Could Legislatures Be Structured to Make Pareto Optimal Policy Decisions?

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Ideological adversaries outside government have sometimes reached consensus on controversial issues — negotiating agreements that all parties have described as meeting their needs. These episodes suggest there may be ways to structure legislatures to reach equivalent results. For instance, under the Negotiated Rulemaking Acts of 1990 and 1996, most federal agencies, when grappling with a divisive issue, can invite all the interest groups involved to jointly write a regulation on that subject. The process begins with the relevant agency asking each interest group to appoint a spokesperson. The representatives then meet, with the understanding that if, over time, they can negotiate a regulation they all support, the agency will likely adopt it. By this process, opposing interest groups have agreed on regulations for issues such as nuclear waste disposal, student loans, food safety, public housing, and fuel economy standards for cars and trucks.[1]

Participants in negotiated rulemakings have consistently evaluated the outcomes as superior to standard procedures in terms of "economic efficiency" and "cost effectiveness" to the public, costs and benefits to their own interest groups, the "quality of the scientific analysis" and "incorporation of appropriate technology."[2] The scholars who gathered this data also concluded:

> In the absence of *outside* assessments that compare net social benefits of the conventional and negotiated rules in this study, the hypothesis that reg neg is Pareto superior to conventional rulemaking remains an untested speculation [emphasis added]. Nonetheless, it seems to be a plausible hypothesis. . . .[3]

This paper accepts that hypothesis as valid on the grounds that negotiated rule-making requires the participation of all the interest groups affected by a regulation, and that participants overwhelmingly find the results more beneficial and cost-effective than the alternatives. Furthermore, we know of no other data set that could even hypothetically demonstrate consistently Pareto superior outcomes on public policy.

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[1] David M. Pritzker and Deborah S. Dalton, *Negotiated Rulemaking Sourcebook*. U.S. Government Printing Office, 1995.

[2] Laura I. Langbein & Cornelius M. Kerwin, Regulatory Negotiation versus Conventional Rule Making: Claims, Counterclaims, and Empirical Evidence, 10 J. Pub. Admin. Res. & Theory 599 (2000), p. 604

[3] Ibid. p. 628

This paper will therefore use that data to discern what factors make Pareto optimal outcomes likely. We will then suggest a way to structure legislatures to reach comparable outcomes.

Pareto Optimal Decisions

President Obama recently highlighted a negotiated rule-making in a *Wall Street Journal* article entitled, "Toward a 21st Century Regulatory System." Obama wrote:

> The EPA and the Department of Transportation worked with auto makers, labor unions, states like California, and environmental advocates this past spring to turn a tangle of rules [about fuel economy for cars and trucks] into one aggressive new standard. It was a victory for car companies that wanted regulatory certainty; for consumers who will pay less at the pump; for our security, as we save 1.8 billion barrels of oil; and for the environment as we reduce pollution.[4]

Even so, fuel economy standards and other issues that agencies typically deal with are smaller in scope than many subjects that legislatures have to grapple with. So a natural question is: Could a similar process work as well with legislative controversies?

In several cases to date, the answer has been yes. For instance, in mid-1993, the heads of seven high profile environmental groups, the chief executives of six major corporations, and five members of President Bill Clinton's cabinet began a series of meetings to hash out their long-standing differences over environmental policy. This group was called the Council on Sustainable Development. Although the members had a history of animosity and conflict, they eventually agreed — unanimously — on a long-range plan that would resolve the major environmental controversies of their day at a cost that all parties deemed fair and reasonable. The main theme of their 185-page plan was that the government should require industries to clean up the environment far more thoroughly than to date while also letting the companies largely decide how to meet these tougher standards. The council predicted that businesses would then use their

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[4] "Toward a 21st-Century Regulatory System," *The Wall Street Journal*, Jan. 21. 2011

ingenuity to find the most efficient ways to cut pollution, saving the economy an estimated $250 billion per decade.[5]

Each council member then pitched the plan to his or her allies in the outside world. The CEOs won the support of the relevant industry associations. The environmental members obtained endorsements from nearly every environmental group. And the government officials secured backing from the appropriate regulatory agencies.

Even so, Congress never considered the council's plan as a blueprint for environmental policy. Instead, the two political parties largely continue to take ideologically polarizing positions.

Another such episode drew nationwide attention. In June 1997, representatives for attorneys general from 40 states, the tobacco companies, and major anti-smoking groups unanimously agreed on a measure to curb teenage smoking. Yet Congress deadlocked over the same issue.

Likewise, in 1998, twenty-four representatives from across the political spectrum — assembled by the Center for Strategic and International Studies — developed a comprehensive plan for saving Social Security from bankruptcy yet insuring that the vast majority of Americans could retire with some financially security. [6] The following year, the Consensus Group consisting of eighteen representatives from the Cato Institute, the Progressive Policy Institute, and other ideologically driven organizations — most on the right, but some clearly from the left and the center — unanimously agreed on a plan for restraining health care costs while boosting quality. [7] And in 2004, sixteen politically diverse advocates, called the National Commission on Energy Policy, devised a plan for reducing the nation's consumption of foreign oil at minimal cost. [8]

Yet Congress has repeatedly failed to reach agreement on each of these issues.

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[5] *Sustainable America: A New Consensus for Prosperity, Opportunity, and a Healthy Environment for the Future* (U.S. Government Printing Office, 1996).

[6] *The 21st Century Retirement Security Plan: The National Commission on Retirement Policy Final Report*, Washington: Center for Strategic and International Studies, 1999

[7] *A Vision for Consumer-Driven Health Care Reform,* The Consensus Group, 1999, galen.org/fileuploads/vision.pdf

[8] *Ending the Energy Stalemate: A Bipartisan Strategy to Meet America's Energy Challenges* (www.energycommission.org)

Pareto Optimal Conditions

A key question for this paper is: What conditions prompted these ideological opponents to produce broadly beneficial outcomes when lawmakers would not or could not? Our hypothesis has five parts:

1) Each representative outside government was speaking for a coherent interest group, so he/she had a clear set of priorities to pursue and felt significant pressure from constituents to advance those priorities. Each environmentalist at the Council on Sustainable Development (CSD), for instance, spoke for hundreds of colleagues at his and other organizations, all intent on protecting the environment, while each corporate CEO spoke for hundreds of executives in his industry, all intent on boosting their companies' performance. In the words of council co-chair David Buzzelli, each council member was "sufficiently confident of his standing with his own community to venture beyond its traditional position in the desire to do better for them than the status quo."[9]

2) The representatives collectively encompassed the relevant interests on the issue at hand.

3) Each interest group's priorities were publicly known. The representatives therefore had little opportunity to strategically deceive one another.

4) No interest group or coalition of them had sufficient power to make significant headway on its own. Each representative therefore perceived that, to make progress for his/her own camp, he needed to negotiate an agreement that the other parties could accept. Each spokesperson, of course, wanted the most benefits at the least cost to his/her own camp. But each saw that the most practical way to reach that goal was to pursue a mutually beneficial outcome.

