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The Dynamics of Legal Networks: State Attorney General Amicus Brief Coalition Formation

Shane A. Gleason*

Department of Political Science, Idaho State University, Pocatello, Idaho

ABSTRACT

State attorneys general, the second most frequent and successful class of amici at the Supreme Court, are more successful as coalition size increases. While a large literature examines their amicus activity, scholars know little about how their coalitions form. This presents an incomplete account as broad coalitions are possible only if they are first mobilized. Utilizing social network analysis, I argue attorney general amicus brief coalitions are the product of the broader context. This context is dynamic. In the 1980s and 1990s coalitions are predicted by resources. By the 2000s, an increasingly partisan environment makes ideological similarity the main predictor of coalition formation. These findings draw attention to not only the utility of network approaches to judicial politics, but also the importance of changes in the broader environment in how attorneys general and other actors are able to mobilize coalitions to advance their preferences at the Court.

In a 1975 speech to the Fifth Circuit Bar Association, Justice Powell publicly lamented that "some of the weakest briefs and arguments" were advanced by state attorneys general (AGs) (Morris 1987, 300). While AGs are now some of the most effective amici, Powell's comments were warranted at the time. In the 1970s, AGs frequently filed amicus briefs of mediocre quality alone or in small coalitions. Partially in response to Powell's comments, the National Association of Attorneys General established the Supreme Court Project to coordinate AG amicus activity and promote coalition formation. Coordination and coalitions, AGs reasoned, would boost brief quality and help shape case law in a manner conducive to state interests (Baker and Asperger 1982). Their efforts proved successful; by the mid-1980s Chief Justice Burger noted "the quality of representation of state and local communities in the Court has improved significantly" (Ross and Catalano 1988, 343), and AGs quickly became the second most frequent and successful class of amici at the Court (McAtee and McGuire 2007). As a result, the multiple amicus briefs signed by just one or a handful of AGs common in the 1970s gave way to a lower number of briefs signed by broad coalitions in the 1980s and 1990s conveying the collective state interest. However, by the turn of the century the political landscape for AGs became increasingly partisan. The broad AG coalitions of the 1980s gave way to competing briefs signed by coalitions of ideologically similar AGs (Nolette 2014). The changing role of ideology alters interactions between AGs and the manner in which their coalitions form. This has important consequences for how effective AGs are at advancing their preferences as amici.

Coalitions are a major part of politics generally and amicus brief activity specifically. In the case of AG amicus briefs, coalition formation is particularly important as larger amicus brief coalitions

CONTACT Shane A. Gleason ✉ shane.gleason@tamucc.edu 🖃 Department of Social Sciences, Texas A&M University, Corpus Christi, 6300 Ocean Drive, Unit 5826, Corpus Christi, TX 78412.
*Present affiliation: Texas A&M University, Corpus Christi, Texas.
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translate into greater success (Clayton 1994; Goelzhauser and Vouvalis 2013).[1] I contend that AG amicus brief activity is not merely filing the brief at the Court. Rather, it is a process that begins when the coalition forms and ends only when the Court considers the brief in its decision in a given case. Thus, if scholars are to fully understand how AGs are successful as amici, it is important to begin with how they mobilize the coalitions that enable their success. However, no study as of yet examines how AG amicus brief coalitions form. I provide the first account of AG amicus brief coalition formation. This helps provide scholars with a more complete account of AG amicus brief participation that spans from coalition formation to brief success.

I examine the determinants of AG coalition formation from 1980 through 2009 and find the underlying predictors of coalition formation change along with the overall context in which AGs operate. Coalitions are driven by resource factors throughout the entire time period; but by the 2000s the growing partisan environment makes ideological similarity a predictor of AG amicus brief coalition formation. While I could examine coalition formation among any number of actors at the Court or in the broader legal world (e.g. Box-Steffensmeier and Christenson 2014; Heinz et al. 1993), I focus on AGs because of their unique role at the center of the federal system. They are the only party authorized to speak in the states' name and have taken on an increasingly important role in shaping outcomes at the Court in recent years (see, for instance: Myers and Ross 2007). I further focus on their amicus brief activity because of the ease with which actors, AG or otherwise, can undertake amicus brief activity to shape policy outcomes (Caldeira and Wright 1988, 1990; Collins et al. 2015; Nicholson and Collins 2008). Given AGs' success as amici (McAtee and McGuire 2007), it is important for scholars to understand how they mobilize the coalitions that can put a distinctly states' perspective, or their own policy preferences, into federal case law (Clayton 1994; Nolette 2015).

While I focus on AGs here, this article is applicable to the study of not just AGs and their amicus brief coalitions but also to the judicial behavior and American politics literatures more broadly. For example, the changing determinants of coalition formation highlight the interdependence between AGs themselves and their dependence on changes in the broader ideological climate of American politics (Schmeling 2003). Coalition activity is a key component of interest group activity at the Court and elsewhere (Box-Steffensmeier and Christenson 2014; Box-Steffensmeier et al. 2013; Collins 2008; Hula 1999), and my findings on how changing context impacts coalition formation are likely portable to other contexts. This study also draws attention to a relatively underused analytical method in judicial behavior; social network analysis. Social network analysis allows observations to be treated as interdependent on each other, creating a more realistic methodological account of coalition formation (e.g., Knoke and Yang 2007; Wasserman and Faust 1994). Given that using the more realistic modeling assumptions of social network analysis can alter the results of models (Cranmer and Desmarais 2016; Desmarais et al. 2015), this allows me to provide the most accurate account of how AG coalitions form. It is my hope that this analytical approach will be employed by future studies as well.

I proceed in several parts. First, I provide a brief overview of the evolving context of AG amicus brief activity and the changing dynamics of AG interactions. I then argue that the AG amicus brief network was premised largely on resource based-factors in the 1980s before ideological determinants become a factor in the 2000s. I next describe my data and methods. Subsequently, I present and discuss my results. I close with directions for future research.

Ag Amicus Brief Coalition Formation

Since AGs are the only party authorized to represent the states in name before the Court, they are able to express the collective state interest. This is particularly true when they file together in broad coalitions (Morris 1987). Perhaps because of their unique perspective at the intersection of the state and

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[1]Amicus brief success is defined in several ways, including the success of the endorsed party at the merits (Clayton 1994; Nicholson and Collins 2008; McAtee and McGuire 2007), the adoption of a favored legal argument (Spriggs and Wahlbeck 1997), or the direct incorporation of language from the brief into the final opinion (Collins et al. 2015). I adopt the most conventional definition of success: the success of the endorsed party at the merits.

federal systems of government, AGs were some of the earliest and most prominent amici. Indeed, the Court explicitly notes its deference to state amici as early as 1854.[2] By the 1880s, state governments regularly appeared as amici, and observers noted amicus briefs from states were particularly influential. However, the privileged place of AGs as amici has not remained constant over time. By the 1970s AG amicus brief quality dropped to the level that prompted Justice Powell's critique mentioned above (Baker and Asperger 1982; Morris 1987; Waltenburg and Swinford 1999; Ross and Catalano 1988). Further changes in the political and policy-making environment in the late 1970s and early 1980s prompted a renewed commitment to amicus brief quality and coalition formation by AGs.

Anticipating changes stemming from federal devolution, the National Association of Attorneys General founded the non-partisan Supreme Court Project in 1982 to facilitate cooperation and communication between AGs to boost their standing and success in legal activities before the Court (Baker and Asperger 1982). Among other things, the Supreme Court Project helps facilitate AG amicus brief coalition formation to promote a small number of high-quality AG amicus briefs with broad support as opposed to the previous norm of inundating the Court with multiple redundant briefs of mediocre legal quality (Clayton and McGuire 2002). After the establishment of the Supreme Court Project, scholars note AGs undertook collective endeavors for largely non-ideological reasons such as the state or public interest (Clayton 1994; Morris 1987; Nolette 2015). This practice, evidenced in both amicus briefs and multi-state litigation, allows AGs to leverage their collective resources against well-monied adversaries and to speak with a unified voice to the Court. More specific to amicus briefs, larger AG coalitions are more likely to persuade the Court to rule in favor of the AG's endorsed party (Clayton 1994; Goelzhauser and Vouvalis 2013). Despite the incentive for broad coalitions, coalitions of forty or more AGs remain relatively rare, as AGs have different preferences, which often precludes them from collectively speaking in one unified voice even in the largely non-partisan 1980s (Nolette 2014).

