

with level of PT is the average gap between the first and second most popular parties. Regardless of electoral system, which has little association with it, this is the party system variable that is most closely linked with level of PT. It is this form of party system competitiveness that best fosters PT.

In terms of elite strategy, grand coalitions very obviously provide the most effective way to minimize disproportionality of government tenure, not a move towards FPP. Under an ideal model of FPP, two parties compete in relative equilibrium in government tenure and long-term voting support. But this ideal is achieved through contingency, and is not systemic. Under FPP proportional tenure of government through alternation in power between two parties may occur, but may not. Jamaica provides the best example in the data to hand. Where this does not apply, under FPP an obvious problem emerges. One party might be consistently dominant, and able to exclude all other parties from office, as in Botswana.

Bringing normative theory into play, in such a scenario it is not at all clear why a democratic elitist such as Pinto-Duschinsky would wish to apply proportional tenure as a yardstick of democratic judgement. If an opposition party never gains enough votes to form a government at a single election, why should a democratic elitist ever contend that it should gain office? By contrast, a moderate advocate of PR favouring responsible party government is in a far better position to make such an argument. A PR electoral system makes it possible to recirculate power away from a persistent plurality winner toward a majority coalition of singularly less but collectively more popular parties. Germany provides an example. Proportional tenure is a useful addition to the variables that may be used to evaluate democratic performance, but its limits must be appreciated. In particular, its implications for debates about electoral systems have been greatly over-stated.

Malapportionment and Income Inequality: A Cross-National Analysis

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Samuels and Snyder in their recent article in this *Journal* presented an index of malapportionment (i.e., the discrepancy between seat shares and population shares by electoral districts) in national legislatures for seventy-eight countries.¹ This short Research Note merges their index with the Gini index, a commonly used measure of income inequality,² and explores cross-nationally the relationship between inequality in political representation and inequality in economic conditions.

This relationship is expected to be significant and positive. The logic is simple: if there is a considerable disparity in economic conditions within a country, people gradually move from lower-income to higher-income areas (i.e., from rural to urban areas) expecting to earn higher wages. As a result, rural electoral districts with lower average incomes tend to be over-represented in a national legislature, while urban districts tend to be under-represented. In other words, the degree of political representation tends to be biased in favour of less economically advantaged citizens. In theory, such malapportionment of seats can be alleviated by regular reapportionment. In reality,

* Department of Political Science, National University of Singapore. An earlier version of this Note was presented at the annual meeting of the American Political Science Association, San Francisco, 2001. I would like to thank Stephen Ansolabehere, Benjamin Earl Goldsmith, David Samuels, Jonathan Rodden and James M. Snyder Jr for their comments on earlier drafts.

¹ David Samuels and Richard Snyder, 'The Value of a Vote: Malapportionment in Comparative Perspective', *British Journal of Political Science*, 31 (2001), 651–71. For detailed explanations about their index and alternative measures of malapportionment, see their article.

² It measures 'the extent to which the distribution of income (or, in some cases, consumption expenditures) among individuals or households within an economy deviates from a perfectly equal distribution' (World Bank, *World Development Report 2000* (New York: Oxford University Press, 2000), p. 69).

however, reapportionment decisions in most democracies are often insufficient to allow all votes to count equally. For these reasons, the positive correlation between political and economic inequalities is expected to persist in most countries. In what follows, I present empirical results, which show that the level of income inequality has a significant and positive effect on the degree of malapportionment of seats. I then discuss some avenues for future research.

DATA ANALYSIS

The dependent variable that I employ is the natural log of Samuels and Snyder's malapportionment index for lower chambers of national legislatures.³ It should be noted that, unlike Samuels and Snyder's regression models, which used the raw values of the index, I used the logged values. Since the distribution of the malapportionment index is highly skewed to the right, it is methodologically more appropriate to transform the variable so that it fits the normality assumption better. The drawback of taking the natural log is to drop several perfectly-apportioned countries. I would argue, however, that dropping these cases is substantively not problematic, because they are special cases in that certain electoral rules (for example, a single, national at-large district in Israel) do not allow citizens' voting weights to vary at all. This means that for these five cases, the value of the dependent variable is *defined to be constant* regardless of the values of independent variables. Therefore, it is meaningless to include them in regression analyses.

