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THE IMPACT OF PERCEPTION ON REDISTRIBUTION

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ABSTRACT

In a classic model of Downsian competition, the size of government is determined by the median voter. This essay asserts that because the perception of the median voter on his own chances and prospects in life is omitted (for instance in terms labor market opportunities), the classic model leaves out important information on voter's behavior. That could lead to unexpected outcomes in which people seemingly vote against their own economic self-interest. By taking Adam Smith's Theory of Sympathy as a proxy for perception, we propose a revised model which aims to bridge this divide and targets to be a thought experiment for further research on the impact of perception on the size of government.

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I. INTRODUCTION⁸

In Great Britain, a rise in the size of government – that is, the expansion in the sum of tax payments relative to national income – has endured ever since the proletariat gained increasing political clout in the build-up to universal suffrage (Peacock and Wiseman, 1961). This incremental development led to an avalanche in political economic research, from which size of government is optimal (Hayek, 1979) to which forces determine the size of government (Downs, 1957; Meltzer & Richard, 1981). This paper will focus on the latter question, and the extent to which voter’s Downsian incentives are misaligned when taking perception into account.

The starting point of this analysis is Allan Meltzer and Scott Richard’s (1981) model of public finance. This model, which incorporates universal suffrage and majority rule, looks at the impact of the decisive voter on the size of government. In so doing, Meltzer & Richard unearth an important axiom in contemporary capitalist societies (in which inequality persistent): the mean voter has a higher income than the median voter (Roberts, 1977). This implies that any system which centers votes below the average (or mean) income creates a proclivity towards more government-induced transfers from high to low incomes. Or, in other words: the higher the mean income relative to the median voter, the bigger the size of government.

The dynamics behind the social contract and its impact on redistribution is not a contemporary phenomenon; it has intrigued many of the most prominent (political) philosophers, ranging from Jean-Jacques Rousseau to John Rawls. Perhaps one of the most interesting and most underrated contributions in this domain came from a, to some unexpected, source: the quintessential economist Adam Smith. In his book *The Theory of Moral Sentiments* (1762) – which provided the foundation for *The Wealth of Nations* (1776), often cited to be the underpinning of present-day economics – Smith developed a theorem on how our moral sentiments from everyday life are cultivated without succumbing to wanton religious incredulity, or Rousseauian desolation. He believed that it was not so much out of pure self-interest, or sheer benevolence, that we have a moral disposition towards others in society – but out of “sympathy” (Smith, 1762). More specifically, he refers to the ability to identify, comprehend and share the feelings of another (semi-)sentient being⁹. By observing other human beings, and by asking the question how we would feel if we were in their situation, we develop a sense of morality and an inherent framework for appraising our own behavior. We acquire, in a way, the perspective of the “impartial spectator”. It is this notion of obtaining moral sentiment which Smith calls the *Theory of Sympathy*.

⁸ I would like to in particular thank Rafael Hortala-Vallve, Lloyd Gruber, Kate Antrobus, Utz Pape, Rachel Wong, and the anonymous referee for their insightful comments and suggestions on this (as well as related) work.

⁹ With sympathy, Smith actually meant the contemporary word *empathy*. However, this term was only coined in the beginning of the 20th century (derived from the German term *Einfühlung*).

The idea that by trying to understand how an impartial spectator would evaluate a certain occurrence, we are not only able to understand how we should behave, but also how we want society to be structured. This Humean¹⁰ explanation of our social fiber gives Smith the ability to go a step further, and stretch the concept of sympathy beyond its orthodox bounds. Because Smith saw a certain imbalance in the perception of sympathy; an inability to lay bare the bones of our sorrows:

“[Mankind is] disposed to sympathize more entirely with our joy than with our sorrow, that we make parade of our riches, and conceal our poverty. Nothing is so mortifying as to be obliged to expose our distress to the view of the public, and to feel, that though our situation is open to the eyes of all mankind, no mortal conceives for us the half of what we suffer. Nay, it is chiefly from this regard to the sentiments of mankind that we pursue riches and avoid poverty (Smith, 1762, p. 51-52).”