5) Each representative — by understanding his/her constituents' priorities — could reasonably expect that if he negotiated a deal that struck him as beneficial, he would be able to articulate the costs and benefits to the people in his own camp in a way that most would accept. Each spokesperson was in fact able to explain to his own camp how the final deal with their long-standing adversaries would advance their own priorities further than other strategies would.

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[9] In a personal interview, Jan. 29, 1998.

The Contrast with American Lawmakers

Unlike the representatives cited above, each American legislator represents a group of people whose priorities are perpetually in conflict. That is, each congressional district has a large bloc of people in each age bracket, each household category, each job type and each income level. The Census data in Exhibit I in fact show that in 85 percent of congressional districts, the proportion of people in each age, household and occupational category is at least 60 percent of that figure for the country as a whole. The same applies for most income brackets, just not the very highest or lowest.

Each member of Congress thereby represents scores of socio-economic groups: young adults, the middle-aged, senior citizens, blue-collar workers, white-collar workers, business owners, the unemployed, singles, couples, families and one-parent households.

Most districts have, of course, been drawn to include a plurality of voters from one political party or the other. But party affiliation is just one demographic that influences voters' political priorities. And by the demographic criteria cited above, the residents of nearly every district are sufficiently diverse that their political values, interests and priorities constantly clash.

How, then, can a typical lawmaker win his/her constituents' support for controversial decisions important to them? To a young single voter, a legislator would need to justify decisions on health care, entitlements or taxes differently than to a senior citizen; to a truck driver differently than to a teacher; to a sales clerk differently than to a business owner. Indeed, for a typical lawmaker to convince a majority of his/her diverse voters that he was acting in their best interests on the most controversial issues would be a daunting, if not impossible, task.

Furthermore, a typical lawmaker does not need to make significant progress on long-term problems to win reelection. He/she just has to convince 50.1 percent of voters that his main opponent or the opponent's party would be an even bigger danger to them. And that message is far easier to convey to a diverse audience than to win their support for complex decisions on divisive issues.

Exhibit I: Demographics of Congressional Districts

The charts below, based on the 2000 Census, show that in 85 percent of congressional districts, the proportion of people in nearly every age bracket, household category, job type, and income level is at least 60 percent of the figure for the country as a whole (exceptions with an asterisk*). By those criteria, the vast majority of districts are nearly as diverse as the entire country.

Percent of People in Each Age Bracket		
Age Bracket	Percent of US Population	Percent of Population in 85% of Districts
0-14	21%	18 - 25%
15-24	14%	11 - 17%
25-44	30%	27 - 33%
45-64	22%	19 - 24%
65 and over	12%	8 - 16%

Percent of Households in Each Family Category		
Household Type	Percent of US Population	Percent of Population in 85% of Districts
Married with children	24%	16 - 32%
Married without children	28%	21 - 34%
Nontraditional Family (mostly single parents)	16%	10 - 22%
Nonfamily (mostly singles)	32%	24 - 39%

Percent of Workers in Each Job Category		
Job Category	Percent of US Population	Percent of Population in 85% of Districts
Professional/Manager	34%	25 - 43%
Administrative Support	27%	24 - 30%
Craftsmen	9%	8 - 12%
Service & Labor	30%	21 - 38%
Farmers*	1%	0 - 2%

Percent of Households in Each Income Bracket		
Income Bracket	Percent of US Population	Percent of Population in 85% of Districts
Less than $10K*	10%	5 - 16%
$10K-20K	13%	8 - 18%
$20K-30K	13%	10 - 17%
$30K-40K	12%	10 - 14%
$40K-50K	11%	9 - 12%
$50K-60K	9%	8 - 11%
$60K-75K	10%	8 - 13%
$75K-99K	10%	6 - 14%
More than $100K*	12%	4 - 21%

Exhibit I continued: Demographics of Congressional Districts

The charts below give the equivalent Census data for 98 percent of congressional districts: The proportion of people in nearly every age bracket, household category, job type, and income level is at least 50 percent of the figure for the country as a whole (exceptions with an asterisk*).

Percent of People in Each Age Bracket		
Age Bracket	**Percent of US Population**	**Percent of Population in 98% of Districts**
0-14	21%	14 - 28%
15-24	14%	10 - 19%
25-44	30%	25 - 37%
45-64	22%	17 - 27%
65 and over*	12%	5 - 19%

Percent of Households in Each Family Category		
Household Type	**Percent of US Population**	**Percent of Population in 98% of Districts**
Married with children	24%	12 - 35%
Married without children	28%	26 - 35%
Nontraditional Family (mostly single parents)	16%	10 - 31%
Nonfamily (mostly singles)	32%	18 - 46%

Percent of Workers in Each Job Category		
Job Category	**Percent of US Population**	**Percent of Population in 98% of Districts**
Professional/Manager	34%	18 - 50%
Administrative Support	27%	22 - 31%
Craftsmen	9%	5 - 15%
Service & Labor	30%	17 - 43%
Farmers*	1%	0 - 3%

Percent of Households in Each Income Bracket		
Income Bracket	**Percent of US Population**	**Percent of Population in 98% of Districts**
Less than $10K*	10%	2 - 19%
$10K-20K*	13%	5 - 20%
$20K-30K	13%	7 - 18%
$30K-40K	12%	8 - 15%
$40K-50K	11%	8 - 13%
$50K-60K	9%	7 - 11%
$60K-75K	10%	7 - 14%
$75K-99K	10%	5- 17%
More than $100K*	12%	3 - 32%

A typical American legislator thereby has greater incentives to blame the nation's problems on the opposing party than to work out cost-effective solutions to those problems. One former member of Congress even confided to this writer, "We often had an incentive to structure a problem so as to assure failure and, therefore, a good campaign issue [for all of us]."

Voters' Incentives

In the episodes cited at the start of this paper, each member of the interest groups involved could reasonably expect that his/her concerns on the issues at hand were being addressed. Virtually every environmentalist, for example, could justifiably expect that environmental members of the Council on Sustainable Development — such as Fred Krupp, executive director of the Environmental Defense Fund, or John Sawhill, president of the Nature Conservancy — were defending the environmental community's concerns. Executives at forest products companies could have similar expectations of Georgia Pacific CEO Peter Correll. And so on for the 22 other representatives.

Few voters can have that kind of expectation of their congressional representative because each lawmaker speaks for voters of all ages, incomes, family types, job categories and political outlooks — with each group having very different political priorities. Therefore, a typical American cannot get a spokesperson who shares his/her priorities on the issues that most concern him. That may help explain several phenomena, such as:

In a survey prior to 2006, only one U.S. voter in 10 could cite how his/her representative had voted on any legislation in the preceding two years.[10] Indeed, U.S. voters know measurably less about where politicians stand on the issues than voters in countries that use proportional representation.[11]

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[10] Roger Davidson, Walter Oleszek & Francis Lee, *Congress and Its Members*, CQ Press, 2007, p. 108.
[11] Henry Milner, *Civic Literacy: How Informed Citizens Make Democracy Work,* Tufts University Press, 2002, Chapter 6, "Civic Literacy and Political Institutions."