The main independent variable is the natural log of the Gini index.⁴ The index has been calculated by many organizations and scholars for various countries for various years. Recently, the United Nations University, World Institute for Development Economics Research (UNU/WIDER) compiled all the existing data, evaluated their reliability, and publicized them on a website.⁵ I employed their database and selected data rated as 'reliable' and referring to the entire population (i.e., not the entire urban or rural populations) of the country. I also selected data based on net income or earnings (i.e., income or earnings before tax transfers), if available. This was because gross income or earnings may be partly influenced by the degree of malapportionment within a country. Namely, citizens in over-represented rural districts with higher political power in a legislative body may be taxed less than those in under-represented urban districts. If this were indeed the case, regression estimates using the Gini index based on after-tax income data would suffer from an endogenous bias problem.

To control for the effects of other variables and to examine a *ceteris paribus* effect of income inequality, I included the two independent variables that Samuels and Snyder showed had a significant effect on the degree of malapportionment. They are a dummy variable for a single-member district (SMD) system (= 1 if some or all representatives are elected from single-member districts, = 0 otherwise), and a dummy variable for Latin American countries (= 1 if a Latin American country, = 0 otherwise).⁶ The other variables that Samuels and Snyder included in their regression models but found had insignificant effects are dropped. They include the size of a country (in square kilometres), dummy variables for Asia and Africa, a dummy variable for federalism, the level of democracy (measured by Freedom House's democracy score) and a dummy variable for tiered electoral systems.

I also used a measure of population movements within a country: the *change* in urban population ratio between 1980 and 1998.⁷ This variable may serve as an intervening variable. (It may be influenced by income inequality within a country but it may also have an influence on the degree

³ Samuels and Snyder also presented the degree of malapportionment in upper chambers, but as the number of samples is relatively small, I only focus on malapportionment in lower chambers.

⁴ I use the logged Gini index, because it is also highly skewed. Since no country registers zero on the Gini index, no sample is dropped by this transformation.

⁵ United Nations University, World Institute for Development Economics Research (UNDP/WIDER), 'UNU/WIDER-UNDP World Income Inequality Database', <http://www.undp.org/poverty/initiatives/wider/wiid.htm>, Version 1.0, 12 September 2000.

⁶ The SMD dummy is from Samuels and Snyder, 'The Value of a Vote', Table 3. The Latin America dummy is based on the classification in World Bank, *World Development Report 2000*.

⁷ World Bank, *World Development Report 2000*.

TABLE 1 *Determinants of Malapportionment of Seats in National Legislatures*

Independent Variables	Model 1	Model 2	Model 3	Model 4
Gini index (in log)		1.396** (0.358)		1.124** (0.381)
Change in urban population ratio			0.041* (0.019)	0.033 (0.019)
SMD dummy	0.562** (0.207)	0.565** (0.204)	0.694** (0.209)	0.646** (0.199)
Latin America dummy	0.672** (0.191)	0.156 (0.218)	0.723** (0.203)	0.263 (0.202)
Constant	1.180** (0.144)	- 3.874** (1.316)	0.811** (0.180)	- 3.141* (1.364)
Number of samples	73	62	64	60
F-statistics	9.37	9.87	9.49	8.34
R ²	0.180	0.299	0.316	0.372
Square root of MSE	0.837	0.762	0.760	0.737

Note: The dependent variable is Samuels and Snyder's malapportionment index for lower chambers (in log). Robust standard errors are in parentheses.

**Significant at 1 per cent level (two-sided). *Significant at 5 per cent level (two-sided).

of malapportionment. As I explained earlier, people may move from rural-poor to urban-rich areas, which may result in the malapportionment of seats.) If income inequality has only an *indirect* effect through population movements and has no *direct* effect on malapportionment, then the effect of the Gini index should disappear by adding this variable.

