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Social Choice: The Neighborhood Effect

Politicians typically motivate public policy changes by suggesting that social welfare improves as a result of the policy. While much debate surrounds the best delineation for a social welfare function, few have considered what the appropriate definition is for society. Bentham, Rawls, Sen, and others have proposed different ways to measure social welfare, and these constructs all hold one thing in common: They all pivot on the definition used for society. This article examines the ramifications of inaccurately or artificially defining society and argues that changes in the definition of society result in dramatically different or even opposing economic policy prescriptions.

Introduction

Policy makers often enact social policies with the expressed goal of making society better off. Likewise, most religions and/or religious movements include a common goal of social improvement. In order to assess positive statements regarding the effectiveness of a policy or program improving social welfare, economists and philosophers have relied on social choice theory. Social choice is useful for analyzing the implications of a certain allocation of resources. Even as economists have been more willing to make normative statements regarding economic policy, the rigorous study of social choice theory has been in decline.[1]

In a world with scarce resources, social scientists must analyze the welfare effects of public policies and programs. Whereas a cardinal ranking of policies and programs based on their changes to social welfare may be difficult to calculate

and subject to errors of aggregation, an ordinal ranking may be created with the help of a properly defined social welfare function.[2]

Much debate exists concerning the appropriate social welfare functions, but perhaps the most fundamental issue at hand is the appropriate definition of society for the measurement of social welfare. This question of "who has standing" is one that has been addressed by William Trumbull in the context of cost-benefit analysis.[3] By using three policy areas: immigration, trade, and income redistribution, this article demonstrates that not only is the question of standing important, it is more important than the specification of the social welfare function.

Common Social Welfare Functions

Social welfare functions come in two broad categories: microeconomic- and macroeconomic-based functions. Microeconomic social welfare functions are derived from aggregating individual utility. In microeconomic functions, the individual is the basis for analysis and society is the sum total of individuals. Examples of micro-based utility functions are put forth by Jeremy Bentham, John Rawls, and Vilfredo Pareto.[4, 5, 6]

Bentham's utilitarian social welfare function can be described as seeking the greatest good for the greatest number of people. It aggregates the utility of each individual (i) in society:

Social Welfare $= \sum_{i=1}^{n} u_i$, where n equals the number of individuals in society.

Rawls suggests that social welfare is merely the utility of the person with the least utility in the society:

Social Welfare $= \min (u_1, u_2,\ldots,u_n)$.

Vilfredo Pareto's sense of social utility is also of a microeconomic nature. Pareto criteria are applied at the individual level. A Pareto improvement can occur if at least one person is made better off by an event without anyone being made worse off. Given the real-life problem of measuring interpersonal utility, the Pareto criteria are the only surefire way to determine if an action does increase social utility. The downside of the Pareto criteria is that they work to protect the status quo.

Macroeconomic social welfare functions are formed from aggregate societal data. There is no attempt to sum individual utility. For example, Amartya Sen's social welfare function takes both income and income inequality into account:

Social Welfare = (average per capita income) (1-Gini coefficient).[7]

Another macroeconomic approach, the Human Development Index (HDI), is used by the United Nations Development Program.[8] The HDI is a function of life expectancy at birth, education levels, and per capita income:

Social Welfare = f (life expectancy, education, income).

Aggregation has its advantages and its disadvantages. One disadvantage is that macroeconomic welfare functions forgo their microeconomic foundations. As such, it is difficult to describe them truly as utility functions. Whether it is the HDI or Sen's welfare function, narrow assumptions are made regarding sources of utility. Certainly, an infinite number of other factors such as the quantity and quality of leisure time, economic, religious, and political freedoms, environmental quality, and even the weather will factor into social utility. Thus, the aggregation of only a few factors is an incomplete measure of social utility. In this sense, macroeconomic welfare functions, by their nature, are better understood as quality of life functions where quality of life is determined narrowly by the creator of the function rather than by empirical evidence taken from society.