Furthermore, in a nationwide survey a decade ago, more than 80 percent of Americans who voted said they did so mainly to exercise their civic rights, out of obligation or mere habit.[12] Only 11 percent said they voted mainly because they cared about the candidates positively or negatively.[13]

More recently, in a survey six months after the 2010 election, 60 percent of voters said the federal government did not have the consent of the governed.[14] This level of public discontent may, at least in part, be because a typical voter cannot obtain representation for his/her main concerns.

This has not always been the case. When the United States was formed over two centuries ago, 80 percent of Americans were farmers, while most of the rest sold goods and services to nearby farmers. The residents of a typical district thus shared very similar interests. Each district representative could therefore explain to most voters how his actions were serving their needs, if in fact his actions were.

America's founders envisioned that each member of the House would be in that position: speaking for citizens who shared common interests, so voters could collectively hold their representative to account for his policy decisions. James Madison's thoughts on that subject are excerpted in Exhibit II.

But today, one city block can encompass more interests, occupations and lifestyles than an entire district did in the 18th century. Voters in each district therefore have largely conflicting needs on the issues salient today. What, then, can voters in any district hold their representative to account for?

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[12] Jack Doppelt and Ellen Shearer. "America's No Shows: Nonvoters, Who They Are, Why They Don't Vote and What It Could Take to Bring Them to the Polls." Medill School of Journalism, Northwestern University, March 2001.

[13] Ibid

[14] "Just 23% Say Federal Government Has Consent of the Governed," Rasmussen Reports, May 13, 2011

Exhibit II: James Madison's Views on Representation

On Each Representative Knowing His Constituents' Interests (from The Federalist, No. 56)

It is a sound and important principle that the representative ought to be acquainted with the interests and circumstances of his constituents.

[Referring to his own times:] Divide the largest State into ten or twelve districts, and . . . there will be no peculiar local interests . . . which will not be within the knowledge of the representative of the district.

[Again, referring to his own times:] Taking each State by itself, its laws are the same, and its interests but little diversified. . . . At present some of the States are little more than a society of husbandmen.

[I]ndustry [will] give a variety and complexity to the affairs of a nation. [Industry] will . . . be the fruits of a more advanced population; and will require . . . fuller representation.

On the Need for Voters to Hold Lawmakers Accountable (from The Federalist, Nos. 52 & 57)

[T]he House of Representatives is so constituted as to support in the members an habitual recollection of their dependence on the people. . . . [Representatives] will be compelled to anticipate the moment when . . . their exercise of [power] is to be reviewed, and when they must [surrender power] unless a faithful discharge of their trust shall have established their title to a renewal of it.

Duty, gratitude, interest, ambition itself are the chords by which [Representatives] will be bound to fidelity and sympathy with the great mass of the people. . . . are [these connections] not all that . . . human prudence can devise?

On How Congress, by Representing Many Interests, Would Serve the National Interest (from The Federalist, No.10)

The effect of [government by a small number of citizens elected by the rest is] to refine and enlarge the public views . . .

[T]ake in a greater variety of parties and interests; and you make it less probable that a majority . . . will have a common motive to invade the rights of other citizens; or [be able] to act in unison [on such a motive] . . .

A Theory of Pareto Optimal Lawmaking

If legislators worked under similar conditions as the ideological adversaries cited at the start of this paper, might those legislators negotiate Pareto superior outcomes? That is, what if:

1) Each lawmaker spoke for a group of constituents who shared similar political priorities as him/herself.

2) Each lawmaker had a direct channel of communication with his/her constituents to explain how his agreements met as much of their priorities as they could realistically hope to get.

3) Each lawmaker ran for reelection mainly against candidates whose political priorities were similar to his/her own, so that each lawmaker would need to show his voters that he had advanced their priorities further than other potential representatives would.

4) Each voter got a representative whose political priorities were similar to his/her own, so that each voter would want to monitor his representative's words and actions.

Under these conditions, would lawmakers strive for agreements that yielded significantly greater benefits to their community than they do under the conditions prevailing today? Our hypothesis is that the answer is yes.

But legislative committees draft most bills. So our hypothesis needs to encompass them. Specifically, what if each committee was organized like the groups cited at the start, the groups that have negotiated Pareto superior outcomes? That is, what if:

1) Each committee member spoke for a bloc of lawmakers who shared his/her priorities in the committee's policy area.

2) Each committee member met regularly with the lawmakers he/she represented to spell out how his committee agreements met as much of their priorities as they could realistically expect.

3) Each committee member competed for reelection to the committee against lawmakers who shared similar priorities as his/her own.

4) Each lawmaker got a representative for his/her priorities on each committee.

We are in effect proposing two concentric networks. Each committee would represent the factions of the legislature appropriate for the committee's subject. Each committee member would be representing like-minded colleagues to whom he/she would need to justify his committee agreements. Each of those colleagues would in turn be representing thousands of like-minded constituents to whom he/she would need to justify those agreements.

Furthermore, unlike legislatures today in which one party or one coalition controls every issue, in a legislature organized as just described, on each issue, lawmakers would form different camps. Each lawmaker would therefore presumably be receptive to trading across issues to meet as many of his/her objectives as possible. That is, in any event, our hypothesis.

Pareto Optimizing Elections

To determine whether our hypothesis is valid, we would need to design elections that meet the above criteria. We propose to consider only elections that could conceivably happen in the United States, that is, elections that are consistent with the Constitution as now written; that most voters would readily understand; and that most voters might in time actively support.

How do we do proceed? If we tried to assemble an election system piece by piece in order to meet these criteria, it could precipitate endless debate about which of all the possible components were the most desirable. So instead, we will propose an overarching metaphor that conveys an election that meets our criteria. If the methapor appears sound, we can use it as a template to design elections that would be appropriate for city councils, state legislatures or the U.S. House.

Our metaphor: Suppose the residents of a small town decide to elect their town council so that each voter will get the most appropriate representative and each representative will get the most appropriate constituents. For that purpose, the whole town meets in a large hall. Each person who wants a seat on the council publicly spells out his/her agenda for the town. Each townsperson then gathers around his/her preferred candidate. The candidate with the smallest group around him is asked to drop out of the race. He and each of his supporters then moves to

their second choice. Then, the next candidate with the fewest backers drops out. She and her supporters go to their next choices. This process continues until each remaining candidate has a minimum threshold of support, say, at least 10 percent of all the voters present. [15]

By this process, simplistic as it is, each voter would get a representative closer to him/herself politically than in other kinds of elections now in use. Each representative would, in turn, get constituents closer to him/herself politically than in other kinds of elections.

To meet our criteria fully, though, we need one more step: So that each representative could report regularly to her constituents, she would need to ask them for their names, addresses and email addresses

How, then, might each representative pursue the priority of virtually every elected official, which is to keep his/her voters' support so they elect him the next time?

