# Redistricting in Japan: Lessons for the United States

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### Abstract

Japan is regularly criticized for the malapportionment of its election districts. In contrast, the United States has problems with gerrymandered election districts, even though district boundaries are crafted with meticulous attention paid to population equality among its districts. Japanese redistricting practices prevent gerrymandering of district boundaries, but at a cost of tolerating higher levels of malapportionment than would be allowed in the United States. I analyze the effects of Japan's redistricting rules and find that they have effectively prevented any malapportionment or gerrymandering that benefits a specific political party. I also show that in terms of actual votes cast, the Japanese system produces greater equality between districts than the results obtained in the United States, suggesting that US redistricting practices could be improved by modeling them after the Japanese example.

### Introduction

The drawing of election district boundaries is a partisan and seemingly corrupt process in Japan and most of the states of the United States. Despite highly developed democratic procedures in both countries, partisanship and self interest seem to drive the redistricting process, overwhelming traditional districting principles such as population equality, compactness or contiguity of districts, respect for the boundaries of local governments, and respect for historical links, transportation, and interest ties of communities.

The source of this partisan stench differs in each country. In Japan, the universal complaint is that the districts are grossly malapportioned. Prior to the 1994 reforms, it was common for some fast-growing urban districts to have three, four, or even five times the number of voters as depopulated rural districts. The problem in the United States is gerrymandering. Congressional districts may have exactly equal populations, but the political party in power strategically draws district boundaries to win more seats than its share of the vote. A famous North Carolina district was only as wide as the highway that connected the African-American neighborhoods of several scattered

cities. Such gerrymandered districts allowed California's Democrats in 2002 to win 62.3% of California's 53 congressional seats with only 53.6% of the two party vote, while Republicans took 60% of Michigan's 15 seats with only 49.5% of the vote. One reviewer of this paper described these practices as 'In America, voters do not choose their representatives, politicians choose their voters.'

In both countries the favored solution to this partisan wrangling is to appoint a non-partisan body to make redistricting decisions and give that body strict enough guidelines so as to reduce opportunities for partisanship. Though this solution has worked in past decades to reform equally corrupt redistricting practices in the United Kingdom, Canada, or Australia, such reforms have not taken root in the United States or Japan (Butler and Cain, 1992: 118–128; Courtney, 2001: 35–73; McLean and Butler, 1996).

In 1994, however, reformers in Japan made modest first steps towards creating a less partisan redistricting process. These limited reforms are significant because they have produced a redistricting process that (1) is acceptable to partisan actors, and (2) makes gerrymandering nearly impossible, using guidelines that produce only moderate levels of malapportionment. Despite criticisms of these reforms, Japan's efforts are notable because they accomplish nearly everything that reformists typically argue for, and they have the added advantage of taking care of the concerns of politicians sufficiently that the politicians were willing to enact the reforms.

In a perfect world, both Japan and the United States would have model redistricting commissions that are impeccably impartial. They would strike a balance among traditional redistricting criteria used elsewhere: population equality, respect of local government boundaries, contiguous and relatively compact districts that respect the factors that link communities (Thompson, 2002: 59, 60, 89, and 102). In practice, both countries have had an imperfect, politicized process. The new Japanese procedures, however, are superior to US redistricting practices because Japan's procedures limit the impact of political factors, while allowing some political concessions. These concessions made it politically possible to pass the reforms that improved Japan's redistricting process. In contrast, the US has relied on a more rigid, legalistic solution that has reified population equality as the most important criteria of redistricting. The US Supreme Court interventions in this process have allowed gerrymandering to flourish in the US, creating a problem that is arguably worse than the initial malapportionment problem the Court sought to address.

The advantages and disadvantages of the Japanese system stem from a link that typically exists between malapportionment and gerrymandering. If districts are drawn with an absolute and rigid requirement of population equality, then other redistricting criteria must be ignored and opportunities to gerrymander district boundaries increase. Chief Justice Warren recognized this link in one of the early malapportionment cases that came before the United States Supreme Court. He warned, 'indiscriminate districting, without any regard for political subdivision or natural or historical boundary lines, may be little more than an open invitation to partisan gerrymandering'

(*Reynolds* v. *Sims* 377 US 533, 578–79). Despite Justice Warren's warning, redistricting practices in the United States seem to have gone down this road, subordinating all traditional districting principles to population equality, and therefore opening the door to rampant gerrymandering of district boundaries.

In contrast, if local boundaries are respected, levels of malapportionment increase, while gerrymandering becomes more difficult to accomplish. Reformers in Japan (politicians rather than judges) have taken this second road, tolerating higher levels of malapportionment, while making gerrymandering difficult. Even these higher levels of malapportionment, however, do not seriously affect the relative weight of actual votes cast, suggesting that the Japanese districting criteria successfully balance tolerating some malapportionment in the implementation of criteria that make gerrymandering impossible. In contrast, US practice ostensibly tolerates no inequality at the very high cost of putting no restraints on the gerrymandering impulses of politicians.

Despite these advantages of Japanese redistricting practices, these practices will not be easily imitated in the United States. First, the United States Supreme Court has permanently altered the discussion of redistricting in the United States by elevating a strict population equality standard above all other possible criteria. Though the decision was laudable in the short term, it has had the negative long-term consequence of making impossible the serious consideration of other criteria for redistricting. I argue that the Supreme Court should show greater respect for other criteria, especially when the priority mandated by the Supreme Court produces such questionable results, i.e. the relative weight of actual votes cast in US congressional elections are no more equal than the results obtained by alternatives, such as the Japanese system.

Second, negotiations in Japan benefited from a strong and unified national bureaucracy that favored certain redistricting criteria, such as respecting local government boundaries. These bureaucrats found allies in politicians who also wanted to protect their electoral bases, producing a strong support base for the reform package.

Third, change is further hampered in the United States by minority legislators who rely on gerrymandered boundaries to enhance the numbers of minority representatives serving in the US Congress. Even if non-gerrymandered boundaries were shown to be superior, it would be a bitter pill for these groups to swallow and for their representatives to accept a change that would, at least in the short term, reduce the representation of these groups.

## Incentives to redistrict in a partisan manner

Redistricting is a necessary process in any country that uses single member election districts.[1] Partisan incentives exist to intervene in the redistricting process to draw

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[1]   Redistricting is less of an issue in countries that use multi-member districts, as shifts in population can be compensated for by changing the number of representatives elected from the district rather than changing the district boundaries.

boundaries in the most advantageous fashion. Districts can be malapportioned-made unequal in size to benefit a party. In addition, even if districts are equal in size, they can be gerrymandered to benefit a particular party or candidate. For example, party leaders can gerrymander their opponents by 'packing' them into a few districts, leaving their own supporters with comfortable majorities in most of the other districts. If a party is strong enough, it can spread its opponents equally among all districts ('cracking'), creating a majority for the dominant party in every district. In countries with a strong personal vote, individual politicians also have incentives to gerrymander, keeping their areas of strength within the district and avoiding additions to their district that would be a support base for their opponents.

In contrast to the incentives for partisan intervention in redistricting, there are traditional districting standards, including such factors as population equality, contiguity, local government boundaries, communities of interest, compactness, historical ties, transportation links, and continuity of election districts, among others. These standards can be analyzed for their partisan impact and selectively applied to maximize partisan advantage, but, in contrast to blatant malapportionment or gerrymandering, these factors are not inherently partisan. Thus, the traditional standards are more likely to produce only unintentional partisan effects, rather than an intended partisan outcome.

The water is further muddied by the fact that the various principles of redistricting often contradict each other (Butler and Cain, 1992: 65–90). Respecting local administrative boundaries necessarily increases levels of malapportionment. Protecting communities of interest may create districts that are not compact or even contiguous. Preserving historical ties or transportation links may require the creation of districts of unequal population or even the splitting of local government units.

An additional concern is the finding that gerrymandered plans are often not as effective as they were designed to be. Public backlash, shifting voter sentiments, and changing demographics of districts combine to negate the effect of some gerrymanders soon after their creation (Rush, 1993; Butler and Cain, 1992: 9–10).

Debates about these issues are long and complex and go well beyond the intent of this analysis of Japanese redistricting practices. Much of the debate described above and other redistricting debates can be set aside for my limited analytical comparison. I intend only to analyze the standards used in Japan for redistricting and their effects. I do not argue that the standards given priority in Japan are superior to the standards used in other countries (with the possible exception of the United States). In fact, the Japanese standards used are quite tainted by partisan motivations, but this tainting is part of their appeal. Japanese politicians felt comfortable adopting reforms that balanced several traditional redistricting criteria, because this particular array of criteria also served well the interests of individual politicians. Thus, the Japanese solution to the problem of partisan redistricting is appealing because it combines both partisanship and apolitical redistricting objectives, making it possible to improve the political system and actually pass the reform proposal. In contrast, proposals to improve the redistricting process

in most US states are never seriously considered by the politicians that would have to enact such reform proposals.