The upside to using macroeconomic quality of life indexes to drive public policy is that they do attempt to set up functions that are more easily measureable. In practice, summing millions of people's utility is not possible, nor is it even the most important task of welfare economics. In the end, one either ends up inaccurately summing things that actually exist, or accurately summing things that do not actually exist. Even more important than the choice between or among microeconomic or macroeconomic social welfare functions is the definition of society.

Possible Definitions for *Society*

No matter which social welfare function is chosen, it must be applied to a society, and said society must itself be defined. The definition of society must cover a specified number of individuals in a precise space for a precise amount of time. The definition of society is not only nontrivial; it may be the most important part of social choice theory. What follows is an analysis of differing definitions of society.

Society can be defined in a number of distinctive spatial ways. Society can be defined by geographical location, familial relationship, or shared interest. The philosophy of Ayn Rand lies on one end of the spatial spectrum. From her perspective, society is a function of one individual.[9] Other thinkers have extended the analysis of maximizing behavior beyond oneself. Gary Becker's work on the family as a production unit looks at how families maximize their utility.[10] In this case, family serves as the definition of society.

Perhaps people care about other relatives outside of their immediate family. To them, clan substitutes for society. Such a societal definition can be illustrated by Hutu clansman during the Rwandan genocide or the breakup of Yugoslavia, both in the 1990s.

Instead of defining society based on a relationship, one can also define society geographically by neighborhood, city, state, country, region, world, galaxy, or universe. Neighborhood associations define society as their neighborhood. Spartans' social welfare functions extended to citizens of Sparta, a city state. Multiple states in the United States are actually commonwealths designed to maximize the utility of commonwealth citizens. For instance, the preamble to the constitution of the Commonwealth of Massachusetts states: "The body politic is formed by a voluntary association of individuals: It is a social compact, by which the whole people covenants with each citizen, and each citizen with the whole people, that all shall be governed by certain laws for the common good."[11]

Patriots define society in terms of their country. Superstates such as the European Union define society on a multinational basis as its members are European. Biblical views define society as the world; for example, John 3:16 states "For God so loved the world, that he gave his only begotten Son, that whosoever believes in him shall not perish, but have eternal life."[12] In the Christian tradition, the great commandment, then, is to love your God with all your heart and to love your neighbor as yourself. The parable of the good Samaritan indicates that Christ's definition of neighbor extends to people of different races and religious backgrounds.[13] William Lecky posits that moral progress is about expanding the number of people one cares about from family to clan to country to humanity.[14]

Alternatively, society may be applied to people who share common interests, rules, or beliefs. Such voluntary ordering could range from friends, to formal organizations such as the Audubon Society, to allied countries such as the United Kingdom's Commonwealth Countries, to religions, denominations, or sects.

Public Policy and the Definition of Society

From a public policy perspective, the definition of society is very important. What follows is an examination of three public policy areas: immigration, trade, and income redistribution, for which the definition of society becomes a critical factor in determining the policy position to advocate. In each case, the definition of society has a larger impact on the policy choice than does the choice of social utility function.

In the United States, public policy is set via representative democracy in a federalist context. Public choice theory indicates that successful politicians in such a system will reflect the ideas and values of the median voters within each of their constituencies. The median voter model put forth by Black and popularized by Downs states that in a two-party system, voters will vote for politicians whose stances on issues best represent the will of the median voter.[15, 16]

Article I Section 8 of the U.S. Constitution gives the national government the lone power to regulate naturalization and trade with foreign countries.[17] While each level of government can and does engage in implicit (or even explicit) income redistribution, the largest share of said redistribution happens at the national level. The top national marginal income tax rate (35 percent) is more than three times greater than that of the highest state income taxes: Hawaii and Oregon (11 percent). Consequently, the three issues examined below tend to be determined by U.S. Senators and Representatives, along with the president of the United States.