Since voters in this election would have sorted themselves into groups that shared an agenda, the more a representative negotiated agreements that advanced his/her voters' agenda, the more he could show them, in effect, "You elected me to achieve A, B, C, etc. Here's how my agreements with the rest of the council come as close to those goals as anyone in my position could. . ."

But what if some voters and their representatives had objectives that were arguably harmful to the rest of the community? Other council members might go along if each could thereby gain support for his/her agenda *and* could justify that deal to his constituents as a net benefit to them. Alternatively, other council members might offer sufficient inducements to the representatives with dubious agendas to modify them to be acceptable to the rest of the community. Those representatives might then explain to their voters, in effect, "If we want to achieve anything, here's what we need to accept."

But what if a few council members were discontent with these half measures and they crafted an agreement that they believed would benefit the overall community more than any alternatives contemplated up to that point. Couldn't a council elected this way parcel out the

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[15] Counting votes this way could yield several mathematical anomalies. But elections with fewer anomalies would fail to meet our Pareto optimizing criteria. For more discussion of this subject, see Appendix I.

costs and benefits of this grand bargain so that each council member could show his/her voters how they would benefit from that agreement more than from the alternatives?

But would most voters grasp the controversial issues well enough to be able to evaluate their representative's justification for a complex deal requiring them to make sacrifices? The representatives cited at the start were able to show their constituents how they would benefit on balance from creative deals — because each representative shared his/her constituents' agenda. A leading environmentalist, for instance, is in an ideal position to convince pro-environmental citizens to support a mutually beneficial agreement with polluting industries. A union representative is in a better position than virtually anyone else to show workers at a besieged company how they would benefit by accepting bonuses based on profits instead of a wage hike.

Likewise, a representative elected as just described would be in a better position than any representative today to show his/her voters how his agreements had benefited them as much as anyone in his position could, if indeed that was the case. And to win reelection, wouldn't each lawmaker want to make that case?

Still, each representative would undoubtedly have voters with unrealistic expectations. How might any representative improve his standing with those voters? By negotiating less and achieving fewer of their objectives? Even if that strategy would work with some voters, it would alienate voters who were more realistic. So at the next election, those voters would likely consider other candidates who might advance those voters' objectives further.

Nonetheless, as each representative tried to benefit his/her own camp, the council could deadlock over how to allocate costs and benefits. But if so, most voters would likely be dissatisfied with their own council member and therefore, at the next election, pick other candidates as their first choices, an outcome that each representative would surely want to avoid.

But might some representatives try to shower their voters with government benefits and try to conceal the costs, just as lawmakers today spend government funds on select interest groups without weighing the net benefits to the overall community? Conceivably, but in the election just described, the voters who would bear the costs would have their own

representatives. Furthermore, with each voter getting a representative who shared his/her priorities, each voter would have more reason than now to weigh the total costs and benefits of his representative's actions. Each representative would thereby have more incentive to back policies whose costs and benefits he/she could justify to his voters.

Might some council members form a permanent majority, though, sidelining the rest? Conceivably, if that majority could agree on every issue. But given how the council was elected, with each member representing a distinct subset of the community, the odds that one cluster of them would agree on all issues seems remote. So each council member would have an incentive to trade across issues searching for the most beneficial packages.

Still, some representatives might be intransigent, fall far short of their objectives and blame their ideological opponents for it. If so, at the next election, each of his voters could pick any candidate from across the spectrum as a first choice and, if that candidate lost, pick another and then another. With all those options, why would a typical voter pick as a first choice a representative who offered excuses in lieu of results? In effect, a lawmaker could no longer win reelection just by convincing most voters that one other candidate was worse than himself.

What if elections simply increased the number of political parties winning seats? Might that suffice to yield Pareto superior outcomes? If parties competed primarily against one another, parties would still benefit by demonizing one another. By contrast, in the election above, most voters would likely consider only like-minded candidates. So if a representative demonized colleagues elsewhere on the spectrum, why would his/her voters care?

Furthermore, for lawmakers to have the incentives described above, each would need a direct channel of communication to his/her constituents. If an election process did not provide that channel, lawmakers would have different incentives.

Implementation

To establish the connection between each representative and his/her constituents that is portrayed above, we would need to translate the above process of voters gathering around

candidates into a formal election that any community, any state or the federal government could use. We propose the following steps, first, at the local level:

1) The community schedules an election in which all candidates will compete for all council seats in one combined election. In a city with a large population, however, the community would need to be divided into districts with multiple representatives in each.

2) Candidates get on the ballot by persuading voters to sign a petition. The number of signatures required is set low enough that the total number of candidates running will be at least twice the number of seats. In cities with partisan elections, candidates can also get on the ballot by winning a party's nomination, with each party allowed to nominate several candidates.

3) The election board mails information about all the candidates to all registered voters.

4) On Election Day, each voter chooses which candidate is his or her first choice. Since that candidate may not draw enough votes to win a seat, each voter also picks a second choice, a third choice, and as many more as the voter would like. To make those choices, each voter gets a preferential ballot. Filled out, a typical ballot might look like this:

BALLOT FOR CITY COUNCIL

Please choose which candidate is your first choice, and put a "1" in the box next to his or her name. Then choose which candidate is your second choice, and put a "2" in the box next to his or her name. For your third choice, put the number "3". And so on. You may rank as many candidates as you like.

Robert Adams	[ ]
Shana Pierce	[*3*]
Robert Green	[*1*]
Lois Kaplan	[ ]
Norman Chen	[ ]
Thomas Washington	[ ]
Sylvia Hernandez	[*2*]
Steven Gross	[ ]
Arthur Houseman	[*4*]
Cynthia Gray	[ ]
Phillip Kowalski	[ ]

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5) When the votes are tallied, the candidate who drew the fewest first-choice votes is out of the race. All the votes for that candidate go to his voters' second choices. Then, the next candidate with the fewest votes is dropped. The votes for her go to her voters' next choices. And so on, until the number of candidates left equals the number of council seats. [16] [17]

6) Each council member then needs a direct line of communication to his/her voters. For that purpose, the election board mails every voter a card that lists the winners. Each voter is asked, but not required, to check off the name of the person they want to represent them and, then, mail the card back. Each representative thereby receives her constituents' names and addresses. She can then send them regular reports about her work on the council.

7) Since each voter has substantial freedom to choose his/her representative (in steps 4 and 5), each winner is bound to attract a different number of voters. So, for this process to be fair and be perceived as fair, each representative's voting power on the council would need to be proportional to the number of his/her voters. This feature is already in use on several County Boards of Supervisors in New York State. That is, each council member gets voting power proportional to the number of his/her constituents. Though this feature has been litigated several times, nearly every decision has upheld weighted voting based on population, albeit with technical modifications in some cases. The details are in Appendix III. In any event, if our hypothesis about Pareto optimal lawmaking is correct and our objective is to align each legislator with his/her constituents, then each legislator would inevitably appeal to a different number of constituents.

