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The nationalization of party systems: Conceptual issues and alternative district-focused measures

Yuko Kasuya [a,*], Johannes Moenius [b]

[a] Department of Political Science, Keio University, 2-15-45 Mita, Minato, Tokyo 108-8345, Japan
[b] School of Business, University of Redlands, P.O. Box 3080, Redlands, CA 92373-0999, USA

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Abstract

The degree of party system nationalization, defined as the extent to which parties compete with similar strength across sub-national geographic units, is an important but understudied issue. We attempt to make two contributions to this topic. First, we provide a two-dimensional conceptual map of party system nationalization, consisting of the dimensions of 'inflation' and 'dispersion,' while previous studies only considered the inflation dimension. Second, we introduce alternative measures to gauge these two dimensions. We also combine these two to measure overall party system nationalization. The paper demonstrates the relevance of this two-dimensional conception and the usefulness of our measures by applying them to some real-world examples, including the US party system development from 1870 to 2002.

Keywords: Party system nationalization; Party competition; Party aggregation; Linkage; American party development; Measurement

1. Introduction

Since the 1960s, American politics scholars have been concerned with the issue of party system nationalization (Stokes, 1967; Claggett et al., 1984; Brady, 1985; Kawato, 1987). Recently, comparative politics scholars have started to pay attention to the same issue (Cox, 1997, 1999; Chhibber and Kollman, 1998, 2004; Jones and Mainwaring, 2003; Caramani, 2004; Moenius and Kasuya, 2004). 'Nationalization of party systems' here refers to the extent to which parties compete with equal strength across various geographic units within a nation. Strongly nationalized party systems are systems where the vote share of each party is of similar size across geographic units (e.g., districts, provinces, and regions), while weakly nationalized party systems exhibit large variation in the vote shares of parties across sub-national units.

This issue is of vital importance in understanding party competition. For example, consider two countries in which the patterns of party competition at the national-level are similar. In the first country, this pattern of multi-party competition at the national-level is the result of roughly similar patterns of multi-party competition across sub-national units. In the other country, the same pattern on the national-level may

* Corresponding author. Tel.: +81 3 5427 1075; fax: +81 3 5427 1578.
E-mail addresses: ykasuya@law.keio.ac.jp (Y. Kasuya), johannes_moenius@redlands.edu (J. Moenius).

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arise when some parties dominate certain regions but are unimportant in others. In the former case the party system is highly, and in the latter lowly nationalized. Without considering the degree of party system nationalization, we cannot have an accurate understanding about the nature of a country's party competition. Moreover, different levels of party system nationalization have important political implications. For example, when a governing party's support is relatively uniform across the country (the highly nationalized case), it is likely that the party addresses policies of nationwide concerns. When the support base of a ruling party lies in a particular geographic region (the low nationalization case), the party may tend to emphasize policies that favor the region of its support (see Jones and Mainwaring, 2003: 143–145 for a fuller discussion of potential implications).

This paper makes two contributions to this topic. First, we propose a new way to conceptualize party system nationalization by decomposing it into two dimensions, namely 'inflation' and 'dispersion.' The former refers to the extent to which the average size of district-level party systems is inflated to the national-level. The latter refers to the extent to which the contribution of each district's party system to the size of the national-level party system varies across districts, thus addressing the heterogeneity of party system competition across districts. Previous studies only focused upon the inflation dimension and omitted the dispersion aspect, although, as we will demonstrate later, the second dimension is indispensable for an accurate understanding of party system nationalization. More precisely, a strongly nationalized party system occurs only when *both* inflation and dispersion are low, but not with any other combination on this conceptual map.

Our second contribution concerns the measurement of party system nationalization. Based on the above conception of party system nationalization, the paper introduces new ways to measure inflation and dispersion, and offers a measure of party system nationalization consisting of a combination of these two dimensions. We constructed the measures to be scale-invariant, and this property allows for cross-national and/or inter-temporal comparisons of the degree of nationalization of party systems. We do not, however, analyze the causes or the consequences of variation in party system nationalization in this paper. Such inquires are left for future research.

This paper is organized as follows. Section 2 discusses conceptually how a county's national-level party system can be characterized by using the dimensions of inflation and dispersion. Section 3 introduces our suggested measurements of inflation, dispersion, and party system nationalization. Section 4 applies these three measures to real-world cases.