### Redistricting in Japan

For most of its electoral history Japan has used multi-member districts that typically ranged from three to five seats. This system was used for the House of Representatives from 1925 to 1945 and after a one election hiatus was reinstituted in 1947. When the system was reinstituted in 1947, districts were not intentionally malapportioned, though a moderately high level of population variation was tolerated. Over the next 45 years, however, population shifts made the population differentials between districts increase dramatically, increasing the levels of malapportionment. At four separate intervals the Diet intervened and partially redressed this imbalance. At first the Diet simply added seats to the most overpopulated districts resulting in the need to split some of the districts. In the last two reapportionments, seats were shifted from underpopulated to overpopulated districts, but, even though some districts dropped to only two seats, the Diet refused to consolidate those districts into neighboring districts. Thus, all four reapportionments were minimal in two aspects: they only reduced disparities to just under the bare maximum that the Japanese Supreme Court said was constitutional, and they preferred to adjust the number of seats elected from each district rather than actually altering the boundaries of the election districts.

The Japanese Supreme Court's intervention in these issues is also interesting. The Court is routinely criticized for tolerating high levels of malapportionment (allowing up to a 1 to 3 ratio of disparity as constitutional). Ramseyer and Rasmusen (2001) even cite the malapportionment decisions as evidence that the ruling Liberal Democratic Party (LDP) controls the Court. However, LDP-sponsored reapportionments only followed on the heels of Court rulings that were adverse to LDP interests.[2] Though it is true that the Court might have been able to force lower levels of malapportionment with more activist decisions, what little reform that occurred in the system seemed to stem from Court action.

For a variety of reasons largely unrelated to the malapportionment problem, Japanese leaders discussed and passed radical electoral reform legislation in 1994. The most significant change was replacing the multi-member election districts with 300 single member election districts and 200 (later adjusted to 180) proportional representation seats. In order to draw the boundaries of these new 300 districts, subsequent legislation was passed, creating a procedure and guidelines not only for the drawing of the initial boundaries but also for the periodic redrawing of boundaries after each national census.

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[2]  Ramseyer and Rasmusen argue that LDP interests had changed to favor a redistricting of seats from rural areas to urban areas when these reapportionment rulings were handed down, but, if this was so, why did the party only do the bare minimum of what it was required to do by the Supreme Court? If the party was now in support of redistricting, why did the party only do the bare minimum of required reapportionments and then only after being forced to do so by the Supreme Court?

These redistricting guidelines and procedures represented a compromise, but yet a compromise that transformed the Japanese redistricting process from a partisan and largely ineffective procedure to one that shows strong independence from the political process. Many elements of the compromise support apolitical redistricting objectives; others allow partisanship. The major elements of the procedures and guidelines are given below, separated into categories. The innovations that supported apolitical redistricting objectives included:

1. The appointment of a redistricting commission that is required by law to submit a redistricting proposal every five years
2. The maximum disparity in district population that is allowed is 1:2 (In practice no district can be more than 4/3 or less than 2/3 of the average district)
3. Districts should be contiguous
4. Boundaries should not divide local government units
5. Communities of interest should be respected. (The committee later decided that the former election district boundaries as well as the boundaries of administrative regions would serve as surrogates for communities of interest.)

Partisan elements of the procedures and guidelines included:

1. Requiring that each of Japan's 47 prefectures receive one seat before the remaining 253 seats were divided according to population
2. Any redistricting plan must be approved by the Diet, and the Diet has no obligation to enact redistricting plans sent to it by the redistricting commission.
3. The appointment of members to the redistricting commission is by the Prime Minister with the approval of the Diet.
4. Disparities of district populations as great as 2 to 1 would be allowed.

Thus, in true compromise fashion, the procedures reduced the legal maximum of malapportionment, while simultaneously building malapportionment into the redistricting process. Similarly, the reform required a redistricting proposal be crafted every five years, but did not require that any action be taken on such proposals.

### Tests of partisan influence – malapportionment

Thus, these guidelines build malapportionment into the system by two methods: (1) one seat was given to each prefecture before apportioning the remaining seats to the prefectures by population, and (2) when local boundaries are respected, malapportionment naturally increases. I have argued that these guidelines also made it difficult to gerrymander district boundaries. These several claims need proof, especially in light of alternative hypotheses: (1) the commission may also have malapportioned the seats that they drew within prefectures for the benefit of a particular political party, (2) they may have gerrymandered boundaries for the benefit of a political party, or (3) they may have gerrymandered for the benefit of specific politicians or groups of politicians.

I begin testing for partisan bias in the redistricting by analyzing malapportionment levels in a series of regressions. My results show that though the initial apportionment of seats to the prefectures had a definite partisan impact, subsequent drawings of

boundaries within prefectures had no partisan impact. The dependent variable for these regressions is the level of malapportionment in each of the 300 new districts (TOTAL MALAPPORTIONMENT). This level is calculated simply by the ratio that a district's population (registered voters) deviates from the national average.[3] A value of 1 indicates a district that has the same population as the national average. Values greater than 1 show districts with more people than the average, hence are underrepresented; values less than one are districts which are overrepresented.

For the independent variables, I first chose PREFECTURAL MALAPPORTION-MENT. This variable is calculated similar to the dependent variable, but it shows the malapportionment at the prefectural level in the initial allocation of seats to prefectures, a process that we know was malapportioned in favor of smaller prefectures by the initial granting of one seat to every prefecture. I include this variable to help control for and separate out the effects of the malapportionment introduced at the two stages of the redistricting process. I expect this variable to be statistically significant and positive.

Another set of independent variables is the partisan coloration of each of the new districts. I calculate this using several versions of the conservative vote in the districts. The first is labeled LDP 1992, and it refers to the LDP percentage of the vote won in the proportional representation race of the 1992 House of Councilors election. I also use this vote to calculate party strength for each of the major opposition parties. In addition, I calculate the LDP share of the vote, summing votes for all LDP candidates in the 1993 House of Representatives election (LDP 1993), and I calculate a conservative camp vote in that same election (CONSERVATIVE 1993) by adding the votes cast for LDP candidates and for those belonging to the two conservative parties that split off from the LDP immediately prior to the election, the Japan Renewal Party and the New Party Harbinger (Sakigake).[4] I also add a measure of the LDP proportional representation vote in the 1996 House of Representatives race (LDP 1996).

Some may wonder why I focus on the LDP when the actual reforms were enacted under a non-LDP coalition government and the new district lines were passed under an LDP–Socialist–New Party Harbinger coalition government. The draft proposal, however, for new district lines was drawn up in 1991 by a commission operating during a period of LDP rule. The new district lines were accepted with only minor modifications by the subsequent Boundary Demarcation Commission and the Diet. Thus, even though I also test for a Socialist party bias and find none, there is no reason to expect such a bias unless the 1991 commission somehow anticipated that in 1994 a Socialist prime minister would oversee the passage of the new boundaries.

I add two final variables in addition to these partisan variables. One calculates the URBAN nature of the new district, a percentage of the population of the new district

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[3]  I used the numbers of registered voters at the time of the 1993 elections. I also did the calculations with total population rather than registered voters and obtained similar results.

[4]  LDP 1993 includes conservative independents affiliated with the LDP. For each of these vote shares I use municipality level data and aggregate it in the new election districts, prorating results between two districts for the small number of cities split between districts.

