How Many Parties? A More Sensitive Approach to Measuring the Effective Number of Parties

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Abstract:
The Effective Number of Parties measure has had a clear influence on political science research. This measure, based on an economic measure of market concentration (the Herfindahl index), calculates the probability that two parties selected at random represent the same type. However, measures of diversity using this index are insensitive to rare categories (such as small parties) leading to the implication that studies may under predict the degree of variability or instability in party systems. Importantly, we argue that this measure may bias analyses towards finding stability. To adjust for this insensitivity, we propose an easy to calculate measure of diversity based on Shannon's H, a measure from information science with recent applications to the study of public policy and agenda-setting. Through simulations, we show that a measure of the effective number of parties calculated from Shannon's H better reflects the concentration of parties within a system. Empirically, we then demonstrate support for Clark and Golder's (2006) reanalysis of Duverger's Law. Overall, our findings demonstrate that studies interested in the number and relative strength of parties in a system should use a measure of diversity based on Shannon's H rather than a Herfindahl index.

Keywords: parties, entropy and diversity, ENPP, measurement

Democracy at its core is about representation. Much, if not the majority of political research considers representation whether it be about elections, opinion responsiveness or political parties. As a discipline, political science is concerned with how citizen preferences are filtered through electoral systems, different forms of government responsiveness (Mansbridge 2003; Bevan and Jennings 2013) and institutional constraints. Representation is affected and characterized by processes beyond mere institutional differences. To account for differences in representation across political systems, scholars are increasingly interested in the concept of diversity, the concentration of observations (such as votes or statements) across the possible categories (such as parties or issues) in a system. Governments make policy decisions with the preferences of the opposition in mind (Green-Pederson and Mortensen 2010), voters cast ballots based on the number and location of available parties (Downs 1957) and party leaders write manifestos with a complete program in mind (Greene 2011). As a concept, the range or the diversity of the government's policy agenda, parties or issues in parties' election campaigns has inherent implications for representation.

While diversity is not a new topic to scholars of representation, the use of diversity indices in political science research remains limited. Most scholars of party politics are intimately familiar with Laakso and Taagepera's (1979) measure of the Effective Number of Parties (ENP), but are unaware that the index used to construct their measure is highly sensitive to the size of the largest category in a system and therefore insensitive to changes in smaller categories. In this paper we present an improved measure to characterize party systems through a substitute for the ENP measure. We also reconsider ENP conceptually as a measure of the total distribution of parties in a system that is independently interesting for political science research in addition to its role as a measure of the number of parties that can affect the process of governing (Laakso and Taagepera 1979).[1] Party systems and their measurement have long been the focus of political science research (see for example Sartori 1976; Laakso and Taagepera 1979), although the most prominent operationalization of the concept, the effective number of political parties (ENP) has faced substantial criticisms and innovations to deal issues highlighted by extreme cases. Initially introduced by Laakso and Taagepera (1979), the ENP has been traditionally measured as a transformation of an economic index of market concentration: the Herfindahl Index. Theoretically, the ENP provides valuable insight into representation, the sorting of governments and elections and even the likelihood/necessity coalitions (Saafeld 2008). Laakso and Taagepera's original measure has faced frequent criticisms leading scholars to introduce numerous complications (e.g. Molinar 1991; Taagepera 1997) to address the seemingly artificially low levels of variability following significant changes in vote percentages.

In this paper, we consider this prominent critique of the ENP measure and introduce a new measure based on a common and easy to compute measure of concentration: Shannon's H. Often referred to as a measure of diversity (see Jennings et al 2011; Boydstun 2013; Boydstun et al n.d.), Shannon's H is a more sensitive index that more accurately captures small differences in party vote shares especially at high and low levels. By addressing this prominent critique our alternative measure allows for more accurate empirical tests and better insight into the dynamics in the most concentrated and diverse of party systems. This insight is particularly useful as new parties emerge and traditional, established party systems are increasingly fractionalized (Lane and Ersson 2007; Spoon 2011).

The rest of this paper takes the following form. First, we discuss the ENP in terms of its theoretical underpinnings and its usage for political science research. Second, we present both the existing and our alternative measure algebraically. Third, we compare the traditional

[1] Scholars interested in the ability of parties to influence in government may gain some benefit from studying the ENP. However, measures of parties' bargaining power within parliament are likely to provide greater benefit (Caulier and Dumont 2010).

measure and some of its modifications using a series of simulated party systems that vary levels of party concentration and the total number of parties. We conclude by replicating Clark and Golder's findings in support of Duverger's Law.