2. A two-dimensional conception of party system nationalization

It is difficult to find an established definition of party system nationalization. As reviewed by Jones and Mainwaring (2003: 141–143), the concept was first introduced in the American politics literature in the 1960s, and has been used with two different meanings. The first refers to the similarity of cross-district partisan voting patterns from one election to the next, and the other refers to the geographic homogeneity of partisan voting patterns in a single election. Comparative party politics scholars have used different terms to describe similar phenomena. Referring to the second meaning of party system nationalization above, Cox (1997, 1999) uses the term 'linkage,' while Chhibber and Kollman (1998, 2004) use 'party aggregation.' In this paper, we define party system nationalization as the extent to which the vote shares that parties obtain across electoral districts are homogenous within a country. This definition is equivalent to the second meaning of party system nationalization in the American politics literature. Jones and Mainwaring (2003: 140) also employ a similar definition of the term.

We propose a two-dimensional characterization of party system nationalization consisting of 'inflation'[1] and 'dispersion'. The former concerns the extent to which inter-party competition in each district is different from inter-party competition at the national aggregate level. It is called inflation because it measures the extent to which the size of the national-level party system becomes inflated in comparison to the average size of the district-level party systems. The second dimension refers to the variation across districts of the extent of each districts' contribution to national-level party system inflation. When dispersion is low, each district contributes equally to national-level party system inflation. When dispersion is high, the contribution of each district to national-level inflation is different: some districts may contribute much to national-level party system inflation, others may contribute very little, while some other districts may even have a negative contribution.

[1] Party system inflation is a term introduced by Cox (1999) in his measurement of party system linkage. Under certain conditions, deflation is also possible (see Moenius and Kasuya, 2004).

Earlier studies only considered the inflation aspect of party system nationalization (Cox, 1999; Moenius and Kasuya, 2004). Combining inflation with dispersion informs us more precisely about the nature of sub-national variation in inter-party competition. To understand why the inflation dimension alone does not accurately capture the nature of nationalization, consider the following argument. National-level party system inflation is an *aggregate* of district-level contributions to the inflation rate. As such, we do not know the nature of the components contributing to national-level party system inflation. A low rate of party system inflation at the national-level can be the result of highly homogenous party competition. Alternatively, it can be the result of some districts contributing to the national-level inflation rate in a positive manner while others contribute in a negative manner, with the latter offsetting the effects of the former. Only by considering dispersion together with inflation can we know whether offsetting effects are present. Consequently, we cannot provide an accurate explanation of the homogeneity of party competition across districts with the inflation measure alone. For this reason, we propose to consider both dispersion and inflation when assessing party system nationalization.

Plotting the degree of inflation on the *Y*-axis and that of dispersion on the *X*-axis, we characterize the patterns of party system nationalization (or non-nationalization) using the four types illustrated in Fig. 1. These are merely schematic examples; in reality, the degrees of inflation and dispersion should be considered as a continuum. In Fig. 1, only the case that scores low on both the inflation and dispersion axes (Type III) can be regarded as a strongly nationalized party system. Hereafter we discuss each type in more detail.

We characterize a party system as *uniformly localized* or Type I when dispersion is low and inflation is high, which is illustrated in the upper left-hand corner of Fig. 1. This is a case in which there are two equally sized districts (same number of votes) in a nation. In each district, two parties uniformly compete with equal strength, but their names are different: Parties A and B compete in District 1, while Parties C and D are the only two competitors in District 2. When votes are aggregated at the national-level, the number of parties at the national-level is twice as large as the average number of parties at the district-level. Thus this is a highly inflationary case. With regards to the variation in each district's contribution to national-level party system inflation, each district's contribution is the same: half of the national-level inflation comes from District 1 and the other half comes from District 2; thus dispersion is low in this case.

As shown in the upper right-hand corner of Fig. 1, a *strongly localized* or Type II party system is characterized by high degrees of both inflation and dispersion.