It is important to note coalitions are a product of the environment at hand, which changes over time. The environment in which AGs operate has changed dramatically over the past several decades from one that is largely focused on state interests to one that is largely focused on ideology and partisan affiliation (Nolette 2015). This is evidenced by the formation of the Republican (Democratic) Attorneys General Association (hereafter: RAGA and DAGA) at the turn of the century. As such, it is likely that the underlying predictors of AG coalition formation have changed as well.

Because of the lack of studies on AG coalition formation, it is necessary to look at the broader literature on coalition formation. Work by Heinz and his colleagues notes that elite attorneys[3] network with politically like-minded peers if they have resources. A lack of resources typically precludes networking among these actors (Nelson et al. 1988; Heinz et al. 2003, 2005; Paik et al. 2007, 2011). While a lack of resources may preclude coalition formation for elite attorneys, it is not always a deterrent to coalitions. In other contexts, pooling resources may be the only way in which actors can participate in costly political activity, such as congressional lobbying or amicus brief advocacy (Box-Steffensmeier and Christenson 2014; Hula 1999). These studies note interest groups that lack resources tend to join coalitions with their more resource-rich peers so they can still engage in the credit claiming which comes from participating in the legal and legislative processes (e.g., Caldeira and Wright 1988). For these actors, coalition activity allows participation for a relatively low price. Despite a seeming free-rider problem, there are benefits to creating large coalitions even for well-resourced groups. Broad coalitions signal consensus to decision makers, whether they be members of Congress or courts (Hula 1999; Waltenburg and Swinford 1999). While resources play a different role depending on context, political factors are a relatively constant predictor in both the elite attorney and interest group literatures. Actors are more likely to network with ideologically similar counterparts (Box-Steffensmeier and Christenson 2014; Heinz et al. 1993; Paik et al. 2007). More recent work finds even more benefit to networking widely. The

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[2]*Florida v. Georgia* 58 U.S. (17 How.) 478 (1854).

[3]Elite attorney is a somewhat amorphous term in the literature. In general, elite attorneys are defined as leaders in a given issue area (Heinz et al. 1993), or an exclusive class of attorneys that frequently appear before the Court that has earned its respect (McGuire and Caldeira 1993). By definition, the federal solicitor general is an elite attorney (Black and Owens 2012; McGuire 1998). As executive attorneys, AGs are also elite attorneys (Morris 1987; Provost 2010, 2011).

network centrality that comes from frequent coalition activity leads to greater power in the future, whether it be getting amendments passed in Congress (Fowler 2006) or having the group's name lend authority to amicus briefs (Box-Steffensmeier et al. 2013). While these studies primarily deal with networking among prominent attorneys and interest groups, there is some, albeit limited, evidence that similar processes guide AG coalition formation.

Coalition activity by AGs is mentioned in a number of pieces, but beyond work exploring the multistate litigation campaigns of the 1990s (Derthick 2009; Gifford 2010; Nolette 2015), no work explicitly explores how AG coalitions form. Because of the dearth of research on AG coalition formation, I construct my theory from studies on AG amicus activity broadly and studies on elite attorney and interest group coalition formation discussed above. While not directly addressing coalition formation, previous work on AGs suggests political and resource factors shape AG amicus brief coalition formation (e.g., Hansford 2012; Schmeling 2003). Especially after the formation of RAGA and DAGA, AG coalitions follow predictable ideological lines (Nolette 2014). In terms of resources, AGs with higher budgets are more likely to initiate amicus briefs, whereas their counterparts with smaller budgets are more likely to join briefs (Gleason and Provost 2016). I contend that these political and resource factors also explain the composition of the coalition. I explore each in turn.

For AGs, large coalitions are attractive. Large coalitions signal consensus to the Court and increase the probability of brief success at both the certiorari and merits stages (Clayton 1994; Goelzhauser and Vouvalis 2013). While broad AG coalitions are better able to capture the justices' attention than solo authored briefs or small coalitions (Clayton 1994), large coalitions are somewhat rare because AGs often do not all agree to join the same brief because of ideological differences. This is particularly true after the establishment of RAGA and DAGA at the turn of the century. Figure 1 shows the total number of briefs filed by AGs each term from 1980 through 2009 in the top panel and the average size of AG amicus brief coalitions for the same time period in the bottom panel. After the Supreme Court Project's establishment in the early 1980s, large coalitions became more common as the number of briefs drops steadily over the course of the decade and the average coalition size simultaneously increases. The early 1980s, routinely has 30 to 40 briefs filed per term; but over the course of the 1980s the number of briefs filed drops steadily to the high teens and low twenties. Likewise, there are changes in the size of the average coalition grows from 7 to 10 in the early 1980s to 10 to 15 in the late 1980s.

In the 1990s, the average coalition size increases steadily from approximately 10 to 15 in the early part of the decade to 15 to 20 in the latter half of the 1990s. However, while coalitions increase in size, the total number of briefs drops markedly after a high of 33 in 1991 to fewer than ten for five terms in the 1990s. This may be due to the prevalence of multi-state litigation in the 1990s and growing ideological distance (e.g., Derthick 2009; Pryor 2001), which altered interactions between AGs. Prior to the 2000s, many AG interactions were largely bipartisan and free of ideological concerns. By the 2000s this began to change (Nolette 2015). The late 1990s and early 2000s are contemporaneous with the establishment of RAGA and DAGA and coincide with an increase in the number of briefs filed; the high is 44 in 2004, and the total number never drops below 31 in the late 2000s. At the same time, the average coalition size decreases from previous decades; coalition size hovers around 15 for much of the decade, despite a surge to 19 in 2009. One possible reason for the high number of briefs and relatively small coalitions in the 2000s is that increased ideological polarization may be driving down the size of coalitions as ideological differences prevent AGs from filing together because compromise is less likely (e.g., Nolette 2014).

The data indicate AGs are growing more polarized, which suggests a growing role for ideology in the formation of AG amicus brief networks. Figure 2 shows the average ideology of AGs from 1980 through 2009.[4] Lower scores indicate the average AG is more liberal, and higher scores indicate the average AG is more conservative. From 1980–1999, AG ideology is largely bound between 45 and 55. Prior to 2000, the highest average ideology is in the high 50s in the late 1980s. Thus, prior to 2000 AGs

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[4]As discussed below, AG ideology is measured with the scores developed by Berry et al. (1998). For appointed AGs, I use the elite score. For elected AGs, I use citizen scores. For purposes of this Figure, I then take the mean score for each year.
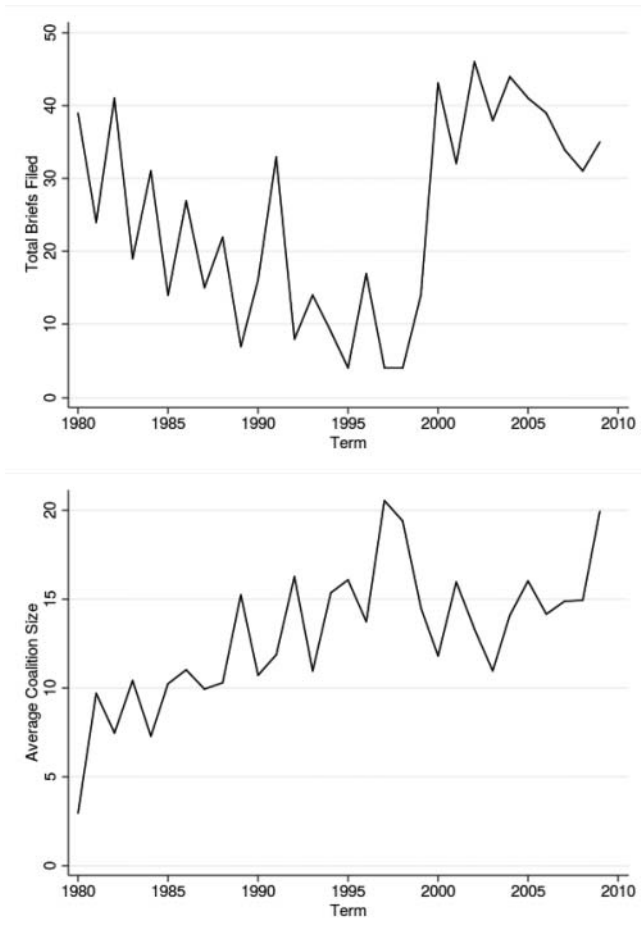
Figure 1. AG Amicus briefs and coalition size, 1980–2009.