What is the Effective Number of Parties Measure Measuring?

Historically, the study of party systems has played a prominent role in political science research. Studied as a means of classifying governments and political competition across countries and over time, Sartori (1976) defined party systems as the number and fragmentation of parties in a country. Logically following from this definition, Laakso and Taagepera (1979) transformed a measure of market concentration, the Herfindahl Index, into a measure of diversity: the Effective Number of Parties. Measures of fractionalization such as the Herfindahl Index refer to the probability of selecting any number of categories (parties) if you were to draw at random from a broader system. As a measure of diversity, the ENP refers to the number of categories (parties) and how evenly these categories are distributed.

Therefore, from a conceptual standpoint the ENP measure represents the distribution of votes across political parties or their seats in the legislature. In other words ENP is not just a count of the number of parties in a legislature or in an election, but also the relative strength of the parties in each system. As an indicator of the diversity within a party system, this makes the concept and its measurement important for understanding everything from the nature of electoral systems and competition (Lijphart 1994; Ordeshook and Shvetsova 1994; Cox 1997; Neto and Cox 1997; Clark and Golder 2006), to coalition formation and termination (Golder 2006; Saafeld 2008). High values of ENP generally represent a diffuse political system with control of government shared by several political parties and election campaigns waged by several parties; low values characterize a political system with few electoral competitors and control of government concentrated in the hands of one or only a few political parties (Boydstun et al n.d.; Jennings et al 2011). ENP or party diversity therefore signifies the distribution of electoral competitors or parliamentary actors bargaining for power rather than simply the number parties in government. The measure captures how electoral support and legislative power is distributed across parties and therefore the number of parties likely to affect political outcomes.

With this definition in mind the most criticized element of the ENP the Herfindahl index remains an appropriate, but ultimately limited basis for an ENP measure. As a measure of market concentration, the Herfindahl index captures the level of competition in a particular industry by noting the level of competitiveness between businesses. By transforming the Herfindahl index into a measure of diversity, ENP at first glance appears to be an internally valid measure of the range of effective parties in a system. However, the Herfindahl index is foremost a measure of the level of monopolization in an industry. Therefore, the ENP measure based on the Herfindahl index measures the degree to which a party system is monopolized by a small number of parties. In practice, this means that the Herfindahl index lacks sensitively at high and low levels of fractionalization (Jost 1996). This measure can be reinterpreted as the number of parties monopolizing the system rather than as a true measure of the distribution of parties. This insensitivity introduces bias for theories focused on the distribution of parties in office, such as in studies on the effects of electoral systems on the number of candidates in a district in diffuse or concentrated political systems.

Our alternative, Shannon’s H, is a measure of information entropy or a ‘true’ measure of entropy which helps address this shortcoming (Jost 2006). As a measure of entropy, Shannon’s H is more sensitive to high and low levels of diversity in a system. We next demonstrate this difference through careful consideration of the new and traditional ENP measure supplemented with simulations and replication data from Clark and Golder (2006).

Our alternative better focuses on the distribution of votes and seats across the range of political parties and not only the largest ones. Like a high power microscope for biological researcher, Shannon's H provides us with a better and more accurate instrument to study party systems.

Constructing ENP: Herfindahl vs. Shannon's H

Herfindahl Index

The Herfindahl index focuses on the level of industry concentration acting as a threshold measure, where values above a certain point are considered a clear monopoly and therefore does a poor job of capturing variance at low and high levels. The insensitivity of the Herfindahl index makes it problematic measure for applications that care about variation at these extremes. The index itself is calculated by summing across the squares of the proportion for each unit of the variable. The index takes on values between 1/N[2] to 1, with 1/N representing equal competition between all units and 1 representing a complete monopoly.

Formula 1. Herfindahl-Hirschman Index

$$\text{HH} = \sum_0^n p(x_i)^2 \qquad (1)$$

where:h
x_i represents a party
$p(x_i)$ is the proportion of seats or votes the party, i, receives

[2] The minimum value cannot be lower than the sum of the squares of 1/N, which equals 1/N.

This measure is at the heart of the existing ENP measure which is calculated as 1 divided by the Herfindahl index.