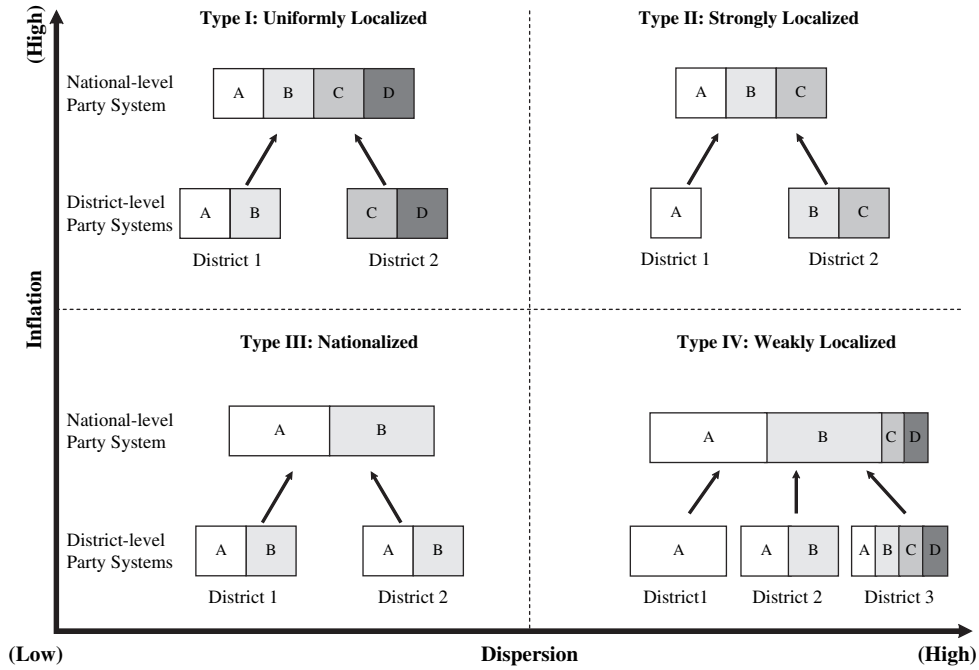

Fig. 1. Four types of national-level party system formation.

Again, there are only two districts, but in this case District 1 is half the size of District 2 in terms of the number of votes cast. In District 1, Party A has no competitor, while in District 2, Parties B and C are equally strong competitors. Since the parties competing in each district are different, the number of parties at the national-level is 3, which is twice as large as the average size of the district-level party system (=(1 + 2)/2 = 1.5). Thus inflation is high in this situation. At the same time, each district's degree of contribution to national party system inflation varies, leading to high dispersion.

In (*strongly*) *nationalized* or Type III cases, both inflation and dispersion are low; the lower left corner of Fig. 1 illustrates this pattern. Districts 1 and 2 are of equal size, and the parties running in each district are exactly the same. Parties A and B are equally strong in both Districts 1 and 2. When the votes are aggregated at the national-level, the national-level party system is an exact mirror of District 1, as well as of District 2. In this case, there is little difference between the average number of parties at the district-level and the number at the national aggregate level. At the same time, the degree of each district's contribution to national-level inflation is also zero. Since there is no variation in the degree of contribution to national-level party system inflation, this is also a case without dispersion.

Finally, *weakly localized* or Type IV cases occur when inflation is low and dispersion is high as illustrated in the lower-right corner of Fig. 1. Districts 1, 2, and 3 are of equal size in terms of the number of votes cast within each district. In District 1, Party A monopolizes the election. In District 2, Parties A and B are equally strong competitors. In District 3, Parties A, B, C, and D divide the total district-level vote evenly. Here, the average size of the district-level party system is 2.3 (=(1 + 2 + 4)/3). When the district-level votes are aggregated at the national-level, the number of 'serious' parties as calculated by the index of effective number of parties (explained below) is 2.4.[2] Consequently, inflation is very low in this case and thus would be erroneously classified as highly nationalized by measures that only consider inflation aspects of party nationalization. With regards to each district's contribution to the national-level party system inflation rate, there is large variation. Thus we characterize this as a case of high dispersion. We also note that the relatively low inflation rate observed in this situation is the result of an offsetting effect of high dispersion. In other words, the positive and negative district-level contributions to the national-level inflation rate cancel each other out, and consequently bring down the national-level inflation rate at the aggregate level.

Thus far we have schematically illustrated possible variations in the patterns of party system nationalization. Only when inflation and dispersion are both low, as in Type III cases, can we consider that inter-party competition across districts is nationalized.[3] All other cases exhibit heterogeneous cross-district competition, implying a localized party system. In Section 3, we suggest ways to empirically measure the degrees of inflation and dispersion, as well as the overall degree of nationalization, which we define as a combination of the first two.

3. Measuring inflation, dispersion, and nationalization

Several scholars have introduced measures to gauge the degree of party system nationalization (see Moenius and Kasuya, 2004 for a review). Our measure of inflation is the weighted inflation measure I_w, which is suggested in Moenius and Kasuya (2004) as follows:

$$I_w = \left(\frac{ENP_{nat} - ENP_{w\text{-}avg}}{ENP_{w\text{-}avg}}\right)100 = \left(\frac{ENP_{nat} - \sum_{i=1}^{n} ENP_i W_i}{\sum_{i=1}^{n} ENP_i W_i}\right)100 \quad (1)$$

where ENP_{nat} = the effective number of parties at the national-level[4]; $ENP_{w\text{-}avg} = \sum_{i=1}^{n} ENP_i W_i$; ENP_i = the effective number of parties in district i; $W_i = vot_i/vot_{nat}$; vot_{nat} = total number of votes at the national-level vot_i = number of votes in district i.