This argument directly follows from his derivation of the Theory of Sympathy: because I obtain a moral disposition from the impartial spectator’s perspective, and since I find it difficult to share my distress, my impartial spectator essentially has a “sympathy bias” towards those who are in the “final object of our desires” (Smith, 1762, p.51-52). Whilst this on the one hand drives the pursuit of riches from which Smith saw our “continuous search of improvement”, which later became the building block of his economic theory set out in the *The Wealth of Nations*, it also leads us to conceal and even ignore poverty. That, as Smith duly notes, has societal consequences:

“This disposition to admire, and almost to worship, the rich and powerful, and to despise, or, at least neglect persons of poor and mean conditions, though necessary both to establish and to maintain the distinction of ranks and the order of society, is at the same time, the great and most universal cause of the corruption of our moral sentiments (Smith, 1762, p 61).”

To examine and understand which impact (or bias) sympathy – and in turn perception – has on the size of government and its redistributive proclivity, Meltzer & Richard’s classic model of public finance is set out in Part II. Part III investigates what impact perception has on the classic model by integrating Smith’s Theory of Sympathy into the foundation of Meltzer & Richard’s model. Lastly, Part IV discusses the possible implications of the revised model.

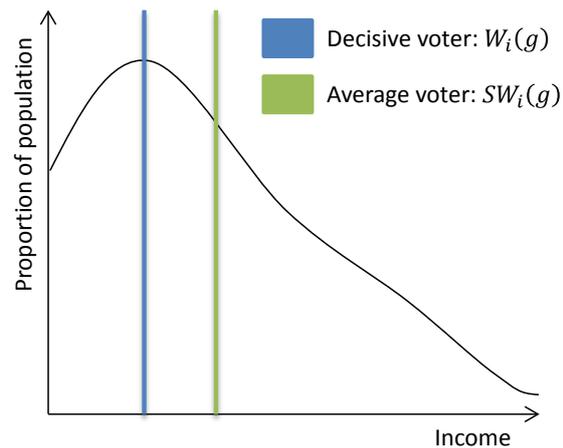
II. A RATIONAL MODEL OF GOVERNMENT SIZE

It is useful to start by expanding briefly on the foundation of Meltzer & Richard’s model of public finance. First, assume the government provides a public good g . The government finances the public good by raising taxes $t \in [0,1]$ (assuming budget balance). There are I citizens, with income differing across individuals – i.e.: $E(y_i) = y$ and $F(y_m) = 0.5$. Additionally, the median voter is

¹⁰ David Hume, a prominent Scottish philosopher, contemporary and close friend of Adam Smith, was of the belief that we are only able to understand others to the extent that we try to put ourselves in their shoes. It is this notion of social fiber that Smith uses as the underpinning of his Theory of Sympathy.

expected to possess less income than the average voter (in other words: inequality is expected, as is empirically ubiquitous across the world). Each individual has a distinct consumption function ($c_i = (1 - t)y_i$) and utility function ($u_i = c_i + H(g)$), where $H(g)$ is strictly concave and growing. The political decisions of agents are based on a rational, rent seeking individual structured in a Downsian model of political competition. We thus expect the median voter to represent the decisive voter.

Figure 1.1 – A rational model of government size



Note: we assume that under the rent seeking assumptions of the classic model, the higher the income an individual has the less redistribution it wants.

That gives the following indirect utility function for the individual, given the public good g ,

$$W_i(g) = (Iy - g) \frac{Y_i}{Iy} + H(g).$$

We assume that a rational, rent seeking individual would thus prefer (under the first order condition),

$$\frac{\partial W_i(g)}{\partial g} = 0 \leftrightarrow \frac{\partial H(g)}{\partial g} = \frac{Y_i}{Iy}.$$

The social welfare of society of policy g is equal to the sum of all individual utility functions,

$$SW(g) = (Iy - g) + I \cdot H(g).$$

Assuming a society that aims to maximize utility, the following optimum is arrived at,

$$\frac{\partial SW(g)}{\partial g} = 0 \leftrightarrow \frac{\partial H(g)}{\partial g} = \frac{1}{I}.$$