We call this entire process Personally Accountable Representation or PAR. Though proportional, it differs from other proportional systems in several fundamental ways, spelled out in Appendix IV.

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[16] Counting preferential ballots this way could yield several mathematical anomalies. But the election systems that minimize those anomalies do not meet our objective of giving as many voters as practical a representative who best reflects their concerns. For more on this subject, see Appendix I.

[17] Preferential ballots are used in several other election methods, including the single transferable vote (STV), but steps 5, 6 and 7 of the above process are quite different from STV. Indeed, STV meets none of the four criteria that we presume to be conducive to Pareto optimal outcomes. For more on this subject, see Appendix II.

To recap, the potential effects of this whole process compared to other election methods include:

● Each voter would get a representative as politically close to him/herself as is practical, giving each voter stronger incentives to keep track of his/her representative's actions.

● At election time, any voter dissatisfied with his/her representative would have the incentive and the opportunity to rank other like-minded candidates ahead of that incumbent.

● Each lawmaker would therefore have incentives to produce results that voters saw as more beneficial than what other candidates would produce, giving each lawmaker an incentive to negotiate maximally beneficial agreements with colleagues.

● Each lawmaker would understand his/her constituents' needs better than with other kinds of elections, so each lawmaker could more readily explain to her constituents — in terms they could relate to — the benefits to them of any broadly beneficial agreements she had made.

Pareto Optimizing Committees

By the same logic, legislative committees would presumably be more inclined to negotiate broadly beneficial outcomes if each committee member spoke for lawmakers whose priorities were similar to his/her own.

But how could any legislature determine, for each committee, what are the appropriate camps to represent? For instance, how would the U.S. House decide what the appropriate camps are on tax policy?

Just as the election process above enables any community to sort voters into groups that share a set of objectives, the House could use a similar process to sort its 435 lawmakers into groups that share a set of objectives. For instance, if House members had incentives to craft an optimally beneficial tax code, we believe they would select the Ways and Means Committee as follows: First, each lawmaker who wanted a committee seat would post his/her priorities on taxes. Each House member would then indicate which candidate for the committee he/she favored first, second, and so on. The least favored candidates would be eliminated one by one

until each remaining candidate had a minimum threshold of support.

Each legislator would thereby end up with a representative on the committee. So if the committee drafted an agreement, each member could make a case for it to the colleagues he or she was representing. If, on the other hand, the committee failed to reach agreement on a crucial tax issue or reached a suboptimal one, then at the next committee election, most lawmakers would likely elect someone else as their spokesperson. So each committee member would have an incentive to reach broadly beneficial agreements.

Open Questions

To apply PAR in large cities, state legislatures or the U.S. House would require districts with multiple representatives. What number of representatives per district would be optimal?

If our hypothesis is correct, that would suggest a large number of representatives, so that each would have constituents as politically close to him/herself as is practical. However, if each voter had to choose from among scores of candidates, many voters might feel overwhelmed. So the largest number of representatives per district that strike us as feasible is nine.

Furthermore, the larger the number of representatives per district, the more of them would come from parts of the political spectrum that many voters would perceive as extreme. Suppose for instance that a typical state, which has nine seats in the U.S. House, held one preferential election for all of those seats. Since it would take less than one-ninth of the votes to win, the winners would include candidates significantly further on the right and left than any lawmakers are now.

Even so, nearly 40 percent of Americans identify themselves as moderates. So an election organized as described above would typically yield a legislature of 40 percent moderates. That is considerably more than are in most state legislatures or the U.S. House now. In effect, legislatures elected as described above could on balance be more centrist than they are today.

Furthermore, The Pew Research Center for the People and the Press, by extensive

polling, has divided the public into nine groups based on values, political beliefs and party affiliations:[18]

☐   Staunch Conservatives

☐   Main Street Republicans

☐   Libertarians

☐   Disaffecteds

☐   Post-Moderns

☐   New Coalition Democrats

☐   Hard-Pressed Democrats

☐   Solid Liberals

☐   Bystanders

These groupings are clearly a function of today's two-party system. So in the elections proposed here, voters would aggregate differently. But Pew's groupings still suggest that creating districts with substantially fewer than nine representatives would leave many voters feeling unrepresented.

The minimum number of representatives that we believe should be considered is three, so that each district could in theory elect one representative from each of the three main camps prevalent in politics today: liberal, conservative and centrist.

No matter how many representatives there were per district, could a typical voter get a representative who shared his or her outlook on most major issues?

Among Americans who are politically engaged now, most have at least one columnist or commentator they feel speaks to them and for them — even though they surely disagree with some of his or her stands. That is largely because a succesful columnist articulates a philosophy

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[18] http://people-press.org/typology/quiz/?pass

or way of thinking that appeals to his/her audience so strongly that they stay loyal despite some disagreements with him.

A lawmaker elected as described above would likewise need to articulate a coherent set of values or priorities that would attract a large bloc of voters. He or she would then need to do a good job of advancing those priorities. If so, most of his voters could feel that he had represented them well — even if they disagreed with him on some issues.

What role would political parties play if elections were organized as above?

A typical voter would likely gravitate to candidates affiliated with a party that the voter could identify with. So most candidates would likely affiliate with a party. However, each lawmaker would owe his/her seat to his constituents, not to party leaders. So party leaders would likely wield less power than in other multi-party democracies.

Furthermore, if most lawmakers had incentives to reach agreements on controversial issues, most legislators would likely prefer to organize committees so they could negotiate broadly beneficial outcomes, even if party leaders objected (that is, wanted to control committee assignments themselves).

Who would chair the committees organized as proposed here?

If party leaders appointed a chair who tried to steer the committee in a specific direction, that could defeat the purpose of its negotiating Pareto superior outcomes. So one alternative is for each committee to elect its own chair, with the candidates being lawmakers perceived to be relatively neutral on the committee's subject, that is, lawmakers not on the committee.

Wouldn't lawmakers still cater to lobbyists who gave them money?

Most politicians value votes more than money. That is, most politicians spend the money from lobbyists on advertising to draw voters' attention. Meanwhile, over 80 percent of voters

know almost nothing about the candidates' track records — including which lobbyists have given them money and how much, even though that data is publicly available. So the more money a politician takes from lobbyists, the higher his/her odds of winning reelection — without adding risk.

Those odds could be reversed if voters had more incentives to scrutinize politicians' track records, including whom they have taken campaign contributions from, and if voters could more easily replace any politician they fear has sold out to lobbyists.

The elections proposed here would supposedly motivate voters to keep closer track of their representatives. Is that expectation realistic?

Nearly every person has a desire to be heard and to matter. The election system that best meets those needs will most strongly motivate voters to participate.

Won't changes as big as these have unforeseen effects?

Undoubtedly. But if civic leaders believe their city or state is poorly governed, they might conclude that the potential benefits of these changes were worth taking the concomitant risks.

How can your hypothesis be tested?

