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Majority Voting in the EU: Beneficial or Just Equally Harmful

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ABSTRACT

Passing legislation on the basis of unanimity in the Council of Ministers has become increasingly difficult, but creating a fair voting system for a qualified majority is arguably even harder. After providing a small amount of background on the system of Qualified Majority Voting (QMV) itself, I discuss the desired qualities in a just decision rule; the effects of enlargement on such a system; and the current debate between small and large states. In order to do so, I consider the differential effects of using voting weights directly proportional to the populations of member states as opposed to alternative bases. The proportional systems put forth under the treaties of Nice and Lisbon are then considered on the basis of these qualities to determine their fitness for a European Union that could soon encompass thirty-five members. After this, a different proposal is suggested based on Square Root Voting, with certain rules applied to address the concerns brought up in the paper.

1. INTRODUCTION

Passing legislation on the basis of unanimity has become increasingly difficult in the last 50 years since the establishment of the European Community, but the prospect of voting by qualified majority in the Council of Ministers has been equally burdened with concerns. With each enlargement, another system is proposed that attempts to set forth the best criteria for all involved—the 'best', of course, being decided from one's viewpoint. A large member state will have different concerns than a smaller one, and a new state's interests can be strictly counter to those which are already established. What has not yet been found is a system that is scientific and reproducible when more states join the Union, while also approaching fairness by taking into account member states' concerns.

The European Union cannot move forward without a comprehensive voting system, and it is often criticized for moving at somewhat of a snail's pace. It may be desirable for all decisions to be made on the basis of unanimity, but is certainly not feasible. In a union that could soon be extended to thirty-five members, the viability of unanimity grows smaller and smaller, and it should be restricted to only the most sensitive issues. The steady switch to

qualified majority voting indicates a necessity and desire for further cooperation and integration between the members. What is the best way to choose voting weights to ensure that power is distributed fairly? Is it possible to have a system of majority voting that benefits all, or maybe just one that is to the detriment of everyone equally?

The paper is organized as follows. Section 2 provides background on the use of Qualified Majority Voting, and the implications of its use. The qualities that may be preferred in a system, which are impacted by the view of the EU as either an association of states, a unitary state, or somewhere in between, are discussed in Section 3, as well as a description of the *a priori* power indices used. Effects on the system that arise from enlargement are considered in Section 4, and additional concerns and factors are laid out in Section 5. Section 6 examines the current system as detailed in the Treaty of Nice, the effects of enlargement if extended from EU-27 to EU-35, and also the new system, put forth under the Lisbon Treaty, which was agreed upon at the IGC in Brussels on 21–22 June 2007. Section 7 presents my purpose in writing this paper, which is my own proposal for a majority voting system, determined after considering the desired criteria. Section 8 compares the three systems, and Section 9 concludes.

2. USE OF QUALIFIED MAJORITY VOTING

The Council is the primary decision-making body of the Union, thus there is sufficient concern that if it cannot reach decisions, the EU can accomplish nothing. A primary basis for the Council's power is that its ministers should make decisions based on what the citizens of their home country want; the decisions are not made by party like in the European Parliament, and they are not necessarily focused towards European preferences like those made in the European Commission. There are currently four different ways that the Council of Ministers reaches a conclusion: unanimity, a simple majority of states, qualified majority with voting weights, and qualified majority with weights and a minimum number of states.[1] When the European Community was formed, the primary method used was unanimity.[2] Considering that the states were wary of conflict, and not yet very integrated, this was the wisest course. Under unanimity, no decisions can be made against a state's wishes; there is no erosion of sovereignty that is associated with having to implement and follow a law against which one voted. On the other hand, under qualified majority voting, "each member state is assigned a number of bloc-votes, or weight, and a proposed resolution is carried if the total weight of those voting for it equals or exceeds a certain quota," or necessary proportion of the votes.[3] That the EU members ever use QMV is a testament to their commitment towards further integration and cooperation in that states often need to make coalitions to reach a satisfactory conclusion.[4]

Originally, the desire to vote by majority was not felt by all, despite its theoretical inclusion in the Treaty of Rome which established the Community. The extreme reluctance to give up national autonomy led to the Luxembourg Compromise in 1966, pushed strongly by President de Gaulle of France. It was tantamount to an "agreement to disagree," in which the states decided that if an issue was really important to one of the members, it could be settled based on unanimity.[5] The problem with this option being that any issue could be very important to a member, and following a declaration of such, further talks would have to take place to satisfy the state; decision-making processes could be slowed, possibly indefinitely.

Gradually less sensitive areas of the Union such as agriculture were placed under the

Table 1. QMV Weights Before Nice

Member State	1958	1973	1981	1986	1995
Germany	4	10	10	10	10
Italy	4	10	10	10	10
France	4	10	10	10	10
Belgium	2	5	5	5	5
Netherlands	2	5	5	5	5
Luxembourg	1	2	2	2	2
UK		10	10	10	10
Ireland		3	3	3	3
Denmark		3	3	3	3
Greece			5	5	5
Spain				8	8
Portugal				5	5
Austria					4
Sweden					4
Finland					3
Total Votes	17	58	63	76	87
Quota (votes needed)	12	41	45	54	62
Quota % (of total votes)	70.59	70.69	71.43	71.05	71.26
# States Needed for Quota	3	5	5	7	8

realm of QMV. The first major usage was achieved with the Single European Act (SEA) of 1986, by adding the preparations for a single market among the states.[6] This act is said to have extended the QMV areas greatly, but its real significance was to reestablish what was decided in the Treaty of Rome in 1957 and overturned with the Luxembourg Compromise ten years later. Since the SEA, the number of items delegated to QMV has grown, and there are continually new proposals for voting weights for the member states in order to make this process fairer for all involved. Table 1 shows the development of the weights, or number of votes out of the total votes, for the states at each enlargement, up to that of 2004, where the QMV system shifted weights based on the proposal set out in the Treaty of Nice. There will be an in-depth discussion of these changes in Section 4. Today, QMV is used for most issues in the Council, except those such as common foreign and security policy, taxation, asylum and immigration policy, which are more sensitive, and thus still done by unanimity.[7]

3. QUALITIES DESIRED IN A DECISION RULE

There is a lot of discussion today, and there has been since QMV began to replace unanimity, about whether the voting weights for the Council are fair. This greatly depends on the conception of the EU that one chooses to use, one's view of the Council's place in the Union and in relation to the citizens it represents, and the criteria that are deemed important. As an institution, the EU can be seen as either an alliance of states which are sovereign in themselves or as one state that has ultimate sovereignty: an association of states, a unitary state, or a federal state somewhere in between.[8] If the EU is an association, then there would be no cause for one state to have any more power than another, and voting

should be done as 'one state, one vote', without consideration of population. If the EU is a unitary state, then voting should be done as 'one person, one vote', without correcting for power imbalances. However, Article 17 of the Treaty Establishing the European Community states that, "Citizenship of the Union shall complement and not replace national citizenship."[9] Thus the member states retain a large amount of their autonomy while still choosing to be integrated in many areas, and any voting system should logically comprise a concession between these two voting mandates. This is normally accomplished by the establishment of a system that is "degressively proportional," which is to say that larger countries receive less than their share and smaller countries a little more.[10]

As proposed by Felsenthal and Machover, there are two qualities to consider for a decision rule, which is a system that decides the outcome of a binary, yes or no, vote for any possible combination of votes, that affects this balance between big and small states and the citizens thereof: *equitability* and *majoritarianism*.[11] These traits will not necessarily come together, and the extent to which they are desired in a voting system can be highly subjective. They are normative concepts which can be satisfied with certain choices, and after this section, it will be assumed that some measures to fulfill them are desirable.

