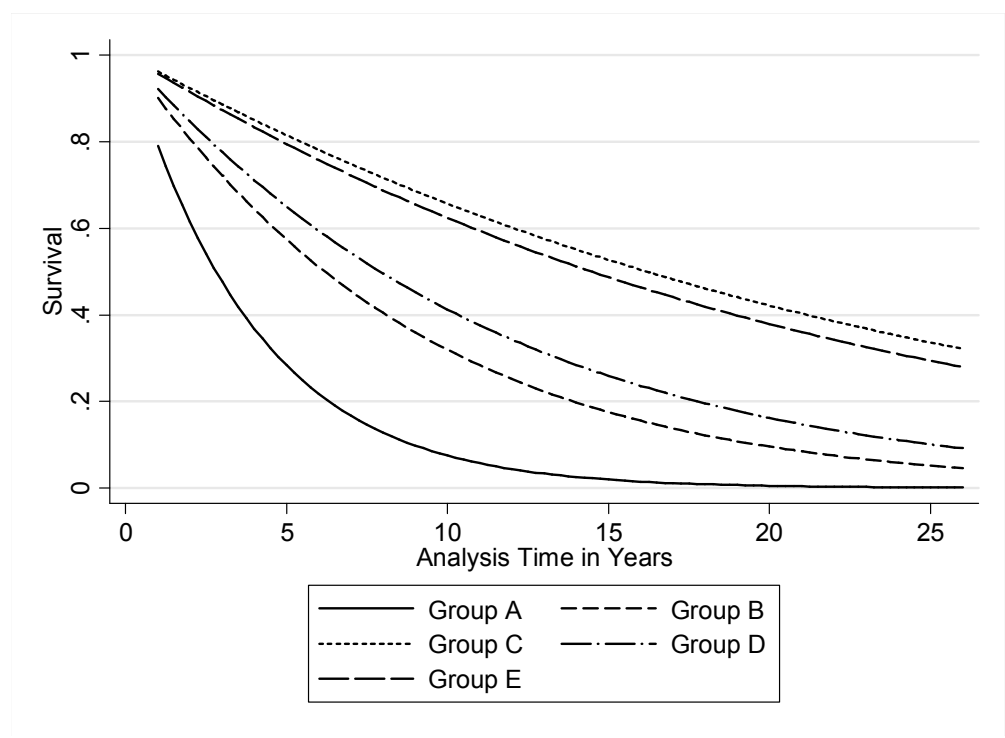


Figure 5.9: Hypothetical Government Operations Groups, Environment B



Chapter 6

The Breakdown of Collective Action: Association Failure Rates in the United States

Groups like all things are subject to decay and ultimately failure. The environment, issues and groups themselves are in a state of constant flux where a continued drive to survive is necessary for continued survival, but failure is inevitable. Even the most powerful of groups experience changes that can hinder their survival. Groups continually evaluate their costs and benefits over time and if the costs become too great failure is the only rational outcome (Walker 1983). There are many possible causes for group failure, such as incompetent management, events and competition between groups to name a few. This chapter focuses on the effects of group populations and the political environment on the failure rate of groups.

Groups are the primary means for the public to express their views to government beyond elections and in many ways groups speak louder or at least in more detail than electoral behavior. The power of each group's voice depends on access to government, a resource that is acquired and not given. Groups must build relationships, have value and a reputation in order to have a powerful enough voice to affect government and those assets take time to build (Hansen 1991). Every group that fails loses its access and while another group will often form in its place that group must build its own access, a process that takes time. A high rate of group failures on an issue like the environment can weaken group representation by decreasing the number of groups with government access. Failure can even

lead to biased representation if the types of groups that fail have a different voice or membership than those that survive. While groups act as a means of representation they are also affected by the political environment including the levels of government attention and action, public attention itself and resources all affect the failure rate of groups.

Understanding why groups fail based on the political environment is undoubtedly an important question, but the lack of good time series data has limited previous research on the subject of group failures. This chapter uses new data from the Encyclopedia of Associations Project on national level voluntary associations in the United States from 1972-2001 to investigate group failures. The investigation takes place in two parts. First, individual level data on recently failed and continuing groups is compared offering an overview of the individual level characteristics associated with group failure. Second, a time series cross-sectional auto-distributed lag model is used to test the effect of population and environmental level factors on group failure rates. This chapter finds evidence that the failure rate of associations is persistent, that the failure rate has increased as the group system has aged and that increases in environmental resources decrease group failure rates.

The rest of this chapter takes the following form. First, several literatures related to group failure are presented and discussed. Next, hypotheses concerning the group failure rate of national level voluntary associations are presented. Data on individual group characteristics for failed and continuing groups is then discussed using summary statistics and graphical presentations. Following these descriptive statistics are the data and analyses used to test this chapter's hypotheses. Finally, the chapter concludes by summarizing the results and discussing what this chapter's findings mean for representation.

Group Failure, the Breakdown of Collective Action

In many ways group failures can be thought of as failures in collective action, a literature that focuses on group formation and to a lesser degree group maintenance (Walker 1983). Groups are maintained as they are formed rationally that requires that the benefits of a group outweigh its costs for it to avoid failure (Moe 1980; Hansen 1985; Rothenberg 1988). The problem of maintaining groups is compounded by the fact that the benefits of many groups can often be had by nonmembers making membership retention a constant struggle (Olson 1965). Many different mechanisms can serve to lower costs and increase the benefits of groups. Entrepreneurs that receive a particularly large benefit from a group can help offset group costs (Salisbury 1969). Multiple sources of benefits beyond material wealth can further change the calculus of group survival (Clark and Wilson 1961). While groups comprised of members from a particular industry or profession offer more benefits and less internal group conflict (Olson 1965; Schlozman and Tierney 1986). Maintaining groups is difficult then, but not impossible. The vulnerability of groups to failure and the constant process of reevaluating of the costs and benefits of groups make the group failure rate responsive to change.

Failure is further a cost in and of itself, a statement that is especially true if the expected benefit of the group is never realized and the costs of formation and maintenance never offset. Groups represent both a need and a sunk cost; a need for the benefit that each group hopes to provide and a sunk cost as the price of group formation and maintenance has already been spent in pursuit of that benefit (Walker 1983). Groups survive at varying rates when faced with difficult times due to differences in their own characteristics that allow them to function in the long term and chase potential benefits to offset existing costs for longer. The resulting differences in group failure rates leads to a degree of inertia in group failure rates. Furthermore, groups are a density dependent population with a carrying capacity based on their environment and beyond this carrying capacity more groups cannot reliably survive while under it the environment is not being fully utilized (Pianka 1972; Odum and Barrett

2004). To maintain equilibrium group populations the founding and failure rates of groups must remain relatively stable from one year to the next and this stability leads to a persistent association failure rate meaning that one of the best possible predictors of the current failure rate is the previous failure rate. Changes to the environment are disruptive to groups and increase the failure rate, but groups vary in their abilities to absorb costs in the short term. Survival for groups is part good genes (individual characteristics) and part good luck (a welcoming environment) meaning that even the largest and most capable groups have a chance of failure (Raup 1991).

The persistent association failure rate suggested by density dependence is further controlled by another mechanism. Entrepreneurs that receive material, selective and/or purposive from forming and then maintaining a group continue to reevaluate the costs of maintenance with respect to the environment (Clark and Wilson 1961; Salisbury 1969; Wilson 1995, p. 196). Those costs often increase as the environment changes, but the details of the environment are generally unclear when looking directly at it. However, due to the persistent nature of groups and density dependence entrepreneurs are able to judge how many old groups are likely to fail based on previous behavior. Entrepreneurs apply this information when deciding whether or not to disband groups and as a result group failure rates are persistent and closely tied to their previous values.

The failure rate of groups is also heavily dependent on the other traits of the group system. Failures tend to increase as the density of groups increases as there are both more groups to fail and a higher level of competition as more groups are forced to compete over set levels of resources and agenda space (Hannan and Freeman 1989; Carrol and Hannan 2000). The positive effect of density on the number of group failures is well documented across a range of different group types. Beyond findings concerning the failures of firms from organizational ecology, interest group ecology literature has also found evidence that the

failure rate of gay rights groups increases as the number of gay rights groups increases (Nownes and Lipinski 2005). Other analyses focusing on groups on the state level has found that group failures increases as the density of group increases, but that the strength of this connection is conditional on the composition of the group population (Gray and Lowery 1995a; 2001). Competition amongst groups is the key factor affecting the positive relationship between density and group failures across these different analyses. Density positively affects both the number of group failures and the failure rate of groups as increased competition leads to a higher degree of group turnover.

Age dependence is another important finding in the organizational ecology literature that focuses on the relationship between the age of individual groups and their likelihood of failure. Age dependence works as follows. First, groups are most likely to fail early on with the likelihood of failure decreasing as the group ages. Over time the odds of failure based on group age start to increase as age starts to become a liability when resistance to or an inability to change makes older groups more vulnerable (Hannan and Freeman 1989; Carrol and Hannan 2000). Some older groups can adapt and survive despite their resistance to change, but attempting change itself with established groups leads to a higher failure rate for groups overall (Minkoff 1999). The relationship between age and group failure is very similar to the relationship between age and human life expectancies with both following the so called bathtub distribution the same curvilinear pattern of age dependence discussed above (Hannan and Freeman 1989; Carrol and Hannan 2000). While groups often outlive people and have no predetermined lifespan they are still subject to decay and eventual failure. Age dependency further affects the group system more broadly as an increased likelihood of failure for older groups leads to the introduction of new groups to the group system that also experience a high level of mortality increasing the failure rate even further overall.

The majority of work on the failure rate of interest groups has tended to focus on the environment groups face and how changes to the environment affect group numbers due to theory. In the case of gay rights groups there is evidence that issue salience negatively affects the likelihood of group failures (Nownes and Lipinski 2005). Other work focused on group density has found that the number of groups changes with the number of potential constituents, as government goods and services change and as the level of political stability fluctuates (Lowery and Gray 1995). While these same relationships have not been tested on the failure rate of groups environmental factors affecting group density are likely to also affect the failure rates of groups as density is a combination of both group formations and failures from the previous period.

Sociological group studies also focus heavily on the effects of the environment on groups due to the nature of the groups studies and the data limitations that studying less formal groups brings (see Stinchcombe 1965). Organizational sociology also focuses heavily on the environment due to these roots, in particular how competition for resources affects group populations (Aldrich 1979) and studies following this tradition on trade associations find strong environmental effects and stable association densities (Aldrich and Staber 1988). While sociology has continued to broaden the focus of group research the environmental effects on groups remains the main focus. Amongst these studies is work that shows the positive effect of violence on the density of ethnic newspapers (Olzak and West 1991) and that changes to broadcasting regulations have positively affected the creation of low-power FM radio stations in large numbers in recent years (Greve, Pozner, and Rao 2006). While most sociological work on groups focuses on formation and density similar ties between the environment and group failures exist. The common thread in sociological work focused on groups is that the environment is significant and in some cases key to explaining group population traits.

Further work on the population traits of interest groups has focused on how the group system and the environment affect groups. Finding that changes in the funding system that made groups less costly to form (Walker 1983) and changes to government attention that made interest groups more beneficial (Chong 1991; Lowery and Gray 1995) are both significant for group formation and group population densities. Further work has suggested that the size of the interest group system is related to changes in the Congressional committee system that have allowed for greater group involvement in policy-making (Rosenbloom 2000; Davidson and Oleszek 2004) and changes in technology that have further facilitated organization on the national level (Walker 1991; Berry 1997). These findings demonstrate that the group system is closely tied to the political environment and further indicates that the density of groups has increased over time as resources and the opportunities for benefits have also increased.

The next section discusses several population and environmental level hypotheses based on the preceding discussion and related to national level voluntary associations in the United States.

Hypotheses

The failure of voluntary associations represents the end of originally successful struggles with collective action. Collective action problems continue beyond group formation and into organizational maintenance. Individual associations are always vulnerable to failure based on their own unique characteristics, but individual group characteristics do not explain changes in aggregate group failure rates. Changes to the group system and the environment are the primary mechanisms that change the aggregate group failure rate. This section presents hypotheses focusing on population processes and the environmental factors that affect the group failure rate.

Population Level

The failure rate of groups tends to perpetuate itself as group failures are a continual process and no group has a definite chance to avoid failure. Survival is as much a matter of good genes (strong individual characteristics) as good luck (a welcoming environment) (Raup 1991). The ability of groups to weather the environmental factors affecting their likelihood of failure varies from group to group and produces a certain degree of inertia in group failure rates (Hannan and Freeman 1989; Carrol and Hannan 2000). Furthermore, groups are a density dependent population and have a carrying capacity beyond which more groups cannot reliably survive in the environment and under which the environment is not being fully utilized (Pianka 1972; Odum and Barrett 2004). To maintain the group carrying capacity the group failure rate must remain relatively stable from year to year. When deciding whether or not to maintain a group entrepreneurs recognize the persistence of groups and use the previous failure rate to help determine how many groups must fail in the current environment. Relatively stable failure rates, the continual possibility of failure and the behavior of entrepreneurs lead to a persistent association failure rate and means that one of the best possible predictors of the current failure rate is the previous failure rate

H1: The previous failure rate of associations is positively related to the current failure rate.