I_w measures to what extent the district-level party system size (effective number of parties) on average differs from party system size at the national-level, irrespective of district sizes (number of votes cast in one district). If the size of the national-level party system is larger than the average size of party systems across districts, I_w indicates that there is party system inflation

[2] Suppose that each district has 100 voters. In the given setting, at the national aggregate level, Party A receives 175 votes, Party B receives 75 votes, and Parties C and D obtain 25 votes each. Applying the Laakso and Taagepera (1979) index discussed below, this combination yields a value of 2.4.

[3] Note that this categorization can also be used on the regional level. For example, if within regions party competition is Type III, but across region party competition is Type I, we would call this a *uniformly regionalized* party system.

[4] ENP is defined as $ENP = 1/(\sum v_j^2)$where v_j is the vote share of the jth party (Laakso and Taagepera, 1979).

from the district-level to the national-level. Conversely, if the average size of the district-level party system is larger than the size of the party system on the national-level, we observe party system deflation.

With regards to the measurement of dispersion, we suggest using the following. Our starting point is the local inflation measure I_i (see Moenius and Kasuya, 2004):

$$I_i = \left(\frac{\mathrm{ENP}_{\mathrm{nat}} - \mathrm{ENP}_i}{\mathrm{ENP}_i}\right)100 \tag{2}$$

I_i measures how much the party system size in district i differs from the national-level party system size. As such, I_i informs us of the extent of each district's contribution to national-level party system inflation.[5]

In order to gauge the dispersion of each district's contribution to the national-level party system inflation rate, we need a measure that is invariant to party system size as well as to the absolute level of inflation. Such a measure allows us to compare dispersion rates across countries and over time. Unfortunately, neither the standard deviation nor variance, two commonly used measures of distribution spread, has this invariance property for our inflation measure I_i: these two measures will increase together with the degree of party system inflation. Put differently, the higher the average inflation rate, the higher its standard deviation.[6] This problem can be resolved[7] by dividing the standard deviation by the mean, commonly known as the coefficient of variation. We therefore employ the coefficient of variation (CV) as one of the measures of dispersion, which is calculated as follows:

$$\mathrm{CV}(I_i) = \frac{\sqrt{\sum_{i=1}^{n}(I_i - I_{\mathrm{w}})^2 \tilde{W}_i}}{I_{\mathrm{w}}} \tag{3}$$

Consistent with our previous argument, we use weights to calculate the standard deviation, which is the term under the square root. Since we also calculate the standard deviation from the weighted mean I_{w}, we have to find the correct weights to aggregate the individual I_i into I_{w}. It can be shown that the following weights $\tilde{W}_i$,

$$\tilde{W}_i = \frac{\mathrm{ENP}_i}{n\sum_{i=1}^{n}\mathrm{ENP}_i \dfrac{\mathrm{vot}_i}{\mathrm{vot}_{\mathrm{nat}}}} \tag{4}$$

have this property, since I_{w} can be rewritten as:

$$\begin{aligned} I_{\mathrm{w}} &= \left(\frac{\mathrm{ENP}_{\mathrm{nat}} - \sum_{i=1}^{n}\mathrm{ENP}_i \dfrac{\mathrm{vot}_i}{\mathrm{vot}_{\mathrm{nat}}}}{\sum_{i=1}^{n}\mathrm{ENP}_i \dfrac{\mathrm{vot}_i}{\mathrm{vot}_{\mathrm{nat}}}}\right)100 \\ &= \left\{\left[\sum_{i=1}^{n}\left(1 + \frac{I_i}{100}\right)\tilde{W}_i\right] - 1\right\}100 \end{aligned} \tag{5}$$

While the coefficient of variation measures the mean deviation from the average I_i, it does not account for an important feature of the distribution of I_i. Specifically, the coefficient of variation does not gauge how compact the distribution is, or how extensive the presence of outliers is. Conceptually, however, the more outliers there are, the less nationalized a party system is, independent of the value of the coefficient of variation. We therefore complement the coefficient of variation with the kurtosis of the distribution of I_i, since this measure nicely describes how narrow or wide the distribution of inflation rates is across districts. It also has the desired property of allowing for comparisons across districts and over time. In particular, a normal distribution will have a kurtosis of 3, independent of the mean or the variance of the distribution. Kurtosis values smaller than 3 indicate a compact distribution of local inflation rates with slim tails, a distribution that suggests a more nationalized system. Values larger than 3 indicate a more dispersed, and therefore more weakly nationalized, party system.