Possible alternatives: 1) Simulations: A large body of college students could be randomly divided into two groups. Each group would be asked to elect representatives who would attempt to resolve an issue that the students had been debating about: either a national controversy or one on campus. One group of students would be subdivided by some geographic criterion — such as which region of the state or country they come from, or where on campus they reside. Each geographic unit would elect one representative. The other group of students would hold a PAR election. Both "legislatures" would then try to negotiate a solution to the issue. Whatever the outcome, each representative would try to justify his/her actions to his constituents. Each group of students would then vote on how strongly they supported or opposed the outcome. All

participants would fill out evaluation forms about their experience. The two groups of students could then meet to compare their experiences. The drawbacks of this approach are: a) there would be no run for reelection to motivate the representatives, and b) how college students respond to an experiment without real world consequences to them is not necessarily predictive of how adults would respond to a situation that did have real world consequences.

2) Ad Hoc Decision-Making: A community that routinely holds town meetings may be sharply divided on a critical issue that the residents have been unable to resolve by their usual procedures. The community could hold a PAR election for a body of representatives who would attempt to work out the community's differences and then win support for their proposal. The drawbacks of this approach are: a) there would be no run for reelection to motivate the representatives, and b) there would be no control group to compare to.

3) School Boards: These bodies can be embroiled in controversies as intense as any legislature. In some communities, though, it might be politically more feasible to change the elections for the school board than for the city or town council.

Even if the above efforts yielded encouraging results, could changes as ambitious as these actually happen in city and state governments, much less at the federal level?

Voters in over 25 U.S. cities have opted to try other preferential systems, which suggests that if the citizens who supported these changes were sufficiently motivated and well organized, they could win their community's support. In cities and states that allow referendums, citizens could particularly use that vehicle to overcome the incumbents' likely hostility to these reforms.

And if the first communities that adopted these changes began to make noticeably more constructive policy decisions, voters elsewhere might demand these changes in their cities and their states. Eventually, the public might demand equivalent changes at the federal level.

In that case, voters would have the power to bring about these changes by voting out incumbents who resisted them. That is, less than 50 percent of Americans vote for a representative; the vast majority who vote do so with little knowledge or interest in any of the

candidates; and 70 percent of voters are dissatisfied with the country's direction. So, over time many Americans might make overhauling congressional elections a top political priority. And if just 30 percent of Americans voted against any incumbent who resisted such changes, those incumbents would lose office. Congress might eventually succumb to this public pressure and revise House elections.

We are not advocating such a campaign. We bring it up just to show that major change can happen.

In Conclusion

Political adversaries outside government have reached consensus on some of the most divisive issues of these times. We have cited several examples in this paper. These episodes suggest that, for each major issue dividing the country today — the economy, deficits, taxes, energy, health care or public education — there are likely to be ideological adversaries who could and would negotiate a Pareto optimal grand bargain.

Most American politicians, however, show little inclination to strive for optimal grand bargains on these issues. That is at least in part because any politician who advocated a balanced solution to a controversial issue is bound to alienate large blocs of the diverse voters he/she represents.

We have therefore proposed elections under which each representative would get constituents who shared his/her political priorities as closely as practical. Each representative could then lucidly convey to his constituents the net benefits to them of Pareto optimal grand bargains. Each representative would then presumably have incentives to strive for such bargains.

At this point, we cannot know if this kind of election will work as intended. But since American politicians seem unable to resolve the crucial issues facing many cities, most states and the nation as whole, we believe our proposal warrants further investigation.

Appendix I: Caveats about Preferential Elections

Each election system has its drawbacks. The drawbacks of the preferential elections proposed in this paper include: 1) a candidate with less *total* support among all voters can sometimes defeat a candidate with more total support (failing to meet what mathematicians call the Condorcet criterion); and 2) a voter can sometimes help a candidate by voting for someone else (failing the "monotonicity" criterion).

As an example of 1) above, suppose that candidates A, B, C and D compete for mayor in a preferential election, with ballots being cast as follows:

55 voters for A-B-C-D in that order

35 voters for B-A-C-D

25 voters for C-B-D-A

20 voters for D-C-B-A

In this case, D would be eliminated first. His 20 votes would go to C, giving her 45 votes. B, with only 35 votes, would be eliminated next. Those 35 votes would go to A, who would then win.

However, B has more *total* support than A. That is, 80 voters prefer B over A (the last three lines above), while only 55 voters prefer A over B (the first line above).

This result occurs because only voters who picked D or B first had their lower choices counted. Voters who picked C first did not have their preference for B over A considered.

Now, suppose that 6 voters switched from the second category to the fourth category. The results would then be:

55 voters: A-B-C-D

29 voters: B-A-C-D

25 voters: C-B-D-A

26 voters: D-C-B-A

In this case, C would be eliminated first. Her 25 votes would go to B, giving him 54. Then D would be eliminated, with her 26 votes going to B (because C had already been

eliminated). B would then win with 80 votes.

In effect, voters who switched away from B helped B to win. This result occurs because voters for C had their second choice preference for B counted, whereas in the first example they did not.

Despite these anomalies, preferential voting meets the Pareto optimizing criteria spelled out in this paper more closely than other election methods. Those other methods include:

1) Condorcet. In this system, which uses preferential ballots, the ballot counting consists of comparing every possible pair of candidates to see which candidate would beat all others in hypothetical one-on-one races. In some cases, though, the winner may still be unclear. For instance, suppose the ballots are cast as follows (the same as in the first example except that on the first line the preferences for C and B are transposed):

55 voters: A-C-B-D

35 voters: B-A-C-D

25 voters: C-B-D-A

20 voters: D-C-B-A

In that case, 80 voters would still prefer B over A (the last three lines), 100 voters would prefer C over B (lines one, three and four), and 90 voters would prefer A over C (lines one and two). Who, then, wins? One could argue for A, B, or C. There are several methods for resolving such ambiguities, but each can produce a different outcome.

In any event, Condorcet is far more complex than straightforward preferential elections. In a 10-person race, for instance, there are 45 possible combinations of one-on-one contests. A Condorcet tally would have to evaluate all of them.

Most voters would therefore not understand Condorcet and are thus unlikely to endorse it. That's one reason no government in the world uses it, while many use standard preferential voting.

Condorcet is especially problematic for multi-winner elections because voters' lower rankings can influence the outcome as much as their higher rankings. For instance, if

conservative voters outnumber liberals, conservatives could have a greater say than liberals in who represents the liberals. Condorcet can thereby deprive many voters of the spokesperson they would most prefer.

Condorcet thereby fails to meet our Pareto optimizing criteria.

2) Borda. This system also uses preferential ballots, but weights the lower choices on every ballot. For instance, if 10 candidates run, every first-choice votes counts as a 10, every second choice as a 9, and so on. This system tends to elect candidates who reflect the broadest consensus.