**Table 1.** *Explaining malapportionment of election district boundaries*

| Independent variables | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|---|
| Constant | .217* | .228* | .176 | .108 | .005 | .169 |
| | (.105) | (.108) | (.092) | (.069) | (.080) | (.086) |
| PREFECTURE MALAPP. | .779** | .857** | .813** | .837** | .863** | .822** |
| | (.071) | (.070) | (.069) | (.065) | (.066) | (.068) |
| URBAN | .195** | – | .097** | .111** | .147** | .095** |
| | (.048) | | (.033) | (.032) | (.034) | (.034) |
| NUMBER OF CITIES | .010* | .0001 | – | – | – | – |
| | (.004) | (.003) | | | | |
| LDP 1992 | –.305 | –.394* | –.175 | – | – | – |
| | (.171) | (.174) | (.155) | | | |
| LDP 1993 | – | – | – | .019 | – | – |
| | | | | (.051) | | |
| CONS. 1993 | – | – | – | – | .091 | – |
| | | | | | (.058) | |
| LDP 1996 | – | – | – | – | – | –.136 |
| | | | | | | (.116) |
| SOCIALIST 1992 | –.103 | –.072 | – | – | – | – |
| | (.179) | (.183) | | | | |
| CLEAN GOV'T 1992 | –.259 | .088 | – | – | – | – |
| | (.327) | (.324) | | | | |
| COMMUNIST 1992 | .478 | .141 | – | – | – | – |
| | (.330) | (.300) | | | | |
| DEM. SOC. 1992 | –.308 | –.018 | – | – | – | – |
| | (.404) | (.408) | | | | |
| Adj. R Square | .571 | .549 | .571 | .565 | .568 | .567 |
| F Test | 51** | 53** | 131** | 130** | 132** | 131** |

*Notes*: Dependent variable: TOTAL MALAPPORTIONMENT.
Number of observations: 300.
**indicates statistical significance at the 0.01 level, *indicates at the 0.05 level.
Standard errors are in parentheses.

classified as urban.[5] NUMBER OF CITIES calculates the number of municipalities included in the new district. Both variables reflect aspects of the relative difficulty of crafting districts of equivalent size. Districts with few municipalities or districts that are heavily urban are more likely to be dominated by one or two large cities. I expect these districts will tend to be underrepresented.[6]

Tables 1 and 2 present the results of my analysis of the partisan coloration of redistricting in Japan. The first shows the strong correlation between the initial

[5] Densely inhabited districts, according to the classifications used in the Japanese census.
[6] I expect underrepresentation to occur in districts with fewer units, because, as districts are created, cities with smaller populations that are below the target average can still have smaller units added to them to bring them closer to the target, but cities with large populations that are above the target average cannot be decreased by taking away part of the city.

**Table 2.** *Explaining malapportionment, an alternative calculation*

| Independent variables | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|---|
| Constant | .979** | .966** | .107** | .955** | .871** | .983** |
| | (.072) | (.050) | (.026) | (.033) | (.045) | (.052) |
| URBAN | .153** | .073* | – | .078** | .122** | .065* |
| | (.047) | (.031) | | (.029) | (.032) | (.031) |
| NUMBER OF CITIES | .007 | – | – | – | – | – |
| | (.004) | | | | | |
| LDP 1992 | –.104 | –.029 | –.264* | – | – | – |
| | (.159) | (.144) | (.103) | | | |
| LDP 1993 | – | – | – | .001 | – | – |
| | | | | (.050) | | |
| CONS. 1993 | – | – | – | – | .112* | – |
| | | | | | (.056) | |
| LDP 1996 | – | – | – | – | – | –.061 |
| | | | | | | (.112) |
| SOCIALIST 1992 | –.073 | – | – | – | – | – |
| | (.178) | | | | | |
| CLEAN GOV'T 1992 | –.204 | – | – | – | – | – |
| | (.326) | | | | | |
| COMMUNIST 1992 | –.549 | – | – | – | – | – |
| | (.329) | | | | | |
| DEM. SOC. 1992 | –.302 | – | – | – | – | – |
| | (.403) | | | | | |
| Adj. R Square | .035 | .033 | .018 | .032 | .045 | .033 |
| F Test | 2.5* | 6** | 7* | 6* | 8* | 6* |

*Notes*: Dependent variable: MALAPPORTIONMENT WITHIN PREFECTURES.
Number of observations: 300.
**indicates statistical significance at the .01 level, *indicates at the .05 level.
Standard errors are in parentheses.

prefectural assignment of seats and the ultimate malapportionment of the districts. The non-partisan variable NUMBER OF CITIES was statistically insignificant, so I dropped it from most of the regressions. The urban nature of a district, however, was always statistically and substantively significant and of the correct sign. In contrast, the partisan variables were all statistically insignificant.[7] When the variable URBAN is excluded, the LDP variables often become statistically significant (as shown in Model 2 of Table 1), but this statistical significance consistently disappears when the URBAN variable is included.

Table 2 is a related test of the same variables in Table 1. In Table 2, I scale the dependent variable to represent only the malapportionment created by drawing

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[7]  The five partisan variables do not create a multicollinearity problem. Regressing four of them on LDP 1993 or LDP 1992 yields R square values of 0.441 and 0.438 respectively. In addition, when the five 1992 variables are summed, their value ranges from 0.41 to 0.80 with a mean value of 0.58. The excluded category of votes is at least 20% of the vote in every district and averages 42% of the vote.

district boundaries within prefectures. I accomplish this by calculating the dependent variable MALAPPORTIONMENT WITHIN PREFECTURES as the percentage deviation in population from the average district in each prefecture. PREFECTURE MALAPPORTIONMENT is therefore excluded from the regression as an independent variable because the dependent variable excludes its effects. The results show again that almost none of the partisan variables is statistically significant.[8] They also explain very little of the variation in malapportionment within the prefectures. The adjusted R square values of the regressions are only 0.03 and 0.04.[9]

In both Tables 1 and 2, LDP values often become statistically significant when the variable URBAN is excluded. Regressing URBAN on LDP 1992 yields an R square value of 0.496. These variables are related, and there does appear to be a malapportionment bias against URBAN areas that works to the benefit of the LDP. But, in every model, the bias is better described as a bias against urban areas than a bias in favor of LDP strongholds. Theoretically, there is a reason to expect greater underrepresentation in urban areas, because they will tend to be larger population units that are harder to break up into multiple districts. The bias, therefore, most likely reflects the respecting of local unit boundaries more than a bias in favor of the LDP. In addition, the explanatory power of URBAN or any of the LDP variables is very small. More than 95% of the variation in malapportionment caused at the boundary drawing stage is left unexplained.

A final test of the partisan impact on district boundaries is presented in Figures 1–3. These figures show the actual seats/votes relationships for the major political parties in each of the three elections occurring under the new district system (1996, 2000, and 2003). In addition to these actual seats/votes relationship calculated for each party (shown by a boxed x in the figures), other points for each party in each election have been calculated, extrapolating out from the actual election results to hypothetical results, using a method of increasing one party's share of the vote by a specific percentage in each election district that it contested and reducing the other parties' shares of votes by the same percentage. This crude extrapolation method allows a prediction of how many seats different parties would have won with similar percentages of the vote won.

These figures show very little discernible partisan bias. The breakeven point (where a party begins winning as many or more seats than its percentage of the vote) for the Democrats in 1996 was at 28%, a much more favorable breakeven point than the 34 and 35% scored by the New Frontier Party and LDP respectively. In 2000, the LDP and the Democrats had similar breakeven points at 35%. In 2003, the Democrats once again

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[8]  The one exception is model 5 in which CONS. 93 is statistically significant but with the wrong sign. Greater conservative strength is correlated in this regression with greater underrepresentation.

[9]  There is no endogeneity problem in using LDP support levels as an independent variable in a regression in which the dependent variable is malapportionment of municipalities. It is quite possible that reapportionment decisions could easily be affected by the partisan coloration of a particular municipality. The reverse causal linkage, however, is implausible. Would the percentage of partisan supporters in a specific city actually be altered by whether or not the city was overrepresented or underrepresented?
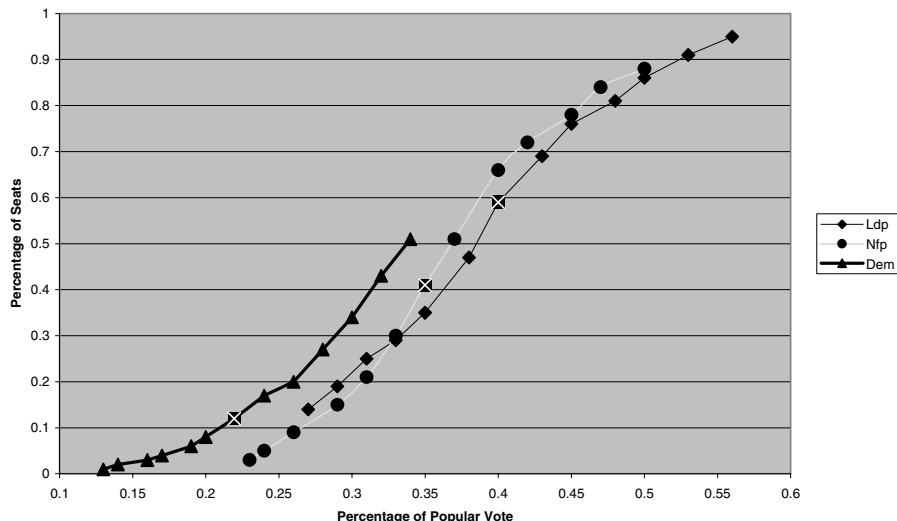
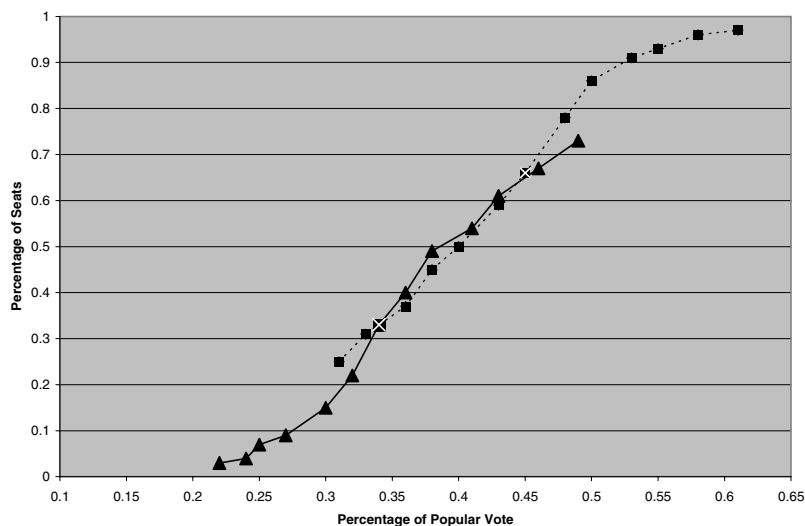**Figure 1** Extrapolation of BreakEven Point (1996 Election)