Hence, as expected, in Meltzer & Richard's model (given Downsian competition) the optimum varies per individual, but the decisive voter is the one with society's median income $\frac{Y_m}{Iy}$. Furthermore, the maximum or optimum utility for the entire society can be found at the average income level $\frac{1}{I}$ (see **Figure 1.1**). That leads to interesting opportunities for further research and thought experiments. One could for instance imagine that if there is a positive correlation between income and political participation (as for instance attested by Swiss economist Bruno Frey (1971)), then *less* redistribution in a real society would be seen (in which there is no full participation) than in the original position (with a complete voting population). Additionally, one could imagine what the impact would be if wealth in a society is skewed toward a small subset of the population. In that case, where inequality is

rampant, one would expect more redistribution rather than less (relative to more equal societies). However, one fundamental caveat in this classic model seems to be the omission of perception (on society and on our own current or prospective place in society). What would for instance be the implication if poor agents, who are now expected to vote for more redistribution, anticipated becoming rich agents in the future?

III. THE REVISED MODEL

To combine Smith's Theory of Sympathy with the classic model, we narrow our conception of sympathy further. According to Smith, in acquiring moral sentiments, people have a natural predisposition to sympathize more with joys than with sorrows. As such – by empathizing with all the good prospects we have in the future (the joys), and trying to ignore the bad things that could happen (the sorrows) – the world is appraised in an overly optimistic, almost expectant way.

This can be called the “sympathy bias”, s . Additionally, we assume – in line with Smith's assertion that people have a natural predisposition to choose joy over sorrow – that every person bases this optimistic belief on the social welfare function $SW(g)$. In other words, people associate more easily with the affluent in society rather than the deprived. Now, by connecting these two suppositions together, following “sympathy utility function” $W_i^s(g)$ is derived,

$$W_i^s(g) = (1 - s)W_i(g) + (s)SW_i(g).$$

Giving the following full equation,

$$W_i^s(g) = (1 - s) \left((Iy - g) \frac{Y_i}{Iy} + H(g) \right) + (s) \left((Iy - g) + I \cdot H(g) \right).$$

The interpretation is as follows: an individual has – as usual – his indirect utility function $W_i(g)$. However, given that he has a sympathy bias s on social welfare $SW_i(g)$, he only uses $(1-s)$ of his indirect utility function. The other part of his sympathy utility function $W_i^s(g)$, is derived from the extent of the sympathy bias s , reflected on the social welfare $SW_i(g)$.

In line with the classic model, assuming a society aims to maximize its utility, the following optimum is arrived at,

$$\frac{\partial W_i^s(g)}{\partial g} = 0 \leftrightarrow \frac{\partial H(g)}{\partial g} = \frac{s + \frac{Y_i}{Iy} (1 - s)}{(1 - s) + (I \cdot s)}.$$

IV. DISCUSSION

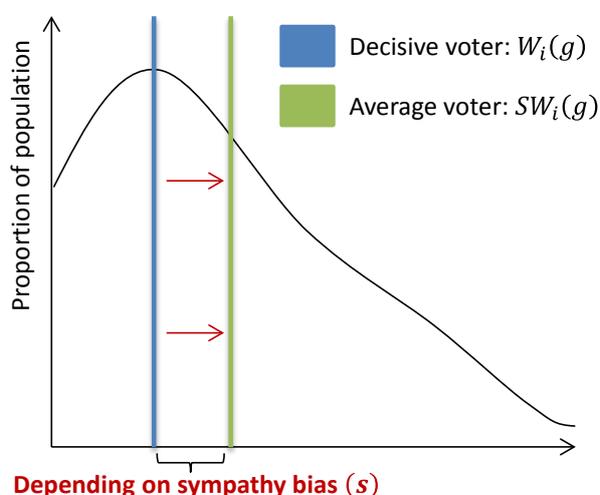
The revised model presents the opportunity to examine the implications of the sympathy bias on the size of government and redistribution. For starters, there are direct implications with respect to the basic conclusions of the classic model. As seen in section II, under Meltzer & Richard’s classic model the decisive voter is the agent with society’s median income, whilst the social maximum can be found at the average level of income (Figure 1.1). This state would consequently lead to more redistribution than the ‘social’ optimum prescribes.