The failure rate of associations is also closely tied to the other traits of the group system, namely density and age. As the number of groups increases so does the number of group failures as more groups can fail and density further increases competition amongst groups leading to a higher rate of group turnover. The age of the group system also increases failures rates independently from the effects of density as groups aging increases the chances

of failure. Furthermore, when old groups fail the new groups that form in their place are also more likely to fail due to the liability of newness. Over time the growth in the group system and the aging of that system has increased the failure rate of voluntary associations in the United States.

H2: The failure rate of associations has increased over time.

Environmental Level

The failure rate of associations is predominately self-regulating based on persistence as well as age and density dependence. However the factors that explain larger and more abrupt changes to the association failure rate are environmental.

Voluntary associations are highly dependent on the political environment. When government attention increases associations engage government on the issues that concern them. By engaging government groups gain greater benefits and are less likely to fail as a consequence. However, if a group's chosen issue is not attended to in the government's agenda groups begin to fail. Increased government attention further increases the carrying capacity of the group system by allowing more groups to exist which itself decreases the group failure rate. Government attention leads to increases in the possible benefits for groups and the equilibrium population density. The net result is that increased government attention decreases the likelihood of failure.

H3: Increased government attention decreases the failure rate of associations.

Government action also affects association failure rates and represents definitive outcomes of policy. When legislation is passed some associations involved in the issue

achieve their goals, others fail in their pursuit of benefits and still others are unaffected. In the face of government action some groups will pursue more benefits or mobilize against passed legislation, but other groups may see their purpose realized or their goals as out of reach. For the associations not directly affected government action it sends a similar signal to government attention indicating an opportunity for increased benefits. While noisy the total effect of government action on the failure rate of groups is negative. Groups directly affected by the legislation may be less or more likely to fail depending on their long term goals, while those groups not directly affected see action as another opportunity to engage government.

H4: Increased government action decreases the failure rate of associations.

Public attention to issues can have a profound effect on the failure rate of associations. Groups consist of members of the public and the maintenance of each association is an easier task when the public is concerned about the same issues as associations. The salience of security and military matters since 9/11 has not only served to increase the number of groups related to the defense of the United States, but helped guarantee a continued survival for existing groups that focus on defense. Furthermore, public attention is more narrowly focused than government attention and can provide a greater reason to maintain groups than government attention. Therefore, increased public attention decreases the failure rate of groups.

H5: Increased public attention decreases the failure rate of associations.

The most important environmental factor affecting the group failure rate is resources. Voluntary associations are a luxury and only when public resources are high are groups well

insulated from the other causes of group failure. When the public has a large amount of disposable income associations can survive on the full gambit of issues that government deals with. However, as members face trade-offs with their time and own resources associations begin to fail with the benefits of group membership declining in comparison to other goods. Variation in the types of groups that fail does occur with less popular associations and associations involved in less important issues being first to fail, but the total effect of decreases in environmental resources on association failures is positive as the failure rate increases as resources decrease. Therefore, as environmental level resources increase the failure rate of associations decreases.

H6: Increased environmental resources decreases the failure rate of associations.

The next section discusses and presents several individual level group characteristics related to group failures. It compares each for failed and continuing associations to give an overview of the characteristics of failed groups and provide context for this chapter's statistical analyses.

Data – Individual Group characteristics

To investigate group failures two sets of data are used in this chapter both from the Encyclopedia of Associations Project. The first focuses on individual group characteristics in four different well represented issue areas from the public affairs dataset. These four issue areas include: Civil Rights, Minority Issues and Civil Liberties; Defense; International Affairs and Foreign Aid; and Government Operations.⁴² A summary of the individual group

⁴² In the version of the dataset used in this papers analyses the issue code for Ideological, Social Cause and Political Groups, which are also consistently listed in this section has been combined with Government

characteristics of failed and continuing associations is presented in the next subsection through a series of figures and tables to give an overview of the individual characteristics of failed groups in relation to those groups that survive. This data is presented for every three to five years from 1982 to 1998.

Three of the individual level group characteristics investigated next are measured as dummy variables and are coded 1 for the presence of a characteristic and 0 otherwise. The first of these dummy variables, group government action, measures if a group engages in government action of some sort as determined from their description contained in the *Encyclopedia*. For politically relevant groups, in other words groups engaged in the same issues as government, engagement in government action is one of the key characteristics necessary to prevent group failure in the long run. The next dummy variable measures if a group has a professional membership. An association is coded as having a professional membership if its membership is primarily from one particular occupation or industry. Groups with a professional membership have lower levels of internal conflict allowing them to provide their members with greater benefits making them less likely to fail. The final dummy variable measures whether not a group is located inside the Washington DC beltway based on its mailing address. As the associations investigated in this chapter are politically relevant associations the ability for these groups to be effective depends in part on their proximity to government and other important national level actors.

Group resources are perhaps the most important group characteristic affecting group failures. Resource information on budgets, membership numbers and staff for the groups that report them is presented in the next subsection through a series of figures. However, the majority of associations contained in the *Encyclopedia* do not report each resource and

Operations to match the other Policy Agendas Project data as is prescribed by the Encyclopedia of Associations Project codebook.

several groups present no resource information at all. To provide a more detailed investigation of resources an index measure based on these variables is also presented. This index of group resources makes two assumptions about the reported group resource values. First, since groups choose whether or not to report resource information that no information on any of these resources is informative. The second assumption is that due to the correlation between each of these resource measures that an increase in the level of resources for one measure translates into an increase in group resources generally. The resulting categorical variable is coded 0 when no resource information is reported by a group. The variable is coded 1 if some resource information is reported, but less than the resources required to be coded as level 2. It is coded 2 if staff is greater than 10, and/or if membership is greater than 10,000, and/or if the reported budget is over \$100,000, but is less than the resources required to be coded as level 3. Finally, this variable is coded 3 if staff is greater than 100, and/or if membership is greater than 100,000, and/or if the reported budget is over \$1,000,000.

The next subsection presents summary statistics and graphical inspections of the above individual group characteristics for failed and continuing groups.

Summary of Individual Group characteristics

Comparing the characteristics of failed (Fail) and continuing (Con) groups provides important insights into individual group failures. These comparisons are completed using data from the public affairs section for well covered issues every three to five years from 1982-1998. Table 6.1 presents a summary of group government activity, professional membership and a location inside the Washington, D.C. beltway for failed and continuing groups.

[insert Table 6.1 about here]

The summary of group characteristics presented in Table 6.1 demonstrates a fairly consistent pattern where a lower percentage of failed groups possess each of these characteristics. There is variation in the occurrence of these characteristics between failed and continuing groups over time, but in only one case does a higher percentage of failed groups have one of these traits, a beltway mailing address in 1982. The differences are much less pronounced than might be expected and clearly groups with and without each of these traits are subject to failure. Therefore, while groups without these characteristics are more likely to fail all types of groups with these characteristics can and do fail.

Group resources are one of most important individual level group characteristics. Resources allow a group to function and pursue goals while further helping groups avoid failure by offsetting costs. Figures 6.1-6.3 present membership, staff and budgetary information for continuing and failed groups. These figures are presented through the use of boxplots that show the minimum, maximum, lower quartile, upper quartile and median for each of these resource measures. The use of boxplots provides a quick visual summary of this data and allows for a visual comparison between failed and continuing groups from year to year. Groups occasionally report very high membership, staff and/or budgetary numbers and Figures 6.1-6.3 exclude extremely large outliers to make these figures more readable.

[insert Figures 6.1-6.3 about here]

The overview of group resources presented in Figures 6.1-6.3 is generally as expected. Continuing groups generally have higher membership, staff and budgetary numbers. Differences in the median levels of resources are far less pronounced than differences in the overall distribution of resources, but they still exist. The exception is 1998 where several high staff and budgetary groups failed producing a more varied distribution of

resources for failed groups in that year. However, differences in the median staff and budgetary numbers between continuing and failed groups in 1998 are more pronounced than in previous years. All of the comparisons in Figures 6.1-6.3 indicate a clear difference in the level of resources between continuing and failed groups. Each resource variable has also increased over time for continuing groups. While the use of reported values rather than constant dollars for group budgets partially explains this increase, staff and membership numbers have also grown. This is not unexpected, but does highlight that a greater amount of resources are used by existing groups over time.

The resource information contained in the *Encyclopedia* is imperfect with the majority of groups presenting incomplete or even no resource information across the three resources variables. To investigate group resources in further detail an index variable which measures no, low, medium and high resources is presented in Table 6.2. This is also done for continuing and failed groups from 1982-1998.

[insert Table 6.2 about here]

Table 6.2 presents a slightly different take on group resources than the presentation of group membership, staff and budget numbers in Figures 6.1-6.3. By comparing the four levels of group resources contained in the index a clear pattern emerges. Failed groups more commonly than continuing groups possess no or low resources. Continuing groups more commonly than failed groups possess medium or high resources. The exception is 1985 where a higher percentage of failed groups have high resources. Additionally, the higher than average percentage of failed groups with high resources in 1998 partially explains the results for the individual resource measures presented in Figures 6.1-6.3. The difference in levels of resources especially for medium and high resource groups is generally more pronounced than the

differences in other group characteristics. This is important as resources are more closely tied to the costs and benefits of group maintenance than other group characteristics and play a larger role in group failures.

The next section discusses the data used to test this chapter's hypotheses. It pays particular attention to the concept of density dependence and how group density affects the failure of groups when expressed as a rate rather than a raw count.

Data – Population and Environmental Level Factors

Failure Rate

The dependent variable used in this chapter's analyses is the failure rate of groups by issue, year.⁴³ The failure rate is measured as the number of groups that failed in each volume of the *Encyclopedia* by issue divided by the total number of groups also by issue in each year. A group fails in this dataset if it is removed from the *Encyclopedia of Associations*. While the majority of failures are the outright failures of each group, others failures are changes from being either a national level group or a voluntary association. Therefore, reversals to a regional or state focus and changes to groups to become for profit businesses or other types of organizations are also included in this measure making it an appropriate although somewhat noisy measure of the failure rate.

Use of a failure rate rather than a count of group failures produces a measure of group failures dependent on the number of remaining groups involved in each issue area. For example, if fifty groups fail on the same issue in two different years differences in the total number of groups involved in that issue in those two years lead to different failure rates. Rates then allow for a better comparison across issues than a raw count of failed groups as the failure of one hundred groups in one issue area means a far higher level of group turnover

⁴³ This measure is multiplied by 100 for purposes of interpretation, but this does not alter any inferences.

than it would for another issue area with a larger group population. In this way, the failure rate is both a measure of group failures and of the level of volatility in the group system by issue.

Methods

To test the hypotheses listed in this chapter on group failure rates a time series cross-sectional analysis is used. Each the hypotheses listed in this chapter focus on the failure rate of voluntary associations generally making pooling all groups into a single time series cross-sectional analysis of group failure rates a valid approach. Specifically, this chapter employs a time series cross-sectional auto-distributed lag model. Auto-distributed lag models include a lagged version of the dependent variable on the right hand side of the equation as a means of dealing with serial autocorrelation.⁴⁴ This specification was chosen for two reasons. First, the presence of autocorrelation in the failure rate of groups is hypothesized in this chapter. Second, model specification tests of the failure rates for each individual issue revealed a first order autoregressive process and the resulting model preformed well for each of the individual issues.⁴⁵

⁴⁴ Similarly to the founding rate analyses in Chapter 3, panel unit root tests and unit root tests for each individual panel suggest that the failure rate is a unit root across all issues. The imputation process and the knife-edge nature of these tests with short time series and highly autoregressive data also make this result questionable. Alternative analyses employing an error correction framework to address the possible unit root problem produce the same general inferences as the ADL model presented in this chapter. The exception again concerns H1 and how entrepreneurs make use of the previous failure rate in their cost benefit analyses. An autoregressive process suggests that entrepreneurs are heavily informed by the previous failure rate when deciding to dissolve a group in the current period. An integrated process suggests that entrepreneurs collectively have perfect memory and end the same share of groups in each year with some error. As the results are otherwise consistent and an autoregressive failure rate is more likely theoretically the ADL model is also used in this chapter.

⁴⁵ The analysis of one issue, civil rights, did still demonstrate serial autocorrelation. The removal of this issue from the analysis did not alter the inferences gained from the analyses. The same is true for all other issues indicating that no single set of groups is driving this paper's results.

Population Level

The failure rate of groups is in part a self-regulating process dependent on the current population of groups. Group failures occur continuously due to a constant chance of failure and differences in the speed at which individual groups fail. While some groups fail immediately following decreases in resources others take longer to fail in response to change due to their own unique characteristics. Furthermore, as a density dependent population the failure rate of groups must remain relatively stable in order for groups to remain at their carrying capacity and the actions of entrepreneurs when deciding whether or not to maintain a group fuel this process. The inertia of group failures, the density dependent nature of groups and the behavior of entrepreneurs leads to persistent group failures rates with one of the best possible predictors of the current failure rate for groups being the previous failure rate. To test H1, that the previous year's failure rate has a positive effect on the current year's failure rate, a lagged failure rate variable by issue and year is included in the model. This variable also serves to address the time series nature of the failure rate series.