The first, *equitability*, is the principle that every citizen should have equal voting power, which is not to say that voting weights should be proportional to population. Theorists model this situation as a two-stage game.[12] Citizens of a member state vote for a representative, and that person votes for them in the Council; therefore, each voting citizen has an indirect influence on the outcome of the votes in the Council.[13] Lionel Penrose's square root rule (SQRR) provides the solution to maximize each citizen's indirect voting power. In the first stage, the citizens voting power is equal to one divided by the square root of the voting population. Then the weights in the council should be proportional to the square root of each state's population (N), making power for each citizen equal.[14] As demonstrated in the equation below, if the square root of the state's population is used, then the indirect voting power for each citizen will be equal to 1.

$$\text{A citizen's indirect voting power} = [1/\sqrt{N}] \cdot \sqrt{N}$$

"citizen's direct voting power · representative's voting power in the council"[15]

Table 2 shows the current populations of all EU member states, as well as the prospective and potential members, and the difference between a state's percentage of the total EU population and its percentage of the sum of the population square roots. Judging the states by the square roots of their populations reduces dramatically the ratio between the largest and smallest states, causing the distribution to be shared more equally. Germany's population is over 20,000 times that of Malta, but the square root of its population is closer to 1,400 times Malta's. If votes were directly proportional to the size of each state, the smaller states would have no real amount of power to make decisions.

Majoritarianism, also known as majority rule, is the concept that the outcome of a vote should be as close as possible to the wishes of the majority of the citizens it affects. This theory can run counter to the precepts put forth under *equitability*, because it seems to require direct proportionality to population. The assumption in a representative voting system is that the representative will vote as the majority of his or her electorate wants; however, the problems with this supposition are one, that it might not be true, and two, that not all of a constituency agrees with the vote a representative casts, but he would still receive the full amount of weight/power as if they did. It is difficult to gauge whether or not a decision is actually one that a majority of EU citizens want. To ensure this and that these

decisions are actually made as much as possible, the quota for the system, based on equal citizen voting power, should be very near a simple majority.[17] However a supermajority,

Table 2: Populations of EU Member States, including Prospective and Potential Members

Member State	Population[16]	Percentage of Total Population	Population Square Root	Percentage of Total of Square Roots
Germany	82,400,996	14.03%	9077.5	7.77%
Turkey	71,158,647	12.11%	8435.56	7.22%
France	64,057,790	10.90%	8003.61	6.85%
United Kingdom	60,776,238	10.35%	7795.91	6.67%
Italy	58,147,733	9.90%	7625.47	6.53%
Spain	40,448,191	6.89%	6359.89	5.44%
Poland	38,518,241	6.56%	6206.31	5.31%
Romania	22,276,056	3.79%	4719.75	4.04%
Netherlands	16,570,613	2.82%	4070.7	3.48%
Greece	10,706,290	1.82%	3272.05	2.80%
Portugal	10,642,836	1.81%	3262.34	2.79%
Belgium	10,392,226	1.77%	3223.7	2.76%
Czech Republic	10,228,744	1.74%	3198.24	2.74%
Hungary	9,956,108	1.69%	3155.33	2.70%
Sweden	9,031,088	1.54%	3005.18	2.57%
Austria	8,199,783	1.40%	2863.53	2.45%
Serbia	8,023,557	1.37%	2832.59	2.42%
Bulgaria	7,322,858	1.25%	2706.08	2.32%
Denmark	5,468,120	0.93%	2338.4	2.00%
Slovakia	5,447,502	0.93%	2333.99	2.00%
Finland	5,238,460	0.89%	2288.77	1.96%
Bosnia & Herzegovina	4,552,198	0.77%	2133.59	1.83%
Croatia	4,493,312	0.76%	2119.74	1.81%
Ireland	4,109,086	0.70%	2027.09	1.73%
Albania	3,600,523	0.61%	1897.5	1.62%
Lithuania	3,575,439	0.61%	1890.88	1.62%
Latvia	2,259,810	0.38%	1503.27	1.29%
Kosovo	2,126,708	0.36%	1458.32	1.25%
Macedonia	2,055,915	0.35%	1433.85	1.23%
Slovenia	2,009,245	0.34%	1417.48	1.21%
Estonia	1,315,912	0.22%	1147.13	0.98%
Cyprus	788,457	0.13%	887.95	0.76%
Montenegro	684,736	0.12%	827.49	0.71%
Luxembourg	480,222	0.08%	692.98	0.59%
Malta	401,880	0.07%	633.94	0.54%
Total	587,465,520	100.00%	116846.09	100.00%

which is a majority in excess of 51 percent, is often used to prevent tyranny by the majority in systems that favor protecting minority rights and to prevent too much change.

The indices used to consider these issues are the Penrose measure of voting power and the Banzhaf measure of relative voting power, both of which evaluate random, binary, *a priori* voting power. As opposed to actual voting power, *a priori* power shows the probability that the member state will be able to influence the outcome of a vote just by virtue of the powers granted by the decision rule, without considering outside stimuli.[18] Voting power is not necessarily proportional to voting weight.[19] If there are two states, A and B, which have voting weights of 51 and 49, and decisions are made based on simple majority, then State B would in reality have no power at all, making it a 'dummy'. There is no chance that State B's vote could be decisive for the outcome of the vote, because 51% of the votes are necessary, whereas State A is a 'dictator' because it controls the decisions. This was the case for Luxembourg from 1958-72, because its voting weight was so small that in no possible combination of votes would its vote be able to make a difference in the outcome.[20] The Penrose measure of power for state i, denoted by π_i, interprets this probability with the equation:

$$\pi_i = \eta_i / 2^{n-1} \qquad i = 1, 2, \ldots, n^{[21]}$$

In this equation, η_i represents the number of winning coalitions of states in which state i is a decisive part (also called swings[22]), the number of total combinations of states is 2^n where n is the number of states,[23] and 2^{n-1} is the number of total combinations without state i. The Penrose measure shows the absolute power of a state by taking the number of swings for state i compared to the number of possible combinations without state i. It is also called the absolute Banzhaf index. The Banzhaf index, also called the normalized or standardized Banzhaf index, and denoted by β_i, is a measure of the relative power of a state:

$$\beta_i = \pi_i / \Sigma \pi_i \qquad i = 1, 2, \ldots, n^{[24]}$$

So this index is simply the Penrose measure divided by the sum of the total Penrose measure for all of the states, and it shows the number of swings for state i as compared to the total number of swings.[25]

4. EFFECTS OF ENLARGEMENT

Even a system that nicely balances these two concepts (*equitability* and *majoritarianism*) will be upset when new states are added in. With enlargement comes a redistribution of the power available in the union, so it is expected that each member state's power will decrease when they make room for another member. Actually, this is only certain when the decision rule is not altered during enlargement, so in the EU, there are often gains or losses in absolute and relative power that break the norm. The total amount of absolute *a priori* power (the ability the states have in general to form a winning coalition) for the body is decided by the severity of the decision rule.