are an overall moderate group. While 2000 sees a particularly liberal average score in the low 40s, AGs have become progressively more conservative over the course of the decade. By the latter part of the 2000s, the average ideology peaks in the mid-60s. This conservative tide coincides with the establishment of partisan specific organizations and the growing role of ideological factors in AG activity in
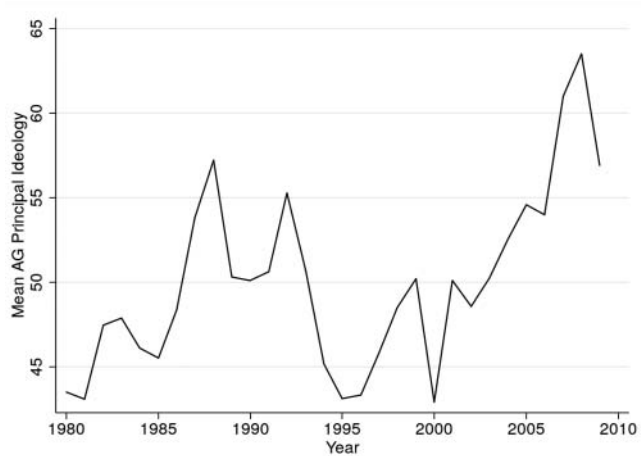

Figure 2. AG Ideology, 1980–2009.

both multistate litigation and amicus briefs (Nolette 2014, 2015). This growing ideological polarization suggests it should be increasingly difficult for AGs to form broad coalitions inclusive of more moderate or liberal AGs after the turn of the century.

In order to form coalitions, actors must sacrifice something in order to reach a mutually agreeable position. It is therefore unsurprising that many studies note that coalitions are most likely to form between ideologically similar actors (Box-Steffensmeier and Christenson 2014; Heinz et al. 2005; Fowler 2006; Neal 2014). This is perhaps most pronounced in work by Heinz and his colleagues that notes elite attorney networks are characterized by "hollow cores," indicating ideologically disparate actors are unable to reach a mutually agreeable position. To illustrate this point, Paik et al. (2011) note conservative-cause lawyers network most with other-cause lawyers who share their particular brand of conservatism. There is also evidence of this in amicus brief networks where Box-Steffensmeier and Christenson (2014) find that a key predictor of coalition formation is ideological proximity. Put simply, the less two interest groups need to compromise to reach an agreeable position, the more likely it is they will enter a coalition together (see also: Hula 1999). Indeed, across these studies the most ideologically extreme and uncompromising actors are the least likely to form coalitions (Heinz et al. 2003; Paik et al. 2007). The increasing ideologically conservative nature of AGs shown above in Figure 2 would suggest this might be at play in the formation of AG amicus brief coalitions.

Work on AG multi-state litigation and amicus brief activity touches on, but does not directly explore, the political predictors of coalition formation. In multi-state litigation, AGs historically worked together on regional lines. This is well demonstrated by litigation on acid rain. Because weather patterns carry pollutants from the Midwest to New England, AGs from those two regions often stood in opposition to each other; both sides contained Democrats and Republicans. Indeed, Connecticut AG Joseph Liberman described the acid rain litigation as "region against region" (Nolette 2015, 160). In the 2000s, AGs were again litigating environmental issues with respect to Environmental Protection Agency regulations. However, partisan lines were the primary predictor of coalition formation rather than region (Nolette 2015). The roots of this shift are evident in the formation of RAGA and DAGA. RAGA was founded when Republican AGs felt Democrats had infused the tobacco litigation campaign with too much ideology. RAGA was to be a coordinating agency among Republicans to ensure conservative ideologies were advanced in litigation, including amicus briefs (e.g., Pryor 2001). Shortly thereafter, DAGA was established in response. Since then, AG legal activity coordination has a distinctly partisan dimension (Nolette 2014). This stands in stark contrast to the more apolitical approach of the Supreme Court Project.

Previous studies also support the idea that ideology is a significant predictor of AG amicus brief activity, though they do not specifically address coalition formation. Hansford (2012) finds that AGs often file amicus briefs in support of the same party as ideologically proximate interest groups. Also, Republican AGs are more likely to both initiate and join amicus briefs in criminal procedure cases because of their law and order orientation (Gleason and Provost 2016; Provost 2011). Much as RAGA and DAGA are proximate to growing ideological polarization in multi-state litigation, the rise of RAGA and DAGA preceded more ideologically conflicting AG amicus briefs (Nolette 2014). Prior to this, it was rare for AGs to file multiple briefs in a given case, and even rarer for those multiple briefs to support opposing parties. This is in line with the Supreme Court Project's goal of ensuring that AGs speak with one collective voice (see, for instance: Baker and Asperger 1982; Morris 1987). Under such a dynamic, ideology cannot play a major role. However, by the early 2000s the context had changed, and Nolette (2014) notes that AG amicus briefs are not about the state interest or federalism, but rather the pursuit of ideological policy goals. This suggests that AG coalitions may have been apolitical (or at least mostly so) in the 1980s before transitioning to a more partisan overture as RAGA and DAGA formed at the turn of the century. While AGs often agree unanimously on matters of federalism and criminal procedure (Morris 1987; Provost 2011), many of the cases the Court adjudicates are contentious, making it difficult for disparate political actors to agree. Of course, the extent to which compromise is possible rests on the overall climate. Thus:

Hypothesis 1: AGs are more likely to enter into amicus brief coalitions with ideologically proximate peers after the establishment of partisan AG organizations.

AGs have a number of required activities, ranging from advising the state legislature to overseeing criminal prosecutions (Winder 1991; Thornburg 1990). Depending on the resources available, required duties may preclude elective legal activities (e.g., Wilson 1989). This expectation finds support in the literature on elite attorney and interest group coalitions; however, the impact of resources varies by context. Amicus briefs are, in almost all instances, elective. Consequently, when resources are limited, amicus briefs are easy to curtail in favor of required duties (e.g. Nicholson and Collins 2008). This is precisely what occurs for elite attorneys with limited resources as they curtail their networking activity, sometimes to the point of completely abstaining (Heinz et al. 1993).

Given the way in which amicus briefs can shape policy outcomes, AGs, much like interest groups in amici coalitions, have a powerful incentive to participate in amicus brief coalitions even when their resources are low. Even still groups with small budgets are hard pressed to finance advocacy efforts; but failure to advocate may dry up the revenue flow from members (Hula 1999). Small budgets, then, merely change the way in which elective activity is undertaken (Box-Steffensmeier and Christenson 2014). Interest groups with limited resources frequently join coalitions led by groups with more resources. This allows the groups with limited resources to still gain the benefits of participation at a fraction of the cost, albeit at the price of not having as much sway over the final output of the coalition as the low-resource group would like (Box-Steffensmeier and Christenson 2014; Hula 1999). To provide an empirical example, Box-Steffensmeier and Christenson (2014) find interest group coalitions are most likely between groups with disparate resources. For example, if Group A has an annual budget of $1 million and Group B has a budget of $50,000, Group B has a strong incentive to join the amicus brief drafted by Group A in order to still participate as an amici. This process is also at play in congressional lobbying networks (Hula 1999).