The regression estimates are presented in Table 1. Model 1 is a simplified version of Samuels and Snyder's model. As expected, the two independent variables significantly affect the degree of malapportionment. Countries using a single-member district system and/or Latin American countries tend to have a higher degree of malapportionment, as compared to others. Model 2 adds the Gini index to Samuels and Snyder's model, and Model 3 adds the change in urban population ratio. The regression estimates in Models 2 and 3 suggest that income inequality and population movements have significant effects on malapportionment.

It is worth noting that when the Gini index is included, the positive effect of the Latin American dummy becomes statistically insignificant. This is because Latin American countries, compared to other countries, tend to have more unequal income distribution. Thus, they have a high degree of malapportionment because of these income inequalities, not because of some other unobservable factors common to Latin American countries. This result suggests that Samuels and Snyder's model, which excludes the Gini index and shows the significant effect of the Latin American dummy, suffers from omitted variable bias.

Model 4, the full model, includes both the Gini index and the change in urban population ratio. It shows that the Gini index still has a highly significant and large effect on the malapportionment index, even after controlling for the effect of population movements and other factors. The estimated coefficient suggests that a 1 per cent change in the Gini index yields a 1.124 per cent increase in the malapportionment index; that is, when the degree of income inequality doubles, the degree of inequality in representation more than doubles. This quite 'elastic' effect is statistically very significant at the 1 per cent level.

There are two possible interpretations of this finding in Model 4. First, the change in urban population ratio may not be a good indicator of population movements within a country (more specifically, between electoral districts). Other than rural-to-urban migration, there are other patterns of migrations, including rural-to-rural migration, urban-to-urban migration, urban-to-rural

migration, and country-to-country migration. If these other patterns of migration are substantively important and have significant implications for malapportionment, the change in urban population ratio suffers from systematic measurement error, which produces biased estimates of all effect parameters.

The second interpretation is that income disparities do indeed have direct effects on the degree of malapportionment. Population movements may still be the main cause of the *change* in malapportionment, but once the malapportionment is institutionalized, citizens in rural and over-represented areas may justify the current *level* of malapportionment based on some economic rationale. For example, politicians from economically less privileged but politically over-represented districts may claim that poor, depopulated, and rural areas deserve to have more political weight. Under this scenario, the effect of the Gini index should be significant, even after controlling for the effect of population movements.

The results reported here show that the overall degree of income inequality, measured by the Gini index, has a significantly positive effect on the overall degree of malapportionment of seats in national legislatures, measured by Samuels and Snyder's recently presented index. This suggests that we need to add further items to the list of topics for future research on malapportionment that Samuels and Snyder presented. First, to examine in detail how income inequalities and population movements affect the level and change of malapportionment, we need longitudinal data. Without longitudinal data, we cannot fully assess the validity of the two possible interpretations of the findings that were presented above. Secondly, we should perhaps pay more attention to the constitutional requirements for reapportionment in the countries included in the analysis and to the length of time since the last reapportionment in their countries. Thirdly, more use needs to be made of disaggregated data. The highly aggregated cross-national data showed correlation between the overall levels of political and economic inequalities across countries, but they do not, by themselves, indicate whether economically less-advantaged areas are over-represented or under-represented in a national legislature. To answer this question, we must compare the level of income per capita and the number of seats per capita across certain subdivisions of a country – ideally, across electoral districts.⁸

Finally, we should investigate the causal mechanisms that link income inequality and malapportionment. In this Note, I have argued that countries with wide income disparities are more likely to have malapportioned legislatures because of population movements from rural-poor areas to urban-rich areas, and because of the residual political power of rural electorates. Yet, as I briefly discussed, the degree of malapportionment may conversely affect the level of income inequality. Citizens in over-represented, poor and rural districts may use their political clout to secure policy interventions that improve their economic welfare. In such cases, malapportionment may contribute to *reduce* income inequality over time. In the analysis here, I used the before-tax Gini index, if available, to control for this potentially important endogenous effect of malapportionment on income inequality. However, this may not remove the simultaneity bias completely, because there are public policies other than tax policy that can improve the economic conditions of over-represented rural districts, such as constructing public infrastructures and providing various types of subsidies to stimulate the economy.