Two further criteria that Felsenthal and Machover (2000) put forth are somewhat similar as they measure how the system responds to change. They are used in the context of a normative supposition that a decisive body should react to the needs of the people it represents. After an enlargement, these measures are often affected by the shifts in power. *Sensitivity*, or *responsiveness*, is the extent to which a body will respond to changes in the desires of its members or its volatility. It can be seen as a "democratic participation index,"

that shows how responsive the system is to change in the will of the public.[26] A system will be less responsive if the quota, or required threshold for votes, is unanimity, and more if the quota is a simple majority. All things being equal, a higher relative sensitivity is better. A related measure, *resistance* is the tendency of the system to retain the status quo. It is hard to say what measure of resistance is best, but the higher the number, the less ability the Council has to make any actual decisions or changes, eventually leading to "legislative gridlock" and sometimes a population that changes in advance of its government.[27] A further measure used to consider the Council's efficacy is the Coleman index, denoted by ε, which shows the power of the entire body to make decisions. It makes use of the total number of winning coalitions (η_i) as compared to the total number of possible coalitions. It shows the *a priori* probability of a random coalition to win (also known as the efficiency):[28]

$$\varepsilon = \Sigma\, \eta_i / 2^n$$

As can be seen from Table 3, there are several interesting trends that can be remarked from the development of the QMV system from 1958 to 2003. One is that despite population differences, the four largest states, Germany, Italy, France and the United Kingdom, always have the same amount of power as each other, which can be assumed to arise from an understanding that one state should never have more power than all of the others (and as they are the 'big four,' it would seem that there is a desire for each to have the same influence on the system). Even after Germany's reunification in 1990, which brought a population rise of 20 million, it did not receive an upper hand.

Second, from '73 to '03, once a state received a voting weight, it was unchanged by enlargement; the other states were inserted into the system where they fit best. This method weights the states somewhat proportionally to the others, but it is not a scientific determination. It led to a rather stable and small "votes ratio", which is the ratio between the weight of the largest state to the smallest (with Germany = 10, and Luxembourg = 2, yielding the Votes Ratio = 5), and actually a decrease in the relative power ratio from 10.62 in 1973 to 4.87 in 1995.[30] While enlargement consistently lowered the relative power of the larger states, this was not necessarily true for the smaller and medium states. For instance, Luxembourg had no power until 1973, and with the addition of Greece in 1981, its power was actually on the same level of Ireland and Denmark, despite the fact that both of these states had a higher population and voting weight (further proof that voting power is not the same as voting weight).[31] Then Ireland and Denmark's relative power increased in 1986, despite a loss in power as measured by Penrose. This signifies that they were again able to form more winning coalitions than Luxembourg, though the amount of winning coalitions that they and others could form had decreased.

The mistake that made decision-making increasingly harder each time the Union expanded was the naively logical idea of keeping the percentage of votes necessary for majority the same with each broadening. The assumption is that this would ensure that the same supermajority would agree to decisions despite more members. Technically, that is correct, but doing so has the effect of increasing the resistance, and thus biasing decisions *a priori* towards the status quo. While the quota percentage stayed at 71 percent for each column, the *resistance* increased each time from 0.5806 in 1958 to 0.8445 in 1995, and in conjunction with this change, the total Penrose measure had decreased as well. This denotes that there is less influence to be had in making decisions; the bias towards status quo takes away individual power from the member states. Thus Leech (2002) posits a direct relation

between individual absolute power and the power of the council to act, and a trade-off

Table 3. Power Indices of Weights Before Nice

Member State	1958		1973		1981		1986		1995	
	Pen	Banz	Pen	Banz	Pen	Banz	Pen	Banz	Pen	Banz
Germany	0.312	0.238	0.207	0.167	0.195	0.158	0.140	0.129	0.113	0.112
Italy	0.312	0.238	0.207	0.167	0.195	0.158	0.140	0.129	0.113	0.112
France	0.312	0.238	0.207	0.167	0.195	0.158	0.140	0.129	0.113	0.112
Belgium	0.188	0.143	0.113	0.091	0.102	0.082	0.072	0.067	0.059	0.059
Netherlands	0.188	0.143	0.113	0.091	0.102	0.082	0.072	0.067	0.059	0.059
Luxembourg	0.000	0.000	0.019	0.016	0.051	0.041	0.019	0.018	0.023	0.023
United Kingdom			0.207	0.167	0.195	0.158	0.140	0.129	0.113	0.112
Ireland			0.082	0.066	0.051	0.041	0.050	0.046	0.036	0.036
Denmark			0.082	0.066	0.051	0.041	0.050	0.046	0.036	0.036
Greece					0.102	0.082	0.072	0.067	0.059	0.059
Spain							0.118	0.109	0.093	0.092
Portugal							0.072	0.067	0.059	0.059
Austria									0.048	0.048
Sweden									0.048	0.048
Finland									0.036	0.036
Total	1.312	1.000	1.238	1.000	1.238	1.000	1.085	1.000	1.011	1.000
Quota % (of votes)	70.59		70.69		71.43		71.05		71.26	
Resistance	0.5806		0.7098		0.728		0.8041		0.8445	

between the latter and individual blocking power.[32] With the 1995 amount of resistance and power, decisions can still be made without too much difficulty, but it is very far away from the ability established when the union was created. This quota stability was kept with the intention of retaining the blocking power for the larger countries.[33] Each decision could be blocked by 2 of the largest states during the periods listed in the table, but these data are for 15 members, and the addition of 12 more has made these effects worse. According to the Commission's Enlargement Strategy for 2007-08, there are eight additional countries that are either candidates (3) or potential candidate (5) members, respectively: Croatia, the Former Yugoslav Republic of Macedonia, Turkey, Albania, Bosnia and Herzegovina, Kosovo under UN Security Council Resolution 1244, Montenegro, and Serbia.[34] A new voting system would need to consider the probable situation of a thirty-five state EU, and possibly even more. The blocking ability has decreased considerably by virtue of this larger number of states, and it would not be fair in any sense if two members by themselves were able to derail the progress of the other thirty-three (provided the question is one that falls under

QMV).

5. Other Factors and Concerns

Section 4 discussed the effects that arise from raising the amount of members in the Union, but there are further alterations that the system undergoes based on changing the vote threshold or adding a double or triple majority. Additionally, the greatest amount of tension in the Council normally occurs when considering the benefits given to small or large states. There is a lot of pressure to create a system that is easy and transparent, so that the citizens of the EU can better understand how decisions are made that affect their lives. The problem with this, while a laudable goal, is that logical assumptions about qualities that would be desired in a voting system are often wrong. Weights are not translatable into power, and basing the system on population alone would not allot fairly the total citizen power. The best solution would create a decision rule that is scientifically based so that it is reproducible and then attempt to address in some way these concerns, without worrying about reducing so far towards understandable simplicity that while it would be logical, it would no longer be fair.

Table 4 illustrates the effects of changing the quota that determines a qualified majority for a body with a set amount of members and weights. If the quota is set near a simple majority, the amount of individual power of each individual state is maximized, the total Penrose measure is very high, suggesting the member states have a lot of influence in the overall decision, and the distribution of the power is the most unequal. If the quota is set at another extreme of 90 percent, the Penrose measure is reduced to a fraction of the size, which predicts a very high resistance, so the amount of individual power is very low.

The interesting occurrence is what happens between setting the quota at 67 percent, 71 percent, and 80 percent. As discovered by Raunio and Wiberg, small and medium member states often benefit from a higher threshold, in terms of power.[35] State H's relative power (Banzhaf measure) increased from .0255 to .0333, which means that without consideration of other factors, it will be decisive in the winning coalition 3.33 percent of the time. There is also an increase for States D, F, and G. The distribution of power is most equal when the quota is set around 80 percent, but this is likely because it becomes really difficult for any state to affect the outcome of a decision, so the relative power of the smaller members is increased because the larger members have lost a great deal of power.