There is also some work on AGs as amici that suggests the budget shapes coalition activity in a similar way. AGs have a powerful incentive to engage in elective amicus briefs regardless of their resources. Elective activity allows AGs to shape policy in a way conducive to their own interests or the interests of their state (Derthick 2009; Gifford 2010; Nolette 2015) and can help solidify an AG's reelection campaign or a bid for higher office (Provost 2010). However, the way coalition activity takes place is shaped by the resources at hand. During the multi-state litigation campaigns of the 1990s, well resourced AGs often hired outside counsel to manage their litigation (Derthick 2009; Nolette 2015). Other AGs waited to join the litigation campaign until their better resourced and more enterprising colleagues secured at least preliminary victories in order to avoid expending resources on expensive and potentially unsuccessful litigation (Waltenburg and Swinford 1999). More germane to the topic at hand, AGs with larger budgets are more likely to initiate amicus briefs, whereas their peers with smaller budgets are more likely to join existing briefs (Gleason and Provost 2016).[5] Thus, those with the fewest resources are most active by joining briefs initiated by more resource-rich AGs who have a greater propensity to initiate briefs. Ultimately, despite all the other demands on AG resources, there are strong incentives for AGs to remain active in elective activities even when resources are limited.

Hypothesis 2: AGs with lower budgets are more likely to enter into coalitions.

Methods

To explore the evolution of AG amicus brief coalition formation, I employ social network analysis. Social network analysis treats observations, in this case AGs, as interdependent (Wasserman and Faust 1994; Snijders 2010; Snijders et al. 2010). Particularly since Schmeling (2003) notes that AGs are interdependent on each other in multi-state litigation, this approach creates a more realistic model of coalition formation than traditional modeling techniques, which treat all observations as independent.

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[5]While joining a brief is technically "free," AGs must still invest the time to research the brief to determine if they would like to sign it (Miller 2010).

Social network analysis is concerned with ties between actors and their relationships rather than the characteristics of individual actors and dyads in isolation. It is, however, important to note that individual-level characteristics can dictate the extent to which interactions between actors occur. In this case, forming a tie is to enter into a coalition by cosigning an amicus brief with another AG in a given time period. Thus, the unit of analysis is the AG coalition dyad aggregated over all cases in each time period.

An alternative, and more common, modeling strategy is a dyadic analysis where one observation would be created for each possible AG coalition per time period (e.g., AK:AL, AK:AR....). However, Cranmer and Desmarais (2016) highlight a number of issues that render dyadic analysis less desirable than social network analysis. Dyadic models rest on the assumption that all dyads operate independently of each other. That is to say, the probability of AK:AL forming a coalition is completely independent of AK:AR forming a coalition. Looking at AG coalition formation in other contexts, this assumption is likely violated. As noted above, AGs often refrain from joining multi-state litigation campaigns until their more enterprising colleagues secure at least a preliminary victory (Waltenburg and Swinford 1999) or as the number of AGs joining a particular litigation campaign increases (Derthick 2009). This implies interdependent dyads.

Second, dyadic analysis has difficulty accounting for independent variables that do not exist at the dyadic level, but rather at the individual level. In the context of the hypotheses posed above, Hypothesis 1 operates at the dyadic level. However, while it impacts the formation of dyads, Hypothesis 2 exists at the individual level and therefore cannot be accurately modeled with dyadic design. It can, however, be captured with social network methods. Cranmer and Desmarais (2016) conclude dyadic design is only appropriate in "extremely unlikely" (361) situations where all dyads are independent of each other and all theoretically relevant independent variables exist at the dyadic level. Such is not the case here. In these instances, Cranmer and Desmarais (2016) advocate for a social network approach.

Social network analysis is a broad umbrella term that encompasses both descriptive and causal models. Descriptive social network analysis is commonly done via sociograms, or "spider web" plots, which map the location of actors in the network. With sociograms, and their associated network statistics, it is possible to observe marginal and prominent actors, as well as the overall shape of the network. While descriptive network analysis is useful, it cannot evaluate hypotheses in the same way as regression analysis (e.g., Fowler et al. 2007; Fowler and Jeon 2008; Borgatti et al. 2009; Wasserman and Faust 1994). Since the hypotheses posed above fit more fully in the causal sphere, I employ predictive social network models.

Predictive social network models are relatively new to applied work in the social sciences because of traditionally harsh modeling assumptions (e.g., Borgatti et al. 2009). However, recent methodological advances allow scholars to predict ties based on the attributes of individual actors and structural features of networks with more realistic modeling assumptions (e.g., Anderson et al. 1999; Goodreau et al. 2008; Snijders 2010). Exponential random graph models, a form of predictive social network models somewhat akin to logit models, have recently been used to predict interest group amicus brief coalition formation over decade-long periods by Box-Steffensmeier and Christenson (2014). Exponential random graph models evaluate the propensity of coalition formation, given the value of attributes, or independent variables. Thus, rather than just function at the dyadic-level, these models are able to take the attributes of individual actors in the dyad into account. Importantly, these can exist at multiple levels, including the individual, dyadic, and network levels. This allows the researcher to adopt the most theoretically robust account of the factors shaping the outcome of interest without being constrained to just dyadic level predictors (Cranmer and Desmarais 2016). All of these levels also account for the attributes of other actors in the network. This means that exponential random graphs are able to model the propensity of any given actor or pair of actors to enter into a coalition while also accounting for interdependency between actors. In this way, exponential random graphs dispense with the traditional independence assumption of statistical models and instead adopt an interdependent assumption.

Data

I assemble data on AG amicus brief coalitions from 1980 through 2009 by compiling a list of all orally argued cases via the Supreme Court Database (Spaeth 2011). I then locate amicus briefs filed in each

case.[6] Should I encounter an AG amicus brief, I note which AGs sign the brief. This creates a data set where each row denotes a specific AG amicus brief and the members of its coalition. This, however, is not a data form that lends itself to social network analysis. Consequently, I transform my data into network data before evaluating my hypotheses.

In order to transform my list of amicus briefs into network data, I employ the strategy used by previous studies of congressional cosponsorship (Fowler 2006) and interest group amicus brief coalitions (Box-Steffensmeier and Christenson 2014). I follow the lead of Box-Steffensmeier and Christenson (2014) by first pooling the list of AG amicus briefs, and the AGs who sign them, into five-year periods (Box-Steffensmeier and Christenson 2014; Hanneke et al. 2010).[7] Since social network analysis requires data be arranged into network matrices where the intersection of each row and column is an observation rather than brief activity in an individual case, I transform each time period's list of cases into a network matrix. This involves treating amicus briefs as "events" that AGs attend. Should AG A and AG B attend the same "event", then they have entered into a coalition together (Fowler 2006). To illustrate how this transformation works, consider the following hypothetical example: Assume there are two AGs, A and B, and three briefs filed in a given time period. AG A joins the brief in cases one and three, but not two. AG B joins a brief in cases two and three, but not one. This hypothetical is represented graphically in Table 1 as a traditional dataset.

From the data in Table 1, I create the matrix in Table 2 via the Onemode software developed by Neal (2014), which transforms data from a list of briefs noting which AGs join each coalition to a matrix noting how many times each AG joins any brief with each other AG. To continue with my hypothetical example, each AG files with the other one time; thus the value at the intersection is one coalition formed. This produces a fifty by fifty matrix with each observation noting whether a given dyad of AGs enter a coalition together in a given time period. Accordingly, the unit of analysis is the dyadic (coalition) tie between any given pair of AGs. This results in 2,450 dyadic observations per time period.[8]

From the matrices I am able to create networks for each time period. Networks can be broadly characterized in terms of the network-wide density statistic, the percentage of all possible ties formed. A network where no ties are formed has a density of zero; a network where all possible ties are formed has a density of one. Figure 3 shows the density of the AG amicus brief coalition network from 1980 to 2009 by term. In almost all terms, the density approaches one. This implies that AGs form ties with each other at high rates, regardless of ideology, resources, or any other consideration. However, there are often cases on the Court's docket in which virtually all AGs join the same coalition, such as *Wisconsin v. Mitchell*.[9] In *Mitchell*, Ohio AG Lee Fisher was able to mobilize all 48 eligible AGs to join his amicus brief that urged the Court to hold

[6] For 1980 through 1993 I use the microfiche edition of the Supreme Court Records and Briefs. Since full Lexis amicus brief coverage begins in 1994, I use Lexis for 1994 through 2009.