Density dependence is a robust finding across various group literatures. In the case of association failures increases in the count of groups lead to more failures as competition rises and the group population nears the carrying capacity of the political environment. However, when considering failure rates rather than the count of failures density dependence is less pronounced. This is because of how the failure rate measure is calculated as the number of failures divided by the total number of groups. Mathematically the failure rate cannot increase without either a decreasing population density or a higher level of group turnover. For density to have a positive effect on the failure rate the number of groups must increase through the founding rate⁴⁶ while the failure rate is also increasing. While this relationship is

⁴⁶ The lagged and contemporaneous founding rates were also tested in place of and alongside density. While the other inferences in these models did not change they did lead to insignificant results for density and a negative and significant coefficient for the founding rate suggesting that as the founding rate of associations increases the

possible and does occur it means that the connection between the failure rate and density is not direct like with the count of failures and density. This is not by the construction of the failure rate measure alone. The positive effect of density on the number of group failures is a strong empirical finding, but a higher rate of group turnover based on increased density is not. While competition is likely to rise as the group population increases it continues to rise even when the population density of groups is in equilibrium due to the aging of the group system. As the group system ages older groups become more and more likely to fail. Younger groups that replace failed groups are also more likely than average to fail because of the liability of newness. The age of the group system affects the failure rate of associations through increased group turnover.⁴⁷ The effect of density dependence and age dependence on association failures occur independently. Therefore, both a density and an age variable are included in the analyses separately and together in different models to test H2 that the failure rate of voluntary associations has increased over time. The density variable itself is lagged as the current failure rate is a function of the previous density rather than the density it helps create in the current period.⁴⁸

Environmental Level

failure rate decreases. However, no significant results were found for group formations in alternative specifications using counts rather than rates and the significant findings for the density remained in these models. Combined these alternative analyses suggest that the negative and significant coefficients for the lagged founding rate may be due to measurement alone. Furthermore, no significant results were found for the founding rate when tested alongside age dependence. As the inclusion of the lagged founding rate leads to non-robust results and does not change the other inferences gained from these analyses the models in this paper exclude the founding rate as an independent variable.

⁴⁷ An analysis of the average group age contained in the public affairs section revealed an approximately linear aging of the group system since the late 1970s with the average age increasing by .6 of a year to 1 year for each year. Due to the approximately linear nature of this relationship and the missing founding rate data discussed in detail in Chapter 2 a linear trend variable approximating the average increase in the group age was used.

⁴⁸ Use of a contemporaneous population density led to a negative and insignificant coefficient in the complete model, but was also insignificant when tested independently from the age variable.

The failures of politically relevant groups are affected by the political environment. This chapter uses measures of government action, government attention, public attention and environmental resources to test the four environmental hypotheses relating to the failure rate of groups.

Government attention to an issue can come in many different forms. On the national level Congressional attention is generally the most influential as Congress is charged with national level policy and contains representatives from each state and territory within the United States. Congressional attention through Congressional hearings provides both a tool and a means for Congress to signal its concern over issues. To measure Congressional attention the number of hearings on each issue is divided by the total number of hearings by year, resulting in the percentage of hearings by issue, year. This measure is used to test H3 that increases in government attention decreases the failure rate of groups.⁴⁹

The most important source for government action in relation to national level groups is also Congress due to its composition and purpose. To measure Congressional action the number of statutes on each issue is divided by the total number of statutes in each year, resulting in the percentage of statutes by issue, year. Statutes are additions and changes to the law and represent direct action taken by Congress on each issue.⁵⁰ This measure of government action is included in the analyses as tests of H4 that increases government action decreases the failure rate of associations.

⁴⁹ An alternative measure of government attention was tested in place of Congressional hearings. This measure State of the Union mentions highlights the presidential agenda for the year ahead. The use of this measure also produced insignificant results.

⁵⁰ The percentage of executive orders by issue year was used as a alternative measure of government action. Executive orders make law and are the primary means through which the president can take action separate from Congress and other government actors. This measure demonstrated consistently positive, but insignificant results.

The level of public attention to an issue is best measured as the level of issue salience as salience measures how prevalent issues are on the public's mind. To measure issue salience the Policy Agendas Project's random sample of the New York Times Index is used by taking the number of sampled stories divided by the total estimated number of stories present in the index in each year, resulting in the sampled proportion of stories by issue, year.⁵¹ Media attention is tied to public attention as the media and public attention move closely together. Public attention is included in the analyses as a test of H5 that increases in public attention decreases the failure rate of voluntary associations.

Environmental resources also affect the failure rate of groups. The change in GDP per capita in constant dollars is used in this chapter as a measure of environmental resources. GDP per capita is a strong measure of the public's own resources and by differencing GDP per capita fluctuations in the amount of disposable income for the members of groups is measured. Change is a better measure than a raw count of resources as once a member of the public is also a member of a group the initial cost of membership has been paid and only changes in their own resources affect the likelihood that they continue as group members. The change in GDP per capita is included in this chapter as a test of H6 that increases in environmental level resources decrease association failure rates.

Each of these environmental variables is tested with a one year lag as group failures due to the environment are not instantaneous as the decision to end any group takes time.⁵²

Controls

⁵¹ This measure was further multiplied by 100 to ease interpretation due to the construction of the measure.

⁵² A lag of one year in this case is in reality a lag of five years from the reported copyright date of the *Encyclopedia of Associations* as the analysis of differences in reported founding rates and update times indicated a four year lag between the reported copyright year and the actual year each volume represents. For a more detailed investigation and discussion of this finding see Chapter 2.

Theoretically there is no difference in how group failure rates react to the population and environmental level variables presented above based on issues. However, the average group failure rate does differ by issue as the volatility of each issue area and other unaccounted for factors lead to separate failure rates. To control for differences in the average failure rate fixed effects by issue area are included in the analyses.

The next section presents time series cross-sectional analyses of the group failure rate following from the hypotheses developed in this chapter.

Analyses

Table 6.3 presents time series cross-sectional analyses of the group failure rate from 1972-2001. Four different models are included in Table 6.3. These models include no dependency, density dependence, age dependence and both density and age dependence. These four models are presented to investigate the independent effects of age and density dependence on the failure rate of associations. Fixed effects by issue that are included in each model have been omitted from Table 6.3.

[insert Table 6.3 about here]

The one consistent finding in Table 6.3 is a positive and significant coefficient for the lagged failure rate across all specifications. This result supports H1 that the previous failure rate has a positive effect on the current failure rate and suggests that group failures occur continuously. Furthermore, this effect is found when accounting for density and age dependence separately or together suggesting that the failure rate of groups self regulates beyond these two population traits. The coefficient value of the lagged failure rate does decrease when accounting for age dependence while the model fit improves suggesting that

some of the variation due to age dependence is accounted for by the lagged failure rate in the models that do not include age dependency. Finally, the calculation of the long run equilibrium for model 4 indicates that on average 2.83% of groups fail in each year and further indicates that group failure rate is persistent, but that on average only a small share of the overall number of groups in each year fails.

The findings for density dependence are less consistent. While a positive and significant effect of density on the failure rate is found in the model that does not include age dependency this effect disappears when both age and density dependence are accounted for. Additionally, the model fit for the analysis with density dependence alone is worse fitting than the models including age dependency. The positive effect of density on the failure rate of groups is not a robust finding. This is not entirely unexpected given how the failure rate measure is constructed and considering that previous research has not focused heavily on how density is related to group turnover.

Evidence of a positive and significant effect for age dependency on the failure rate of groups is found in both of the models it is included in and these models also offer an improved model fit. These results demonstrate that the age of the group system increases competition and consequently the failure rate of groups. That age dependency is found in the model with includes density dependence and even cancels out its effects indicates that the effects of the age of the group system on the failure rate is real and separate from density dependence. Combined the results for density and age dependence demonstrate support for H2 that the failure rate of associations has increased over time. Alternative analyses not presented in this chapter on the raw count of group failures robustly support both types of dependency. These alternative analyses suggest that the increases in group failures over time are due both to increased population density and an aging group system. However, increases in the association failure rate are due to the aging of the group system alone.

Environmental resources have a negative and significant effect on the failure rate of associations in both of the models with age dependency. Environmental resources are further negative and near significant in the model with density dependence. While the negative effect of increases in environmental resources on the failure rate of groups is not a robust finding it is well supported as age dependency is clearly an important omitted variable in the other models. Age dependency affects the underlying pattern of the failure rate and how the other variables in the model relate to the failure rate. Furthermore, the best fitting models are the two models that demonstrate a negative and significant effect for environmental resources on the failure rate of groups. These findings offer evidence in support of H6 that increases in environmental resources decrease the failure rate of groups.

The results for the other environmental variables are not significant in each of the models. Government attention is positively signed in each model, government action is negatively signed and public attention changes signs between models. These results offer no evidence in support of H3-H5 that government attention, government action and public attention have a negative effect on the failure rate of groups.

The next section summarizes this chapter's findings and discusses them in the context of representation.

Conclusion

This chapter presents evidence that the failure rate of voluntary associations in the United States is a persistent process as one of the best possible predictors of the current failure rate is the previous failure rate. As a density dependent population group failure rates remain relatively stable from year to year to the environmental carrying capacity and is a process largely controlled by the actions of entrepreneurs recognizing the persistence of group failure rates. This chapter also presents evidence that the aging of the group system

increases the failure rate of associations and that increases in environmental resources decrease the failure rate.

Density dependence is another important trait affecting group failure. However, evidence in support of a positive effect of group density on the failure rate of associations is not robust and disappears when age dependency is also accounted for in the model. This finding is largely due to how the failure rate measure was constructed as a rate of failures based on the current population density that makes finding evidence of density dependence less likely. Alternative analyses using the raw count of voluntary associations as the dependent variable provide robust evidence of a positive effect of density on the count of association failures. Importantly age dependency in this alternative model also has a positive and significant effect on the count of failures. Combined this chapter's analyses and the alternative analyses demonstrate that group failures increase due to both increased population density and an aging group system, but that increases in the association failure rate are due to the aging of the group system alone.

No effects were found for the environmental variables included in the analyses beyond the negative effect of environmental resources on the group failure rate. These null findings suggest that the failure of groups is largely independent from the political environment making group failure much more unique to individual groups than expected. The robustness of the persistent failure rate driven by the behavior of entrepreneurs, of age dependence and the more mixed evidence of density dependence indicate that group failures are tightly controlled by ecological processes. Groups with each of the individual characteristics discussed in this chapter and with high resources fail demonstrating that luck (a welcoming environment) as well as fitness (strong group characteristics) affect group failure. The most likely groups to fail have lower group resources than those that continue as evidenced by Figures 6.1-6.3 and Table 6.2. The groups that fail are also less likely to possess

individual group characteristics that increase their ability to affect government (see Table 6.1), particularly a higher percentage of the groups that fail do not engage in government action, do not have professional memberships and do not have a DC office. Many groups that possess those characteristics and that have high resources do fail, but at a lower rate than groups that do not have those characteristics. The groups most likely to avoid failure are better equipped to engage government and to handle fluctuations in environmental resources through resources of their own.

The weak connection between the political environment and the group failure rate is somewhat encouraging from the standpoint of representation. The number of groups that fail at any point in time is not directly tied to the environment and groups continue to survive in less accommodating political environments. In other words, groups do not fail just because the current environment does not suit them and can continue attempting to change levels of attention and government action even in a non-supportive environment. The voices that government hears through groups are not the voices of the highest resource groups alone.

The persistence of the group failure rate and the characteristics of groups that do fail demonstrate that low resource groups without certain characteristics are always more vulnerable to failure. While groups can and do outlive their environments those groups that possess less fit characteristics eventually fail. Groups with low resources and fewer of the other individual group characteristics that make groups more likely to achieve their goals are in effect doomed to failure from the start. The group failure rate is largely independent from the environment, but the persistence of the failure rate means that those groups that are less equipped to support their own survival eventually fail due to their own unique characteristics. For example, the level of attention to defense decreased following the end of the Vietnam War and the number of groups concerned with defense and veterans issues began to drop, but not immediately. Many Vietnam War groups still survive today with a new focus on the

larger issue of security or have moved onto other related causes, such as human rights. The less fit and resourceful groups eventually failed when it was clear that their purpose and resources were not enough to sustain them in an environment where they were no longer needed.

The biasing of the group system towards more resourceful groups is true across all issues. When members of the public have less disposable income and must make choices between group membership and other goods, groups begin to fail. Those groups with less attractive group characteristics and less resources of their own to offset the costs of membership are most likely to fail in the face of this environmental change. The majority of the groups left behind have higher resources and have more established ties to government.

The groups that avoid failure and survive to influence government are generally the most powerful and successful groups. This is not surprising or even troubling at first glance. Groups with money and that are successful in achieving benefits are better at maintaining themselves and a chance of failure always exists for all groups the fittest groups always survive at higher levels. Survival of the fittest or the American way, whatever name this basic ecological process is given is the way that things clearly should work. What is troubling is that the process by which group failures occur gives a sort of false hope for less fit groups. Groups very likely to fail based on their unique characteristics can live beyond their means and the environment that would have them. These groups and their members are given the illusion of possible influence despite possessing individual characteristics that make them far less likely to effectively engage government. The voice of less capable groups grows louder during times of economic prosperity and high government and public attention through increased group numbers and formations. When the issue that attracted these groups falls off the agenda it is the status quo voices, the groups that can easily weather any change in the environment that tend to remain. Long term changes through group representation then are

difficult as changes to the system that bring in a greater variety of voices do not easily allow those voices to remain. Furthermore, the groups with the most influence are those groups protecting the status quo and working against change and the ideas of newly formed groups. The persistence of the failure rate of groups in the face of environmental changes leads to the persistence of the group system. Groups working for change have a very difficult task ahead of them. The group system in the United States well represents status quo interests, but does a far poorer job of representing change. While the constant chance for failure for all groups means change must eventually occur through group replacement change is at best gradual and may not be responsive enough to well represent the public's current interests at any particular point in time. The association system then works more as a trustee of public interests than a delegate.