As for the imbalances between small and large states, it is often complained that the small states are overrepresented in the voting system and large states are underrepresented, and that this is demonstrably unfair. As a first explanation, this was done on purpose, as I suggested before, because the system is degressively proportional. If it were absolutely proportional, the smaller states would have no power to affect the vote, and as they are sovereign states, one could argue that ignoring their opinions would not be fair. If the effect of overweighting Luxembourg to a small extent is considered, it is unlikely that it will have any dangerous consequence on the overall democracy of the process. Another point is that, as concluded by Moberg, the large states are not particularly concerned with their underrepresentation, (at least not until recent years).[36]The real, growing fear seems to be that decisions could be made by a minority of the population. Because more and more small and medium states have become members, the minimum population for a majority of states has decreased.[37] This should be factored in when designing a decision rule, but what to decide when thirty out of thirty-five states support a decision, while only representing a

Table 4. Model Showing the Effects of Varying the Quota

State	Weight	Quota - 50 %		Quota - 67 %		Quota - 71%		Quota - 80%		Quota - 90%	
		Pen	Banz	Pen	Banz	Pen	Banz	Pen	Banz	Pen	Banz
A	8	0.4766	0.2364	0.3516	0.2296	0.2656	0.2208	0.1484	0.2111	0.0547	0.175
B	7	0.3984	0.1977	0.3047	0.199	0.2344	0.1948	0.1328	0.1889	0.0547	0.175
C	6	0.3359	0.1667	0.2578	0.1684	0.2031	0.1688	0.1172	0.1667	0.0547	0.175
D	5	0.2734	0.1357	0.2109	0.1378	0.1719	0.1429	0.1016	0.1444	0.0547	0.175
E	4	0.2266	0.1124	0.1641	0.1071	0.1406	0.1169	0.0703	0.1000	0.0391	0.125
F	3	0.1484	0.0736	0.1172	0.0765	0.0938	0.0779	0.0703	0.1000	0.0234	0.075
G	2	0.1016	0.0504	0.0859	0.0561	0.0625	0.0519	0.0391	0.0556	0.0234	0.075
H	1	0.0547	0.0271	0.0391	0.0255	0.0312	0.026	0.0234	0.0333	0.0078	0.025
Total	**36**	**2.016**	**1**	**1.531**	**1**	**1.203**	**1**	**0.703**	**1**	**0.313**	**1**

non–sufficient 49 percent of the population (or even 70 percent in the system now) is very tricky to handle. Arguably, the only state with a real cause for complaint over its amount of votes is Germany, as it has about 20 million more people than the next largest state, but no corresponding influence to show for it.

An attempt to balance between the small and large states was the creation of a double, or sometimes triple, majority, whereby some combination of set percentages of the population, weighted votes, and/or member states are required to reach majority. In theory, requiring a minimum number of states would help small states to avoid exclusion from decisions, and a population constraint would address the underrepresentation of larger states as well as require that there is always a majority of the population in favor. In practice, these assumptions are not necessarily useful. The minimum number of states could lead to a decision supported by a majority of states being reconsidered because one-third of the states, comprising about 5 percent of the population are against it.[38] The minimum population often leads to a situation with two population criteria where not only are the votes weighted roughly by population, but there is also a set minimum percentage. Finally, the presumption that because there is a minimum number of states, population, or votes represented in a system, there is a majority of the citizens who support it is not automatically true. Even when assuming the representative is voting how his constituency desires, a majority of the population in a majority of states does not necessarily equal a majority of the EU population. And none of these criteria explicitly consider equal citizen voting power, unless that is how the votes are weighted. Further, a report by Kirsch, et al., shows that adding a population criterion of 62 percent in a twenty-seven member EU would have no effect on Germany's power in the Council, despite its clear share of almost 17 percent of the current EU population.[39,40] It should be affected if the criterion is useful. Because of all these measures, medium sized states are now able to complain that the systems benefit small states and large states to their detriment.

The concern for aiding a blocking minority, which actually could influence Germany's power, that led to the Ioannina Compromise in 1994 may lead to somewhat of a tyranny of the minority when extending the system to thirty-five members. After the accession of Finland, Sweden, and Austria in 1995, the number of votes for a blocking minority should have been increased from 23 to 26 votes. Instead, largely because of the

objection of the British, the Ioannina Compromise was applied, whereby, "if members of the Council representing a total of 23 to 25 votes indicate their intention to oppose the adoption by the Council of a decision by a qualified majority, the Council will do all within its power to reach, within a reasonable time…a satisfactory solution that can be adopted by at least 65 votes," which was the quota preferred by the UK.[41] Essentially this measure raised the quota, because more states were needed to agree. Though sometimes said to be created with small states in mind, it seems to have the most effect on those who are most concerned with their blocking ability, i.e. usually the larger states.[42] Increasing blocking abilities will decrease the ability of the body to act. Those who are less integrationist minded should be considered, but not so much that the will of the majority is ignored completely or that nothing can be decided upon. Those states who would be most concerned with this are likely large states, Euro-skeptics, or net contributors to the budget.[43] This suggests that the United Kingdom, which meets a good deal of these criteria, would have considerable difficulty approving a system that did not grant it sufficient room to move. According to Mattila, the top countries who voted negatively between 1995 and 2000 are, in order: Germany, Sweden, UK, Italy, Netherlands, and Denmark.[44] Countries which are pro-integration or small are more likely to be in the winning coalitions on any question, because they are less likely to veto.

6. QUALIFIED MAJORITY VOTING UNDER NICE AND LISBON

The qualified majority voting system agreed upon under the protocols for enlargement that were adopted at Nice to take effect at the beginning of 2004, and which will now be used until 2014, seems to be based on a rather arbitrary scheme for voting weights. It followed somewhat in the tradition of the weights that came with enlargements before it, and as before, new states are simply slotted into the weight that contains members with populations to which they are nearest. The weights as they currently exist for the EU-27 are listed in Table 5.

The decided upon decision rule is that 255 out of the total 345 votes and 50 percent of the member states are needed to adopt a Commission proposal, and 255 votes and two-

Table 5. Voting Weights and Power Indices for EU–27, under Nice (Quota at 255 or 73.9%)

Member States	Weight	Penrose	Banzhaf
Germany, France, UK, Italy	29	0.03269	0.07783
Spain, Poland	27	0.03116	0.0742
Romania	14	0.01789	0.04259
Netherlands	13	0.01669	0.03974
Belgium, Czech Republic, Greece, Hungary, Portugal	12	0.01547	0.03684
Austria, Bulgaria, Sweden	10	0.01299	0.03092
Denmark, Ireland, Lithuania, Slovakia, Finland	7	0.00916	0.02181
Cyprus, Estonia, Latvia, Luxembourg, Slovenia	4	0.00525	0.0125
Malta	3	0.00396	0.00942
Total	345	0.41999	0.99998

thirds of the states are needed otherwise. Additionally, a state can inquire if the majority comprises 62 percent of the EU population, making the system somewhat of a triple majority.