Our purpose in this paper, though, is different: to devise elections that give each voter a representative who reflects his/her concerns as closely as practical. Furthermore, virtually anyone can grasp the metaphor of voters in a large hall moving from candidate to candidate, which means virtually anyone can grasp the election's purpose of giving each constituent a representative who shares his/her political priorities closely. Borda, by contrast, is a mathematical construct, whose purpose most voters would find opaque.

3) Bucklin. This system also uses preferential ballots, but voters mark as many first choices as there are seats to fill. To win, a candidate needs a majority. If the top drawing candidates don't have a majority, then all second-choice votes are added to the first-choice votes, and so on, until the number of candidates with a majority equal the number of seats. Bucklin is designed to elect lawmakers who are significantly less diverse than the citizens they represent. Indeed, 51 percent of voters can elect all the representatives. Bucklin thereby fails to meet our Pareto optimizing criteria.

4) Approval voting. In this system, voters indicate which candidates they could accept, and the candidates acceptable to the most voters win. Again, the winners are likely to be significantly less diverse than the citizens they represent, virtually the opposite of our Pareto optimizing criteria.

Furthermore, voters, lawmakers and challengers have different incentives than they would with purely preferential elections. In the latter case, each voter is in effect asked whether

he or she prefers any challengers over his current representative. If a voter then ranks any challengers first and all those challengers lose, the voter will just get a lower choice. So there is little downside in voting for challengers. This puts pressure on each incumbent to amass evidence that he/she has served his constituents' interests more effectively than any challenger would.

With approval voting, though, a typical voter has little reason to consider a challenger unless he or she believes that a large number of voters are dissatisfied with the current representative and considering that challenger. That means the threshold for a typical voter to consider challengers is substantially higher than it would be with preferential elections.

Furthermore, someone who votes for just a challenger is taking a risk that if the challenger loses, the voter has helped no one. Voters dissatisfied with their current representative are in quandary about whether to vote for the incumbent or not, a quandary that voters with preferential ballots would not face; that is, they would just rank the incumbent as a lower choice.

So strictly preferential elections do indeed have drawbacks, but if our principal objective is to create the strongest possible connection between each lawmaker and his/her constituents, preferential elections are a more realistic approach than the alternatives would be.

Appendix II: The Single Transferable Vote (STV)

The single transferable vote is a proportional system that 22 U.S. cities tried in the early 1900s. As in other proportional systems, a typical STV voter gets at least one representative who shares the voter's political orientation. Even so, only one U.S. city still uses STV: Cambridge, Massachusetts. Our explanation for why that is so differs from what many scholars maintain. To understand these differences, we first need to look at how STV works.

STV uses preferential ballots, in which voters rank the candidates they prefer in order. But ballots are counted differently than in other preferential systems. With STV, votes for the most popular candidates are transferred to less popular ones. To see the implications, consider an example.

To start, the number of votes needed to win an STV seat =

$$1+ \frac{\text{(Number of votes cast)}}{\text{(Number of seats to be filled} + 1)}$$

So, if 240,000 citizens vote for a seven-member council, to win takes 1+ 240,000/8 = 30,001 votes.

Suppose, then, that the most popular candidate draws 50,001 first-choice votes. In that case, 20,000 are considered "excess" and go to his voters' second choices. That is, each voter for the most popular candidate has 40 percent of his/her vote go to his second choice. If any candidate thereby reaches 30,001 votes, she wins a seat. Her excess votes then go to her voters' next choices.

What if no one gets 30,001 votes? Then, the lowest-drawing candidates are dropped one by one, and their votes go to the next candidates on those ballots until some candidate exceeds 30,001 votes. His excess votes are then transferred to the next candidates on those ballots, and so on.

Why did most U.S. voters exposed to this method eventually reject it? STV advocates typically give three explanations: 1) Many voters objected to minorities winning more representation than in the past. 2) In the decades before computers, it took weeks to count STV

ballots and determine who won. 3) The Republican and Democratic parties campaigned relentlessly against STV.

While these explanations appear valid, they leave out several points:

1) STV's mechanics are difficult for the average voter to understand.

2) STV undercuts the link between each representative and his/her constituents. For instance, in the example above, 50,001 people who want to be represented by person A are *required* to give 40 percent of their votes — in effect 40 percent of their clout — to other representatives.

Who, then, represents each voter? And who is each representative accountable to? With STV, it's ambiguous.

3) Most voters who lived under STV felt it reduced the quality of government. In Cleveland, for instance, voters were "disillusioned by [STV's] failure to prevent partisan deals, patronage, bribery and graft." In Cincinnati, "partisanship and dissatisfaction with governance . . . contributed to [STV's] repeal." And in Toledo, the local newspaper blamed STV for "lax administration."[19]

That may at least in part be because a typical STV voter does not get a specific representative to hold accountable for policy decisions, and an STV representative does not get specific constituents to make his/her case to. STV lawmakers therefore do not work under the conditions that seem to encourage negotiating Pareto optimal outcomes.

This reasoning does not, however, apply to STV in parliamentary countries, where Parliament's main role is to pick the prime minister who picks the cabinet, which jointly set national policy. Voters in those countries tend to hold the prime minister and the parties backing him/her accountable for policy decisions.

But U.S. voters choose chief executives — mayors, governors and the president — separately from lawmakers. So holding the chief executive accountable is not sufficient to obtain effective governance. Voters also need to hold individual lawmakers accountable, which STV does not lend itself to.

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[19] Barber, Kathleen, ed., *Proportional Representation and Electoral Reform in Ohio.* Ohio State University Press, 1995, pp 130, 173, 253.

Appendix III: Ramifications of Weighted Voting

If each representative is to have a significant bond with his/her constituents, each representative is bound to attract a different number of voters. So each representative would presumably need to get voting power based on that number. In the U.S. House, after all, each state gets power proportional to the number of people who live there. The same rationale could justify each lawmaker getting power proportional to the number of people who back him.

Furthermore, the Constitution specifies that each senator shall have one vote, but has no such clause about representatives, which would seem to permit weighted voting in the House. Indeed, the framers intended that each representative have a bond of some substance with his constituents. (See Exhibit II.). And to create that bond in these times would arguably require elections along the lines proposed in this paper.

Weighted voting has in fact been used for decades by over a dozen County Boards of Supervisors in New York State. Each supervisor is the chief executive of his or her respective town, and each gets votes on the County Board in proportion to the number of residents in his or her town.

In some counties, though, each supervisor's legislative power has been significantly greater or less than his or her number of votes would indicate, which has prompted several lawsuits. Two examples can illustrate the point.

Consider a three-person board where the members' respective number of votes is 3, 4 and 5. Any two members can carry a motion. Therefore, each member has equal power, despite having a substantially different number of votes.

At the other extreme, consider the Nassau (NY) County Board of Supervisors in 1993. The members' respective voting power was 9, 9, 7, 3, 1 and 1. How the latter three members cast their votes made no difference in whether a motion passed or not. In effect, those three members had no direct power — only the power to persuade the other members to change their positions. In *Jackson et al. v. Nassau County Board of Supervisors*, the Federal District Court ruled that the three towns with the least votes were in effect unrepresented in county government. The court's

remedy was to divide the county into districts of equal population.