Formula 2. The Effective Number of Parties

	$$\boldsymbol{ENMI} = \frac{\mathbf{1}}{\sum(\boldsymbol{p}(\boldsymbol{x_i})^2)}$$	(2)
	$$\boldsymbol{ENMI} = \frac{\mathbf{1}}{\sum(.\mathbf{5}_1^2 + .\mathbf{5}_2^2 + \mathbf{0}_3^2 + \cdots + \mathbf{0}_n^2)}$$	(3)
	$$\boldsymbol{ENMI} = \mathbf{2}$$	(4)

By dividing 1 by the Hefindahl index the ENP measure is at its highest when the index is at 1/N and is at its lowest value, 1, when the index is also 1. While it is unlikely that there are many cases where each party receives an equal share of the vote or seats, some systems with a smaller number of parties, like the US, come close in presidential elections. Systems with only one party such as party dictatorships are of course far more common. Nevertheless, the current ENP measure does a poor job of capturing marginal changes at these high levels as the amount of variation in the index declines as it approaches its minimum or maximum value.

Shannon's H

Our alternative to the existing ENP measure is based on a similar, but far more sensitive fractionalization index: Shannon's H. Shannon's H is a measure of information entropy that focuses on the amount of information necessary for identifying a unit.[3] One way to think of Shannon's H is as the number of demographic questions that would give an interviewee's identity away. The measure is based on entropy or the level of order/chaos in a

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[3] Entropy is a measure of uncertainty in a variable and Shannon entropy is the average unpredictability in that variable (Shannon 1948; Jost 2006).

system. As a thermodynamic concept applied throughout physics, measures of entropy, including the Shannon's H transformation, are by design far more sensitive to variation at low and high levels of concentration. Shannon's H is calculated as the negative sum of the proportion multiplied by the natural log[4] of the proportion for each unit. The measure ranges from 0 to the natural log of N, with N being the total number of units. Zero represents complete concentration and the natural log of N indicates a system where all units are exactly equal.

Formula 3. Shannon's H Information Entropy

$$Shannon's\ H = -\sum_{i=1}^{n} p(x_i) * \ln(x_i) \tag{5}$$

where:

x_i represents a party
$p(x_i)$ is the proportion of vote or seats each party receives
$\ln(x_i)$ is the natural log of the proportion of votes or seats the party receives

Our alternative measure of ENP converts Shannon's H into a measure of diversity (Jost 2006). We calculate the ENP using the antilog of Shannon's H putting it on the same relative scale and in the same direction as the existing ENP measure.

Formula 3. Shannon's H – Effective Number of Parties

$$Shannon's\ H = -\sum_{i=1}^{n} p(x_i) * \ln(x_i) \tag{6}$$

$$Effective\ Number\ of\ Parties\ SH = \exp(Shannon's\ H) \tag{7}$$

[4] Other base logs can be used with Shannon's H with the most common being 2 for use with binary data. However, the choice of a base has little bearing on the results and the natural log generally performs well when comparing across systems with different numbers, in our case differing numbers of political parties.

$$Effective\ Number\ of\ Parties\ SH = \exp(-\sum_{i=1}^{n} p(x_i) * \ln(x_i)) \qquad (8)$$

$$2 = \exp(-((.5_1)\ln(.5_1)) + ((.5_2)\ln(.5_2)) \ldots + ((0_n)\ln(0_n))) \qquad (9)$$

The advantage of using Shannon's H is its greater level of variation at high and low values, allowing for increased sensitivity to changes in the most and least concentrated political systems. This is not to say that Shannon's H is overly sensitive, a concern of many using the current ENP measure (Molinar 1991). Our measure is more equally sensitive to changes in the party system across its entire range such that a small shift in support to a minor party leads to similar changes in the Shannon's H measure across the range of the variable.[5] For the remainder of this paper we refer to the effective number of parties using the Shannon's H measure as SH-ENP and the classic ENP measure using the Herfindahl index as H-ENP. The following sections demonstrate the difference in sensitivity between these two measures graphically and through a variety of different political contexts.

A Comparison of H-ENP and SH-ENP

In order to highlight the difference in sensitivity between H-ENP and SH-ENP we first turn to a graphical comparison of both measures across their entire range before turning to several hypothetical countries varying the number of parties and vote shares both separately and together.