The blocking minority is 91 votes, which is at least 4 states. Faced with the system from 1995 that was ill-equipped for enlargement, and the coming accession of 10 new members, this system was created with the intention of being okay for now, though it would need to be changed in the near future (2009).[45]

This system as it applies to the current EU situation has a very low total Penrose measure of .41999, indicating little individual power to influence winning coalitions. The votes ratio is 9.66, but the relative power ratio is 8.26, which is good considering how large it would be if proportional to the populations. The major faults with this system are that it is arbitrary, its resistance, as could be expected by the low Penrose measure, is 0.95949, and its sensitivity is 0.85772. The first could be fixed by a formula to derive these weights, and the latter two were caused when the EU raised the quota necessary for majority with the additional members. Instead of 71 percent, where it had been for almost 50 years, a level that was already slowing decision-making, they increased it to 73.9 percent—*a priori* biasing decisions severely towards the status quo. The arrangement is not sustainable. Additionally, if the system were extended to include the eight new prospective members, the results would be as shown in Table 6.

The Penrose measure, which was already low for EU–27, is cut in half for EU–35. The resistance has increased to 0.97842 and the relative sensitivity is 0.86767. The decision rule for this extension to EU–35 would be 308 votes out of a total 417, keeping the same percentage of 73.9 percent. The blocking minority would be 110, which could still be achieved by the four largest states. The EU would have little chance of making a decision, unless the outcome is relatively conservative, because the quota is too high. The votes ratio is the same, and the relative power ratio has only decreased slightly to 8.10. The major problem is that there is not very much power to be distributed.

The last category of the table calculates the over or underrepresentation of the country based on the ratio between its percentage of the total weight and its percentage of the total population as well as of the total square root of the population. When considering the relation to the population, the results are not surprising. The larger states are underrepresented by up to half, and the states begin to be overrepresented from the Netherlands down, ending with Malta which has over 1000 percent of the weight that its population would warrant. However, its relative power is less than 1 percent, further demonstrating that the effects of overweighting are normally not severe. Looking to the percent of the total square roots, there is no visible systematic bias towards certain states. Most states are very close to their correct percentage. While the system is relatively fair towards citizen power, it could be much improved.

Table 6. Weights for Extension of Nice to EU–35 and Relation to Population and Citizen Voting Power (Quota at 308 or 73.9%)

Member State	Weights	Percentage of Total Weight	Penrose	Banzhof	Over/Under Representation % Pop.	%SQRR
Germany	29	6.95%	0.0174	0.06354	49.58%	89.52%
Turkey	29	6.95%	0.0174	0.06354	57.41%	96.33%
France	29	6.95%	0.0174	0.06354	63.78%	101.53%
UK	29	6.95%	0.0174	0.06354	67.22%	104.23%
Italy	29	6.95%	0.0174	0.06354	70.26%	106.56%
Spain	27	6.47%	0.01662	0.06071	94.04%	118.96%
Poland	27	6.47%	0.01662	0.06071	98.75%	121.90%
Romania	14	3.36%	0.00967	0.03531	88.54%	83.12%
Netherlands	13	3.12%	0.00902	0.03296	110.52%	89.49%
Greece	12	2.88%	0.00838	0.0306	157.90%	102.76%
Portugal	12	2.88%	0.00838	0.0306	158.84%	103.07%
Belgium	12	2.88%	0.00838	0.0306	162.67%	104.30%
Czech Republic	12	2.88%	0.00838	0.0306	165.27%	105.14%
Hungary	12	2.88%	0.00838	0.0306	169.80%	106.56%
Sweden	10	2.40%	0.00704	0.0257	155.99%	93.24%
Austria	10	2.40%	0.00704	0.0257	171.81%	97.85%
Serbia	10	2.40%	0.00704	0.0257	175.58%	98.92%
Bulgaria	10	2.40%	0.00704	0.0257	192.38%	103.55%
Denmark	7	1.68%	0.00497	0.01817	180.35%	83.88%
Slovakia	7	1.68%	0.00497	0.01817	181.03%	84.04%
Finland	7	1.68%	0.00497	0.01817	188.25%	85.70%
Bosnia & Herzegovina	7	1.68%	0.00497	0.01817	216.63%	91.93%
Croatia	7	1.68%	0.00497	0.01817	219.47%	92.53%
Ireland	7	1.68%	0.00497	0.01817	239.99%	96.76%
Albania	7	1.68%	0.00497	0.01817	273.89%	103.37%
Lithuania	7	1.68%	0.00497	0.01817	275.81%	103.73%
Latvia	4	0.96%	0.00286	0.01045	249.36%	74.56%
Kosovo	4	0.96%	0.00286	0.01045	264.97%	76.86%
Macedonia	4	0.96%	0.00286	0.01045	274.10%	78.17%
Slovenia	4	0.96%	0.00286	0.01045	280.46%	79.07%
Estonia	4	0.96%	0.00286	0.01045	428.23%	97.71%
Cyprus	4	0.96%	0.00286	0.01045	714.71%	126.23%
Montenegro	4	0.96%	0.00286	0.01045	822.97%	135.45%
Luxembourg	4	0.96%	0.00286	0.01045	1173.45%	161.74%
Malta	3	0.72%	0.00215	0.00784	1051.65%	132.60%
Total	417	100.00%	0.27378	0.99999		

Majority Voting in the EU

The voting system being considered under the Lisbon Treaty, which is very similar to the one discussed in the proposed Constitutional Treaty, was decided upon at the Intergovernmental Conference in Brussels in June 2007. It will take over after 2014, except in cases where a smaller state wishes to still use the Nice criteria (up until 2017).[46] Under Lisbon, the majority should comprise 55 percent of the states and 65 percent of the population, so effectively the voting weights would be proportional to the member states' populations. A blocking minority should comprise at least four members. Table 7 shows the weights, power indices, and relations to the total populations and the square roots of the populations that would apply to this system for an EU-35 if the votes are made proportional. The solution that this treaty represents is the aforementioned simplest and most understandable option, which means that it is even worse than the system proposed under Nice. The idea of basing the weights on population is good in theory, but in practice, it gives the smaller states miniscule voting weights, and allows for domination by the larger states. Some of this is mitigated by the requirement of 55 percent of the states, but the system still does not seem fair—especially in terms of citizen voting power.

Considering the data for the Lisbon system is a little tricky because the member state quota is undoubtedly supposed to factor in quite significantly, but from a preliminary examination of the numbers, the situation is not fair. First, it is useful to note that the Penrose measure for Germany under this decision rule is very close to the total Penrose measure for the entire EU body under Nice. Clearly the power of the body to act has been much increased; the new Penrose measure is 1.67909, but to what detriment? The votes ratio is 140, and the relative power ratio is 138.8 making the distribution of power very unequal. The resistance is 0.68994, and the relative sensitivity is 0.95175; both of these measures are very good, depending on what criteria one chooses. The body is very sensitive to changes in public will, and it should be relatively easy to push decisions through. It is now easier for larger countries to block decisions; it could be done by three larger countries and one smaller country which is only needed to reach the blocking minority of 4 states rather than because its vote is really necessary.

The major problem now is that the smaller states have no weight. Their power is directly relying on being one of the 55 percent that makes up the member state quota, but their power to individually influence a decision is low. Logically, the relation of the states' votes to their percentage of the population is very good—the deviation from a perfect ratio being caused by the effects of rounding the weights to a small whole number. The relation to their percentages of the square roots of the population resembles the relation of the Nice weights to populations. The citizens of the larger states receive more voting power than is warranted by their size, and those in the smaller states not only have no real effect on outcomes, but they also have less indirect power than they would if voting in a larger state. In regards to both the rights of smaller states and their citizens, this proposal is nowhere near a fair division of power.