But this case has little bearing on the election method proposed in this paper -- which we call Personally Accountable Representation or PAR -- because the citizens affected by the court's ruling did *not* choose to be represented based on the town they lived in. The county charter specified that each town supervisor represent its residents. So the court could reasonably conclude that some county residents had limited power based on pure circumstances. On that grounds, redrawing the geographic boundaries so that each citizen had equal power appears justifiable.

But in a PAR election, voters would have chosen the basis on which they would be represented. The voters with the least power would have chosen their preferred spokesperson. Indeed, would the voters represented by the members with the least power prefer to have *some* voice in the legislative process — have someone who could try to persuade the most powerful members to alter their stances — or have no voice at all? Most voters would likely prefer the former position. So on what grounds could a court rule that another election process depriving those voters of their chosen spokesperson would be fairer to those voters? It's hard to see any such grounds.

Other cases may have more bearing on PAR, cases in which each representative could influence legislation but not as often as his or her voting power would indicate. Suppose, for instance, that one town supervisor had 12 percent of the votes but, given all the possible permutations of how the six-member board could vote, his vote would determine whether a motion passed or failed only 8 percent of the time. Some New York State courts have ruled that in such cases each supervisor's voting power should be adjusted to more accurately reflect the power he or she "should" have. See *Iannucci v. Board of Supervisors of Washington County*.

These circumstances still differ from PAR, though, in two ways:

1) As in the previous case, *Jackson*, the citizens affected by the ruling did not choose to be represented based on the town they lived in. So again, the court could conclude that some county residents had less power than others based on pure circumstances. On that grounds,

adjusting the town supervisors' respective power could be justified.

But in a PAR election, citizens would have chosen their representative among a large field. And voters for the least popular winners would often know upfront that they were voting for candidates who, if they won, would have less power than others. For any court to rule that the voters for the least powerful lawmakers should then get some premium seems unwarranted.

2) In the New York case, the policymakers in question were *not* primarily lawmakers. They were elected to be chief executives of their respective towns. Representing their towns at the county level was an ancillary duty. So when the courts imposed complex formulas adjusting the supervisors' power in their secondary positions at the county level, most voters may have cared little, if at all.

If a court made a similar ruling about a PAR election, though, most voters might not understand the formula, which could weaken the legitimacy of the representative process in voters' eyes. In effect, tinkering with the proportionality could have substantially more negative effects than positive ones.

Finally, in the one case we know of in which a Federal Appeals Court ruled on weighted voting based on population, *Roxbury Taxpayers Alliance et al. v. Delaware County Board of Supervisors*, the court upheld the weighting without any modifications.

In any event, if and when a community adopts PAR, someone or some group may file suit against the proportionality, and some court may modify lawmakers' relative voting power. In that event, PAR elections would still retain the advantage of creating a stronger bond between citizens and lawmakers than other elections now in use.

Nonetheless, weighted voting raises several other questions, such as:

In a PAR election for a city council with only five members, couldn't one member obtain majority power?

To ensure that one lawmaker cannot obtain majority power, the candidate elimination process should stop if and when the top drawing candidate gets close to a majority, say 45

percent. The council could thereby end up larger than originally planned. In any event, this would be a very unlikely occurrence. For instance, if the five most popular presidential candidates in 2008 — Barack Obama, Hilary Clinton, John McCain, Mitt Romney and Mike Huckabee — had all been on the ballot on Election Day, none of them would have won even one-third of the votes. So in an election with five winners, it's highly improbable that any winner could amass half the votes.

On a seven member council, if two members had a majority, would that be acceptable?

It would occur rarely. If it did, how would the effects be any different than if the same voters had elected four members of a traditionally elected seven-member council? Nonetheless, if a community wanted to ensure that two lawmakers could not obtain majority power, the candidate elimination process could stop if the two top candidates got close to a majority.

Even with PAR, wouldn't lawmakers still gerrymander districts?

They'd have far less incentive to. Today, with each district having only one winner, how districts are drawn can largely determine who wins and which groups get power. But if each district had multiple winners and each group of voters got power proportional to its size, how districts were drawn would have much less effect on who won and how power was distributed.

Appendix IV: How PAR Compares to Other Proportional Systems

Proportional systems come in several forms. In the most common, "party lists," each voter casts a ballot for a political party, with each party winning seats in proportion to how many citizens voted for it. However, for a party to win any seats, most countries require that the party receive a minimum percentage of the total vote, typically 5 percent. Established parties thereby have somewhat of a monopoly on their part of the political spectrum. There are two main varieties of party lists:[20]

1) In a "closed list" system, party leaders decide which of the party's candidates fill its seats.

2) In an "open list" system, each voter *can* choose a candidate on a party's list. But for a candidate to move up the list, a significant number of voters have to choose him or her. Few voters take that option.[21] [22] So typically, party leaders still decide which candidates fill the seats.

What, then, does a voter do if he or she objects to a party's actions yet prefers its ideology? If so, at election time, the voter can either: a) pick the party again, despite the actions he/she disapproves of, or b) pick another party. It's an either/or decision. In effect, dissatisfied voters may have to subordinate their ideological preferences to other considerations.

By contrast, with PAR, each voter gets preferential ballots on which to choose individual candidates. So, voters dissatisfied with an incumbent have every reason to choose other candidates with a similar philosophy, even from the same party. Each lawmaker thus has a strong incentive to show voters that he/she has made more progress on their priorities than other like-minded candidates would. Each lawmaker thereby has a strong incentive to negotiate agreements with lawmakers across the spectrum.

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[20] Many scholars include "free lists" as the third basic variety of party lists. We, however, consider it a candidate-based system, which are discussed below.

[21] *Electoral System Design: The New International IDEA Handbook,* International Institute for Democracy and Electoral Assistance, Stockholm, 2005, p. 84.

[22] We can see two reasons why few voters take this option: 1) Given the threshold for a candidate to move up the list, a typical voter may perceive that it's not worth his/her effort to evaluate individual candidates. 2) Most party list countries are parliamentary, in which the choice of a party is far more significant than the choice of an individual candidate.

Still, there are other proportional systems in which voters choose individual candidates:

1) The single transferable vote, under which -- as discussed in Appendix II -- a typical voter does *not* get a specific representative the voter can hold to account for policy decisions.

2) A "free list" system, under which each voter picks one candidate, but seats are allocated to each party based on the total number of votes the party's candidates receive. Each voter therefore has a greater incentive to evaluate parties than individual candidates. Furthermore, voters who choose relatively unpopular candidates end up implicitly represented by lawmakers they did not choose (albeit from the same party). With PAR, though, a voter who ranks enough candidates is guaranteed to select at least one who wins.

3) Cumulative voting, in which voters get as many votes as there are seats to fill and can allocate those votes to as many or as few candidates would like. Therefore, the typical voter does get not get a specific representative to hold accountable.