Figure 1 presents a series of hypothetical party systems with three, four and five parties varying the amount of party support in each system. This demonstrates the difference

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[5] Shannon's H, the Herfindahl index and all complications of the ENP measure are in fact nonlinear due to their upper and lower bounds. Unlike many non-linear functions neither the Herfindahl nor Shannon's H have a link function capable of transforming them into linear functions. It is important to be aware of this non-linearity when assessing the value of ENP measures.

in sensitivity between H-ENP and SH-ENP by calculating both measures for party systems in which party one's support ranges from 0 to 100% and all additional parties share an equal percentage of the remainder. This remainder is equal to 100% minus party one's support divided by the number of additional parties. For example, in the case of the three party system where party one receives 10% of the support, the support for parties two and three are both equal to 45%.

<<<Figure 1 HERE>>>

Figure 1 illustrates a number of similarities and differences. In particular, the estimates are quite similar as expected given the similar purpose of both Shannon's H and the Herfindahl index. When all of the parties converge to the same level of support both versions of ENP equal the total number of parties in the system; this point is marked by a line for each party system. However, as the level of support for each party diverges, the Herfindahl's bias becomes apparent. When Party 1 has lower levels of support there are a larger number of similarly sized parties, but one party with a smaller percentage. In the area to the left of each vertical line denoting equal percentages for all parties, the H-ENP is universally lower than the SH-ENP. In these cases, the H-ENP measure quickly undervalues the effectiveness of party one in comparison to the other parties in the system. This outcome is similar when party one receives more support than the other parties. H-ENP always products smaller values than SH-ENP except for the point in which all parties are equal.

However, the most noticeable result in Figure 1 relates to the rate of convergence for the different party systems at higher levels of support for Party 1. At approximately 60% support for Party 1, the H-ENP measure converges to nearly the same value regardless of the number of parties in the system. As this number is greater than 1, the measure indicates that more than one party exists in the system, but it does little to account for variation in the number of parties. SH-ENP on the other hand is slower to converge because it better accounts for the total number of parties. Stated differently, the H-ENP is overly sensitive to the size of the largest party because the H-ENP is primarily a measure of the monopolization of a system, whereas the SH-ENP more accurately represents the true diversity of parties.

As Figure 1 clearly demonstrates the traditional H-ENP measure is too unresponsive to the presence of small parties at both high and low levels of support. Our alternative measuring using Shannon's H is by comparison much more sensitive to changes on both sides of the spectrum and does not overly discount the number of political parties in the system. Altogether, this pattern of responsiveness makes it a better measure for determining differences across countries and over time due to changes in the political landscape. This not only makes the measure better for current work because it better accounts for small variation in the distribution of parties, but also makes SH-ENP a vastly superior measure for studying developing or volatile party systems where support for each party and the number of parties changes frequently. For example, a party system undergoing a transformation with the creation of several new and smaller parties, but with a single party with 60% support would lead to little differences in H-ENP, while SH-ENP would vary as support for a range of parties increased along with the volatility of the political system.

We show the differences in these two measures further by considering several hypothetical party systems. These simulations demonstrate how the measures' comparative performance in different party systems.

Simulating Party System Concentration and Transitions

The question still remains however, what do these measures look like in practice and, perhaps most importantly, what they look like dynamically? In order to further compare H-ENP and SH-ENP we next turn to a series of simulated, dynamic electoral systems. The use of simulated data allows us to isolate the difference between the measures without also having to consider alternate causes. In the following simulations, we generate a number of party systems allowing for some random variation in the sizes of each party within the system. We first consider two relatively stable party systems with four and six parties,[6] but with variation in each party's size. These systems are depicted in Figure 2.

<<<FIGURE 2 HERE>>>

Over the course of twenty separate elections depicted in Figure 2 for each system there is little variation in the H-ENP and SH-ENP measures overall. Importantly, the differences between the measures are also relatively stable. SH-ENP consistently produces higher values than H-ENP. While most real world party systems demonstrate greater variance in party size between elections, the number of parties and the competitiveness of the political system remain relatively stable over time, only changing incrementally.

Therefore, we demonstrate a party system in Figure 3 where there are a large number of parties (roughly comparable to the party system in the Netherlands) and new parties emerge gaining two percent of the vote every five elections. Vertical lines illustrate the point at which new parties emerge. Starting with approximately eight parties in the first five elections, there is a clear difference between the measures. This difference increases as new parties enter and cause increased fractionalization. While H-ENP only subtly increases (approximately one party), SH-ENP increases more dramatically (over two parties). Figure 3 demonstrates that SH-ENP reacts more convincingly to the addition of three new parties in dispersed party systems.