When calculating the kurtosis, we again use weighted measures. The kurtosis is thus defined as:

$$k(I_i) = \frac{\sum_{i=1}^{n}(I_i - I_{\mathrm{w}})^4 \tilde{W}_i}{\left(\sum_{i=1}^{n}(I_i - I_{\mathrm{w}})^2 \tilde{W}_i\right)^2} \tag{6}$$

where the weights are defined as above. $k(I_i)$ measures how much party system inflation varies across districts in a particular manner. A large $k(I_i)$ indicates that the distribution of local inflation rates has 'fat tails', meaning that there are many outliers relative to the individual district's contributions to national-level party system

[5] I_i can be calculated for any district or sub-national geographic unit, such as province or region. See Kasuya (in press) for an example of using I_i to study causes of party system nationalization.

[6] The theoretical reason for this is that the inflation measure is convex for the average effective number of parties at the district-level. To see this, assume that the effective number of parties at the national-level is given at a and let x denotes the effective number of parties at the district-level. Then I_i can be rewritten as $(a-x)/x = (a/x) - 1$. It follows from Jensen's inequality (Krantz, 1999) that the standard deviation increases when the inflation rate increases. In our data set of 27 countries, the correlation between party system inflation I_{w} and the standard deviation of I_i is 0.68.

[7] Strictly speaking, using the coefficient of variation resolves this issue only for special cases, but works well when inflation rates are not too large. We will therefore use the coefficient of variation throughout the paper. See the discussion on this issue on the authors' web pages.

inflation. This implies that a considerable portion of districts is contributing to the national-level inflation rate at a rate substantially higher than average, and/or that a considerable proportion of districts is contributing at a substantially below-average rate. We combine $CV(I_i)$ and $k(I_i)$ as our measure of dispersion D:

$$D = CV(I_i)^{\gamma} k(I_i)^{1-\gamma} \tag{7}$$

Absent any theoretical reason, the parameter γ is completely arbitrary.[8] Therefore, we give equal weight to both components, choosing $\gamma = 0.5$ in all the graphs below. Building on the inflation and dispersion measures, we also suggest a single composite measure of party system nationalization N, which combines the inflation measure I_w and D and is defined as:

$$N = I_w^{\alpha} CV(I_i)^{\beta} k(I_i)^{1-\alpha-\beta} = I_w^{\alpha} D^{1-\alpha} \tag{8}$$

where $\beta = \gamma(1-\alpha)$. The measure N is the index of party system nationalization we propose. Theoretically, as in the case of γ, the values of α and β are *arbitrary* numbers unless they can be approximated by election data. We therefore give equal weight to our inflation and dispersion parameters, implying $\alpha = 0.5$, $\gamma = 0.5$, and consequently $\beta = 0.25$.[9]

The measures we have suggested thus far can best be contrasted with those advanced by Jones and Mainwaring (2003), whose research introduces one of the most sophisticated indexes of party system nationalization in the contemporary literature. The value that they call the Party System Nationalization Score (PSNS) is obtained by adding all the values of inverted Gini-coefficients for individual parties, after multiplying them by the vote shares of each party. The inverted Gini-coefficient for individual parties is called the Party Nationalization Score (PNS) and it measures the extent of individual party nationalization in their vote shares across sub-national units. Our suggested measures (I_w, D, N) are similar in the sense that they can be used in cross-national, as well as inter-temporal comparisons, irrespective of district sizes (the number of voters in each district) or party system sizes. A slight difference between our measures and those introduced by Jones and Mainwaring is that PSNS ranges between 0 and 1, with a higher PSNS indicating a strongly nationalized party system. Our measure N, on the other hand, is always larger than zero but does not have an upper bound, and a lower N indicates a more strongly nationalized party system.