Putting public choice theory together with federalist realities results in the finding that most federal politicians would enact immigration, trade, and income redistribution policies based on the will of the median voter in each of their congressional states/districts. In this way, they are choosing to use their states/districts as their definition of society. Still, given the multidimensional aspect of voter representation along with the likelihood of re-election for incumbents (the re-election rate for U.S. Representatives has averaged 93 percent since 1954), federal politicians can from time to time define society more narrowly (individual tastes) or more broadly (the good of the country) on specific issues.[18]

Politicians' views of society are often more narrowly defined than are economists, or philosophers, whose livelihood is not as directly constrained by the will of the median voter. In determining standing (who counts in the social welfare function), William Trumbull sets forth his cost-benefit calculations based upon the ideas of potential Pareto improvement. He indicates that true cost-benefit analysis incorporates every individual who is affected by a policy decision. "But to use national borders as an excuse not to count certain effects denies the world

the opportunity to take advantage of potential Pareto gains, or to avoid potential Pareto losses."[19]

Changing the definition of society and holding utility functions constant alters the set of policies that maximizes social welfare.
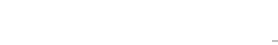
Immigration

This section examines how choosing a utilitarian welfare function, a Rawlsian welfare function, or a macroeconomic function is less important to immigration policy than is the definition of society. Depending on the definition of society, the utilitarian framework can be used to argue for restrictions on immigration or open immigration. If society were defined as a country, strict utilitarianism would favor open immigration if the total (not marginal) utility of the immigrant exceeded the aggregate (marginal) utility lost by members of the existing country. Of course, open immigration is also favored if the other inhabitant's utility increases from being reunited with kin or being able to hire from a larger labor force. On the other hand, social utility would decrease if the immigrant's presence hurts or annoys others to an extent exceeding the immigrant's own utility.

If the world is the basis for society, then one must only include the utility gained by the immigrant (instead of his or her total utility), along with the marginal changes in utility from both the immigrating and emigrating countries' inhabitants. Assuming rational immigration, an immigrant's utility must increase with immigration. For the country receiving immigrants, some inhabitants' utility could increase or decrease depending on their relationship with the new immigrants.

Additionally, there is a net gain in utility to all other humans from the knowledge that they are now free to choose where to live. Given that no country makes up the majority of the world's population, freedom of movement would increase the utility of a large percentage of the world's population. As an empirical question, the free movement of people benefits the world's economy, as pointed out by *The Economist*.[20] Thus, utilitarianism can only be used to justify immigration restrictions if society is defined at a level less than the world.

The use of a Rawlsian welfare function would only favor immigration if the immigrant was as well off or better than the least well off existing member of society, and said immigration did not make the latter worse off. If society is defined as a neighborhood, the Rawlsian approach could be used to justify fiscal zoning to keep poor people out of neighborhoods. If society were defined as a country, allowing low-skilled workers to migrate to richer countries would lower the social welfare of those countries. Their added competition for low-skilled jobs, at least in the short run, could lower the equilibrium wage for low-skilled work, and, therefore, could make the poorest citizen even poorer.

The interpretation is the opposite if the world is used as the definition of society. Allowing the world's poorest individuals to move to where job opportunities exist would most certainly increase their utility and, therefore, the welfare of a Rawlsian society.

The use of Amartya Sen's social welfare function is equally sensitive to the definition of society. Sen's function treats income inequality as a major factor in determining social utility. Therefore, equality within the society is strongly favored. Immigration into the society from like income foreigners would not be a problem for Sen's utility function, but immigration by poorer individuals would be a problem. If neighborhood were used to define society, then Sen's analysis would favor neighborhoods segregated by income. Gated communities and large public housing projects would be the norm.

If country were used, then Sen's analysis would not support the immigration of low skilled workers to developed countries because this would increase income inequality and initially lower per capita income in the rich society. Once again, the result is the opposite if the world is used as the definition of society. Allowing the world's poorest individuals to move to wealthier areas where job opportunities exist would most certainly decrease income inequality and increase economic growth and, therefore, increase per capita income for the world.