Table 6.1: Individual Group characteristics of Continuing (Con) and Failed (Fail) Groups, 1982-1998

	Gov't Activity		Professional		Beltway	
Year	Con	Fail	Con	Fail	Con	Fail
1982	63.1%	62.8%	12.4%	7.8%	33.7%	38.8%
1985	57.4%	40.3%	13.4%	9.7%	31.4%	27.4%
1990	58.8%	53.1%	12.7%	12.5%	28.5%	17.2%
1994	54.8%	51.3%	12.5%	9.9%	27.9%	14.1%
1998	54.6%	52.1%	12.8%	10.4%	29.8%	27.1%

Figure 6.1: Membership Boxplots of Continuing (Con) and Failed (Fail) Groups, 1982-1998

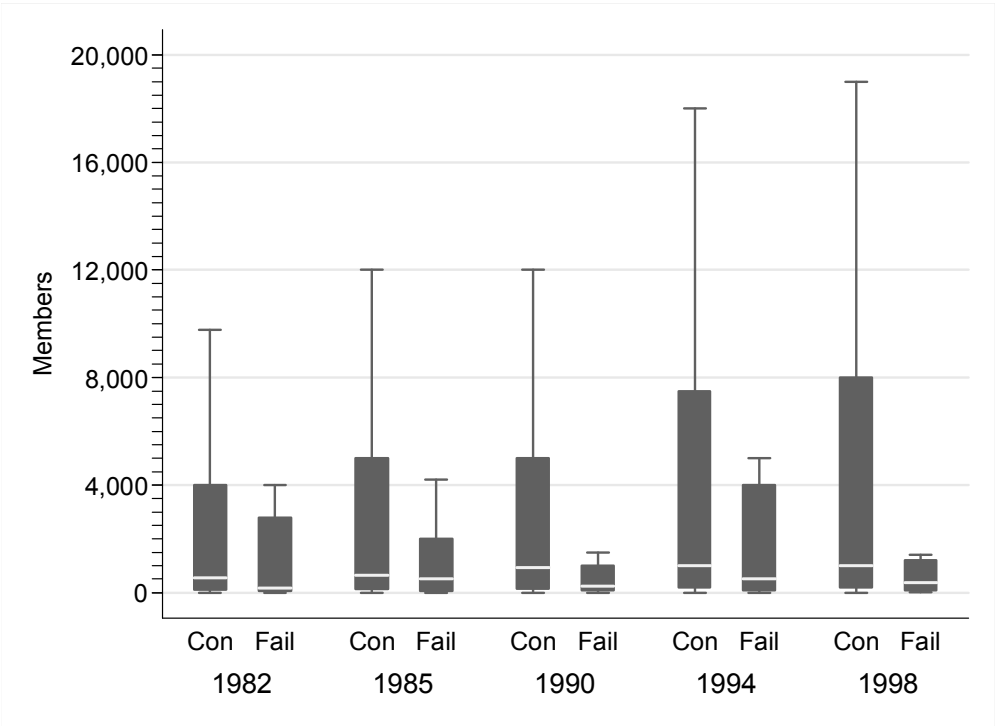


Figure 6.2: Staff Boxplots of Continuing (Con) and Failed (Fail) Groups, 1982-1998

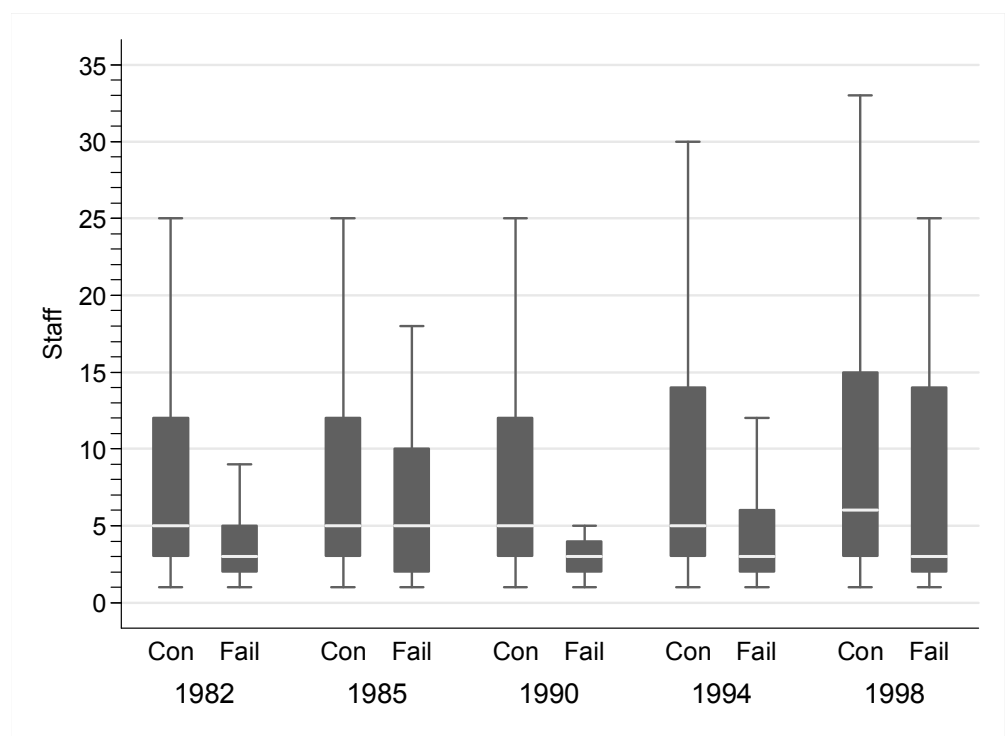


Figure 6.3: Budget Boxplots of Continuing (Con) and Failed (Fail) Groups, 1982-1998

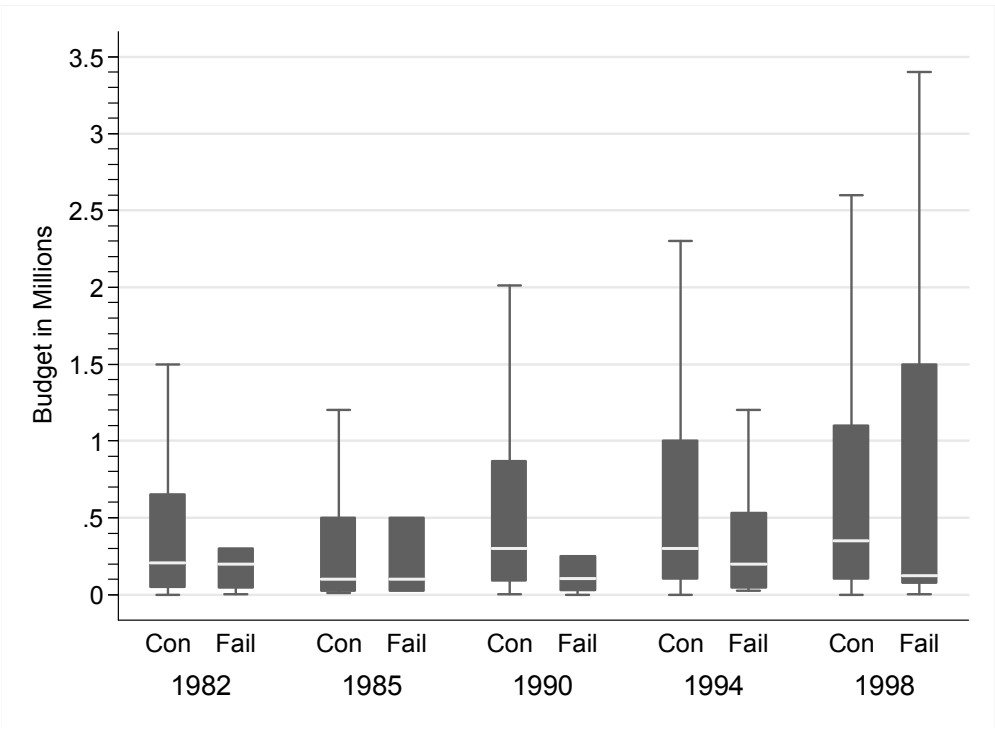


Table 6.2: Resource Index of Continuing (Con) and Failed (Fail) Groups, 1982-1998

	No		Low		Medium		High	
Year	Con	Fail	Con	Fail	Con	Fail	Con	Fail
1982	28.2%	33.3%	50.1%	53.5%	16.1%	10.1%	5.6%	3.1%
1985	20.1%	21.0%	51.5%	51.6%	20.0%	18.5%	8.4%	8.9%
1990	22.7%	32.8%	45.2%	51.6%	22.2%	12.5%	9.9%	3.1%
1994	17.1%	38.0%	43.0%	43.3%	25.4%	15.2%	14.5%	3.4%
1998	19.9%	18.8%	38.3%	54.2%	26.1%	14.6%	15.7%	12.5%

Table 6.3: Auto-Distributed Lag Models of Group Failure Rates, 1972-2001

	Model 1	Model 2	Model 3	Model 4
FailureRate _{t-1}	0.936*** (0.018)	0.939*** (0.018)	0.901*** (0.018)	0.892*** (0.019)
Density _{t-1}		0.028** (0.009)		-0.018 (0.012)
Age			0.013*** (0.002)	0.015*** (0.002)
GovtAttention _{t-1}	0.010 (0.011)	0.002 (0.011)	0.001 (0.011)	0.005 (0.011)
GovtActction _{t-1}	-0.001 (0.006)	-0.001 (0.006)	-0.000 (0.006)	-0.000 (0.006)
PubAttention _{t-1}	-0.778 (0.581)	-0.015 (0.629)	0.854 (0.610)	0.683 (0.619)
Resources _{t-1}	-0.045 (0.030)	-0.054† (0.029)	-0.080** (0.029)	-0.080** (0.029)
Constant	0.198* (0.082)	-0.012 (0.107)	0.004 (0.084)	0.102 (0.105)
R ²	0.838	0.841	0.851	0.851

Note: * p = .05, ** p = .01, *** p = .001, † p = .10; N=551 (19 issues * 29 years)

Chapter 7

Representation through Group Populations

The analyses presented in this dissertation have had a common theme that goes beyond the data they employ and that theme is representation. Population and environmental level factors do not just affect group population traits, but by extension they also affect group representation in government. How groups form, their numbers, what they do to survive and why they fail all affect the activities of group populations. This research lays the important and necessary groundwork for additional and equally important research on how group population traits affect representation. Government affects groups and groups affect government. This is not surprising, but understanding the mechanics of this bi-directional relationship is essential to understanding group formation, behavior and representation. Democracy as a system of government depends not only on its structure, but on its interactions with its citizens. Mapping and testing these relationships not only provides information, but helps inform us if democracy is functioning as it should be.

Despite this dissertation's focus on representation it would be easy to dismiss this work as apolitical and focused on the sociological formation of groups within society a criticism that other similar work has often faced (e.g. Lowery and Gray 1995). Yet, groups matter for government and for citizens as they serve as one of the primary means for the public to interact with government. In any government the public's messages to elected officials cannot be conveyed by voting alone and other means for communication namely groups must be utilized. Information, opinions and the number of groups are by no means in short supply with even the most niche interests represented by one or more groups

(Baumgartner and Leech 2001). Therefore, government is faced with a state of information abundance and must use heuristics and past experience to help decide what information to use when making decisions (Simon 1971; Jones and Baumgartner 2005). Group population traits do not just determine what populations are taken most seriously either, but also what issues receive the most government attention. When making trade-offs between issues government in part decides based on the size and experience of group populations with older more experienced populations entrenched with government (Hansen 1991). Any single group can gain access to government with time, resources and personal connections, but the ability to gain access for a group population greatly depends on the age and size of the group system. Understanding what affects the population traits of groups is a necessary and missing step to understanding interest group representation in current research as the determinates of these traits at least indirectly shape group representation.

The focus of this chapter is to summarize and compare this dissertation's results by telling the story of how group populations respond to the environment, their own population traits and individual group characteristics. The ecological processes that group population traits follow are relatively robust, but how the environment affects groups varies greatly from group population trait to group population trait. The effect of public attention for instance is shown to increase group founding rates, has mixed effects on group densities, decreases individual group survival rates and has no effect on the failure rate of groups. These four findings demonstrate that increases in public attention lead to increased group formation rates and to a larger share of the group system while at the same time decreasing the likelihood of survival for existing groups. However, increased public attention does not affect the group failure rate suggesting that while public attention makes individual groups more vulnerable to failure it does not lead to greater volatility in the group system in general. By paying attention to issues the public motivates the formation of new groups, but also encourages individual

group failures. Public attention may actually do more harm than good then as groups need time to gain access to government while public attention does raise the profile of issues through increased group numbers and new group formations it also leads to the failure of more experienced groups with better access to government. Increased public attention allows for change in the group system through the formation of new groups, but those changes take time to affect government as new groups need time to gain access. Making further sense of this set of results and the other meta results on group population traits gained from the analyses in this dissertation is the focus of the remainder of this chapter.