Table 7. Weights for Lisbon Criteria and Relation to Population and Citizen Voting Power

Member State	Weights	Percentage of Total Weight	Penrose	Banzhof	Over/Under Representation	
					% Pop.	%SQRR
Germany	140	13.99%	0.23313	0.13884	99.71%	180.03%
Turkey	121	12.09%	0.20291	0.12084	99.79%	167.44%
France	109	10.89%	0.18298	0.10897	99.86%	158.97%
UK	104	10.39%	0.17464	0.10401	100.43%	155.72%
Italy	99	9.89%	0.1663	0.09904	99.92%	151.55%
Spain	69	6.89%	0.1141	0.06795	100.11%	126.64%
Poland	66	6.59%	0.10946	0.06519	100.56%	124.13%
Romania	38	3.80%	0.06436	0.03833	100.11%	93.98%
Netherlands	28	2.80%	0.04727	0.02815	99.17%	80.29%
Greece	18	1.80%	0.03032	0.01806	98.67%	64.21%
Portugal	18	1.80%	0.03032	0.01806	99.26%	64.41%
Belgium	18	1.80%	0.03032	0.01806	101.65%	65.18%
Czech Republic	17	1.70%	0.02864	0.01705	97.54%	62.05%
Hungary	17	1.70%	0.02864	0.01705	100.21%	62.89%
Sweden	15	1.50%	0.02695	0.01605	97.48%	58.26%
Austria	14	1.40%	0.02358	0.01404	100.20%	57.07%
Serbia	14	1.40%	0.02358	0.01404	102.40%	57.69%
Bulgaria	13	1.30%	0.02189	0.01304	104.19%	56.08%
Denmark	9	0.90%	0.01515	0.00902	96.59%	44.93%
Slovakia	9	0.90%	0.01515	0.00902	96.96%	45.01%
Finland	9	0.90%	0.01515	0.00902	100.83%	45.90%
Bosnia & Herzegovina	8	0.80%	0.01347	0.00802	103.14%	43.77%
Croatia	8	0.80%	0.01347	0.00802	104.49%	44.05%
Ireland	7	0.70%	0.01178	0.00702	99.98%	40.31%
Albania	6	0.60%	0.0101	0.00602	97.80%	36.91%
Lithuania	6	0.60%	0.0101	0.00602	98.49%	37.04%
Latvia	4	0.40%	0.00673	0.00401	103.88%	31.06%
Kosovo	4	0.40%	0.00673	0.00401	110.38%	32.02%
Macedonia	4	0.40%	0.00673	0.00401	114.18%	32.56%
Slovenia	3	0.30%	0.00505	0.00301	87.63%	24.71%
Estonia	2	0.20%	0.00337	0.002	89.20%	20.35%
Cyprus	1	0.10%	0.00168	0.001	74.43%	13.15%
Montenegro	1	0.10%	0.00168	0.001	85.71%	14.11%
Luxembourg	1	0.10%	0.00168	0.001	122.21%	16.84%
Malta	1	0.10%	0.00168	0.001	146.03%	18.41%
Total	1001	100.00%	1.67909	0.99997		

Majority Voting in the EU

7. PROPOSAL

To begin, my proposal is very similar to the proposal put forth by Poland in 2007, the "Jagiellonian Compromise," and Penrose's theory of Square Root Voting, but I have made a few modifications to correct for unfair power imbalances. The proposal takes the square root of each population for an EU-35 and divides it by 250 to reach a more manageable number.[47] I judge the use of square roots to be fairer as it speaks to equal indirect citizen voting power. This also has the effect of creating the classes of weights that the EU is used to, and reducing some of the differences between the states—it has no effect on the relation of one weight to another. This number is in the column of Table 8 titled "Preliminary Numbers." This number is rounded to the nearest whole number and then two rules are applied. The first is based on the principle that no one state should have the most power. Thus, whichever member state has the highest weight will be decreased so that it is the same as the second highest weight. In this case, Germany and Turkey are placed at the same level. This was done to reduce the large member states' concerns over this issue, while still recognizing that there are significant differences in population between the five largest member states. It would not be fair to the citizens in these countries to keep the same weight for all of them. Using this rule makes the distribution of citizen power among them considerably more equal.

The second rule is that the least populous countries should have a weight equal to the rounded quotient of the most populous country's (new) weight divided by eight. This has the effect of keeping the votes ratio at a level so that the votes of the smallest countries have some amount of influence. It maintains the degressive proportionality. This votes ratio is bigger than for the first four decades of EU existence to reflect that there are more members, but small enough to keep the equal spirit of the small ratio. Since the populations in many of the member states of Europe are more likely to decrease or stay the same than increase, I do not foresee a problem with this rule.

Under this proposal, a majority is met by the requirement of 306 votes out of the total 470, which is 65 percent. A 62 percent quota was considered, as was proposed by Poland, Penrose, and many other scholars, but given the traditions of the EU, and its tendency to devise solutions that tend towards the status quo, the larger supermajority was chosen because it increases the resistance to 0.85407, but keeps the relative sensitivity at 0.94181. Decisions are not easy, but they will happen when the public will is largely in favor. It is possible that someday when more states join, the number may need to be lowered to the 62 percent to maintain effectiveness, but it seems that the EU would not want to lower it or much of the unity of decision could be lost. The votes ratio, because it was limited, is at 8.5. Considering the fifth column of the table, which shows the over or underrepresentation from the percentages of the square roots of the populations, it is visible that each state has a weight that is very nearly proportional to the number that is warranted by their amount of citizen power. Most of the deviations occur from rounding the weights; if a country gains more in population, it could easily be rounded to a higher weight and then it would be one of the few that is over rather than underrepresented. On the whole, the deviation is no more than 7 percent, until one considers the smaller states that were given slightly higher weights, which are still somewhat reasonable.

Additional requirements of percentages of states and populations were left off for several reasons.[48] One, they make the system much more complicated. Currently, it is relatively easy and understandable. Two, they do not really seem to be necessary. For a