**Figure 2** Extrapolation of BreakEven Point (2000 Election)

had a more favorable breakeven point at 41% compared to the LDP's breakeven point at 44%. In addition to the breakeven points, the lines created for each party show that the LDP has no built in advantage over its main competitors in translating seats into votes. In many instances the Democrats actually would win more seats than the LDP at
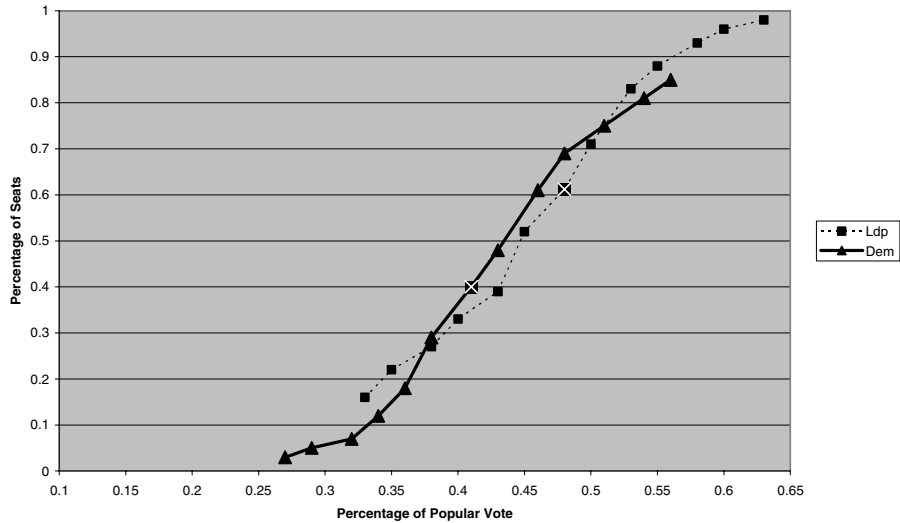
**Figure 3** Extrapolation of BreakEven Point (2003 Election)

identical vote share levels. These results do not support the conclusion that the drawing of district boundaries in Japan produced a partisan bias in favor of the LDP.[10]

These several tests of the partisan nature of malapportionment show that the only manifestation of partisan bias occurred when the seats were assigned to the prefectures. This bias was an advantage to the LDP, but it came at a cost of LDP acceptance of what appears to have been an impartial process of boundary drawing within individual prefectures. When the boundaries of the districts were actually drawn, there appears to have been no consistent, discernible bias towards any one party, and even the pro-LDP bias in apportioning seats to prefectures did not produce any discernible net effects in favor of the LDP.

### Tests of partisan influence – gerrymandering

Having rejected the explanation of intentional malapportioning when district boundaries were drawn within prefectures, I turn to the alternative explanations that these boundaries were gerrymandered to protect the interests of individual politicians. In contrast, the actual boundary drawing guidelines suggest that boundaries were

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[10] Partisan bias is shown by the difference between the lines drawn for each political party. The further a line is to the left, the greater the partisan advantage or bias for that particular party. The lines shown in Figures 1–3 are nearly identical, and the slight differences that do occur often reflect a partisan bias against the LDP. In contrast, the responsiveness of the electoral system is shown by the deviation of the lines from a straight line linking identical vote percentages with seat total percentages. The curve of all of the party lines shows that the Japanese electoral system hurts all small parties and advantages all large parties, indicating the responsiveness or lack or responsiveness of the Japanese electoral system. In calculating these numbers, I only considered districts in which the party ran a candidate in calculating the total percentage of votes won and total percentage of seats that could have been won.

drawn according to relatively neutral criteria that may have produced random benefits or hardships for certain individual politicians, but no pattern of advantage for groups of incumbents. I test for both possible explanations in another series of regressions.

The dependent variable of the regressions is what Cranor, Crawley, and Sheele (1989) call a 'carry-over ratio'.[11] It is the percentage of a candidate's vote won in the 1993 election that was carried over into the new district that was the candidate's best new district (PERCENT OF THE VOTE CARRIED OVER).[12] The independent variables can be divided into two sets, one set indicates the dominance of apolitical redistricting objectives which, in the Japanese context, operate as cartel-like rules to protect the support bases of all incumbents. The first variable suggesting the dominance of impartial criteria is the total vote of a candidate (TOTAL VOTE). Typically candidates with more votes would be less likely to carry over a larger percentage of those votes into a new district, because candidates with the most votes tend to have widespread support throughout a district. Similarly, a measure of the unevenness of the distribution of a candidate's support across the municipalities of a district (CITY–STANDARD DEVIATION) would also correlate with the vote percentage carried over.[13] A candidate with 90% of her vote concentrated in the southern third of a district is more likely to carry that vote over intact into a new district than a candidate with the same number of votes, but with supporters spread out evenly throughout the entire district. Another non-gerrymandering variable is CITY–SIZE, which is the average population of cities in the old district. A larger average population indicates fewer building blocks with which to create new districts, severely restricting the ability of boundary drawers to fine tune a gerrymander. Finally, candidates who came from larger districts (MAGNITUDE) or from districts that were underrepresented (MALAPPORTIONMENT) should retain fewer of their supporters together into a new district, because their districts will tend to be divided among a greater number of new districts than those old districts that were smaller or overrepresented.

A second set of variables tests the hypothesis that boundaries were gerrymandered in favor of certain incumbents. These variables are classifications of incumbents by the partisan and factional affiliations. Did the incumbents of particular parties or factions systematically benefit from gerrymandering in their favor?[14] I have also included the variable TERMS, meaning the number of terms a politician has served in the Diet. Perhaps incumbents with longer service were able to influence the boundary drawing process in their favor.

[11]  Cox and Katz (2002) creates a similar measurement.
[12]  The best new district is the new district in which an incumbent's percentage of the vote in that district would be the greatest, using results from the most recent election (1993) to make these calculations.
[13]  Another measure of vote concentration or vote dispersion is Mizusaki's RS factor. In practice, however, Mizusaki's RS factor differs little from a simple standard deviation calculation. It is the average deviation of a candidate's vote in a specific city from that candidate's vote across the entire election district, weighted by the size of the city.
[14]  The listing of party memberships in Model 1 of Table 6 does not create a problem of multicollinearity. All five parties account for 70% of the 918 candidates, leaving 30% of the candidates not included in one of the five party variables.

The results of the regressions are presented in Table 3, and they suggest that there was no systematic effort to benefit certain groups of incumbents in the drawing of district boundaries. Each of the non-gerrymandering variables is of the expected sign. Greater variation in the spatial dispersal of a candidate's vote, as shown by a higher value of CITY–STANDARD DEVIATION, corresponds with a greater percentage of the vote carried over into one new district. Districts that were more underrepresented (a higher value of MALAPPORTIONMENT) tend to have candidates who carried over a smaller percentage of their vote. Similarly, candidates from larger districts (higher values of MAGNITUDE) carried over less of their vote. Districts with fewer municipalities per person (higher value of CITY–SIZE) tended to have candidates who carried over more of their vote intact.[15] The consistent statistical and substantive significance of the variables representing objective boundary drawing procedures suggests that the guidelines were followed and that they alone explain variations in the degree to which support bases of politicians were preserved in the process. This conclusion is buttressed by the fact that there appears to be no discernible pattern of gerrymandering that benefited any identifiable group of politicians, either identified by party affiliation, factional affiliation, or time in office.