The rest of this chapter takes the following form. First, this dissertation's findings are compared across group population traits for individual, environmental and population level variables. This chapter then presents a broad overview of what this dissertation's findings mean for group representation and how that representation is filtered. It also discusses the implications of this dissertation's findings for other research past, present and future as well as new directions for research on group populations and how the lessons of this dissertation might be applied to further understand group representation in the United States. Finally, the chapter considers how the investigation of voluntary associations alone has further colored the analyses of this dissertation and inferences it provides.

Comparison of Results

The summary statistics and statistical analyses used throughout this dissertation come in three key sets. These sets of analyses are the individual, environmental and population level investigations of the four traits of the group life cycle. While not every level or every variable is investigated for each trait enough overlap exists to allow for several comparisons across traits. This section focuses on these comparisons and the story they tell in terms of group representation in the United States.

Table 7.1 presents a summary of individual level results for group formation, survival and failure. These comparisons are presented for group government action, professional membership, a beltway location and group resources. The statistical techniques used to investigate these characteristics differ for each trait. Individual level analyses concerning group founding rates consider the level of each group characteristic for newly formed groups over time and Table 7.1 summarizes the level of each characteristic for newly formed groups. The analyses of group survival estimate the coefficient values for each characteristic on individual group survival and the direction and significance of each characteristic is reported in Table 7.1. The individual level analyses of the group failure rate offer a comparison between continuing and failed groups and these comparisons demonstrate that the characteristics of failed groups are consistently lower than continuing groups and the level of each characteristic for failed groups is presented in Table 7.1.

[insert Table 7.1 about here]

The overview of individual level findings in Table 7.1 paints a distinct picture of individual group characteristics and individual group resources. The groups that form possess stable levels of individual group characteristics over time with a majority engaging in group government action and many groups located inside the DC beltway. Newly formed groups also consistently have low to medium levels of resources over time and much smaller than expected percentage of groups lists no resource information. The group characteristics that help make collective action a success are consistent over time. Groups that possess these characteristics and that have higher levels of resources also survive longer as evidenced by the results for survival summarized in Table 7.1. Group government action, professional memberships, a location inside the beltway and a higher level of resources all positively and

significantly affect the survival rate of individual groups. Furthermore, the results for failure in Table 7.1 demonstrate that groups that fail are less likely to possess these characteristics than continuing groups and that the majority of failed groups report no or low levels of resource information.

Groups that report no resource information and that do not engage in group government action do not often form, but those less capable groups that do form are also the least likely to survive and consequently the most likely to fail. On the individual level it is clear that the group system is biased towards winners as groups with higher resources and with characteristics that make them more likely to gain access to government form at the same levels over time, are more likely to survive and are less likely to fail. That the fittest groups form and survive is not unexpected, but these findings do mean that the group system itself is inherently biased towards groups with certain characteristics. Those groups with high resources, professional memberships, that engage in government activity and that have DC offices make up the majority of voluntary associations at any point in time. The biases observed and theorized relating to group representation start far earlier in the process of interest group behavior than is generally understood by current interest group research. Groups share many common characteristics long before successful lobbying is even possible. The commonality of group opinions is not investigated in this dissertation, but the commonality of these characteristics produces a bias on the types of groups that gain access to government.

Table 7.2 presents a summary of environmental level results for group formation, density, survival and failure. These comparisons are presented for government attention, government action, public attention and environmental resources. As the analyses of each trait uses a form of regression analysis the direction and significance of each factor for these four traits is reported in Table 7.2.

[insert Table 7.2 about here]

The environmental level findings presented in Table 7.2 show a distinctly different picture for environmental level effects on group traits compared to the results for individual group characteristics. The environment affects the group system uncommonly across the four group population traits investigated in this dissertation. At first that some factors affect group formation, but not group failure seems surprising. However, that environmental factors filter through the group system based on different traits makes a great deal of sense as certain elements of the environment are more likely to affect groups at different stages in their life cycle. For example, public attention matters when a group is being formed and potential members are being recruited, but public attention plays less of a role in group failure as existing group members already know they care about the group's goals.

In Table 7.2 government attention is shown to have positive and significant effects on group density and individual group survival. Government attention also has positive, but insignificant effects on the founding and failure rates of groups. These results indicate that government attention increases the carrying capacity of the group system by increasing the likelihood of survival for existing groups, but does not change the number of group formations or group failures. These findings demonstrate that what government is paying attention to affects groups existing groups that are more likely to be engaged with government, but does not alter the turnover rate of groups or encourage the formation of new groups around issues.

Government action has a positive and significant effect on group formation rates and negative, but insignificant effects on group population density, group survival and the association failure rates. New groups form mobilizing or counter-mobilizing based on the

actions of government, but existing groups benefit or are hurt by government action in similar enough proportions to have no effect on the other group population traits. Government action leads to new groups being formed, but otherwise does not change the group system in any noticeable way. That the response to government action is the formation of new groups with new ideas and members is encouraging as it demonstrates that new groups with new ideas form in response to what government is doing.

Public attention has positive and significant effects on both the group founding rate and group density relative to the size of the group system. However, public attention has a negative and significant effect on group density when calculated as a count of groups and on individual group survival. Finally, public attention has a positive but insignificant effect on the group failure rate. These findings indicate that public attention increases the number of groups being formed on an issue and the proportion of groups involved in an issue, but at the expense of existing groups. When public attention increases new groups form and the membership of old groups becomes harder to maintain. However, as new groups need time to gain access to government the public shoots itself in the foot in a sense by paying attention to issues and lowering the number of groups that can effectively represent them in the short term. New ideas are introduced to the group system when public attention increases, but expertise and access to government at the same time decreases and this hinders group representation. An alternative explanation of this finding is that the public pays attention to issues on which group representation is already poor and where new ideas need to be introduced. If this is the case then the decreased survival for existing groups due to public attention is encouraging as new groups are more likely to reflect the current public. Both explanations have merit and a combination of the two may instead be at work as the time it takes for new groups to build access may lead to public dissatisfaction with group

representation in the first place and a vicious cycle where groups are never given enough time to influence government before they are replaced.

Finally in Table 7.2 the effect of environmental resources on the group life cycle is a bit of an enigma. Environmental resources have positive and significant effects on group formation and survival and a negative and significant effect on the group failure rate. However, environmental resources also have a negative and insignificant effect on the group population density. These results demonstrate that a high level of environmental resources increases the number of groups being formed, increases the survival rate of groups, decreases the likelihood of group failure, but does not alter group densities despite these other relationships. The most likely explanation for this set of findings is that an increase in group density takes time. When resources are high group formation rates and survival times increase, group failures decrease, but the number of voluntary associations in the short run is lower. Voluntary associations are a density dependent population with a persistent population density that follows the environmental carrying capacity. High environmental resources positively affect all of the population traits other than density suggesting that higher environmental resources take longer to affect group population densities through the other population traits. Furthermore, once a population of groups exists other environmental factors besides resources may maintain the carrying capacity.

While the majority of the analyses presented in this dissertation have first focused on population level mechanisms it seems more suiting to end with these mechanisms here. The population traits of groups follow strong ecological processes that function independently from individual group characteristics and environmental level factors. Table 7.3 presents a summary of population level factors that include lagged traits, founding rates, failure rates and density dependence on the four population traits investigated in this dissertation.

[insert Table 7.3 about here]

Table 7.3 represents the ecological processes of each of the group traits investigated in this dissertation. The most notable of these processes is the positive and significant effect of lagged traits on the association founding rate and failure rate as well as the integrated nature of the population density. It is not uncommon for social science data to be persistent through autoregressive or integrated series; in fact, it is generally surprising when it is not. Group population traits like most social phenomenon tend to be persistent, but these findings are both original and important. Previous research on interest group populations has not fully investigated the ecological processes of the group system largely because of a lack of good time series data. However, voluntary associations and groups in general are density dependent populations having a carrying capacity based on their environment. The carrying capacity is the number of associations the environment can reliably maintain and any groups above this number leads to increased group failures as the system cannot reliably maintain more groups than the carrying capacity while a population of groups below this number leads to increased formations as the environment is not being fully utilized by groups. The persistence of group densities has another mechanism driving it entrepreneurs who tend to dominate much of the group system offsetting the costs of group formation and deciding when the benefits for continuing a group are too low (Salisbury 1969; Jordan and Halpin 2004). The costs entrepreneurs face when forming a group decrease when there is space in the environment for new groups and costs often increase as the environment changes, but the details of the environment are generally unclear. However, due to the persistent nature of groups entrepreneurs are able to judge how many new groups can be formed and how many old groups are likely to fail based on previous behavior. Entrepreneurs apply this information when deciding to form or disband groups and as a result the formation and failure rates are

persistent and closely tied to their previous values and the persistence of these traits then drives the persistence of group densities that are a function of group formations and failures. The population density of voluntary associations, the group formation rate and group failure rate are all persistent as any abrupt changes to these traits pull the group system away from its environmental carrying capacity. The robustness of each of the traits of the group system due to their persistent nature suggests that the system itself is somewhat insulated from outside influences and the characteristics of individual groups. While it is clear that individual and environmental level factors affect each trait of the group system to one degree or another they only affect change. The level of group formations, failures and the density of the group system do not change much from one year to the next. The stability of these traits and the ecological processes behind them means the group system functions much like density dependent species, with their birth rates, number and deaths following a rather set process so long as no major changes to the environment or evolution of groups occurs (Pianka 1972; Odum and Barrett 2004).

The other population level factors affect the traits of voluntary associations in a similar interconnected manner. Group founding rates have a positive effect on density and group failure rates have a negative effect on density. Group failure rates also have a positive effect on the founding rate that indicates new groups form to replace the groups that have failed. While density decreases the founding rate of associations and increases the failure rate. A curvilinear relationship between density and group survival also exists where groups survive longer at low densities and have shorter lives when the population density of groups is higher. Combined these findings further demonstrate the robustness of group population traits through their interconnections. Failures affect the founding rate, the founding rate affects group density and density affects everything else. The stability of each population trait

persists through the stability of all traits and equilibrium group population density is the ultimate outcome.

The population level factors that affect the group population traits investigated in this dissertation indicate a great deal of stability in the group system and its traits as the group system does not change much from year to year and continues to represent the most entrenched interests year in and year out. However, the persistence of group failure and formation rates indicates that old groups are always being replaced with new interests and new ideas. While the introduction of new groups to the system is incremental and new ideas are pushed aside by status quo interests the continuous introduction of new groups means that the status quo is eventually forced to change. Change in groups like change in government appears to largely be incremental (Fiorina 1992). Agenda-setting theories demonstrate that change can come with a bang through large punctuations in policy (e.g. Baumgartner and Jones 1993), but the aggregate group system is an unlikely source for these changes. Change based on group representation does come, but from within group populations rather than by changing their aggregate traits. Rarely is a large policy area like healthcare completely overhauled with even the recent debates about socialized medicine only touching on a part of what healthcare is and what healthcare groups do. The smaller changes in the aggregate system on healthcare may be major changes related to insurance and other related issues within the larger issue of health that itself remains relatively stable. In only one instance in this investigation does an issue experience what might be considered a punctuation in the group community with international trade in the mid 1990s experiencing an abrupt increase in the failure rate of groups. This spike in group failures closely coincides with the signing of the North American Free Trade Agreement (NAFTA). The proximity to this major change in trade in North America is important as many of voluntary associations concerned with trade

in the *Encyclopedia of Associations* at that time focused on trade between the US, Canada and Mexico a focus that suddenly became less important through NAFTA.

The next section further considers this dissertation's results in the context of group representation and highlights the way forward. Specifically it discusses what these findings mean for past and existing interest group research and how these investigations may be expanded upon in future. Finally, this chapter closes by discussing how the use of voluntary associations data has further colored the analyses of this dissertation and the related inferences.

A Final Word on Representation

The environment that groups face simultaneously plays less and more of a role in the life cycle of voluntary associations than first expected. Many of the hypotheses tested throughout this dissertation failed to receive support, but all of the environmental measures demonstrate some effect on the life cycle of voluntary associations in the United States. Whether that effect occurs through group failures, group formations, group survival or group densities is less important than the fact that all elements of the political environment affect the life cycle of groups in some way.

The environment influences groups in a multitude of ways. Yet, groups are often thought of as independent elements of the democratic system that form and act to represent members of the public within government. Groups are a necessity in the modern United States as government is too big, too complex and faces far too much information to directly interact with every person it serves. Individual groups and the aggregate population of groups do not form independently from the environment though. For example, group populations respond to the environmental carrying capacity, are more likely to survive during a time of high government attention and form because of what the public is paying attention to. Group

population traits further self regulate through persistent tendencies and are interdependent on one another. The group system is not independent from its environment or itself through the interdependence of group population traits. Collective action and group maintenance are unique for every individual group, but aggregate processes affect the traits of group populations generally.