[7] I adopt this approach for several reasons. First, many applied exponential random graph models use pooling of some sort (Box-Steffensmeier and Christenson 2014; Hanneke et al. 2010). Second, even early applications of temporal exponential exponential random graph models utilize pooling (e.g., Christenson and Box-Steffensmeier 2016). Third, while Box-Steffensmeier and Christenson (2014) use ten-year periods, I employ five-year periods because it allows for a richer account of how AG coalition formation changes over time. Understandably, this could be cause for concern. Thus, in an abundance of caution, I rerun the analysis with the data pooled at the decade level. The results are substantively unchanged, though the 1990s model is too sparse to converge. The consistency between these two different pooling strategies strongly suggests the results are robust and my findings are not colored by the pooling specification. I opt not to go smaller than five-year periods because the alternative is unwieldy, estimating a separate model for each term. Collectively, this indicates there is little reason to suggest my pooling specification impacts the outcomes of the models. Hopefully future applications of temporal exponential random graph models will allow for smaller pooling periods. Indeed, more efficient model algorithms may even allow for models to be easily estimated at the annual level without the need for 30 separate models (e.g., Cranmer et al. 2017; Leifeld et al. 2017).

[8] Network matrices, in this case, are fifty by fifty. However, I omit the intersection of each AG with herself since it is theoretically impossible to form a coalition with oneself. This effectively reduces the number of observations used for analysis to 2,450. Additionally, the network is undirected, meaning that if AGs A and B enter into a coalition, A:B is set to one, as is B:A; my analysis accounts for this via the undirected specification in the Statnet statistical software used in the analysis below to ensure the same observation is not counted twice (Handcock et al. 2012).

[9] 508 U.S. 476 (1993).

Table 1. Cases in which AGs A and B file an amicus brief.

AG	A	B
Brief		
1	X	
2		X
3	X	X

"X": Amicus brief.

Table 2. Example of the network matrix.

AG	A	B
A	0	1
B	1	0

Wisconsin's hate crime enhancement statute constitutional (Clayton 1994). While any brief that garners universal support is noteworthy, it is important to note that AGs, regardless of political stripe, generally share a common interest in criminal procedure by virtue of their position as the state's chief law enforcement officer (Provost 2011).[10] Given that criminal procedure cases are a mainstay on the docket, density should invariably approach one each term. This would suggest AGs always stand together and differences are rare. This ignores how the average coalition size varies widely and that many coalitions are fleeting. For instance, while AGs agreed in *Mitchell* because of its underlying law enforcement dimensions, AGs were deeply divided in *City of Boerne v. Flores*,[11] a First Amendment case in which 18 AGs spread across four briefs, three for the respondent and one for the petitioner. The rest of the AGs opted to not join any amicus brief in the case. Thus, the high densities in Figure 3 are arbitrary and give an inaccurate account of coalition formation as many of these ties are not theoretically meaningful. Running models with such high densities creates structural bias by erroneously attributing coalitions to fleeting relationships (Goodreau et al. 2008; Neal 2012, 2014).

The issue of density presents a considerable research design problem that has traditionally been difficult to resolve. The most common solution is setting an arbitrary threshold for a meaningful tie. For instance, a scholar might decide five ties or more in a given time period constitutes a meaningful tie and four or less ties does not rise to that level. This approach, often the only one available, lacks any strong theoretical justification and can potentially bias results. Setting a threshold too high or too low arbitrarially alters the structural features of the network and biases results (Neal 2012). Arbitrary thresholds also tend to underrepresent actors who are not "social butterflies" and overestimate those who are. Neal (2014) highlights this in the context of the Senate cosponsorship network where neither Senators McCain and Shelby are social butterflies. Each engages in only very limited networking, but when they do, they tend to network with each other. Clearly, their connection, is significant; when McCain and Shelby cosponsor they usually do so together. But an arbitrary threshold obscures it because of the low net number of coalitions each of them enters into.

Setting an arbitrary threshold is particularly problematic in the AG amicus brief coalition network. As Figure 1 shows above, the number of AG briefs fluctuates with the size and composition of the docket; setting a threshold of five may have a different meaning from one time period to the next and thus create an inaccurate portrait of AG amicus brief coalition formation (Butts 2009; Neal 2012). For example, in the 1990s there are several terms with just five AG briefs total. This would require AGs to join the same coalition in every brief to form a significant tie with a threshhold of five. By contrast, in 2004 AGs filed 44 briefs; reaching a threshold of five here requires two AGs to join the same coalition

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[10]Morris (1987) argues AGs are also largely of one mind in federalism cases.
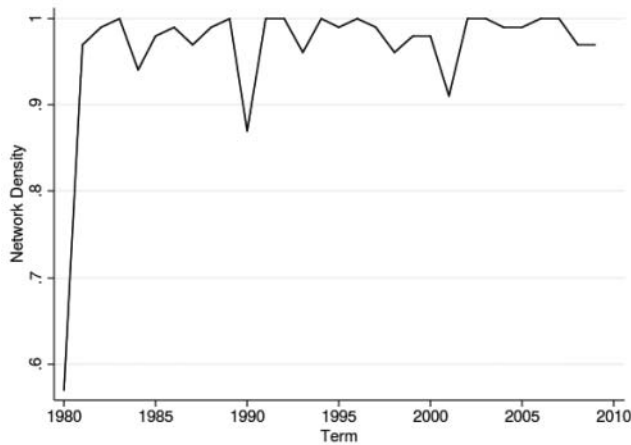[11]521 U.S. 507 (1997).

Figure 3. Network density by term.

just 8.8 percent of the time to form a tie. This issue of uniscalarity is only compounded in instances where the Court's docket is particularly heavy with criminal procedure and federalism cases, the issue areas in which AGs are most likely to have a consensus position and coalitions are largest (Morris 1987; Neal 2014). Using the traditional threshold method will thus likely result in an inaccurate account of AG coalition formation.

Despite all the misgivings of an arbitrary threshold, it has often the best, albeit flawed, solution for scholars as it lowers the overall network density to provide somewhat more meaningful and enduring ties while also allowing for both variation and model convergence (Handcock et al. 2012). Recently, Neal (2014) developed the stochastic network backbone extraction method in order to identify the most statistically meaningful ties in a given network without an arbitrary cut point. This method works by accounting for both the number of coalitions a given actor enters into and the number of possible briefs (or events) in each time period. For instance, this approach would set a different threshold for an AG that networks widely and an AG that enters into only a few coalitions while accounting for the total number of opportunities AGs have to form coalitions in each time period. Thus, thresholds for significant coalitions are lower in the 1990s when there were fewer AG briefs and higher in the 2000s when the number of annual AG amicus briefs never drops below the low 30s. Demonstrating the stochastic degree sequencing model on the Senate co-sponsorship network originally explored by Fowler (2006), Neal (2014) explores whether or not a given tie is meaningful by evaluating the number of times any given pair of members sponsor legislation together *and* the relative frequency with which each member networks with others. This results in a much sparser, but more meaningful, network.

If two AGs network widely and file only one joint brief together in a given time period, it is unlikely that that tie will be significant as it was a fleeting coalition and likely the product of the issue at hand. However, if those two AGs file together repeatedly, then their tie is enduring and thus will remain after the stochastic degree sequencing procedure is performed. By the same token, if an AG files only two or three briefs in a given time period, one or two briefs cosigned with another similarly situated AG will likely remain after the backbone extraction procedure. This approach provides a more meaningful account of ties in a network and moves beyond the admittedly arbitrary threshold approach to which scholars were previously limited. I employ this approach and perform the network backbone extraction technique. The resultant coalitions (or lack thereof) between AGs is the dependent variable in the subsequent analysis.