The conclusion that the boundaries were not gerrymandered is also supported by an analysis of how the guidelines worked in actual practice. The priority given to local boundaries, coupled with the fact that Japanese municipalities and counties are relatively large units (36% of the new districts were composed of only three municipalities or fewer), meant that districting outcomes were largely dictated for many of the new districts.[16]

Figure 4 gives the example of Kumamoto prefecture to illustrate how these guidelines operated in many prefectures to dictate the outcome. Kumamoto prefecture previously had two multi-seat districts. It was slated to be divided into five single seat districts. There are 95 municipalities in the prefecture (shi, cho, son), but, when villages

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[15] I also obtained similar results running regressions for a subset of the data of only victors and those candidates that were first place losers (to distinguish between serious candidates and non-serious candidates). I also calculated a variant of the dependent variable that was the percentage of the vote carried over intact into one new district from only the municipalities in which the candidate came in first. The regressions with this dependent variable were similar except the adjusted R square dropped to 0.46, the independent variable TOTAL VOTE won (now calculated for only the first place cities) became statistically significant, and the variable for the Democratic Socialist Party became statistically significant. These findings also held for a subset of this data of only those candidates in the middle range where variation in the percentage carried over occurs. I have no explanation for the statistical and substantive significance of the Democratic Socialist Party in this variation of my tests. However, there is no theoretical reason to expect Democratic Socialist skewing of the process in their favor and the number of their candidates in this data set is extremely small. This party fielded only 28 of the 441 candidates, and its candidates won only 25 of the approximately 1,500 total municipalities in the data set.

[16] There are slightly fewer than 1,500 municipal units when towns and villages are aggregated as counties. The average number of such units in a district was 5.03 with a minimum of 1 and a maximum of 15. The standard deviation was 2.9.

**Table 3.**

| Independent Variables | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| Constant | −.002** (.020) | 1.22** (.018) | 1.22** (.018) | 1.22** (.019) |
| TOTAL VOTE | .00000015 (.000) | .00000015 (.000) | − | .00000015 (.000) |
| CITY–STAND. DEVIATION | .199** (.013) | .200** (.013) | .200** (.013) | .202** (.013) |
| CITY–SIZE | .00000091** (.000) | .00000090** (.000) | .00000088** (.000) | .00000089** (.000) |
| MAGNITUDE | −.117** (.004) | −.117** (.004) | −.116** (.004) | −.117** (.004) |
| MALAPPORTION–MENT | −.0000017** (.000) | .0000015** (.000) | −.0000017** (.000) | −.0000017** (.000) |
| LDP MEMBER | .013 (.010) | .008 (.008) | − | − |
| CONSERVATIVE MEMBER | − | − | .005 (.007) | − |
| SOCIALIST MEMBER | −.002 (.011) | − | − | − |
| CLEAN GOV'T PARTY | −.005 (.016) | − | − | − |
| COMMUNIST PARTY | .014 (.011) | − | − | − |
| DEM. SOCIALIST PARTY | .015 (.020) | − | − | − |
| TERMS | −.002 (.001) | −.002 (.001) | − | − |
| OBUCHI FACTION MEMBER | − | − | − | .0002 (.018) |
| MITSUZUKA FACTION | − | − | − | .018 (.013) |
| MIYAZAWA FACTION | − | − | − | −.002 (.013) |
| WATANABE FACTION | − | − | − | .010 (.014) |
| KOMOTO FACTION | − | − | − | −.019 (.020) |
| KATO GROUP MEMBER | − | − | − | −.009 (.044) |
| Adjusted R Square | .738 | .739 | .738 | .74 |
| F Test | 236** | 371** | 518** | 216** |

*Notes*: Dependent Variable: PERCENT OF VOTE CARRIED OVER.
Number of Observations: 918
**indicates statistical significance at the .01 level, *indicates at the .05 level
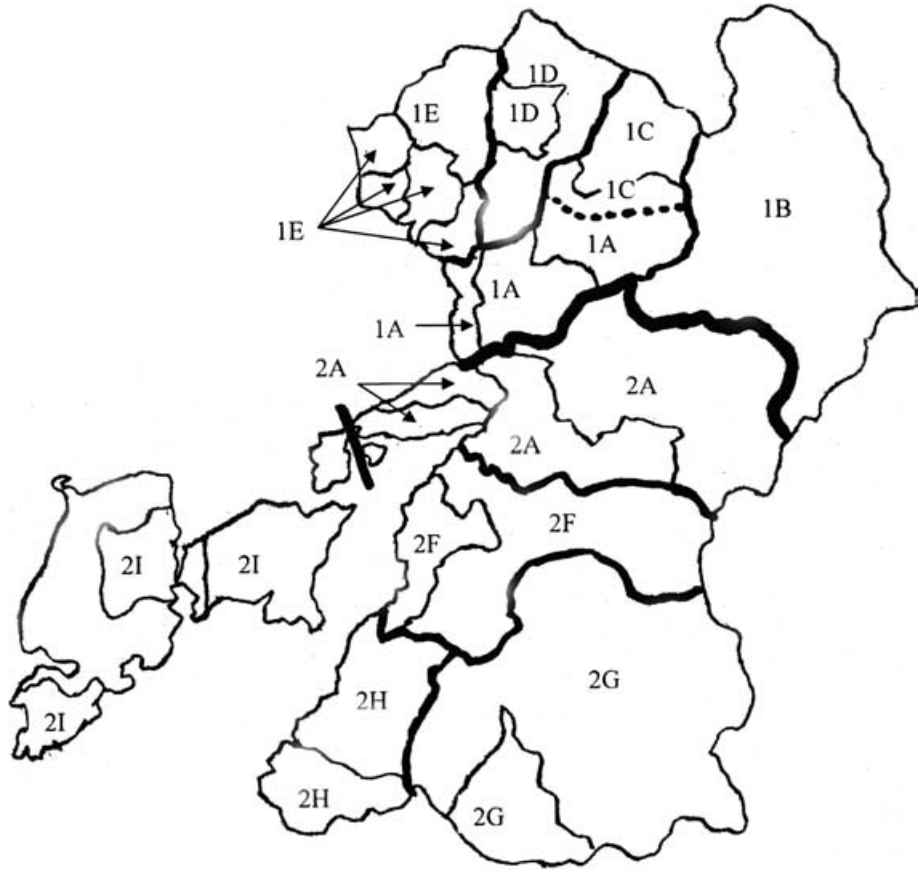Standard errors are in parentheses.

**Figure 4**

and towns are grouped into their respective counties, the number of relevant local units (shi and gun) drops to 24 units. These municipalities are also aggregated into eight administrative regions (kōikigyōseiken designated with alphabet letters in Figure 4).

In drawing the boundaries for five single seat districts, the first question to be asked is whether the five districts can be contained within the old boundaries of the former multi-seat election districts (designated with a 1 or 2 in Figure 2). The old first district with a population of 1,122,602 could easily receive three seats (average population of 374,000) and the old second district with its 717,724 people could receive two seats (average population of 359,000). These averages are below the national average of 412,000 reflecting the fact that Kumamoto was slightly advantaged in the apportionment of seats to prefectures.

In using the boundaries of administrative regions in drawing the actual district boundaries, two problems arise. First, the administrative regions do not exactly coincide

with county boundaries. Two administrative regions split one county (shown on Figure 2 as a dashed line). The boundary-drawing rules specify that county boundaries have preference, so the boundary of that particular administrative region would have to be ignored. A second problem is that Kumamoto city and its surrounding administrative region (designated 1A) are both too large to be contained in one election district. The city has 626,727 people, which is well over the maximum 4/3 of the average district specified in the rules. The city's administrative region has an even larger population. Thus, Kumamoto city must be divided between two districts, and, in order to minimize the number of districts that straddle local government boundaries, one district must be located entirely within the city limits. The second district must then combine what is left of the city with some of the adjoining cities or counties. Thus, in the old first district, one new district is contained within Kumamoto city, one district combines part of Kumamoto city with a contiguous administrative region, and the third district will be the remaining three regions.