<<<Figure 4 HERE>>>

SH-ENP also better measures change in party support in more concentrated party systems. In Figure 4, we simulate a party system with a single dominant party controlling the

[6] These examples roughly correspond to the electoral systems in Germany and France.

majority and a number of smaller parties.[7] Like the previous example, we add a new party every five elections to demonstrate the measures' sensitivity. In Figure 4, the H-ENP remains relatively stable across the elections, indicating that one party maintains a monopoly. However, SH-ENP increases to show that the party system is now more diverse than it was prior to the addition of these parties.

While the previous examples illustrate that SH-ENP is more response in party systems that are both highly divided and concentrated, it is also more sensitive in contexts where most of the parties are roughly equal. Figure 5 shows a party system with two large parties and the introduction of a single new party that increases in size (0%, 2%, 5% and 9%) after every five elections. This example is meant to demonstrate the effect of the growth of a new party, such as the Liberal Democrats in the UK, on each of the measures. While both H-ENP and SH-ENP produce nearly identical results in the first set of elections, the addition of a small party leads the measures to diverge. As the small party challenger grows, the difference between the measures expands. In particular, H-ENP barely reacts to the new threat after five elections, in which the challenger now controls 2%. The difference is greatest when the small party controls 9%. Even in this context in which the large parties are nearly identical in size, the SH-ENP reacts more quickly to small changes in the overall change in party system fractionalization.

While both the diverse and concentrated political systems represent unlikely cases in the real world, they clearly demonstrate the limitations of the H-ENP measure. Our research does not run into these limitations very often, but with ever increasing data on new democracies and the emergence of new parties in multiple established party systems the need for a more sensitive measure of ENP continues to grow. SH-ENP provides that increased

[7] The starting point for this example is roughly equivalent to Japan in 1990.

sensitivity. The next section presents a replication of Clark and Golder's (2006) analysis of Duverger's Law to further demonstrate that SH-ENP is a preferable substitute for H-ENP.

Replicating "Rehabilitating Duverger's Theory"

As a final test of our measure, we replicate Clark and Golder's (2006) test for the mechanical effects of Duverger's Law. Scholars have long shown interest in studying the effect of electoral rules on the number of parties in government. In Duverger's (1964) classic formulation, plurality elections limit the number of candidates that get into office by two mechanisms: a psychological and a mechanical. In their comprehensive analysis of Duverger's theory, Clark and Golder (2006) demonstrate that countries with smaller district magnitudes (i.e. require a greater percentage of votes to gain a seat) lead to fewer parties in government.

Clark and Golder's (2006) analysis test for the mechanical effect of Duverger's Law is the most comprehensive test of this theory to date and uses both the effective number of electoral and parliamentary parties as independent and dependent variables. Replication of their results confirms that SH-ENP provides a comparable measure of party system diversity. In particular, we compare the results from their analysis using the original H-ENP from their analysis with our SH-ENP measure. We present these results in Table 1.

<<<Table 1 HERE>>>

The results of our replication are strikingly similar to those presented by Clark and Golder (2006), despite our reduced sample.[8] The coefficients are in the same direction as those reported in Clark and Golder (2006) and for-the-most-part they reach comparable levels

[8] We report a smaller sample size from Clark and Golder's data set because they do not include the variables necessary to construct our measure in the publically available data. We are in the process of recreating this data for the full sample.

of statistical significance. The results for both models also explain a large amount of the variance with R^2 of 89.6 and 91.5 percent.

However, there are some differences in the reported results. In particular, the substantive coefficients for the *number of electoral parties* is larger and the interaction of *district magnitude* and the *number of electoral parties* is smaller in the model using Shannon's H version for the effective number of parties. The effect of increasing logged district magnitude from one standard deviation below the mean to one standard deviation above the mean value increases the H-ENP by 13% above the mean and SH-ENP by slightly less at only 11%. The results from the SH-ENP analysis indicate that the effect of a country's electoral system may be slightly overstated using the traditional H-ENP measure.