To illustrate the utility of the stochastic degree sequencing model, consider the network sociograms presented in Figure 4. On the left panels, I display the network for each time period with a threshhold of one. In the right panels, I display the networks after extracting the significant ties. Without exception, the left panels have densities of 1 with every possible coalition formed. The right columns are less
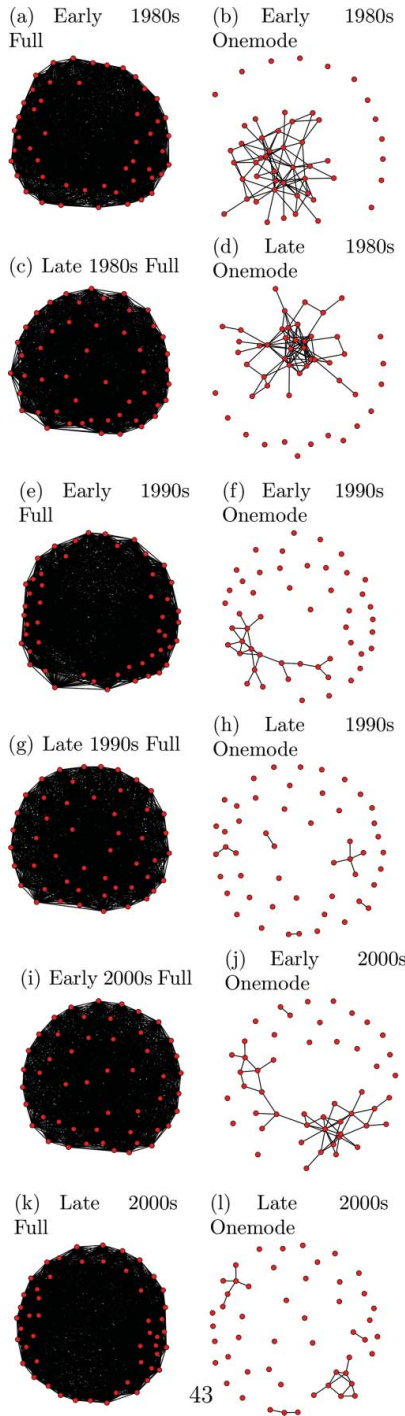
(a) Early 1980s Full

(b) Early 1980s Onemode

(c) Late 1980s Full

(d) Late 1980s Onemode

(e) Early 1990s Full

(f) Early 1990s Onemode

(g) Late 1990s Full

(h) Late 1990s Onemode

(i) Early 2000s Full

(j) Early 2000s Onemode

(k) Late 2000s Full

(l) Late 2000s Onemode

43

Figure 4. Network density before and after stochastic degree sequencing model.

dense, containing only those significant ties remaining after the stochastic degree sequencing model. This allows for more meaningful analysis (Neal 2014).

    Once each network's matrix is produced, it is paired with a set of attributes. Attributes, the social network equivalent of independent variables, are measured in a dataset where each row denotes a unique AG, not unlike a traditional dataset. Ideological distance (Hypothesis 1) is measured with the

ideology scores developed by Berry et al. (1998) for the constituency most responsible for the AG's tenure. For elected AGs, I employ the citizen ideology score. For appointed AGs, I utilize the elite ideology score. AG budgetary resources (Hypothesis 2) are measured at the individual level with each state's logged per capita budget[12] in 1999 dollars (Klarner 2013).[13]

I also include several control variables. Since previous work notes AGs with state solicitors general are often more successful as amici at the agenda-setting stage (Goelzhauser and Vouvalis 2013) and as direct parties (Owens and Wohlfarth 2014), I note the presence of a state solicitor general with the percentage of years in each time period in which the AG had a state solicitor general (Miller 2010). Since previous work notes elected AGs are more likely to both initiate and join amicus briefs (Gleason and Provost 2016; Provost 2011), selection mechanism is noted with a dichotomous variable equal to zero for appointed AGs and one for elected AGs (Solberg and Ray 2005). Since previous research notes neighbors are more likely to network (e.g., Caldeira 1985; Heinz et al. 1993), geographic contiguity between states is measured with a dichotomous variable, contained within a separate matrix file that is set to "1" when AGs share a geographic border and "0" otherwise.[14] Finally, previous work notes networks tend to operate on the homophily principle (Leifeld and Schneider 2012; McPherson et al. 2001)—-that is to say, actors are more likely to network with those with whom they share some common characteristic. Accordingly, I include a measure derived from a separate matrix file that notes the percentage of time in each time period in which each dyad of AGs' offices are held by opposing parties.

Exponential random graph model terms must be subjected to an operator term that indicates how the model should assess each actor's attributes relative to other actors. This can be done either at the dyadic or individual levels. Ideological distance (Hypothesis 1) is assessed at the dyadic level with the absolute difference of the value for each dyad's ideology score. That is to say, the model takes the difference between the two ideology scores for each dyad rather than the scores individually. To illustrate this process, imagine two AGs, A and B, with ideology scores of 0.9 and 0.1, respectively. The absolute difference between these two actors is 0.8. This large gap suggests, according to Hypothesis 1, these two actors will not form a coalition. Conversely, if AGs C and D have ideology scores of 0.9 and 0.8, their absolute difference is 0.1; Hypothesis 1 suggests they should enter a coalition together. AG budget (Hypothesis 2) is assessed at the individual level and is accounted for with node covariance. This individual level measure functions as a continuous variable in a conventional model. However, like all exponential random graph terms, it also accounts for the attributes of other actors in the network when estimating coefficients.

Turning now to the control variables, the presence of state solicitors general is noted at the individual level with node covariance. Selection mechanism is assessed at the individual level with a node factor, which functions as a dichotomous variable in a conventional model.[15] Geographic proximity is assessed at the dyadic level with dyadic covariance, which functions as a dichotomous variable, though at the dyadic level rather than at the individual (node) level. Homophily, or differences in party control of AG offices, is measured with edge covariance, which functions as node covariance but at the dyadic level.[16] Additionally, exponential random graphs require network structural terms that model the underlying data generation process in the

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[12]I use the state budget as opposed to the office budget since office-level budgets are difficult to obtain as AGs often receive payment from various state offices for services rendered (Myers and Ross 2007). Additionally, the only existing data on AG budgets does not extend past 1999, and much of it is imputed (Solberg and Ray 2005). Finally, AG budget and state budget are correlated at 0.92 in the early 1980s, 0.89 in the late 1980s, 0.84 in the early 1990s, and 0.77 in the late 1990s.

[13]Both ideology and budget vary over each time period. As such, I take the mean value of both ideology and budget in each time period for each AG (e.g., Box-Steffensmeier and Christenson 2014).

[14]I also estimated models with the log of geographic distance between each respective state capital (e.g., Caldeira 1985). While the results are substantively the same, the models do not fit as well as the model utilizing the dichotomous measure. Coupled with the greater theoretical justification for the contiguous variable, I opt for the former.

[15]Pennsylvania switched from an appointed to elected AG in 1981. In order to guard against improper specification, I estimate the early 1980s model with the elected variable as node covariance denoting the percentage of time in the time period each AG was selected via election; the results were substantively the same as the model where elected status is noted with a node factor.

[16]I also ran alternative models that use the absolute difference of the percent of time each AG's office is controlled by Republicans. The results are substantively unchanged.

network. After extensive model testing, I find edge-wise shared partners or geodesic weighted edge-wise shared partners best account for the data generating process.[17] Both of these terms measure the extent to which a given pair of AGs share common coalition partners (Morris et al. 2008; Snijders 2010).[18]

Results

The results indicate the determinants of AG amicus brief coalition formation have, in line with expectations, changed over time with the evolving context. Coalition formation is predicted by resources in every time period; though in the 2000s ideology also becomes a key predictor of coalition formation. Collectively, these results provide the first systematic account of the changing determinants of AG amicus brief coalition formation and indicate coalition formation is not monolithic but is rather dynamic. I now turn to a more nuanced discussion of the results via the exponential random graph models presented in Table 3. Since exponential random graph model coefficients are log odds, I transform the coefficients into predicted probabilities in order to facilitate my subsequent discussion.[19]

Like all subsequent time periods, in the early 1980s AGs with smaller budgets are more likely to enter into coalitions. An AG with the mean budget has a predicted probability of 0.173 of entering a coalition. If her budget drops to one standard deviation below the mean, the predicted probability of coalition formation increases to 0.235. Conversely, if an AG's budget increases to one standard deviation above the mean, the predicted probability of coalition formation decreases to 0.125. This provides support for Hypothesis 2 in the early 1980s. Likewise, the presence of specialized appellate staff also increases the predicted probability of coalition formation. A one standard deviation increase in the presence of solicitors general increases the predicted probability of coalition formation from 0.105 to 0.118. Finally, elected AGs are less likely to enter coalitions in the early 1980s than their appointed counterparts; appointed AGs have a predicted probability of coalition formation 0.052 higher than their elected counterparts.