With cross-national cross-sectional data, an alternative method by which to control for possible simultaneity bias is to find an appropriate set of instrumental variables and to use a statistical technique, such as a two-stage least square regression. The problem with this approach is that it is difficult to find valid instruments that *only* affect either the level of income inequality or the degree of malapportionment. Probably, a better way to investigate reciprocal causality between malapportionment and income inequality thoroughly is to focus on some selected democracies and

⁸ The problem with examining these variables across electoral districts is that the geographical units for elections and for censuses (or other household surveys) are usually different. At the time of writing, I could obtain data showing the average income of citizens in each district for only three countries: the United States, Canada and Japan. Readers may request data and data sources from the author.

to examine carefully both (a) how malapportionment affects economic conditions across geographical units over time, and (b) how economic conditions affect population movements and malapportionment over time. Cross-national data of the sort used in Samuels and Snyder's article and in this Note are useful as a first-cut analysis. However, these are not sufficient to explore fully the causes and consequences of the malapportionment of seats in legislatures.

Analyzing Bureau-Shaping Models: Comments on Marsh, Smith and Richards

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In a recent article in this *Journal* Marsh, Smith and Richards (MSR) note the massive recent changes in the organization of British government and the attention the bureau-shaping model has received both at a theoretical level and as an explanation of changes.¹ They suggest that the model has breathed new life into debates about the behaviour of officials and is important in the context of the 'Next Steps' agency reform. They state two aims of their article: 'First, it is a critical contribution to the literature on the bureau-shaping model', and secondly it examines 'the model's utility as an explanation of the changes that have occurred in British central government in the past decade'.² They also use their arguments as part of an assault upon rational choice and empirical political science more generally in favour of interpretative sociology. However, in this Note, we respond to their work on the bureau-shaping model and rational choice.

First, we specify the bureau-shaping model a little more clearly than do MSR. From Dunleavy's original version a number of important variants have been developed.³ To the detriment of their 'test', MSR do not distinguish between the original and the later models. Indeed, most of their evidence is actually directed at the James variant.⁴ Few of their criticisms are original and the later bureau-shaping models have taken many of the points on board. Secondly, we examine MSR's critique of the bureau-shaping model as an explanation of the Next Steps reform process. We point out that whilst they provide some interesting interview evidence their findings are more ambiguous than they suggest. Thirdly, we examine the methods underlying their test that rely exclusively on elite interviews and statements by those involved in the reform. We suggest that an examination of the bureau-shaping model requires a broader set of evidence. Finally, we suggest that whilst the bureau-shaping model does not provide the final word on the Next Steps changes in Britain, it does provide some valuable insights that, in lieu of any other theorized rival, should not be dismissed lightly.

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¹ David Marsh, M. J. Smith and D. Richards, 'Bureaucrats, Politicians and Reform in Whitehall: Analysing the Bureau-Shaping Model', *British Journal of Political Science*, 30 (2000), 461–82 (hereafter MSR).

² MSR, pp. 461–2.

³ The original model appears in Patrick Dunleavy, 'Bureaucrats, Budgets and the Growth of the State: Reconstructing an Instrumental Model', *British Journal of Political Science*, 15 (1985), 299–328; 'Explaining the Privatization Boom: Public Choice Versus Radical Approaches', *Public Administration*, 64 (1986), 13–34; 'The Architecture of the British State, Part One: Framework For Analysis', *Public Administration*, 67 (1989), 249–75; 'The Architecture of the British State, Part Two: Empirical Findings', *Public Administration*, 68 (1989), 3–28; *Bureaucracy, Democracy and Public Choice* (Hemel Hempstead, Herts.: Harvester Wheatsheaf, 1991). The variant forming the main basis for this article is Oliver James, 'Explaining the Next Steps in the Department of Social Security: The Bureau-shaping Model of Central State Organization', *Political Studies*, 43 (1995), 614–29, and Oliver James, *The Executive Agency Revolution in Whitehall: Public Interest versus Bureau-shaping Interpretations* (Basingstoke, Hants.: Palgrave/Macmillan, 2003). Another variant is Stephanie Hoopes, *Oil Privatization, Public Choice and International Forces* (London: Macmillan, 1997).

⁴ James, 'Explaining Next Steps'.