In each of the above circumstances, one can define social welfare functions to favor the restriction or allowance of immigration. From an economic policy perspective, the more important choice is not which utility function to use, but rather which definition of society is chosen. By taking a world definition of society, the Catholic Church has supported the free movement of people in their desire to escape poverty and want.[21] Likewise, the definition of society is critical to the debate over protectionism versus free trade.

Trade

If utilitarian analysis were restricted to using income as a proxy for utility, then utilitarianism would always support trade liberalization as trade allows resources to flow to their most efficient use. Clubs could buy club materials from nonclub members, citizens of one city could buy things from people in other cities, and people in one country could buy things from people in other countries. However, if utility comprises other factors (as noted by Easterlin) such as working at the same occupation as your forefathers, the utility effect of trade liberalization becomes an empirical question which, like immigration, hinges on the analyst's definition of society.[22]

Rawlsian analysis could support trade restrictions if society is defined as any entity less than the world. Trade would only be liberalized if it did not decrease the income of the poorest member of society. Worker displacement is common following trade liberalization, as workers must transition from employment in one industry to another where they have a comparative advantage in production. Therefore, trade liberalization could make the poorest member of a society worse off, at least in the short run. However, if society were defined as the world, then social utility would most definitely increase as trade becomes liberalized. The world's poorest individuals would now have opportunities in industries that formerly did not exist in their countries.

The definition of society is also integral to the analysis of trade using Sen's welfare function. A society should only engage in trade if the income generated from the trade is larger than the income inequality that may also arise. If trade is liberalized between two countries where one country is more capital intensive than the other, then as producers move their production to where they have a comparative advantage, low skilled jobs will be lost in the capital intensive country while they are gained in the capital poor country. While this trade liberalization will increase incomes for both countries, it may initially increase income inequality in both countries. Thus, Sen's welfare function could be used to justify trade restrictions if society is defined as a country.

If society were defined as the world, then trade liberalization will increase society's income and decrease income inequality as poorer individuals gain access to larger labor markets. Once again, defining society as the entire world shifts the analysis to favor free trade.

For immigration and trade policy, the story is the same. If you allow people and capital to flow to their most productive use, not only does world income increase, but also the plight of the world's poorest citizens is improved. Potential Pareto improvements exist and can be realized if public policy defines society as the world with regard to trade and immigration policies.

As much as the Catholic Church has focused on free immigration as a moral imperative, it has not led the call for free trade with equal fervor. How can it be immoral to prevent a poor person from moving to live near a factory, but moral to prevent a factory from moving to locate near poor people? In a similar fashion, the discussion of income redistribution pivots on the definition used for society.

Income Redistribution

Income redistribution takes two forms: voluntary and involuntary. Voluntary redistribution represents a Pareto improvement. Parents often redistribute income to their children to provide their needs and even their wants. People often vol-

untarily donate income to charities and religious organization whose aims they agree with. Outside of policies that restrict or promote the voluntary redistribution of income (gift and estate taxes and/or tax deductions for charitable giving), government policy focuses on involuntary income redistribution.

By its very nature, involuntary income redistribution is not a Pareto improvement. Whether or not it increases, social welfare depends on the social welfare function, the definition of society, and the size of the dead weight loss caused by the redistribution. When income is involuntarily redistributed, future income generating incentives are changed. Nobel Laureate Edward C. Prescott points out that marginal tax rates very much affect the number of hours people work.[23] Governments have an easier time forcing people to give up income than they do giving up free time. Still the smaller the definition is of society, the lower the monitoring costs are of preventing people from working less.

For example, the deadweight loss caused by the bureaucratic administration of income redistribution is likely to be relatively small in a household. However, as the size of the society grows, so, too, does the cost of administering forced income redistribution. Even before social welfare functions are examined, it becomes clear that the smaller a society is, the lower the deadweight loss is due to income redistribution.