In the late 1980s, budgetary resources remain a predictor of coalition formation. Once again, AGs with more limited budgets are more likely to enter into coalitions. A one standard deviation decrease in budget increases the predicted probability of coalition formation from 0.142 to 0.215. Should the budget increase to one standard deviation above the mean, the predicted probability of coalition formation falls to 0.090. Much as the early 1980s, elected AGs are less likely to enter into coalitions than their appointed peers. Appointed AGs have a predicted probability of coalition formation of 0.200, whereas elected AGs have a predicted probability of 0.132.

The role of budgetary resources carries forward into the 1990s despite the overall decline of AG amicus coalition activity in the decade, perhaps because of the prevalence of multi-state litigation (e.g., Derthick 2009). In the early 1990s the probability of an AG with the mean budget entering a coalition is 0.089. A one standard deviation drop in budget increases the probability of forming a coalition with colleagues to 0.133. Conversely, increasing the budget to one standard deviation above the mean drops the probability of joining a coalition to 0.058. One of the control variables reaches statistical significance in the early 1990s. As the percentage of time two AGs share opposing partisan affiliations increases, the predicted probability of coalition formation decreases. A one standard deviation increase in the amount of time two AGs are of opposite parties decreases the predicted probability of coalition formation from 0.177 to 0.133.

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[17]Geodesic weighted edge-wise shared partners best accounts for all models expect for the late 1990s and the late 2000s. In these two models edge-wise shared partners gives the best fit.

[18]While model fit in regression models is typically assessed with measures such as AIC, BIC, and χ^2 coefficients, these measures are not meaningful for exponential random graph models because of interdependence between observations. Rather, exponential random graph model fit is best assessed visually by plotting the distribution of the data on several measures of network fit against the estimates for the given model (Morris et al. 2008). While I tried a number of structural terms that are also theoretically sound, such as transitive closure, the edge-wise shared partners and geodesic edge-wise shared partners terms provide the best fit. Thus, I employ them here.

[19]Unfortunately, exponential random graph model coefficients cannot be compared across models.

Table 3. AG amicus brief coalition formation.

	Early 1980s	Late 1980s	Early 1990s	Late 1990s	Early 2000s	Late 2000s
Δ Ideology	−0.006	−0.001	−0.030	−0.021	− 0.034[**]	− 0.041[*]
	(0.009)	(0.008)	(0.022)	(0.034)	(0.014)	(0.024)
Logged Budget	− 1.347[***]	− 1.561[***]	− 1.645[***]	− 4.756[**]	− 0.978[***]	− 1.166[***]
	(0.176)	(0.159)	(0.331)	(1.883)	(0.209)	(0.257)
State Solicitor General	0.428[**]	−0.033	−0.333	−0.113	0.041	0.507[*]
	(0.176)	(0.193)	(0.370)	(0.550)	(0.204)	(0.296)
Elected AG	− 0.367[***]	− 0.497[***]	−0.158	0.503	−0.096	−0.527
	(0.134)	(0.126)	(0.316)	(1.099)	(0.255)	(0.328)
Contiguous States	−0.366	−0.285	−0.284	−0.016	0.376	−0.057
	(0.426)	(0.431)	(0.737)	(1.074)	(0.417)	(0.719)
Shared Parisan Affiliation	−0.412	−0.106	− 0.881[*]	0.829	− 1.620[***]	0.270
	(0.263)	(0.232)	(0.482)	(0.783)	(0.397)	(0.484)
GWESP	0.300[***]	0.600[***]	1.156[***]		0.822[***]	
	(0.095)	(0.053)	(0.183)		(0.154)	
ESP				5.391		1.363[***]
				(4.980)		(0.355)
AIC	650.620	576.463	212.900	108.294	367.549	192.522
BIC	691.505	617.349	253.786	144.069	408.434	228.297

[*]$p < 0.1$; [**]$p < 0.05$; [***]$p < 0.01$

In the late 1990s, the probability of an AG with the mean budget entering a coalition is 0.627. Should that AG increase her budget by one standard deviation, the probability of joining a coalition falls to 0.347. Much as in the previous models, a budget decrease to one standard deviation below the mean increases the probability of coalition formation to 0.842.

In the 2000s, ideological proximity joins resources as a key predictor of AG coalition formation. This lends support to both Hypotheses 1 and 2 in the 2000s. Should two AGs have perfect ideological congruence, which is to say they are ideologically identical, the probability of them entering into a coalition together is 0.189. As the ideological distance between two AGs increases, the probability of a coalition forming decreases. A one standard deviation increase in distance shifts the probability of coalition formation down to 0.069 At the most extreme, the probability of the two most ideologically distant AGs forming a coalition is just 0.027. Thus as the ideological distance between two AGs increases, the probability of coalition formation becomes less likely. Ideology, however, does not tell the entire story in the early 2000s. Budgetary resources are again a predictor of coalition formation; an AG with the mean level of budgetary resources has a predicted probability of 0.135 for entering a coalition. An AG with a budget one standard deviation below the mean has a predicted probability of coalition formation of 0.164 compared to a probability of 0.111 for an AG one standard deviation above the mean. Finally, much like in the early 1990s, the homophily principle shapes coalition formation. AGs from opposing parties are less likely to form coalitions together. A one standard deviation increase from the mean in the percentage of time two AGs come from different parties decreases the probability of coalition formation from 0.381 to 0.231.

The late 2000s are largely similar to the first half of the decade. Ideology remains a significant predictor of coalition formation. Two AGs with identical ideology have a probability of 0.714 of entering into a coalition together. As the ideological distance between two AGs increases, the probability of a coalition forming decreases. A one standard deviation distance pushes the probability of coalition formation down to 0.117. Again, budgetary resources predict coalition activity. At the mean budget level, the predicted probability of coalition formation is 0.574. A one standard deviation decrease in budgetary resources increases the probability of coalition formation to 0.636. Additionally, the presence of a state solicitor general raises the probability of coalition formation. AGs who are one standard deviation below the mean in terms of time with a state solicitor general have a predicted probability of 0.566, whereas an AG that has a state solicitor general for the mean length of time has a predicted probability of coalition formation of 0.615.

Discussion

Scholars have long noted the importance of AG amicus briefs on policy outcomes at the U.S. Supreme Court (e.g., Gleason and Provost 2016; Goelzhauser and Vouvalis 2013; McAtee and McGuire 2007). Yet, while AG amicus briefs have profound consequences on policy output at the Court, the literature is largely silent on how AGs mobilize the coalitions that make their advocacy more effective. If scholars are to truly understand the success of AG amicus briefs, they must also understand how AG coalitions form. I provide the first account of AG amicus brief coalition formation and find coalitions are the product of political and resource-based factors, though the relative importance of these factors changes as the network and the attendant context evolves. While resources are a factor for the entire time period of this study, ideological distance only matters after 2000. Given that coalition activity is common among other legal and political actors (Box-Steffensmeier and Christenson 2014; Hula 1999; Paik et al. 2007), coalition formation and the role of the attendant context noted here should be further explored with both AGs and other political and legal actors. Importantly, these findings rely on social network analysis, a rapidly expanding methodological approach. This approach increasingly provides a wide range of innovations that could drive future expansion of the present study in ways not presently possible (e.g., Cranmer et al. 2017). Thus, this study should serve as a springboard for future research. I now discuss the findings and offer avenues for future research in greater detail.