There are also subtle differences in the extent to which the effective number of electoral parties leads to change in the number of parliamentary parties, when the district magnitude is equal to one, such as in a first-past-the-post electoral system. Here SH-ENP slightly better captures the variation in the number of parties than H-ENP because SH-ENP is more sensitive to small differences in the number of electoral parties that are important for the number of parties that are represented in government. A change from one standard deviation below the mean H-ENEP to one standard deviation above the mean leads to an increase of 1.6 or an increase of 48% above the mean value, whereas SH-ENEP leads to an increase of 2.31 or 48.5%. Finally, unlike Clark and Golder's (2006) results, the interaction effect of the percentage of total seats to the *upper house* reaches statistical significance in both statistical models.

Admittedly, the difference in these results is minor. Greater differences would emerge in systems where there are a larger number of small parties. These results confirm that SH-ENP effectively measures the diversity of parties in a country. We expect that as party systems continue to fragment across the democratic world, the traditional measure of party system fragmentation H-ENP will become increasingly biased. The Herfindahl index's tendency to over represent the largest parties will likely limit our ability to study the diversity of parties in systems where numerous small parties persist or emerge.

Conclusion

The ENP has proven a useful measure for assessing the number and fractionalization of party systems. Nevertheless, the H-ENP measure and the many complications introduced over the years have all had limitations. As we have demonstrated, the original measure is insensitive to changes at high and low levels of concentration. Recent contributions have sought to 'fix' the measure by making complicated changes to the way it is calculated so that it will fit unique cases (Molinar 1991; Taagepera 1997 and 1999; Golosov 2010). However, these changes generally lead the ENP to less adequately measure more average cases. By choosing an alternate measure of entropy on which to construct our measure of diversity, we address some of the primary issues with the H-ENP. SH-ENP better distinguishes between party systems when confronted with small changes.

As this paper has demonstrated SH-ENP is by design a more sensitive measure that accounts for both the level of support for political parties as well as the number of parties in the system. SH-ENP not only clearly better accounts for the number and fractionalization of party systems, but also it is likely essential for understanding the party system dynamics in developing political systems where the number of parties and the change in their vote share can be much more dramatic.

Finally, scholars have increasingly begun to address a wide range of political phenomena through the lens of diversity and fractionalization. Unless scholars are directly interested in measuring the monopolization of a system, measures based on the Herfindahl index will provide limited potential. Instead, Shannon's H provides a more precise measure of fractionalization that can be of use to the study of numerous topics interested in the distribution and concentration of a phenomenon, such as ethnic politics, social movements, conflict, political speech and text, and party competition.