Which region is combined with part of the city is dictated by the geographical arrangement of the regions. Kumamoto city must be combined with region 1E because any other combination would create a non-contiguous district.[17] This division divided the old first district into three new districts that have populations of 429,887, 379,045, and 313,670.[18]

The boundaries for the two new districts to be created out of the old second district are also dictated by county and administrative regions. Region 2I is only contiguous with region 2A, and if regions 2G and 2H are not large enough to constitute a district, they must be joined with region 2F. Thus, the new districts combine regions 2I and 2A into a district with 380,491 people, and regions 2F, 2G, and 2H are combined to form a district of 337,233 people. If region 2F were put in the other district, the populations of the two districts would change to 541,000 and 176,000, well beyond the range tolerated by law.

Kumamoto is not representative of every prefecture, but many prefectures were similar to Kumamoto in that the rules for drawing boundaries effectively dictated the outcome. Other than adjusting the boundary of the division of Kumamoto City, no other outcome can be reached that does not violate guidelines for drawing the boundaries.

A final gerrymandering question can be asked about individual rather than systematic gerrymandering. Were only a few districts gerrymandered for specific incumbents, a gerrymandering that would not show up in a statistical analysis of all of the districts? Such an analysis can be done by analyzing deviations from the boundary-drawing rules specified for the drawing of boundaries.

[17]   Because one county is split by two regions and because county boundaries are given priority, region 1C and the part of region 1A directly south of it have to be treated as one unit.

[18]   The population disparity between two of these districts could have been made more equal by adjusting the division of Kumamoto city between those two districts, but the smallest district cannot be made larger without violating guidelines for regional or county boundaries.

In order to answer these questions I have analyzed the number of times the commission violated its own rules and (1) crossed county boundaries, (2) crossed the boundaries of the former election districts, or (3) crossed the boundaries of administrative regions. The results are surprising only in how closely the commission followed its own guidelines.

For example, there were only 20 instances of splitting any municipality or county, and 16 of them are explained as cities that were too large to be contained in just one election district, or cities and counties that if they were not split would have created an adjoining district that was too small in population.[19] Only four counties in Gunma, Tokushima, Kochi, and Okinawa were split when they didn't have to be. Though gerrymandering impulses might have been behind these four exceptions, in at least Okinawa and Kochi the exception created a more equal division of population among those prefectures' districts.

In considering the former election district boundaries, in 23 prefectures the former boundaries were respected. In 13 prefectures the boundaries were crossed only because it was impossible to draw the new district boundaries entirely within the former boundaries. In six prefectures, crossing the former boundaries was not required, but the deviations done produced more equal divisions of population between districts. Finally, in five prefectures, deviations from the former boundaries produced districts that were typically equivalent to districts that could have been drawn if the former boundaries had been respected. These five prefectures (Ibaragi, Niigata, Aichi, Mie, and Okayama) suggest locations where gerrymandering might have occurred.

Supporting these conclusions is an analysis of the crossing of the boundaries of administrative regions. Crossing these boundaries was quite common, as many of the administrative regions were too large to be entirely contained within one election district. In addition, administrative regions often split counties and former election districts with the municipalities of one county or former election district being included in two separate administrative regions. Nevertheless, in 40 prefectures administrative boundaries were followed whenever it was possible to do so. In two prefectures, the crossing of the boundaries of administrative regions was not required, but deviating from them produced election districts of more equitable size. In five prefectures there was no strong, apparent justification for not respecting the boundaries of administrative regions. These five prefectures were Nara, Shiga, Tokushima, Ibaragi, and Niigata.

These results strongly support the claim that gerrymandering, if it occurred, was an isolated rather than widespread phenomenon. Two prefectures stand out in this analysis, Niigata and Ibaragi, and there are political reasons to also suspect gerrymandering in these areas.[20] Yet, even an analysis of the deviations in these prefectures shows, at

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[19] The guidelines allowed counties to be split if they were already non-contiguous counties. Non-contiguous counties that were split between districts were not counted.

[20] Niigata is the home of the Tanaka dynasty, and Ibaragi was the home of the Secretary General of the LDP at the time that the election reform bill was killed in 1993.

best, a most minimal form of gerrymandering. For example, in Niigata prefecture, the boundaries of the six new election districts could have been drawn to minimize crossing the boundaries of the former election districts and the administrative regions. However, this alternative plan would have increased the population disparity among Niigata districts, by making the smallest district have 310,000 people rather than the 361,000 in the smallest district of the adopted plan. In addition, this alternative plan would not have significantly affected the partisan makeup of districts. The opposition stronghold of Niigata City (where the LDP only won 16.7% of the PR vote in 1996) and the LDP stronghold of District 6 (LDP vote of 33.5% – the other four districts in the prefecture ranged from 24 to 27%) both remain unchanged under either plan.

It is plausible that Niigata's boundaries were drawn to benefit certain candidates. The results of the first election, however, suggest that these gerrymandering efforts were of little consequence. The only significant difference between the boundaries as enacted and alternative boundary schemes is the location and number of the new elections districts that would straddle the boundaries of the former election districts. The actual plan created two straddling districts, when only one needed to be created. If only one was created, it would have most likely pitted two LDP incumbents, Kondo and Kurihara against each other. Instead each incumbent's base was paired with an area of an adjoining district that was not the base of a strong incumbent. Though Kurihara went on to win his new district in the 1996 election, Kondo died in office before that election. His district was won by a candidate whose base lay in another part of the prefecture, but that candidate's base was paired with another strong incumbent from the same area, so the first candidate switched and ran in Kondo's relatively open district. Perhaps the logic behind Niigata's deviation from the guidelines was to avoid forcing two LDP incumbents to face each other, but the gerrymander was of short-lived effect, with the death in office of one of the supposed beneficiaries.

Ibaragi prefecture tells a similar story. District lines could have been drawn to create three new districts out of the old first district and two new districts out of the old third district. Instead, two districts were created within both of the old districts and a fifth district was created that combined the prefectural capital from the old first district (an area that is weak for the LDP) with the rural base of an LDP incumbent in the old third district. It would appear, then, that this new straddling district was drawn to help the LDP incumbent Akagi, by giving him a district to run in. Akagi, however, opposed this redistricting plan, in part because he was being forced to run in a new district with two major disadvantages: the majority of voters did not know him, and the LDP was weak. Perhaps the boundaries were drawn to facilitate the campaigns of the two LDP incumbents who remained in the two districts drawn out of the old third district. By putting Akagi's base in another district they were spared having to run against Akagi. One of these incumbents did favor the districting plan, but the other left the LDP, running in the next election as an independent. In addition, the three incumbents in the old first district were forced to share just two districts, causing two of the incumbents to opt for a sharing arrangement in one of the districts. Under the

alternative districting plan each of them could have had their own district, but perhaps this option was undesirable to them, because none of them wanted to take a district that was centered on the prefectural capital where none of them had a strong base. Ibaragi's districts might have been gerrymandered as some commentary suggests (Takabatake, 1991; Asahi Shimbun, 4 June 1994: 7), but no clear beneficiary of this gerrymandering has been identified. The LDP would have swept all of Ibaragi's districts under either plan, and some of the incumbents who supposedly benefited from the plan opposed the plan or left the party before the next election.

Other researchers have found evidence of malapportionment in the manner in which specific boundaries were drawn. For example, Sakaguchi and Wada claim that the last minute shift of a rural part of Hokkaido to the new eighth district was a possible gerrymander (Sakaguchi and Wada, 2001). However, the facts show otherwise. The LDP candidate beat his opponent by less than 500 votes in this area, suggesting that this area was not a stronghold for that candidate. In addition, the race in the eighth district was not close. This largely rural area would have been a much greater advantage to the LDP candidate in the fourth district who had a much closer race, and the voters would have been more likely to support the generic LDP candidate in a new district than support the opposition candidate in the eighth district that they knew well from past elections.

Similarly, a commentator on a draft of this paper pointed to the division of Chiba city among three districts when it could have been fit into two districts as a gerrymander that favored the three LDP incumbents who all had been elected with votes from Chiba city. However, there was no advantage to these incumbents to each have part of the city in their election district. The urban areas that were also part of the districts that lay outside of Chiba city were just as supportive, if not more supportive of their candidacies. In addition, the areas outside of the city were not contiguous and so the city had to be split three ways to make it possible to respect the boundaries of the former election district in drawing the new district boundaries. It did help the incumbents that they tried to draw the new district boundaries within the boundaries of the old electoral districts, but that was a formal criteria of the redistricting process and not a tool of an *ad hoc* gerrymander.