The majority of group research is focused on the ability of groups to influence government. This research has considered pathways for influence through political action committee (PAC) contributions (Wawro 2001), bureaucratic mark-up (Yackee and Yackee 2006) and has described how group influence is more about supporting the status quo than influencing change (Hall and Deardorff 2006; Baumgartner et al 2009). While other research has considered the effect that government and other environmental factors can have on group populations (e.g. Lowery and Gray 1995; Nownes and Lipinski 2005) these studies have not influenced the interest group literature as much as they should have. The criticisms of studies of interest group populations are not entirely surprising as the significance of its main findings have somehow escaped general knowledge. The most important of these findings is that the types of groups that form and that survive are constrained with very similar individual characteristics and their populations are well insulated from change (Gray and Lowery 2000). That PAC contributions seem not to matter and that contributions are perhaps best thought of as subsidies to maintain the status quo are not as surprising of findings when the findings themselves are almost inevitable given the functioning of the group system. Group population traits are robust and the status quo of groups and group characteristics is almost always maintained from one year to the next. With the majority of groups following the status quo it is only logical that the majority of group activities would be focused on maintaining the system that ensures their continued survival.

Despite the general persistence of the group system over time change does occur and in fact change is a relative constant. The population of voluntary associations is density dependent and just like any density dependent species voluntary associations have a carrying capacity, an ideal number of associations given the current environment (Pianka 1972; Odum and Barrett 2004). Beyond this number the system cannot reliably support more groups. Below this number the environment is being underutilized and new groups form to take up the excess capacity. The behavior of entrepreneurs who use their knowledge of the persistence of groups to judge when to form or disband a group and a density dependent population leads to persistent group populations where the current density is largely a function of the previous density. The same also true for the group formation and failure rates that determine group density. This means some groups always fail, some new groups are always formed, but the size of the group population and the majority of groups do not change much from one year to the next. Change to the group system is mostly gradual due to these ecological processes, but change is continuous and the group population never simply stalls with the groups it currently has. The traits of the group system do not change based on the political environment as much as expected, but the groups that make up the system are replaced far more often than expected.

The analyses presented in the four substantive chapters that comprise this dissertation represent an important step in matching existing interest group ecology research with longer time series data and more detailed theories of ecological group processes. They offer valuable insights into the functioning and the robustness of the group system in the United States and will hopefully guide future studies as well as provide context for several of the more recent findings in interest group research. These analyses should not stop here though. Two main paths forward exist for this research. The first path is an investigation of how the make-up of group populations directly affects group representation. Due to individual group

characteristics and unique environmental factors by issue groups engaged in different issues have varying densities, levels of turnover and may be younger or older based on group population traits. The values of these traits affect representation in several ways. The level of government attention and action is influenced by the size of group populations (Gray and Lowery 1995b). The responsiveness of government to the opinions of groups depends on the level of conflict in the group system represented by turnover and the level of access members of the group system possess represented by the age of the group system. How these traits affect representation is not the focus of this dissertation. The traits of group populations matter for group representation, but whether a young or old group population leads to more or less government responsiveness is one of several questions that has been left unanswered by this research. As group population traits are affected by the political environment it is only logical that by changing the group system that group representation itself would also change.

The second path includes more detailed investigations of the population traits of groups by issue and type. The hypotheses contained in this dissertation all focus on associations generally and are tested as such. However, more detailed analyses of group life cycles for issues like defense certainly are possible and could further account for events, such as war. Recent work has shown that different communities of groups based on issues have a unique composition of group types and that due to this they respond to the environment at different speeds (Lowery et al 2005). While all the groups included in these analyses are by definition national level voluntary associations their characteristics do vary. More detailed investigations based on group characteristics are also possible. For example, variance in how professional and non-professional groups respond to the different factors investigated in this dissertation are sure to exist and should be looked at in further detail in the future.

The above highlights one important characteristic of the data used in this dissertation that must be restated before closing. The terms group and association have been used

interchangeably in this work, but all of the data used is exclusively on associations. All of these associations are voluntary and non-profit seeking, but many associations are in fact made up of other groups and not individual members (Salisbury 1984). It is rarely clear from the descriptions contained in the *Encyclopedia* if a group consists of individuals or of larger units, such as hospitals or businesses, and this data was never coded. This adds some ambiguity to the population of associations that is studied in this dissertation as the distribution of interest groups, membership organizations and institutions is unclear. However, by using data on associations a wider and more complete population of politically relevant groups is captured than a study of formalized interests alone (Sabatier 1992; Gray and Lowery 2000). The use of this data does however mean that direct ties to government are not as strong as with a population of just formal interest groups. Additionally, the uncertain composition of the association system makes it unclear if the factors tested in this dissertation affect all associations or only some part of the association system. The various results in this dissertation are shown to alter the population traits of voluntary associations in specific ways, but it is unclear if those same findings would apply to a more specific subpopulation of associations, such as membership associations. This dissertation offers strong evidence of several different ecological processes for voluntary associations in the United States, but these findings must not be over generalized to all groups or offered as proof of these processes operating in more specific subpopulations. Citizens groups, business interests and other subpopulations may act differently, but the general population of voluntary associations in the United States follows the various processes found through this dissertation's statistical analyses.

Table 7.1: Individual Level Summary of Results

	Founding Rate	Survival	Failure Rate
Group Action	High	Positive and Sig	Medium
Prof Membership	Low	Positive and Sig	Low
Resources	Low to Medium	Positive and Sig	No to Low
Beltway	Medium	Positive and Sig	Low

Table 7.2: Environmental Level Summary of Results

	Founding Rate	Density	Survival	Failure Rate
Gov't Attention	Positive	Positive and Sig	Positive and Sig	Positive
Gov't Action	Positive and Sig	Negative	Negative	Negative
Public Attention	Positive and Sig	Both and Sig	Negative and Sig	Positive
Resources	Positive and Sig	Negative	Positive and Sig	Negative and Sig

Table 7.3: Population Level Summary of Results

	Founding Rate	Density	Survival	Failure Rate
Lagged Trait	Positive and Sig	Integrated		Positive and Sig
Founding		Positive and Sig		
Failure	Positive and Sig	Negative and Sig		
Density	Negative and Sig		Curvilinear and Sig	Positive and Sig

Appendix

Topic Codebook for the Encyclopedia of Associations Project

The Policy Agendas Project

Encyclopedia of Associations

Frank Baumgartner and John McCarthy, Directors

This codebook describes coding rules for coding the areas of activity of each of the associations in the Encyclopedia of Associations. It is designed to conform to the topics used in the larger Policy Agendas Project so that areas of group activity can be compared to areas of governmental activity as measured by congressional hearings, statutes, stories in the CQ Almanac, presidential speeches, bill introductions, and other indicators, as well as to stories in the New York Times.

Because the topic coding system was first developed with reference to congressional hearings, there are a few peculiarities. (For example, family issues (topic code 11) includes domestic violence, where as child abuse, missing children etc. are included in Law and Crime Issues (topic code 12).) It is important to be able to compare across the datasets in the Agendas Project, however, so we have to make sure our use of topic codes is the same in the Encyclopedia section as it was in the other sections. Therefore, please read carefully the set of groupings that are described here. Most of them make perfect sense; some are slightly peculiar and in a few cases there are distinctions that simply have to be done consistently (for example, we treat groups with a focus on human rights in the US (usually given topic code 2) differently from those with an international focus (topic code 19)).

Topic coding should be based on the EA Subject Heading, the keyword, the name of the organization, and the description of its activities (note: topic coding should not be based on member characteristics). We assign only ONE topic code per group, so we often need to determine which of several areas of activity is the predominant one. So for example if a group is listed in the EA as a labor union, but it represents people in the transportation industry, we list it under 05 Union rather than 10 Transportation, since EA lists it as a union first rather than in a section devoted to transportation issues.

Topic Codes

01 Macroeconomics, taxes, and the economy

- General domestic macroeconomic issues including inflation, prices, and interest rates, unemployment, financial market cycles/economic cycles
- Monetary supply, federal reserve board, the treasury, gold standard, currency
- National budget and debt
- Taxation, tax policy, and tax reform
- Economic history

Does not include:

- International trade (18)
- Government efficiency or performance, including that of the IRS and its procedures (20)

02 Civil Rights, Minority Issues and Civil Liberties

Discrimination and Minority Representation Issues

- Discrimination on the basis of gender, age, handicap, ethnicity, sexual orientation (includes homophobic groups), religion, etc.
- Voting rights of minorities
- Interracial marriage/interracial pride organizations
- Representation and mobilization of under-represented groups in general. Note that the group must have a minority-representation focus in its activities, not just in its membership.
- Includes feminism and women's rights issues generally. (Note that the group must have a feminism / women's rights focus in their activities, not only have predominantly female membership – League of Women Voters is not coded 02 for example, since their activities do not focus on women's rights per se.) Men's rights groups also coded here if they mention discrimination or similar issues (these groups are coded 11 if they instead focus on custody, divorce, adoption, or other family law issues).
- Cultural heritage groups are in 2 only if they mention prominently activities related to increasing the visibility or respect of the group in American society and are otherwise coded 41.
- Includes groups focusing on 'minority empowerment' i.e. economic/community improvement, voting,

Freedom of speech and civil liberties

- Privacy
- Freedom of the press, censorship
- Freedom of religion, includes the separation of church and state

- Journalistic free speech / anti-censorship / importance of a free press should be coded here. If it has an international focus it should also be coded 19.

Does not include:

- The entry must mention activities focused on discrimination or representation, not just that the members are a minority, sex, religion, etc.; code by the activities of the organization, not the membership characteristics. For example, African American Police should be coded 2 only if the organization specifies that it promotes African Americans within society, otherwise the organization should be coded 12 for the promotion of police work
- Professional groups unless focused on minority visibility
- Cultural heritage groups that mention only preserving or celebrating the heritage of a group are in 41
- General issues relating to investigative reporting, not free speech and censorship, should be coded according to the area being investigated (example: business – code 15; federal government officials – code 20; general investigative reporting goes under culture –40). General issues relating to diversity of the airwaves or newspapers should be coded under communications – code 17.
- Anti-draft and anti-military organizations are coded 16.
- Human rights overseas (19)

03 Health

- Health care, insurance, pharmaceuticals, mental health, rehabilitative therapy, hospitals, medical professions, medical schools, immunization, drug, tobacco, or alcohol abuse and treatment (includes all support groups for emotional, physical or mental health i.e. Alcoholics Anonymous), specific diseases, medical research, infertility, other health-related issues.
- Medical technology/medical devices with health focus
- Groups focusing on the mentally disabled should be coded 3 if have a research/medical care/counseling/assistance or support for family or caretakers focus (however if focus is on integration into society group should be coded 13)
- Includes any type of counseling/therapy for physical health or emotional health i.e. art/music/dance as therapy
- Medicare and Medicaid issues relating to health (but those relating to retirement / pensions / social security are coded 13)
- Includes mental health and associations seeking to promote “health and well being” among members including groups that focus on spiritual and mental wellness, natural healing, wholeness, homeopathic, etc.
- Medical research, rehabilitation and questions on treatment related to the disabled.

Does not include:

- Social integration of the disabled i.e. organizations that bring the disabled together for friendship, or that work for increased independence of the disabled by providing

employment opportunities (employment of the disabled should be coded 5 if it does not have a social integration focus) or that promote political issues related to the disabled are coded 13

- Veteran's health/military medicine (16)
- Medical technology/research with a purely science focus (17)

04 Agriculture

- Agriculture, farms, ranches, farm products, livestock, breeding, aquaculture, food products, food safety and food production, agricultural trade and marketing boards
- Includes veterinarian services, pet health, animal health
- Management of fishery resources, fishery regulations; includes fishing industry

Does not include:

- Retail food industry (e.g. beverage distributors, restaurants – 15)
- Forestry industry – 21
- Community development / rural life / small town groups (14) unless they also mention farming issues as a focus.
- Animal welfare should be coded 32/pets should be coded 42

05 Labor, Employment, and Immigration

Labor, Employment, and Working Conditions

- Labor unions
- Worker safety and protection, occupational health and safety
- Employment training and workforce development, includes technology training
- Employee benefits including pensions and retirement plans (note that social security goes in 13, social welfare); parental leave; child care issues within the workplace
- Fair labor standards and employee – employer relations issues (note that any type of discrimination i.e. age, race, etc. or Affirmative Action within the work place should be coded 2)
- Youth employment and youth job corps programs
- Employment of the disabled (if it does not have a social welfare/social integration focus)

Immigration and refugee issues

- Note: this refers to US immigration and refugee issues. Refugees overseas (Palestinian refugees in Israel; Somali refugees in Africa) are coded 19.
- Immigration (pro- or anti-)
- farm labor issues (also coded 4)
- Border patrol issues as these relate to immigration. (Note that occasionally these will have a national security / defense focus – 16 – or an import regulation / customs duty focus – 18. INS generally is coded 5.

- Migrant Workers
- Ethnic identity groups focusing on immigration

Does not include:

- Note that Professional Associations (associations that do not have a collective bargaining unit or are not called 'Union') should be coded by the focus of the profession, not 5; i.e. Screen Actors Guild should be coded 40

06 Formal Education System

Note: To be given a code 6 organizations must perform activities with the formal education system; education outside the formal education system should be coded according to its predominant activity. For example an organization who educates the public on environmental issues should not be coded 6 but coded 7 for the environmental focus.