There are two important differences between our measures and PSNS/PNS. First, our measures build on the variation of district-level inter-party competition, while PSNS/PNS is constructed from the variation in the strength of individual parties. Thus, our measures allow for an assessment of the degree to which each district (or any geographic unit) contributes to party system nationalization. One can use I_w, D, and I_i in analyzing the *district-level* determinants or consequences of party system nationalization by matching our measures with variables that vary across districts. However, if one is interested in studying the party-level determinants or consequences of party system nationalization, the Gini-coefficient-based Party Nationalization Score (PNS) is the relevant measure to use. We see it as an advantage of our measure that it includes both the average effect (inflation) and heterogeneity effect (dispersion), while Jones and Mainwaring's measures rely on the Gini-coefficient, which gauges cumulative deviations from perfectly, and equally, strong competition. Ultimately, however, PSNS/PNS and our measures should be considered complementary.

4. Some applications of the suggested measures

In this section, we apply our measures to some real-world examples. Fig. 2 shows how the inflation (I_w) and dispersion (D) measures can be used for cross-national comparison. The scatter-plot presentation of 27 countries is based on I_w and D, where we employed our "rule of thumb" value of $\gamma = 0.5$ in order to calculate D. The election data used to calculate these figures are taken from elections conducted around the year 1995.

The axes drawn in Fig. 2 intersect at the respective median values of inflation and dispersion and can therefore be viewed as thresholds dividing high and low rates of inflation and dispersion. Countries located above the median inflation line can be considered to have a high inflation rate, while those below have a low inflation rate. The same applies for dispersion. The four areas that are created by the intersection of the two axes correspond to Type I through Type IV as illustrated in Fig. 1.

Based on these criteria, Austria and Germany possess highly nationalized party systems, while the party systems in Finland and Slovakia are localized,

[8] Which value to choose for γ may depend on one's research question. A large γ gives more weight to the districts that are closer to the aggregate party system inflation rate, while a small γ gives more weight to those districts that depart from it.

[9] At the authors' web pages, we suggest how to obtain values of γ and α based on empirical data, as well as a sensitivity analysis of employing different values of γ and α. In particular, we compare the empirically obtained values to our choice of equal weights for all components for a data set of 27 countries. Our results suggest that without further information, using the value of 0.5 for both γ and α is a reasonable choice. For details, see authors' homepages listed in Fig. 2.

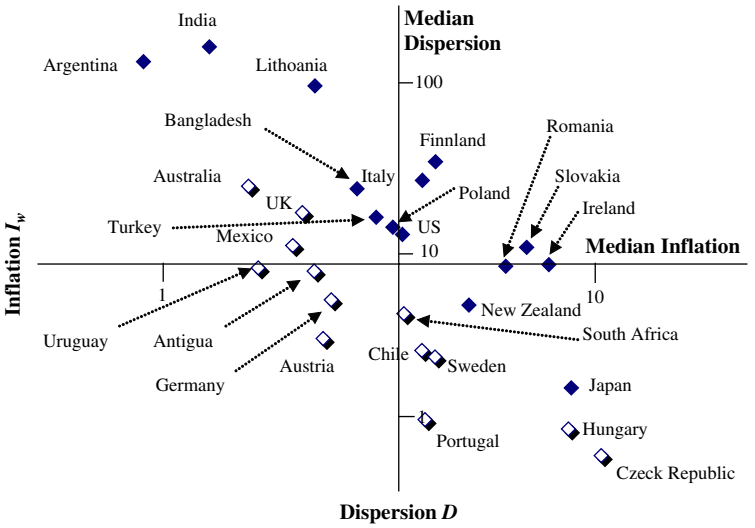

Fig. 2. Inflation and dispersion of party competition, 27 countries (ca. 1995, logarithmic scale). Source: compiled by authors. The data sources are available from authors' homepages: http://www.law.keio.ac.jp/~ykasuya/research/reserch_top.html and http://www.redlands.edu/Johannes_Moenius.xml.

since they exhibit both high inflation and high dispersion. But how should we classify the cases that are not so clear-cut? For example, Argentina and India are high inflation but low-dispersion cases (Type I), and Japan and New Zealand have low rates of inflation but high dispersion scores (Type IV). Fig. 1 provides only a crude classification. Our uniform measure of nationalization, N, as defined in Eq. (8), allows us to provide a more discriminative answer to this question. If a country lies below the median of N, its party system is regarded as highly nationalized, while if it is above the median, it is localized. This classification scheme is reflected in Fig. 2 in the following manner. Countries with nationalized party systems are represented with empty diamonds and those with localized party systems are shown with filled diamonds. The figure shows that all low inflation, low-dispersion cases are represented with empty diamonds while all high inflation, high dispersion cases are represented with filled diamonds.