### Effective malapportionment and absolute malapportionment

A remaining deficiency of the Japanese redistricting is the fact that, even if the malapportionment did not clearly benefit the LDP, Japan still has higher levels of malapportionment than comparable democracies.[21] In contrast, I claim that Japan's

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[21]  Samuels and Snyder (2001) produce different results, showing levels of Japanese malapportionment comparable to Canadian, British, or French levels. Their calculations produce different results because they add proportional representation seats to district totals when they calculate malapportionment. The fairly apportioned PR seats in Japan ameliorate the relatively high levels of malapportionment (for comparable West European or American democracies) that exist when only Japan's district seats are examined.
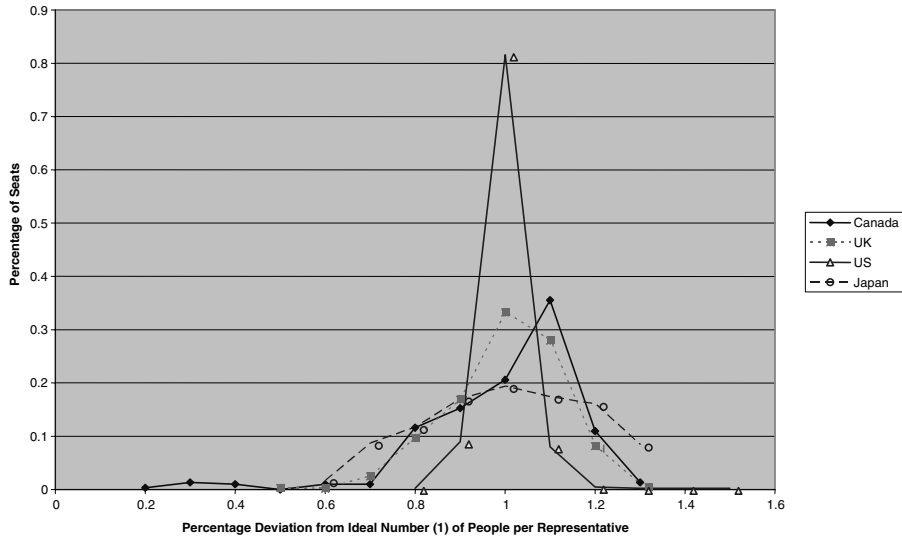
**Figure 5** Malapportionment of electoral district populations

*effective* level of malapportionment is no greater than in comparable countries. Thus, I distinguish between absolute levels of malapportionment and effective levels of malapportionment. The absolute level of malapportionment is the equality of districts, calculated using the population of the districts or registered voters. Figure 5 shows that Japan fares poorly in this comparison in contrast to apportionments in the United Kingdom, Canada, and the United States. Japan is the most malapportioned of the four countries, and the United States is the least.[22]

However, even these moderate differences disappear when the actual number of votes cast (effective malapportionment) rather than population or registered votes is used to compare districts (Figure 6). To further illustrate, in the 2000 elections, only 71,571 voters cast ballots in the thirty-third district in California in contrast to the 410,521 votes cast in Montana's at large district. This nearly 6 to 1 ratio is greater than the maximum disparity of less than 3 to 1 recorded in Japan's 2000 elections. There 295,411 votes were cast in the Fukushima third district in contrast to the 125,138 votes cast in the Kochi third district. It is interesting that, in terms of votes cast, the United States has disparity levels twice as high as Japan, even though Japan has the reputation for malapportioned districts! Campbell (1996) explains the factors that contribute to the high disparity that occurs in the United States. First, a high level of disparity is assured because of differences between state populations. Even if districts within states were absolutely equal in number, there would still be a disparity of 1 to 1.83 in the United States, because districts cannot straddle state boundaries. For a similar reason, the range

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[22]   The data for Figure 3 comes from Alder, 2002; Elections Canada, n.d.; and Harvard University, n.d.
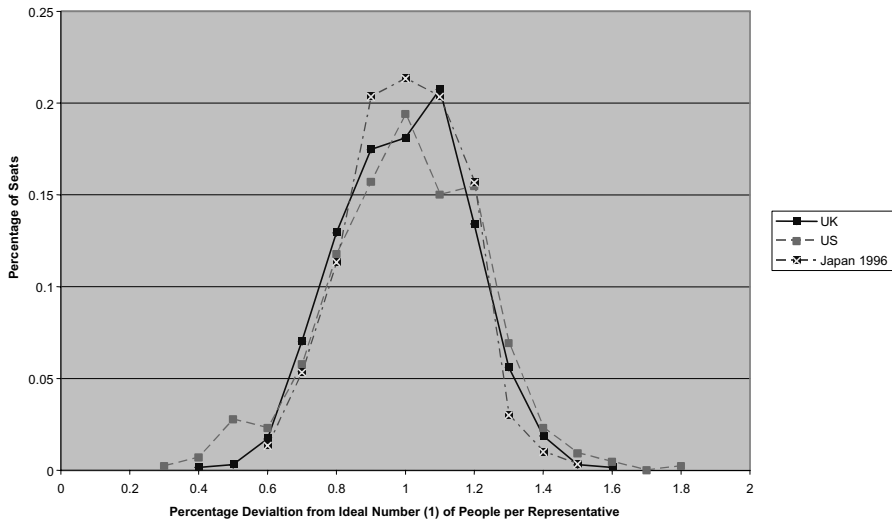
**Figure 6** Disparity of actual votes cast in Districts

of district sizes in Japan could have been no less than 1 to 1.66 even without giving a 'free' seat to each prefecture before dividing the remainder of seats by population. (This granting of a free initial seat raised the minimum disparity to a 1 to 1.82 level) (Tanaka, 1991).

Second, the United States uses census population for redistricting, and this measure includes many people who are ineligible to vote because of citizenship status, age, or criminal records. In addition, census results are only accurate to a certain degree. Thus, some congressional districts have large numbers of youth or non-citizens, increasing the disparity in the numbers of actual voters between districts.

Third, voting disparities occur because of differences in voter registration rates and in turnout for elections. Campbell claims that gerrymandering does not exacerbate these tendencies, but a plausible case can be made that packing similar voters into a minority of districts makes elections in those districts a foregone conclusion, perhaps depressing interest in the race and hence registration and turnout levels.

These results do show that, despite its rigid standards of population equality, the United States gains little in the equality of the impact of actual votes. This inconsequential gain also comes at a high price: tolerating high levels of gerrymandering. Thus, the absolute equality enforced by the Supreme Court is not absolute; this equality is overwhelmed by factors such as state boundaries, non-citizens, and turnout differentials. In contrast, the Japanese system tolerates more initial malapportionment, but produces results that are equivalent to the results in the United States, without the burden of gerrymandered boundaries.

I do not argue that apportionments should be based on actual votes cast rather than population. There is no logical basis for using such an unorthodox standard. However,

for purposes of comparison, it is fascinating to note that despite its court-induced adherence to ridiculously rigid norms of population equality (a 2002 a Pennsylvania state court struck down a redistricting plan in which the maximum disparity in district sizes was seven people), US districts regularly allow a vote cast in the thirty-third congressional district of California to have six times the weight of the supposedly equal vote cast in Montana's at large district. Courts and redistricting guidelines cannot and should not try to compensate for differences in turnout, population demographics, and ineligible voters that exist across districts. But recognizing their inevitable impact might prod US courts to relax their unrelenting population equality standard in order to allow other valid redistricting principles to have an impact without being trumped by an unrealistic population equality standard that is constantly corrupted by these other factors that lie beyond the line boundary drawers control. The actions of the US Supreme Court seem to fit the biblical injunction against 'straining at a gnat but swallowing a camel'.

### Is the Japanese redistricting solution a viable option for the United States?

Standards similar to those used in Japan could be easily implemented in the United States and produce outcomes similar to Japan. For example, Utah was the scene of a bitter partisan gerrymander in 2000 in which the Republican controlled legislature split up the Democratic leaning sections of Salt Lake County into three separate congressional districts in order to avoid creating one district that was winnable by a Democratic candidate. However, if county and city boundaries had been respected and local administrative boundaries had been used as surrogate measures for communities of interest, only one possible way of dividing Utah into three congressional districts emerges. Similar to Kumamoto prefecture in Japan, Utah has one district that must lie entirely within Salt Lake County. A second district must then take in the remainder of the county and be joined with neighboring counties. I used state judicial districts as a surrogate measure of communities of interest. Because Salt Lake's judicial district traverses the state, the two judicial districts north of Salt Lake must be included with the Salt Lake region or else they would create a non-contiguous district. This leaves all of the regions south of the Salt Lake region as the third electoral district. Thus, the only issue left to decide is what part of Salt Lake County will be its own electoral district and which part of Salt Lake County will be joined with the adjacent counties. Salt Lake County is a complex patchwork of municipalities and unincorporated areas. To aid the decision as to what are the communities of interest in this populous county, I used the surrogate measure of school districts. Salt Lake County has four school districts. The northernmost district, which is Salt Lake City proper, has the right population and location to be joined with the adjoining counties. Any of the other three districts would either create a non-contiguous election district or would create an election district that was too large. Thus, there is only one way divide Utah into three congressional districts, if the boundaries of counties, cities, judicial districts, and school districts are

to be respected. The population disparity of these three districts ranges from 685,558 to 830,967, a disparity range of 1 to 1.2.