Table 8: Proposal for EU-35 of Weighted Votes, Based on Square Root Voting

Member State	Preliminary Numbers	Rules Applied	Percentage Votes of New Total	Over/Under-Representation	People per vote
Germany	36.31	34	7.23%	93.12%	2,423,558.71
Turkey	33.74	34	7.23%	100.20%	2,092,901.38
France	32.01	32	6.81%	99.40%	2,001,805.94
United Kingdom	31.18	31	6.60%	98.86%	1,960,523.81
Italy	30.5	31	6.60%	101.07%	1,875,733.32
Spain	25.44	25	5.32%	97.73%	1,617,927.64
Poland	24.83	25	5.32%	100.14%	1,540,729.64
Romania	18.88	19	4.04%	100.08%	1,172,424.00
Netherlands	16.28	16	3.40%	97.72%	1,035,663.31
Greece	13.09	13	2.77%	98.77%	823,560.77
Portugal	13.05	13	2.77%	99.07%	818,679.69
Belgium	12.89	13	2.77%	100.25%	799,402.00
Czech Republic	12.79	13	2.77%	101.05%	786,826.46
Hungary	12.62	13	2.77%	102.43%	765,854.46
Sweden	12.02	12	2.55%	99.27%	752,590.67
Austria	11.45	11	2.34%	95.50%	745,434.82
Serbia	11.33	11	2.34%	96.54%	729,414.27
Bulgaria	10.82	11	2.34%	101.06%	665,714.36
Denmark	9.35	9	1.91%	95.68%	607,568.89
Slovakia	9.34	9	1.91%	95.87%	605,278.00
Finland	9.16	9	1.91%	97.76%	582,051.11
Bosnia & Herzegovina	8.53	9	1.91%	104.87%	505,799.78
Croatia	8.48	8	1.70%	93.83%	561,664.00
Ireland	8.11	8	1.70%	98.11%	513,635.75
Albania	7.59	8	1.70%	104.82%	450,065.38
Lithuania	7.56	8	1.70%	105.18%	446,929.88
Latvia	6.01	6	1.28%	99.23%	376,635.00
Kosovo	5.83	6	1.28%	102.29%	354,451.33
Macedonia	5.74	6	1.28%	104.03%	342,652.50
Slovenia	5.67	6	1.28%	105.23%	334,874.17
Estonia	4.59	5	1.06%	108.36%	263,182.40
Cyprus	3.55	4	0.85%	111.99%	197,114.25
Montenegro	3.31	4	0.85%	120.18%	171,184.00
Luxembourg	2.77	4	0.85%	143.50%	120,055.50
Malta	2.54	4	0.85%	156.87%	100,470.00
Total	**467.38**	**470**	**100.00%**		

blocking minority, 165 votes are needed, which represents the combined votes of the top five large states plus any one smaller state. This prevents against a sort of tyranny by the larger states. To reach the quota, the votes of either the fourteen largest states or the thirty smallest states would be needed, either way these states represent 65 percent of the total citizen voting power. The first would leave out 21 of the states, and the second represents a minimum population of roughly only 42.71 percent, but the chances of either one of the extreme situations occurring are quite slim. The best way to reach a decision under this system is to have a balance of large and small—a good consensus among the EU states.

8. COMPARING THE SYSTEMS

Table 9 shows the comparative power indices for the three systems: Nice, Lisbon, and my proposal. Most of the indices have already been explained. Minimum number refers to the minimum number of states that could reach the quota. The power of the body to act, if multiplied by 100, shows the efficiency of the system, i.e. the probability of how many decisions, without considering other power factors, will pass based on these a priori considerations. Comparing the Banzhaf indices for the three, the proposal gives more relative power to the larger states and to the smaller states than Nice, and more relative power to all states except the top seven than Lisbon. The absolute power is higher for each state than under Nice and again for all but the top few states in Lisbon. The total Penrose measure for the proposal is somewhat lower than for Lisbon, but the power is distributed much more equitably. Overall, the benefits of the proposal outweigh the areas where it is beat by Lisbon. Differences in areas such as resistance and the power of the body to act reflect choices made for the system. Under the proposal, the EU will find it somewhat more difficult to make a decision than under Lisbon, but it will be sufficiently easy so that decisions can actually be made.

9. CONCLUSIONS

Qualified majority will continue to be used more and more for decision-making in the Council of Ministers, despite the erosion of national sovereignty that it implies, which seems to indicate a dedication to further integration of member states within the Union. Because of the nature of the states' relationship, which is somewhere between a unitary state and an association of states, the system for majority voting that is used from now on will need to consider a balance between the principles of *equitability* and *majoritarianism*, best satisfied by using Penrose's Square Root Voting rule and a vote threshold as close to simple majority as reasonable.

The effects of including more states in the EU should also be considered, as it will probably be extended to thirty-five states soon, which include a shift in the distribution of power and changes in the ability of the Council to act, shown by its efficiency. The extent to which a system is favorable to change can be shown by its *sensitivity*, or *responsiveness*, and *resistance*. Attempts to balance the power of small and large states have been made in the form of double (or triple) majorities, but these measures are neither always useful nor necessary. The desire to form an easy and comprehensible voting system is laudable, but it may lead to a system which is simple to the detriment of its fairness. The system should be degressively proportional, and large states will likely be okay with this criterion as long as the blocking minority is sufficiently small.

Under the current system of Nice criteria, the quota is too high so the states have very little individual power and decisions are very difficult to make. The weights are actually

Table 9: Comparative Power Indices for Nice vs. Lisbon vs. Proposal

Member States	Extension of Nice		Lisbon		Proposal - 65% Quota	
	Penrose	Banzhaf	Penrose	Banzhaf	Penrose	Banzhaf
Germany	0.0174	0.06354	0.23313	0.13884	0.09502	0.07012
Turkey	0.0174	0.06354	0.20291	0.12084	0.09502	0.07012
France	0.0174	0.06354	0.18298	0.10897	0.09011	0.0665
UK	0.0174	0.06354	0.17464	0.10401	0.0876	0.06464
Italy	0.0174	0.06354	0.1663	0.09904	0.0876	0.06464
Spain	0.01662	0.06071	0.1141	0.06795	0.07183	0.053
Poland	0.01662	0.06071	0.10946	0.06519	0.07183	0.053
Romania	0.00967	0.03531	0.06436	0.03833	0.0552	0.04074
Netherlands	0.00902	0.03296	0.04727	0.02815	0.04667	0.03444
Greece	0.00838	0.0306	0.03032	0.01806	0.03805	0.02808
Portugal	0.00838	0.0306	0.03032	0.01806	0.03805	0.02808
Belgium	0.00838	0.0306	0.03032	0.01806	0.03805	0.02808
Czech Republic	0.00838	0.0306	0.02864	0.01705	0.03805	0.02808
Hungary	0.00838	0.0306	0.02864	0.01705	0.03805	0.02808
Sweden	0.00704	0.0257	0.02695	0.01605	0.03515	0.02594
Austria	0.00704	0.0257	0.02358	0.01404	0.03225	0.0238
Serbia	0.00704	0.0257	0.02358	0.01404	0.03225	0.0238
Bulgaria	0.00704	0.0257	0.02189	0.01304	0.03225	0.0238
Denmark	0.00497	0.01817	0.01515	0.00902	0.02642	0.0195
Slovakia	0.00497	0.01817	0.01515	0.00902	0.02642	0.0195
Finland	0.00497	0.01817	0.01515	0.00902	0.02642	0.0195
Bosnia & Herzegovina	0.00497	0.01817	0.01347	0.00802	0.02642	0.0195
Croatia	0.00497	0.01817	0.01347	0.00802	0.0235	0.01734
Ireland	0.00497	0.01817	0.01178	0.00702	0.0235	0.01734
Albania	0.00497	0.01817	0.0101	0.00602	0.0235	0.01734
Lithuania	0.00497	0.01817	0.0101	0.00602	0.0235	0.01734
Latvia	0.00286	0.01045	0.00673	0.00401	0.01764	0.01302
Kosovo	0.00286	0.01045	0.00673	0.00401	0.01764	0.01302
Macedonia	0.00286	0.01045	0.00673	0.00401	0.01764	0.01302
Slovenia	0.00286	0.01045	0.00505	0.00301	0.01764	0.01302
Estonia	0.00286	0.01045	0.00337	0.002	0.01471	0.01086
Cyprus	0.00286	0.01045	0.00168	0.001	0.01177	0.00869
Montenegro	0.00286	0.01045	0.00168	0.001	0.01177	0.00869
Luxembourg	0.00286	0.01045	0.00168	0.001	0.01177	0.00869
Malta	0.00215	0.00784	0.00168	0.001	0.01177	0.00869
Total	**0.27378**	**0.99999**	**1.67909**	**0.99997**	**1.35506**	**1**
Quota	73.9 % or 308/417 votes		65% or 650/1001 votes		65% or 306/470 votes	
Resistance	0.97842		0.68994		0.85407	
Relative Sensitivity	0.86767		0.95175		0.94181	
Minimum Number	22/24		20		14	
Est. Minimum Population	66.71%		65%		42.71%	
Blocking Coalition	4		4		6	
Power of Body to Act	0.0108		0.155		0.073	

Majority Voting in the EU

somewhat fair, in regards to citizen power, but they were decided arbitrarily. Under the criteria set out in the Lisbon treaty, the weights would effectively be proportional to the population of each state. The weights are therefore in no way fair, in regards to citizen power, but the Council's ability to act has been much increased. This system does not have a fair distribution of its power, as the large states receive too much and the small states have individually no effect on decisions at all.