Fig. 2 does *not* suggest that there is a co-linear relationship between degrees of inflation and dispersion, but rather that there is a trade-off. Countries with low inflation very often exhibit high dispersion or vice versa. These results confirm the relevance of our claim that not only inflation but also dispersion needs to be accounted for in order to have an accurate understanding of party system nationalization.

Our inflation and dispersion measures (I_w and D) can also be used to plot the historical development of party system nationalization in a single country. In Fig. 3, we

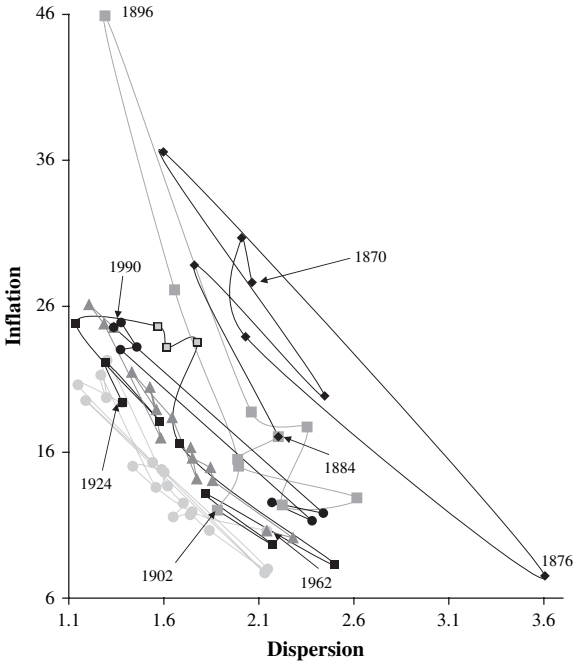

Fig. 3. Inflation and dispersion of inflation across districts, US House of Representatives, 1870–2002. Source: compiled by authors based on US House election results. The election data for the period between 1870 and 1988 are from the Inter-university Consortium for Political and Social Research (1995), and the data from 1990 to 2002 are from http://clerk.house.gov/members/election_information/ (accessed June 2003). The data source for the remaining figures and tables is the same.

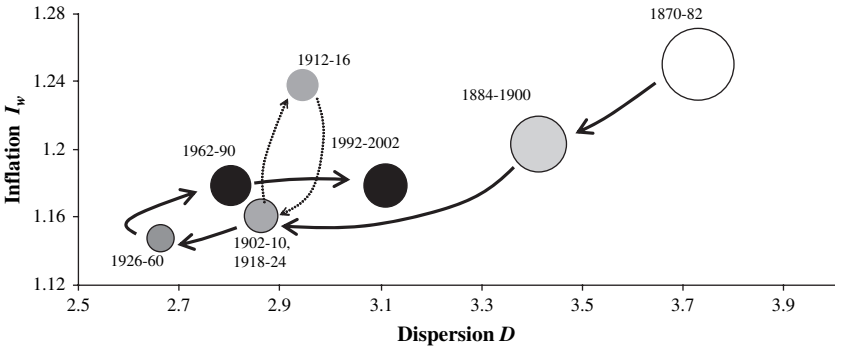

Fig. 4. Nationalization of the US party system (size of circle = importance of outliers).

document the evolution of American party system nationalization using House election results from 1870 to 2002 as our data set. Fig. 3 suggests that the inflation and dispersion combinations for each election during certain periods seem to cluster along separate trade-off curves. In other words, it appears that we can draw iso-nationalization curves (analogous to indifference curves) through these clusters of points. In order to highlight this insight, we differentiated the shape of dots in Fig. 3 depending on the periods that constitute the discernible trade-off curves.

While Fig. 3 clearly highlights our claim that inflation and dispersion jointly determine the level of nationalization, it is much harder to see what these levels of nationalizations are. In Fig. 4 we shed light on this issue by plotting average inflation and average dispersion for each of the periods that formed a single trade-off curve in Fig. 3. The size of the circle indicates the extent of the importance of outliers. Fig. 4 suggests that, broadly put, the American party system developed from a system of high inflation and high dispersion (a strongly localized or Type II system) towards a system of low inflation and low-dispersion (a nationalized or Type III system) over the past 130 years, but has drifted towards higher dispersion and even slightly higher inflation since 1960 (a weakly localized or Type IV system).[10] An exception is the period from 1912 to 1916, when an extreme flashback to a low level of nationalization can be seen. From the size of the circles, Fig. 4 also indicates that the importance of outliers decreased between 1926 and 1960, and then increased after 1960, regardless of the overall levels of inflation or dispersion.