I tried a similar procedure in Georgia where an egregious Democratic gerrymander in 2000 backfired on the Democratic Party. Georgia has a large number of counties and a large number of congressional districts making it unlikely that just one plan would be created. I again used judicial districts as a surrogate measure of communities of interest.[23] Though there are only a few possibilities for dividing Georgia into 13 congressional districts, while respecting boundaries of counties and judicial districts, the possible permutations of each option create a total of 104 possible ways to divide Georgia differently.[24] However, the variations between each of the 104 plans are minor. For example, all 104 plans create exactly two majority Democratic districts.[25] All of the plans create either three or four 'lean Republican' districts, and all of the plans also create seven or eight 'strong Republican' districts. Similarly, all 104 plans create a Black majority district that ranges from 51 to 54% black. All of the plans also create a second district that is 45% black. The population disparity between districts, created by the various plans, ranges from a minimum disparity of 1 to 1.85 (441,787 to 816,006) to a maximum disparity of 1 to 1.97 (441,787 to 872,822).

These procedures in Utah and Georgia obviously blunt the effect of gerrymanders. In Utah, the new boundaries create a much more democratic leaning district in Salt Lake City. The current gerrymander succeeds in dividing Democrats equally in all three

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23  I know little about the appropriateness of using Georgia's judicial districts as a surrogate measure of communities of interest. Perhaps these boundaries are themselves gerrymandered, or could be gerrymandered. Indeed, one circuit boundary joins two counties that are only contiguous at a point. This was not a problem in my simulation because that circuit was joined with neighboring circuits into one compact and contiguous district. I do not argue that judicial districts should always be used. These boundaries can also be manipulated. I suggest using administrative boundaries that are not likely to have been manipulated, and Georgia's judicial district boundaries seem appropriate for this task.

24  Eight of Georgia's ten judicial districts are the appropriate size to be an electoral district. Two must be divided. One of these two can be divided two possible ways, and the other can be divided four possible ways. In dividing judicial districts I followed the circuit subdivisions of the judicial districts. A thirteenth seat must be made by creating a congressional district that straddles two judicial districts. There are nine possible combinations of districts where a straddling district could be made based on the total populations of the two neighboring judicial districts. However, in four of these combinations, district lines actually cannot be drawn that create districts of the appropriate size, while respecting circuit boundaries, contiguity, and the requirement that only one election district be a straddling district. In three pairs, there was only one possible configuration of the straddling district. In another pair there were two possibilities, and in one pair there were ten possibilities. Some possibilities exclude other possibilities, but, when all of the possibilities are examined, there are a total of 104 ways that Georgia can be divided into 13 election districts. This is under rules that require district size be no more than 4/3 of the national average (862,602), and no less than 2/3 of the national average (431,301). These calculations are complicated by the fact that Montana already exceeds these limitations, with its single district having a population of 905,316. Thus I allow small deviations above the 4/3 maximum of 862,602, because that limit is already exceeded by an existing congressional district. County, judicial district, and judicial circuit boundaries are also to be respected. (Only one district straddles any of these boundaries because it is impossible to avoid that outcome.) Districts also must be contiguous.

25  I measured partisanship by calculating the Republican's share of the two party vote in the 2000 presidential election.

districts, creating a Republican advantage in all three districts. Exit polling data from the 2002 Congressional elections showed that all three districts had a narrow range of from 60.9 to 63.7% of the voters as self-identified Republicans. In contrast, the alternative plan creates districts in which the percentage voting Republican (using 2000 presidential election data) varies by 18% across districts (58.9% to 76.8%), creating a safe Republican district and two Republican leaning districts.[26] In Georgia, the current gerrymander creates four Democratic districts in contrast to the two that are created under any of the 104 possible redistricting plans. In addition, the current Georgia gerrymander creates two black majority districts and four additional districts with between 40 and 50% of the population black. The alternative plans create only two such districts, one in each category. They also create an additional four to seven districts that are between 30 and 40% black. The existing gerrymander created no districts in that range.

Using Japanese style redistricting guidelines creates absolute levels of malapportionment that the Supreme Court has not tolerated, but in comparison to effective levels of malapportionment that already exist, the malapportionment created by the alternative plans seem much more acceptable. In the 2002 congressional elections the 16 districts in Utah and Georgia as currently gerrymandered had a disparity in the number of votes cast as high as 1 to 1.91, if only contested races are considered, and if uncontested races are considered, the disparity ratio jumps to 1 to 2.18.[27]

Nevertheless, the path that I have outlined for Georgia and Utah is obviously a controversial path in the United States. First, the Supreme Court is unlikely to tolerate the levels of disparity necessary if local and administrative boundaries are to be respected. I argue that the effective levels of malapportionment will be no worse than the results obtained by slavish adherence to rigid standards of population equality, but this argument is unlikely to be heeded because of constitutionally mandated standards of population equality, coupled with the equal protection clause of the Constitution. Nevertheless I am not arguing that a 1 to 2 disparity should be tolerated for no particular reason. I simply argue that in an electoral system where disparity as great as 1 to 1.8 exists and must be tolerated because of state boundaries, why not tolerate similar disparities if they are created in an attempt to preserve local communities and prevent gerrymandering? The effective level of malapportionment will be similar to that which already exists under the current system, and the anti-gerrymandering benefits will be great.

In addition, there is some potential legal room for such a change. The Supreme Court once allowed Hawaii to use registered voter totals rather than population to

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[26] My plan is also not a Democratic gerrymander as the most Democratic leaning sections of Salt Lake County are still split between two districts and are combined with strongly Republican areas. In fact, the most Democratic district under my plan is not the district that contains heavily Democratic Salt Lake City. It is the remainder of the county which leans Republican but has the potential to be a competitive district.

[27] In the Utah second district there were 224,098 votes cast in contrast to the contested thirteenth Georgia district (117,416 votes cast) or the uncontested Georgia second district (102,925 votes cast).

apportion its districts (*Burns* v. *Richardson*, 384 US 73, 1966), and Australia has the tradition of apportioning seats between states by population but apportioning seats within states by numbers of registered voters. In considering the creation of minority districts it has been an accepted practice to consider not only whether blacks or Latinos make up a majority of the people in the district but also whether they would be likely to make up a majority of the actual voters in a district (Cain and Miller, 1998: 155–157).

A second problem is that this standard would reduce gains made by minorities in winning congressional seats. For example the Georgia 2000 redistricting created two seats with a majority African American population, but using alternative methods reduces the number of Black majority seats to one. Georgia currently has four representatives who are African American. This number could easily drop to two under a redistricting system that prevented racial gerrymandering. This is a harsh and perhaps unacceptable consequence of the standard that I advocate. On the other hand, an argument can be made that black minority districts are actually harmful in the long run to the interests of black representation (Lublin, 1997: 34–38, but see Canon, 1999).

Nevertheless, the fact remains that the disparity of the weights of votes cast in Japan is no worse than that of votes cast in the United States, and the United States achieves this result by tolerating embarrassing levels of gerrymandering. At least in Japan the malapportionment produces the beneficent result of making gerrymandering difficult. The Japanese system can and should be improved by eliminating the blatant provision that increases malapportionment needlessly, but the US system needs an even more radical overhaul to produce a system that cannot be manipulated in such a partisan manner. Though a few US states have taken such steps (e.g. Arizona and Iowa), the Japanese model has the potential to have a broader appeal because its protection of local and regional boundaries naturally coincides with the desire of incumbents to minimize disruptions to their support bases. It is regrettable that an unintended consequence of the strict intervention of the Supreme Court into redistricting matters made impossible the crafting of a political solution that would have appealed to politicians. In contrast, the Japanese Supreme Court's timidity has produced the unintended consequence of enhancing the possibility of a redistricting outcome based on apolitical, traditional redistricting principles.

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