It may be that a system for qualified majority should be harmful enough to all involved that it spreads the harm relatively equally, so that while all states are at somewhat of a disadvantage, they are all equally disadvantaged to preserve the fairness of the situation. Large states get less weight than warranted, but they are still larger, small states get more weight than deserved, but they are still small, and medium states complain that they receive no special favor. My proposal addresses both *equitability* and *majoritarianism* by the use of the square root rule, and satisfies concerns for a realistic level of sensitivity to the public will as well as balancing concerns between resistance and maintaining the status quo. In regards to the Lisbon system that was recently decided upon, I am not sure that it is right to value transparency over a just distribution of power. It seems better to weigh the desire for an easy system against the need for one that provides for the needs of the Union.

END NOTES

1. Laurelle, Annick and Mika Widgrén. "Is the Allocation of Voting Power Among EU States Fair?" Public Choice 94 (1998): 320.
2. The European Community, renamed the European Union following the Treaty on European Union of 1992, will hereafter be referred to as the European Union.
3. Felsenthal, Dan S. and Moshé Machover. Enlargement of the EU and Weighted Voting in its Council of Ministers. Project Report. London: London School of Economics and Political Science, 2000: iii.
4. Garrett, Geoffrey and George Tsebelis. "Why Resist the Temptation to Apply Power Indices to the European Union." Journal of Theoretical Politics 11.3 (1999): 295.
5. Dinan, Desmond. Ever Closer Union: An Introduction to European Integration. Boulder: Lynne Rienner Publishers, Inc, 2005: 51.
6. Dinan, 111.
7. Miller, Vaughne. "The Extension of Qualified Majority Voting from the Treaty of Rome to the European Constitution." House of Commons Library: International Affairs and Defence Section (2004): 31.
8. As put forth by Laruelle & Widgrén, 1998.
9. Consolidated Versions of the Treaty on European Union and of the Treaty establishing the European Community. Brussels: Official Journal of the European Communities, 2002.
10. Moberg, Axel. "The Voting System in the Council of the European Union: The Balance Between Large and Small Countries." Scandinavian Political Studies 21.4 (1998): 350.
11. Felsenthal and Machover.
12. The solution to maximizing citizen voting power was first discovered by Lionel Penrose, then elaborated upon in Felsenthal and Machover (1998) and Laruelle and Widgrén (1998).
13. However, for simplicity and probably to show that each citizen is important in the

EU, population is used instead of voting population.

14. Sutter, Matthias. "Fair Allocation and Re-weighting of Votes and Voting Power in the EU Before and After the Next Enlargement." Journal of Theoretical Politics 12.4 (2000): 435.

15. Felsenthal and Machover, 22.

16. Central Intelligence Agency. The 2008 World Factbook. Washington, D.C.: United States Government, 2008.

17. Felsenthal and Machover, 26.

18. Kurth, Martin. "Square Root Voting in the Council of the European Union: Rounding Effects and the Jagiellonian Compromise." Submitted to Mathematical Social Sciences (17 December 2007): 5.

19. Banzhaf III, John F. "Weighted Voting Doesn't Work: A Mathematical Analysis." Rutgers Law Review 19.2 (1965): 318.

20. Felsenthal and Machover, 5.

21. Leech, Dennis. "Designing the Voting System for the Council of the European Union." Public Choice 113 (2002): 444.

22. "A swing is a coalition where the total votes cast in favour of a particular decision fall short of the threshold without those of member i, but equal or exceed it when member i joins." Leech, Dennis. "Designing the Voting System for the Council of the European Union." Public Choice 113 (2002): 444.

23. This works because the formula only considers that each state could make one of two possible decisions, yes or no. So when considering votes, the total combinations of votes that can be made are 2n, or 2 x 2 x 2… and so on for n number of states: State A votes yes or no, state B votes yes or no, state C…

24. Leech, 444.

25. These numbers were calculated with an online algorithm. Pajala, A., Meskanen, T. and T. Kause (2002): Powerslave Power Index Calculator: A Voting Body Analyser in the Voting Power and Power Index Website. Published 22 April 2002. Updated 31 May 2007. University of Turku. <URL:http://powerslave.val.utu.fi/>.

26. Barua, Rana, et al. "A Characterization and Some Properties of the Banzhaf–Coleman–Dubey–Shapley Sensitivity Index." Games and Economic Behavior 49 (2004): 32.

27. Konig, Thomas and Thomas Brauninger. "Accession and Reform of the European Union: A Game Theoretical Analysis of Eastern Enlargement and the Constitutional Reform." European Union Politics 5.4 (2004): 421.

28. Kurth, 5.

29. Data taken from Felsenthal and Machover.

30. Mattila, Mikko. "Contested Decisions: Empirical Analysis of Voting in the European Union Council of Ministers." European Journal of Political Research 43 (2004): 37.

31. The voting weights for these years can be reviewed in Table 1.

32. Leech, 460.

33. Leech, 439.

34. Commission of the European Communities. Enlargement Strategy and Main Challenges 2007-2008. Communication from the Commission to the European Parliament and the Council. Brussels: European Union, 2007.

35. Raunio, Tapio and Matti Wiberg. "Winners and Losers in the Council: Voting Power

Consequences of EU Enlargements." Journal of Common Market Studies 36.4 (1998): 556.

36. Moberg, Axel. "The Voting System in the Council of the European Union: The Balance Between Large and Small Countries." Scandinavian Political Studies 21.4 (1998): 351.

37. Moberg, 364.

38. Moberg, 361.

39. Kirsch, Werner, et al. "Voting in the EU Council - A Scientific Approach." 2004. 10 March 2008 <http://www.ruhr-uni-bochum.de/mathphys/publikationen/voting.pdf >.

40. Central Intelligence Agency

41. Dinan, 254.

42. Hosli, Madeleine O. "Explaining Voting Behavior in the Council of the European Union." ECPR Conference. Pisa, 6-8 September 2007. 17.

43. Mattila, 35.

44. Mattila, 38.

45. Consolidated Versions of the Treaty on European Union and of the Treaty establishing the European Community. Nice.

46. Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community. Lisbon: Official Journal of the European Union C306, 13 December 2007.

47. The square roots can be seen in Table 2.

48. A minimum population percentage of a simple majority or 62 percent was considered, as well as a requirement for a simple majority of states. But those additional criteria seemed to make the process more difficult to understand, which is the effect that the EU is trying to stay away from. Also, given that 65 percent of the total citizen power would be needed in any combination, it seems contrary to the spirit of sticking to that ideal to impose other rules.

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