Fig. 5 shows the nationalization measure N for the US, which is calculated from I_w and D. Again, the exponent values of $\alpha = 0.5$ and $\gamma = 0.5$ have been used. Lower values of N indicate higher degrees of party system nationalization. The plot of N in Fig. 5 basically conveys the same information as Fig. 3: the American party system started from localization, and then became highly nationalized during the period from the 1930s to the 1960s, while more recent decades have seen more localized inter-party competition. If the sources of nationalization (inflation and dispersion) are not of interest, one can just use N as a unified measure of party system nationalization.

Finally, we also compared our nationalization measure N and Jones and Mainwaring's PSNS (Jones and Mainwaring, 2003) as well as the weighted PSNS as weighted by the population size of the districts using the same US data.[11] All three measures roughly described the same pattern of evolution of the American party system: the correlation coefficient between PSNS and N is 0.30 and that between the weighted PSNS and N is 0.76.[12] The latter is higher because PSNS does not take variation in district sizes into consideration, while N and weighted PSNS do. Given that PSNS, weighted PSNS and N yield similar results, the question of which measure to use depends on the types of question addressed by researchers. For example, if the research question only addresses national-level issues and/or the issues to which the influence of each district (seat) is the same, PSNS or the unweighted equivalent of N should be used. If the research question

[10] This description is relative to the historical development of the US case only. In the cross-national analysis presented in Fig. 2, the mid-1990s US party system scores above the median on both the inflation and the dispersion axes, and therefore falls into the Type II category.

[11] While Jones and Mainwaring (2003: 161) advocate using the unweighted PSNS, we provide a weighted version here. As discussed in the text, we contend that whether the weighted PSNS is preferred over the unweighted one depends on the type of questions researchers address.

[12] The correlation coefficient between PSNS and the weighted PSNS is 0.62.

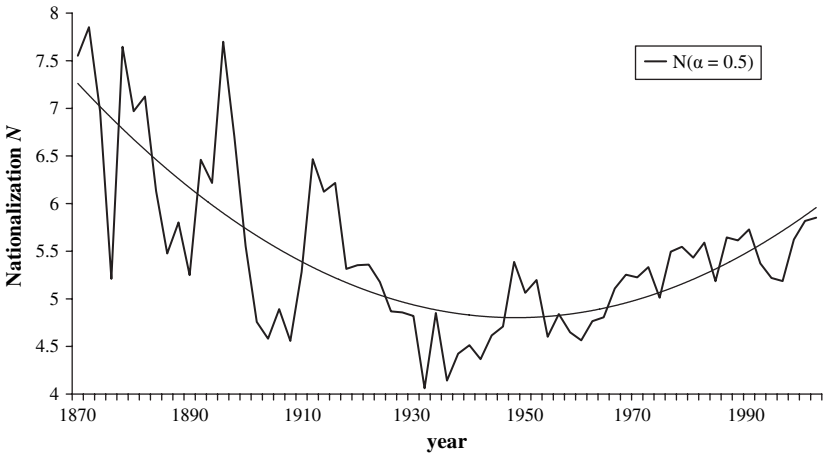

Fig. 5. Nationalization of the American party system, House of Representatives Elections, 1870–2002.

is concerned with variations in the size of districts (or any geographic boundary), such as when the influence of bigger districts is more reflected in the outcome of interest than that of smaller districts, then N or weighted PSNS should be used.

5. Conclusion

The issue of party system nationalization, or the extent to which inter-party competition is geographically homogenous, is an important but understudied issue in the party politics literature. This paper seeks to make two contributions to this topic. First, we have suggested a new way of conceptualizing party system nationalization, by employing the dimensions of inflation and dispersion. Party system inflation refers to the extent to which the national-level party system size is 'inflated' in comparison to the average size of the district-level party system. Dispersion refers to the extent to which the district-level party system size varies across districts. While previous studies only considered inflation, this paper has demonstrated that heterogeneity across districts needs to be addressed in order to have an accurate understanding of party system nationalization.

Second, we have provided alternative measures of party system nationalization. In addition to the inflation indices discussed in Moenius and Kasuya (2004), we have suggested the dispersion and nationalization indices, where the latter is the combination of inflation and dispersion. Our measures allow for a more precise assessment of the degree of party system nationalization, and enable us to compare party systems across countries and over time. Our measures are particularly relevant when one is interested in analyzing how each district (or any geographic unit) contributes to the overall degree of nationalization. These measures should be useful for scholars studying various political phenomena related to party system nationalization, including the development of regional parties, party system realignment, and policy-making processes.

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