- Any groups with activities related to the formal education system from nursery schools through post-graduate training, including vocational and technical training, special education, religious schools, private schools, adult education, any kind of formal schooling.
- Alumni groups, Honors Societies, Scholarship Organizations, Greek Societies
- College bookstores
- Programs for the Gifted if affiliated with education
- Homeschooling

Does not include:

- General youth oriented groups such as Boy Scouts, Girls Nation, and others that may have an educational goal but which are outside of the formal education / schools system (note: youth oriented organizations should be coded 11).
- Professional or other types of groups that offer "educational activities" or other mentions of education outside of the school system. Often these are simply member services and should not be coded separately from other activities of the group.
- Education within the work place such as computer courses, should be coded 5 for worker training
- Location on a college or university campus does not automatically result in a topic 6 code unless the activities of the association are substantially related to formal education.
- Groups who study/research different academic areas are not necessarily coded 6 even if located on a college or university campus
- Organizations that focus on public education efforts, public relation campaigns, education campaigns, unless specified as part of the formal education system should be coded according to the activities of the group, i.e. educating the public on the value of the Real Estate industry should be coded 15 not 6
- Equality within education should be coded 2

- Cultural exchange and exchange programs that are not an official part of the formal education system should be coded 19
- Sunday school/religious study classes not associated with a formal education should be coded 31

07 Environment

- Drinking water safety, water pollution
- Waste disposal, including nuclear / toxic waste
- Air pollution, global warming, and noise pollution
- Recycling
- Indoor environmental hazards
- Coastal water pollution and coastal land conservation
- Land and water conservation
- Species and forest protection
- Appropriate Technology groups generally are coded 7; should be coded 19 if has a predominant international focus
- Animal rescue/endangered species groups should be coded 7, including zoos and zoo caretakers
- Nature watchers should be coded 7 i.e. birdwatchers

Does not include:

- Health issues (3)
- Workplace safety issues (5)
- Energy per se (8)
- Defense and arms proliferation / safety (16)
- Rescue of domesticated animals (32)

08 Energy

- Electrical production: coal, gas, oil, nuclear issues; hydroelectricity and related dams
- Oil, natural gas, petroleum issues including pipelines and production
- Energy production; mining
- Alternative and renewable energy
- Energy conservation (note that reduced use of fossil fuels or renewable resources in general is in 07 environment).
- Note that many groups that mention activities in the area of energy also mention activities in the area of environment. Code 08 to the extent the groups have a significant focus on energy, not just one part of a laundry-list of environment-related issues.

10 Transportation

- Mass transportation of all kinds: highway issues, cars, trucks, buses, railroads, air traffic, air planes, airports, boats, shipping, bicycles, motorhomes/RVs, houseboats, snowmobiles, etc., any kind of transportation, whether the group is promoting the industry or complaining about it.

- Transportation safety
- Infrastructure development (public works projects) often relate to transportation. If unspecified, code here.
- Engineers working in the automotive industry
- Shipping of goods by trucks, trains, planes, boats etc. (International shipping coded 18 for international trade)
- Cars, Planes, Trains, etc. enthusiasts (includes air shows, car shows, etc.)
- History of aviation/history of automobiles/marine history/history of transportation etc. should be coded 10

Does Not Include

- Auto racing/auto racing history should be coded 29

11 Family Issues

- Preservation of the family, traditional family issues
- Groups involved with divorce issues and counseling (includes child support, child custody, divorce legislation, court-ordered divorce issues)
- Family issues and counseling (includes economic issues, family services, family preservation, adoption services, impact of drugs on family)
- Rights of parents (together or separately) in divorce and custody issues; “mens’ rights” groups if related to divorce and custody issues; adoption and family law issues generally.
- Battered women and domestic violence
- Children’s issues in general—includes child welfare issues, foster care, abandoned infants and children
- Children/Adolescent/Family organizations i.e. Boy Scouts, Girl Scouts, YMCA
- Teenage issues—includes teenage pregnancy, teenage suicide, teenage counseling
- Elderly abuse

Does not include

- Violence and abuse of children (see topic code 12)
- Elderly issues should be coded as to specific issue, only elderly abuse is coded as 11
- Family Planning/Abortion (and Pro-life) organization are coded 32
- Children literature, children’s libraries, pediatric care, etc. should be coded for children issues but coded for the overarching activity i.e. literature, libraries, medicine, etc.
- Organizations that promote children’s issues yet can be coded elsewhere should be coded by predominant issue i.e. children’s books should be coded 40, children’s library (24), pediatric medicine (3), children’s music (40)

12 Law and Crime Issues

- Law enforcement, law-and-order, police groups, neighborhood watch groups, lawyers' organizations, judges, prison guards, notaries, any groups/individuals related to or employed by the law or the criminal justice system.
- Includes fire fighters and other first responders.
- General first response (to emergencies, disasters, etc.)
- Victims' rights groups, prisoners' groups, defense attorneys, prosecutors, judges, any groups related to the legal system
- Criminal code and punishments; death penalty; prison issues; criminal procedure; legal defense issues; decriminalization of drugs / hemp / marijuana; illegal drug production/trafficking and control; legal reform; tort law issues.
- Private security guards
- Local police, state, or federal police activities
- Groups that seek to address issues of interpersonal violence (e.g., crime, assault, aggressive / illegal behavior)
- Issues of white collar crime, organized crime, Juvenile crime
- Liability issues (as long as not workers' comp related (5))
- Child abuse, sexual abuse of children in day care, sexual exploitation of children, child pornography, child abduction, child kidnapping, violence against children, missing children, parental kidnapping of children, runaways
- General pornography
- Security guards, security management, security systems, security devices, alarm systems (includes selling and installation of security systems)

Does not include:

- Right to bear arms, gun control groups are coded 32.
- Religious fundamentalism in general (31), home schooling (6), gay rights (2)
- Any organization that proposes general nonviolent conflict resolution (besides interpersonal violence) should be coded 16 if it has a war element, 19 if it is an international focus, or 32 if it is general nonviolent social change. Interpersonal violence here is more a focus on crime, assault, etc.
- Drug and Alcohol support/treatment groups (should be coded 3 for Health)
- Domestic violence is coded 11

13 Social Welfare

- Groups focused on aid to the disabled, poor, elderly, or any other needy segments of society
- Poverty, social welfare, assistance to low-income families (or opposition to such assistance); food stamps, food for the poor, employment programs for the poor/homeless as part of general poverty relief, other poverty related groups including both those seeking to mobilize the poor and those seeking to give them support or charity. Meals on wheels, other volunteer aid groups.
- Disability rights groups, domestic poverty and hunger groups
- Integration of mentally/physically disabled into society, i.e. independent living
- Elderly assistance programs, including Social Security focused groups

- Charities and volunteer associations are included here if activities prominently include poverty or other assistance to the poor or needy.
- Organizations focusing on welfare counseling or self-help services (however if have a specific counseling focus code to that focus, i.e. family counseling would be coded 11, psychiatric counseling would be coded 3)
- Organizations that work to improve literacy rates.

Does not include:

- International aid groups go in 19
- Religious proselytizing groups go in 31; they go in 13 if they focus on aid to the poor.
- Housing for the poor goes in 14
- Employment programs for the physically/mentally disabled, the elderly general should be coded 5 unless group focuses on employment as part of poverty relief code as 13 (for example if vocational training of disabled is predominant focus then code as 5 however if vocational training is mention as one of a number of services for the disabled then code as 13)
- Help for the sick/those with specific diseases/chronic conditions should be coded 3 (unless there is an overarching desire to improve poverty conditions)
- Community improvement groups unless have a focus on the poor/disabled, however housing for the homeless should be coded 14

14 Community Development and Housing Issues

- Urban economic development, neighborhood development, urban planning, community development organizations or other urban development groups. Includes urban public spaces, city planning, etc. Public use of art, sculpture, architectural preservation should be 14 if appropriate
- Rural development planning and rural economic development in general
- General community betterment, community improvement, community service groups
- Free enterprise zones
- Housing for the poor or needy.
- Homelessness and housing issues in general
- Mortgage banking and mortgages as they relate to housing availability.

Does not include:

- Mortgage and housing discrimination (02)
- Does not include ethnic communities

15 Banking, Finance, and Domestic Commerce including Business and Corporate Issues

- Anything related generally to the free-enterprise system, entrepreneurship, business issues. Note that purely ideological groups are coded in 32, including groups that promote free enterprise and the reduction of the size of government in the US. Groups

that promote an understanding of business, of economics and of the free-enterprise system are coded here.

- Banking, finance, capital markets, other financial-related groups
- Corporate governance, corporate mergers, corporate oversight groups.
- Advertising
- Real-estate industry issues
- Commodity exchanges i.e. corn, cotton
- Consumerism and consumer issues in general; bankruptcy; consumer protection within all industries
- Insurance industry groups/agencies
- Small business owners, entrepreneurs
- Copyright and patent related groups; includes intellectual property protection
- Inventors/Inventions should be coded 15 (business, marketing or patent related focus)
- Tourism groups, travel groups if have a business focus
- Business characteristics of professional sports and gambling (as industries; coded 29 when referring to the sports side of things), includes treatment of compulsive gamblers
- Other business, industry and manufacturers' issues not included elsewhere in the codebook (e.g., steel industry, textiles, footwear manufacturers, specific minerals [copper, aluminum], equipment manufacturers, restaurant industry, building industry, construction industry, publishing industry etc.)
- Product research or industrial research
- Business oversight, corporate responsibility, business ethics, business issues in general without referring to any particular industry
- The Chamber of Commerce of the US, a general business group, would be coded 15.
- Business ethics groups and general professional ethics groups
- Measurement standards

Does not include:

- Groups with a focus on a particular industry that can be coded elsewhere: so a trade group of energy companies would be coded 08.
- Note that one should not code a group 15 just because it mentions, as in a laundry-list, or incidentally, activity in an area not covered elsewhere in the codebook. This code should be for business-related groups, not just uncodeable organizations.

16 Defense

- Anything related to war or peace
- Anything related to military institutions: army, pentagon, national guard, coast guard, etc.
- Anything related to military decision-making, strategic decisions, arms control, arms procurement and contracts, arms proliferation
- Espionage, CIA, spying, P.O.W.s (Includes therapy/health issues/help to victims/prisoners of war)

- Particular wars, including veterans or groups commemorating or helping victims from a particular war or battle. This also includes groups which focus on the remembrance/researching/teaching of a certain war or battle.
- Any military history
- Descendants of military commemorative societies and descends of veterans
- Draft-dodging, conscientious objector status, anti-war, peace, pacifism, anti-military
- Nuclear disarmament, peace movement, economic reconversion (guns or butter) organizations are 16. Non-violence, peace, conflict resolution if it has an international / war character as opposed to a focus on personal or neighborhood disputes.

Does not include:

- International understanding and international development / assistance groups are typically in 19; they are coded here if they mention *peace* or *international conflict resolution* as major areas of activity.
- Note that many groups with a focus on war will also have a focus on international relations or international development (19); those with a dominant focus on international activities should be coded 19

17 Telecommunications, Mass Media, Space, Science and Technology

- Space including NASA, commercial use of space, satellites, etc.
- Science: research, scientific cooperation, scientific advance, hard sciences in general (includes chemistry, biology, botany, zoology, physics, mineralogy, meteorology, evolution, geoscience, geology, etc.), research performed on animals (animal testing) (specified types of research/research development within a specific policy area i.e. health (3), agriculture (4), aerospace (10)...should be coded to the specified policy area)
- Also includes mathematics, information sciences, statistics and pattern recognition
- Public education of advances in/goals of science/technology
- Science/technology libraries
- Information sciences, information management systems
- Technology: high-tech, computers, etc. Weather forecasting.
- Communications: telecommunications, telephones, broadcast communications (TV, radio), cable TV, newspapers, journalism, issues related to any of these industries.
- Production characteristic of the music (or any art) industry
- Public relations/public education unless has a specific focus
- Includes reporters, journalists, editors, publishers, photographers relating to delivering the news
- Publishing industry; includes books, magazines, newspapers, newsletters, directories, etc. that are in general circulation (however if have a specific focus area such as sports, science, agriculture and are not available in general/mass circulation should be coded to that area of focus)

Does not include:

- Medical research is often coded 03

- Military issues are generally coded 16
- Artistic content is coded 40 (including actors, recording artists, journalists, photographers, reporters, etc.). Free speech / censorship / free press issues are in 2. Investigative reporting issues are coded under the policy area being investigated.
- Research and development within any particular industry should be coded for its area of activity, for example manufacturing techniques(15), health industry (3), agriculture (4), energy production methods (8), etc.
- Business side of publishing should be coded 15

18 Foreign Trade

- Trade issues generally: promoting trade, complaining about trade (protectionism, anti-dumping, American jobs first), multi-lateral trade issues (international negotiations about trade and tariffs)
- Customs and border controls as these relate to trade and imports / exports; import regulation (as they relate to immigration: 5; as they relate to defense: 16)
- Promoting or encouraging exports or imports; doing the opposite
- Includes International Chambers of Commerce

Does not include:

- Many trade groups may also have a focus on a particular industry, on international development more generally (19), or on war and peace (16). Each organization should be evaluated for the most prominent focus

19 International Affairs and Foreign Aid

- Groups with predominant international focus; including multi-national issues as well as issues focusing on any foreign country area, international organization or work overseas
- International human rights/ developing world issues / poverty, hunger / economic development in developing world/ third world country issues
- Diplomacy, foreign policy, international affairs, international development, international understanding, hosting foreigners visiting the US, other cultural exchange organizations.
- General foreign policy, greater understanding of another part of the world, even if in relation to the Middle East or another area with military tension is not coded 16 unless the entry mentions these military items specifically. These are also coded 16 if they mention a significant focus on security issues, peace, conflict, etc.
- Organizations that promote cultural exchange between two or more countries (Example: U.S. China Exchange Center). If the organization only promotes cultural understanding/awareness within the U.S., it should be coded 41.
- Promoting foreign visitation/foreign travel

Does not include:

- Any group whose predominant focus is on the US but takes part in international activities, code by predominant focus not topic code 19 i.e. groups that mention international activities or that put the word international in the title are not necessarily coded 19 unless have a predominant international focus
- Security / world peace / arms control / arms proliferation are 16. Some may also have a broader international understanding focus as well, if have predominant international focus then code 19
- American immigrant groups are not coded here but in 2 or 41; groups with a focus on a foreign country are 19. So a Polish-American group would be 2 or 41 (depending on if it was purely a cultural group –41 or if it tried to represent its constituency or fight against discrimination towards them – 2); a group promoting closer ties and cultural exchanges between the US and Poland would be 19.
- Does not include international trade (international trade is included in 18)

20 Federal Government, Public Policy Generally

(Note that we have created code 32 for single-interest groups with a public policy focus.