Appendix

Figure 1

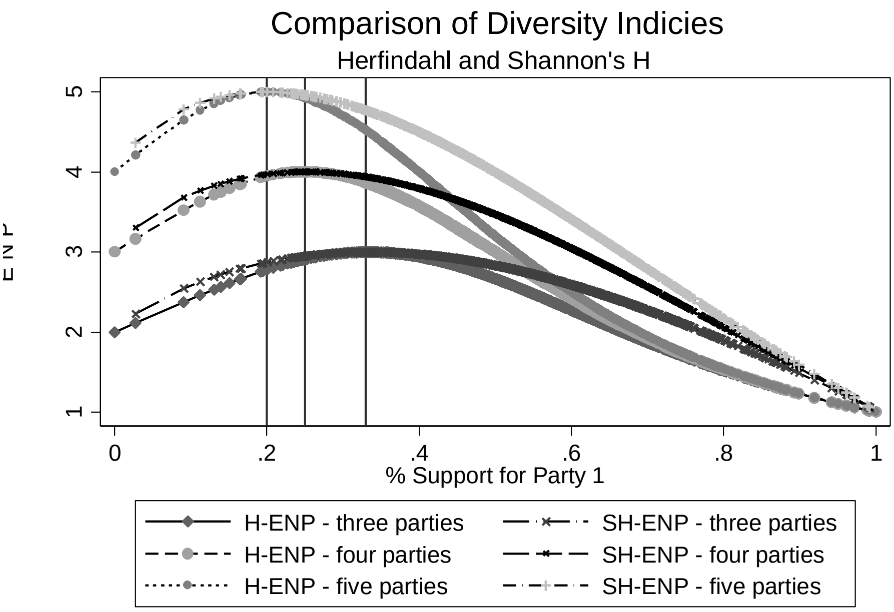
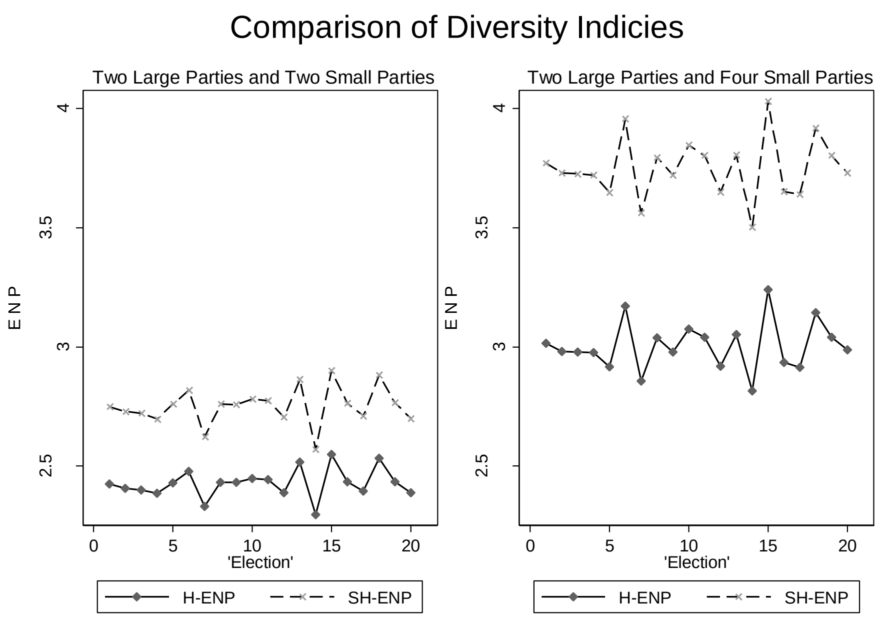
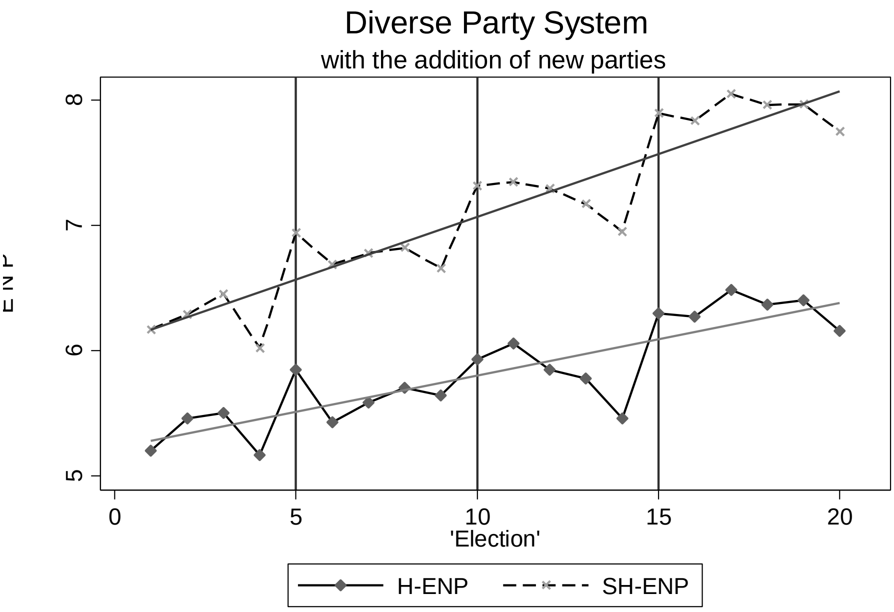


Figure 2.