AG amicus brief coalition activity, for all its benefits, only became common once the context became conducive to collective AG action. In the 1970s, AG coalition activity was rare; it was only after federal devolution and the establishment of the Supreme Court Project that it became common in the early 1980s. AG amicus brief activity, much like interest group amicus brief activity, is shaped by resource considerations with more resource-poor AGs using coalition activity (e.g., Box-Steffensmeier and Christenson 2014; Hula 1999). This is also consistent with previous work on AGs, which finds joining is less likely as resources increase, albeit in a non-network context (Gleason and Provost 2016). Unlike interest group amicus brief activity, however, political considerations are not a factor for AGs until the 2000s. This is in line with accounts of early multi-state litigation that indicate political considerations are largely a non-factor (Nolette 2015). This contrast serves to further highlight the importance of context on coalition formation.

AG amicus brief coalition formation is always predicted by resource factors. Ideological factors, on the other hand, only become significant after the turn of the century. In the 1980s and 1990s, AG coalition formation is a thoroughly bipartisan affair, though, as noted by previous scholars, the overall policy-making environment in which AGs operate became increasingly ideological at the turn of the century. This culminated with the establishment of RAGA and DAGA which ushered in partisan predictors of AG amicus brief coalition formation. What was once regional became political; as such, rival coalitions became more common and coalitions are based on ideological congruence (e.g., Nolette 2014, 2015). It is, however, not clear whether RAGA and DAGA came first or whether growing polarization preceded partisan specific organizations. While the literature seemingly suggests polarization prompted the formation of these organizations (Nolette 2015; Pryor 2001), future methodological innovations may provide a more empirical test of this question (Cranmer et al. 2017). The context also appears to shift in more than just the predictors of coalition formation. The relative density of the network and the total number of briefs filed is variable, even when employing the stochastic degree sequencing model. There could be many possible reasons for this, such as how attractive the cases on the docket are to AGs, the individual-level characteristics of the AGs serving at that particular time, and whether AGs view amicus briefs as the most attractive route to name but a few. The latter may particularly be the case in the early 1990s and the early 2000s when AGs may have chosen more publicly visible multi-state litigation in place of more obscure amicus briefs (e.g., Gifford 2010; Waltenburg and Swinford 1999). Additionally, as Provost (2010) notes, some individual AGs may be more predisposed to elective legal activity when they are progressively ambitious. Therefore, future scholars should perhaps focus more on how individual AG level attributes contribute to participation in elective amicus briefs beyond the state-level analyses employed here.

Perhaps just as interesting as what is significant in this study is what is *not* significant and when it is not significant. I find that state solicitors general are only a significant predictor of coalition formation in the first and last time periods. This serves to highlight the dynamics of state solicitor general activity. While state solicitors general are a powerful predictor of AG success at the agenda-setting and merits stages, their role in coalition formation operates differently. Another interesting finding in this study are the results for the elected AG control variable. While a host of previous studies note elected AGs are more likely to engage in amicus brief activity (Gleason and Provost 2016; Provost 2010, 2011), my results indicate they only shape coalition formation in the 1980s. One possibility is that the differences between elected and appointed AGs are largely dependent on context.[20] Additionally, the geographic contiguity variable is never significant. One possible reason for this is the role of coordinating agencies such as the Supreme Court Project, RAGA, and DAGA has rendered communication across large distances a negligible cost. Another explanation is methodological. Cranmer and Desmarais (2016) note that while geographical contiguity is a key predictor of policy diffusion across many studies, the role of contiguity is rendered insignificant when models use more realistic social network assumptions. This methodological explanation may also be applicable to the selection mechanism variable. Accordingly, future scholars might reexamine previous findings in the AG amicus brief literature with social network methods in order to better account for interdependence between actors (e.g., Schmeling 2003).

Perhaps the most interesting control variable results come from the homophily measure. I find AGs coming from opposing political parties impact the probability of coalition formation in only two time periods, which do not directly overlap with when the ideology measure is significant. This suggests that ideology and party affiliation are not measuring the same concept. Thus, the establishment of RAGA and DAGA do not necessarily bring Republicans (Democrats) together, but rather it brings together conservatives (liberals).[21] This suggests that future work on the growing polarization of AGs should account not only for party affiliation, but also ideology. Moreover, these studies should also explore the relationship between the two.

One of the implications of this study is that AG amicus briefs are a process that begins at coalition formation and extends to the Court's evaluation of that brief. Future studies should incorporate coalition formation into broader accounts of the process by which AGs participate as amici from the initial decision all the way through the Court's eventual decision (e.g., Nicholson and Collins 2008). While this will certainly provide a more ecumenical account of AG amicus brief activity, the underlying logic likely extends beyond AGs as amici. It can likely extend to multi-state litigation and actions undertaken by other political and legal actors. Of course, the unique institutional context in which AGs work likely means that the process will be different for other actors and even for AGs engaging in other legal activities. These results and future directions highlight that changing contexts will lead to different results.

Finally, one of the key contributions of this piece is highlighting the use of social network analysis in the study of coalition formation. While I am not the first to utilize social network analysis to study activity at the Court (e.g., Box-Steffensmeier and Christenson 2014; Box-Steffensmeier et al. 2013; Fowler et al. 2007), this study illustrates that scholars should use the method with the most realistic modeling assumptions to explore interactions, such as coalition formation, among actors (e.g., Cranmer and Desmarais 2016). Social network analysis is a rapidly evolving methodology and future advances may allow for even more nuanced explorations of the interactions between actors, including future elaborations on AG amicus brief coalition formation. For example, future studies could also adopt a "time-series" approach as opposed to the decade models utilized herein to provide a more nuanced account of the dynamics of the AG coalition network (Cranmer et al. 2017; Leifeld et al. 2017). Moving toward the temporal exponential random graph model may also allow for smaller pooling periods, which can offer a more dynamic account of year-to-year variation in each AG's office,

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[20]One possibility is that elected status interacts with ideology. To test this possibility I reran the exponential random graph models with an alternative specification. I added an interaction term between selection mechanism and ideology. This does not change the results substantively.

[21]In an abundance of caution, I ran two sets of control models, one with the homophily measure excluded and another with the ideology measure excluded. These alternative specifications did not substantively alter the results.

including the attributes of each individual AG. It is possible, given the small number of AGs active in each time period, that a freshman effect exists or that younger AGs are more likely enter into coalitions than their more senior colleagues (e.g., Provost 2010). This would also permit a more in-depth exploration of the changing role of ideology. While these are not possible with current methods employed here, such an account may even provide insight as to what the "state interest" is to different actors in various contexts. This logic, with appropriate theoretical adjustments, could also be easily extended to AGs in other coalition contexts and to other actors. Indeed, since social network analysis is a rapidly expanding field (Cranmer et al. 2017), the future applications of social network analysis to AG coalitions is virtually limitless.

Conclusions and Directions

AGs are the second most frequent and successful class of amici (McAtee and McGuire 2007) and key actors at the federal level who alone can speak in the states' name to the Court. While previous work establishes AGs are more successful as amici as coalition size increases (Clayton and McGuire 2002; Goelzhauser and Vouvalis 2013), scholars have, until now, known little about how these coalitions form. This is unfortunate because understanding the factors that facilitate coalition formation will help scholars understand AG amicus brief activity, and indeed all AG activity, as a process. It is only by first successfully mobilizing a coalition that AGs can shape Court decisions and thus put their own distinct stamp on a myriad of aspects of American life. This study begins to bridge this gap and finds AG amicus brief coalitions are formed by political and resource factors. However, the AG coalition network and its determinants have evolved over the past several decades along with the overall context. While resources predict coalition formation throughout the entire series, ideology is only a factor after 2000. Ultimately, coalition formation among AGs, and likely other actors as well, is not monolithic, and no single explanation of coalition formation is applicable for the entire period from 1980 to 2009.

Collectively, these results indicate that there is no single account of how AG coalitions form across time. In order to properly account for the formation of coalitions, one must consider the context in which the actors operate. While changes in the network provide for a dynamic account of network evolution, this inaugural study on AG amicus coalition formation also poses new questions that future scholars should explore in more depth in future studies in terms of both AG amicus brief activity and activity by actors, AGs and otherwise, in other contexts. The results here inform other work on AG amicus brief activity as well as serve as a basis for both future studies on coalition formation writ large and the precise mechanisms driving change in networks for a number of legal actors and political actors more broadly.

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