[Single-interest can include a range of related topics, such as progressive socialism, or Christian fundamentalism, or traditional family values; these would all be in 32.] To maintain comparability with the other datasets in the Agendas Project, all these groups coded 32 should be combined with those coded 20 to get a count of groups active in the area of public policy / federal government affairs generally.)

- Includes groups whose main interest is in public policy or federal government issues generally. (Those mentioning state and/or local policy or administration in particular are coded 24, not 20.)
- Think-tanks and research foundations are coded 20; single-interest groups may be coded 32 if they are not specifically related to government issues per se. A general purpose think-tank would be 20.
- General constitutional reform / constitutional study groups (but not those with a particular angle such as gun ownership (32), abolishing paper money (1), etc. Academic groups or groups furthering the understanding of the constitution and its roots would be 20; groups actively attempting to change it may be coded elsewhere, as in 32.
- Polling and survey organizations
- Political parties and other groups focusing on elections, including PACs and fund-raising for political purposes. Note that some groups have “party” in the title but do not appear to field candidates in elections or engage in the traditional electoral activities associated with parties; if so these are coded 32.
- Government watchdog groups and groups promoting more citizen involvement in politics (non-partisan) and groups with non-ideological proposals for constitutional

reforms (see also code 32 for such groups as those promoting a return to constitutional principles of individual freedom and other ideological causes).

- Government efficiency, oversight, cost to tax payers.
- Post Office, census, or other activities of the federal government not included elsewhere.
- Groups consisting of Members of Congress should be coded for predominant activity
- Social science groups; includes organizations that focus on political science, sociology, etc. (for example, the American Political Science Association).
- General philanthropy/fundraising organizations (if organization has a specific focus code for that focus, i.e. philanthropy for health issues would get coded 3).
- Groups working for general public safety
- Geography, mapping, cartography, surveying, demography and exploration
- Study of the future, global future, population future, etc.

Does not include:

- Groups with a state or local focus are in 24.
- Single-purpose ideological groups are in 32 unless their purpose is codeable elsewhere such as monetary policy (1); environment (7), marijuana laws (12), or other examples.
- Tax reform groups are in 1.

21 Public Lands and Territories, Indian Affairs, Forest Management, and Government Dams, Water, and Irrigation Projects

- National parks, memorials, federal historic sites
- Natural resources, public lands, and forest management
- Includes forest industry, lumber companies
- Water resources development and research
- Native American affairs
- Overseas American territories, statehood questions (Puerto Rico for example)
- Generally, this category stems from the fact that the federal government owns or administers large parts of land especially in the West. So lands-management, forest management, dams, water projects and issues related to these things are coded here.

Does not include:

- Environmental / conservation issues in general (7); only those related to public lands should be coded 21.
- Water treatment/water conservation issues should be coded 7
- Lumber processing companies/Wood Treating companies should be coded 15
- Historic sites not federally recognized should be coded 41 in most cases

24 State and Local Government and Policy

- Code similarly to 20 above except with a focus on state and local government rather than the federal government
- Includes groups interested in public policy at the state and local levels, elections and politics at the state and local levels.
- State Lotteries
- Includes state and local employees such as librarians (however only includes libraries in general, specific libraries should be coded by subject i.e. science libraries (17), medical libraries (3), Art museums (40), cultural history museum (41), automobile museums (10)), local government officials etc. (however state employees employed within the judicial system are usually coded 12, i.e. police officers, prison guards; also firefighters are coded 12)

Does not include:

- 51st state issues are in 21.

26 Weather and Natural Disasters

- Unlikely to be used extensively in the Encyclopedia project; used in the New York Times dataset.
- Anything related to weather events to natural disasters
- Natural disaster relief within the U.S.

Does not include:

- Weather forecasting is in 17.

27 Fires

- Unlikely to be used extensively in the Encyclopedia project; used in the New York Times dataset.

Does not include:

- Firefighters and things associated with them are generally coded in 12 since they are generally related to public security issues.
- History of firefighting, commemorations of famous fires should be coded 41

29 Sports and Recreation

- Anything related to sports and recreation, whether professional or amateur includes hiking, camping, weight lifting
- Sports as hobbies should be coded 29
- General physical fitness is coded 29
- Sports commentators, sports writers, sports media

- Sport history/sport museums
- Sports/recreation for the disabled

Does not include:

- The business of professional sports is coded in 15.
- Collectors; such as the collecting of sports memorabilia should be coded 42
- Sporting goods supply store, sporting goods are coded 15
- Card Games/Board games are included in 42

30 Death Notices

- Groups related to anything associated with death including mortuary and funeral issues

31 Churches and Religion

- Any groups with activities focusing on religious activities, such as proselytizing (includes altering personal beliefs to match religious beliefs), committees and groups active within an organized religion itself, or other religion-focused activities.
- Includes groups that focus on the study of religion in academia
- Includes groups referring to cults and cultism, occultism.
- Ghosts, vampires, werewolves, near death experiences, enlightenment, etc.

Does not include:

- Groups that focus on religion overseas should be coded 19 instead of 31
- Groups that focus on the freedom of religion or the separation of church and state, should be coded 2.
- Note that groups are coded by their activities, not their membership base. Therefore, many religiously affiliated groups with activities in the realms of charity, peace, international aid, human rights, or other areas, are coded by those other areas of activity and not on the basis of the religious backgrounds of their members.
- Note that many Jewish or Zionist organizations have a religious focus (e.g., those promoting Judaism or Zionism); others do not (e.g., those working towards peace in the Middle East or other topics that do not mention religion). The key point is that groups coded 31 should have a focus on religion as a major activity.
- Jewish culture groups should be coded 41 for culture rather than 31 for religion i.e. music, art, dance etc.

32 Ideological, Social Cause, and Political Groups

(Note that for the purposes of comparing data from the Encyclopedia of Associations dataset to other datasets of the Policy Agendas Project groups coded in this category should be combined with those coded in category 20: government affairs. There is no code 32 in the other datasets of the Agendas Project.)

- Any groups with activities focusing on a particular social cause or public policy activity not codeable elsewhere.
- Includes purely political organizations, ideological groups, anarchists, groups focused on patriotism / citizenship, right to bear arms, nonsmoker's/smoker's rights, rights of the dying (euthanasia), anti-communism (unless that has an international or defense / national security focus), or other groups that cannot be coded into other categories above. Also includes white supremacy organizations, Nazis, etc. Groups with broad political goals including constitutional revisions, a return to "fundamental principles" of the constitution such as the right to bear arms, limit taxation, inclusion or exclusion of religion in public life and other broad political / constitutional issues are coded 32.
- Non-violent social change. General peace and nonviolence groups go in 32 if it cannot be determined that they actually have a military focus (16) or a domestic poverty focus (12) or an international justice focus (19).
- Reproductive rights, anti-abortion, pro-choice groups (includes family planning organizations such as Planned Parenthood)
- Pro-free enterprise groups are coded 32 unless they have a purely business education focus (15).
- Animal welfare groups should be coded 32 (includes animal shelters/rescue of domesticated animals/animal rights)
- Groups with an interest in political assassinations (e.g. John F. Kennedy) should be coded 32. Groups that focus on the assassination of cultural figures (e.g. John Lennon) are topic coded 40.
- Other issues of public policy

Does not include:

- Go back to the gold standard / abolish the federal reserve (1)
- Civil rights groups (2)
- Environmental groups (7)
- Consumerism (15)
- Arms control and disarmament; peace (16)
- Foreign focused groups (19)
- Clean government, government watch-dog, money-in-politics groups, groups promoting more citizen involvement in elections, all (20)
- Political parties (20)
- General constitutional study groups or constitutional reform aims (e.g. a focus on a single 6 year presidential term; direct legislative initiative by the public) are coded 20 for constitutional issues. Similarly an academic group of constitutional law scholars would be coded 20.
- Groups with a focus on the federal government are coded 20
- Groups with a focus on state or local governments are coded 24

40 Performing, Fine and Creative Arts

- All forms of performing, fine and creative arts: printing, graphic arts, acting, singing, architecture, design, movies, theater, dance, music, literature, photography, animation,

film making, modeling, etc., however includes only the creative side of the performing/fine arts

- Book clubs
- Humorists, comedians, humor writers, cartoonists
- Includes authors, dancers, musicians, composers, choreographers, photographers, artists, actors, comedians
- Archiving of music/dance/art (music industry/production should be coded 15 or 17 depending on activities business vs. technology)
- Art/Music/Drama libraries
- Art museums; General Museum issues including museum management
- Art preservation (historical site preservation should be coded 41)
- Art/music education (as long as not part of the formal education system)
- Includes investigative journalism, so long as the group does not focus on one particular topic. For example, an organization of journalists that investigates environmental issues only should be coded topic 7. However groups that do not include a focus or include a laundry list of interests should be coded in 40.
- Fan clubs for musicians, actors, etc.
- Assassination of artists i.e. John Lennon

Does Not Include:

- Art with a cultural or historical focus should be coded 41
- Groups associated with the business side of the fine arts should be coded 15
- Groups associated with the publishing, TV broadcasting, marketing, promoting etc.; 40 refers to the creative side of art
- Art education within universities and schools
- Artistic content is the focus here. Other issues relating to reporters and journalists are in 17, communications. 40 includes artistic and creative performances, dance, architecture, music, cable TV productions, TV content, etc. but not generally news and political reporting. Note that journalism in general, particularly free speech issues, is coded 2. Organizations that promote cultural exchange between two or more countries. These should be coded 19. Cultural groups which promote economic strength, economic opportunities, antidiscrimination of minorities/ethnic groups should be coded 2
- Groups that focus on architecture in a historical sense should be coded 41

41 Culture, Heritage and History

- Includes cultural heritage organizations associated with a given ethnicity or nationality. Note that ethnic-related organizations that mention discrimination or the representation of the group in society or promoting a better understanding of the contributions of the group as a prominent organizational focus are coded 2. Purely cultural groups would be coded 41, however.
- Cultural dance, music, food, literature, etc. (includes American cultural groups)
- Cultural museums (fine art coded 40)

- Groups that focus on family lineage or the study of lineage, family name societies, genealogical societies
- Fraternal life insurance groups; groups with a focus on services to members of ethnic or cultural communities i.e. the Masons, groups interested in persons with specific names, specific hair colors, etc.
- Includes American cultural societies if it has a purely cultural / historical understanding angle. If it focuses predominantly on patriotism and civic education, it should be coded 32 or 20.
- Groups with interest/study in foreign culture even if located within university settings unless part of the formal education system then code 6
- Study of language/linguists (if in formal education setting code 6), translation/translators, cryptology, dictionaries
- Historical commemorative groups, historical societies, preservation of historical sites
- Anthropologists, archeologists, historians, humanities, philosophy
- Archives
- History/study of mankind (does not include study of mankind within the sciences)

Does Not Include:

- Cultural exchange between countries should be coded 19
- History of automobiles, planes, trains, boats; transportation history should be coded 10
- Cultural exchange/exchange between countries should be coded 19
- History of wars should be coded 16

42 Hobbies, Collectors, Amusements and Clubs

- Hobbies, collectors, amusements, enthusiasts and clubs of any kind i.e. board games, stamp collecting, card games, crafts, tattoos, amusement parks, circuses, clubs of gifted individuals, etc.
- Travel and tourism should be coded 42 unless has a business focus then code 15 or international focus then code 19
- Public speakers w/o a business focus
- Pet enthusiasts should be coded 42 unless they have a business or agricultural focus (such as breeding), in which case they should be coded topic 4. If their focus is on animal rescue, they should be coded topic 7. If their focus is on pet health, they should be coded topic 4

Does Not Include:

- Clubs with a sports focus, fans/enthusiast of sports (29)

99 Other and Miscellaneous

- Any organizations whose activities cannot be coded elsewhere.

- Foundations should be topic coded by their substantive focus. However, if the focus of the foundation cannot be determined or does not focus on a specific policy, it should be coded 99 (Example: Association of Small Foundations-Assistance and education to small foundations.)
- Groups that focus on self-help, human development and human potential that cannot be coded elsewhere (such as 3, 5, 13, or 15)
- Includes metaphysics, parapsychology, hypnotism, ESP, psychics (unless focused on police work then code 12)
- Extraterrestrial life, unidentified objects

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