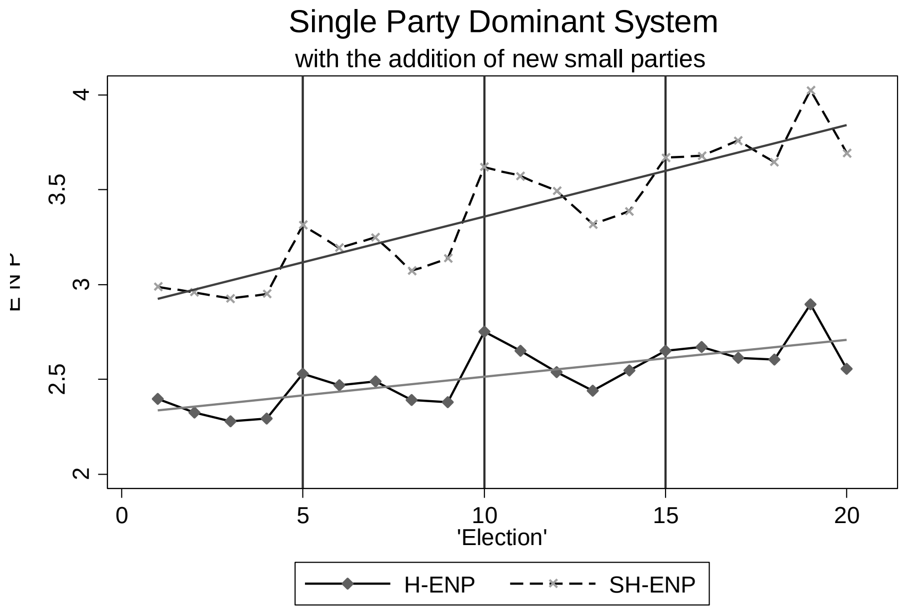
Simulation 1: Stable political system with a set number of parties. Random variation in the number of votes for each party.

Figure 3.



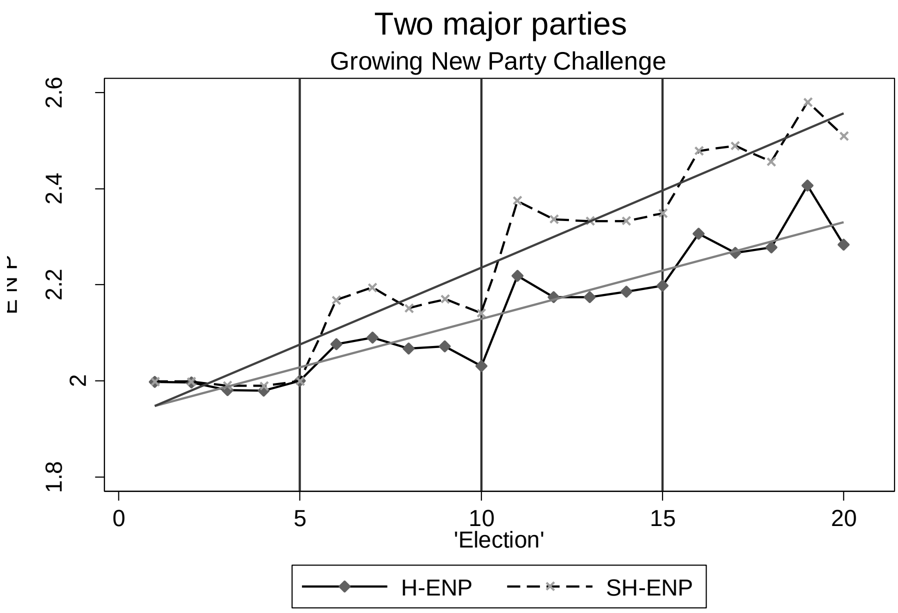
Simulation 2: Diverse political system. The simulated party system begins with 8 parties and adds a new party every 5 elections (each controlling two percent) to show the sensitivity of each measure to such changes. Fitted lines demonstrate the trends for each measure.

Figure 4.



Simulation 3: Dominant Party System. The large party loses vote share after 5 elections to new parties as they enter the system.

Figure 5.



Simulation 4: Competitive Two Party System. A small party gains support (0%, 2%, 5%, and 9%) ever five elections.

Table 1. Replication of Clark and Golder's (2006) test of Duverger's Mechanical Effect

	(1) Herfindahl	(2) Shannon's H
Electoral Parties	0.649***	0.729***
	(0.091)	(0.059)
ln(Magnitude)	-0.137	-0.038
	(0.121)	(0.086)
Upper Tier Seats	-0.009	-0.013
	(0.011)	(0.012)
Electoral Parties X ln(district magnitude)	0.076+	0.041*
	(0.037)	(0.020)
Electoral Parties X Upper Tier Seats	0.005+	0.005+
	(0.003)	(0.003)
Constant	0.468	0.190
	(0.289)	(0.223)
R^2	0.896	0.915
Observations	321	321

Standard errors in parentheses. Data from Clark and Golder (2006) and ParlGov. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The results replicate the "Established Democracies" analysis in Table 1 of Clark and Golder (2006, 692). Differences in the sample size result from a lack of party seat and vote data from these sources for the full time period. Future analysis will incorporate this data.

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