Under the utilitarian framework, income redistribution within a society will be warranted only if the marginal utility gained from giving a dollar to the poor is greater than the marginal utility lost from taking the dollar from the rich—both in terms of lost utility to the rich person and deadweight loss due to changed incentives and bureaucratic costs. If this were true, then a utilitarian, Rawlsian, and Sen-like approach to social welfare would all agree on equality of income within a society. Again, deadweight losses are likely to be larger for larger societies, so for both the utilitarian welfare function and Sen's welfare function, the question of income redistribution becomes an empirical question. The larger the definition of society, the less likely it will be that forced income redistribution will increase social utility. Rawls' utility function, strictly applied, mandates an equality of income in society.

For the sake of simplicity, assume that wealth redistribution increases total utility in society. The definition of society still greatly matters. If neighborhood is the definition of society, all households in a gated California neighborhood should have the same income. One would have to transfer money from the uber-rich to the pretty rich. If country were the definition, then money would be taken from richer states and given to poorer states in the United States. However, if world is the definition, money would be taken from the United States and given to the poorest people in the world.

In a world where over one billion people live on less than $1.25 a day, people in poorer U.S. states would have no moral claim to people's income in richer U.S. states. In fact, money would be taken from those poorer U.S. citizens and transferred to poorer people in other countries. The definition of society most certainly matters to poorer U.S. citizens. It determines whether they are net givers or receivers of income. In this light, moral calls to forcibly redistribute income within a state or country have no more moral claim than forcible redistribution of money within wealthy gated communities save for the morality derived from the definition of society.

Conclusion

The definition of society is the most important factor when interpreting a social welfare function. By defining society as something less than all of humanity, the utilitarian, Rawlsian, and Sen's social welfare functions can lead policymakers to restrict the free movement of people and goods. In each case, when the definition of society is changed to include all of humanity, the policy prescription is completely the opposite. Then, no restrictions should be placed on the free movement of people and goods.

While slightly different immigration and trade restrictions would be advocated depending on the chosen social welfare function, these differences are small compared to the complete reversal of policy prescriptions caused by a change in the definition of society. The morality of public polices along with their natural consequences are most influenced by the definition of society. As a practical matter, self-defined societies have historically prospered as they have expanded their definition of society.[24] The only social utility function that is not altered by the definition of society is the one based on potential (not actual) Pareto efficiency.

As for forced income redistribution, the larger the definition of society, the more likely it is that money will actually be transferred from the rich to the poor. Redistribution among mansion owners in a gated community will do little to address true poverty, while transferring said wealth to the world's poorest may do more. On the other hand, the larger the definition of society, the greater the deadweight loss will be due to changed incentives and increased bureaucracy. Thus, for all but the strict Rawlsian or Pareto welfare functions, this makes it less likely that forced income redistribution will happen as the definition of society grows.

With regard to forced income redistribution, the practical result of changing the definition of society, in many cases, is that one who was once a net beneficiary of

redistribution is now a net contributor. For example, a lower-middle-class worker by Massachusetts standards may be a net beneficiary of income redistribution at the Commonwealth definition of society but is likely to be a net contributor at the national definition. They most certainly would lose the vast majority of their income if the world were used as the definition of society.

To the extent that social welfare functions have been used to direct economic policy, the chosen definition of society is typically the one that suits the ends of the policymaker. That is, the theory is built to justify a set of policies rather than building a set of policies based on sound theory.

Christians should first focus on answering the pivotal question: Who then is my neighbor? The answer to this question has more implications for public policy than the choice of social welfare specification. By defining society as something less than the world, Christian public, policymakers have often supported public policies that impoverish the poorest citizens of the world. A consistent view of society as defined as the world will make public policy more consistent with the goals put forth by Jesus. If Christ's message was only meant for people in gated communities (narrowly or broadly defined), the parable of the good Samaritan seems misplaced.

Notes

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