Enter the sympathy bias (**Figure 1.2**). Whilst the decisive voter and the average voter are still apart, the sympathy bias bridges the gap – moving the median voter closer to the social welfare optimum (depending on the level of the bias). Interestingly, this implies that the overly optimistic tendency that the median voter has in society leads it to a decrease in the size of the government, even though it would be *in its own interest* to demand more distribution. This would be in line with the expectations Smith outlined in his Theory of Sympathy, because if people tend to ignore their sorrows – and the destitute in general – they tend to overestimate their own chances in life.

Next to the straightforward implications, the revised model also allows for further thought experiments. It is for instance worth asking what would happen if inequality increased in the hypothetical society (moving the social optimum $SW_i(g)$ further away from the decisive voter $W_i(g)$). In the revised model, one would at first sight expect that an increase in inequality would (*ceteris paribus*) imply that the sympathy bias would have a larger impact. However, there is a second hypothesis. More inequality could also lead to less optimistic views about social justice and equality of opportunity – and thus decrease the sympathy bias. If true, that hypothesis would in turn create an interesting dynamic of its own, as it would imply that the sympathy bias is by no means exogenously ‘exerted’ on society.

There is empirical evidence that supports the second hypothesis. When Columbian economist Alejandro Gaviria (2007) researched Latin American countries and their preferences for size of government, he found that people who perceive social mobility to be low and social injustice to be ubiquitous will (all other things being equal) prefer more redistribution (Gaviria, 2007). In light of the

Figure 1.2 – The revised model



If sympathy bias s is equal to 0 $\rightarrow \frac{\partial W_i^s(g)}{\partial g} = \frac{Y_m}{Iy}$

If sympathy bias s is equal to 1 $\rightarrow \frac{\partial W_i^s(g)}{\partial g} = \frac{1}{I}$

new revised model, that would have interesting implications, as it would imply that the sympathy bias is in fact endogenous; i.e. not a constant but a variable dependent on public perception¹¹. Indirectly, this could possibly also give way for a negative sympathy bias: because if social mobility is perceived to the extent that one's position is worse off than actually is the case, *more* redistribution would be asked for than required (in the revised model, *ceteris paribus*). Albeit beyond the scope of the revised model, this could form the basis for further analysis on the possibility of a negative sympathy bias.

The fact that perception is an important part of voting behavior shows a fundamental caveat in the current discourse on redistribution. Poor agents might not have much of an income now, and should therefore according to the classic model oppose more redistribution. However, when their expectation is that they turn rich agents later, the voter's behavior might not be so straightforward. This need not necessarily be problematic in itself. It is for instance not unusual for a student to foresee a rise in income in the future, and therefore not vote according to his income at present. The revised model, however, adds another dimension to this discourse by questioning to what extent voters are able to judge their prospective place in society.

Empirically, this directly addresses one of the most fundamental conundrums seen in contemporary politics: voting against one's own economic self-interest. Why would low-income voters for instance propose the abolishment of the estate tax in the United States (more commonly referred to by opponents as the neologism "Death Tax"), whilst it is in their clear interest not to eliminate the estate tax (as its impact falls primarily on the rich, rather than the poor). Or: why would low-income voters oppose tax raises for the highly affluent, even though they stand to benefit from such a policy proposal. One answer to that conundrum would be that the low-income voters' perception might not be in the present, but rather in the "final object of desires" (Smith, 1762, p. 51-52); and thus, contrary to all classic expectations, leading people to vote against their own self-interest.

¹¹ Note that this would pull the sympathy bias away from the narrow definition of the thought experiment, as defined in Part II and III.

V. CLOSING THOUGHTS

This paper aimed to investigate which impact perception has on the size of government. By taking Adam Smith's Theory of Sympathy as our fundament, the analysis builds on Meltzer & Richard's rational model of public finance. The analysis subsequently showed that the higher the sympathy bias persistent in society, the less the pressure to redistribute will become – and consequently the smaller the size of government is expected to be. Whether this bias is exogenously given or a product of for instance public policy and institutions remains open for discussion, but there are strong empirical signals that the latter presupposition has traction.

Further research is needed on the impact of perception (and the sympathy bias) on redistribution, especially when taking the underpinning of Smith's Theory of Sympathy into account. However, this empirical investigation starts at a more basic level by investigating whether long-term income prospects impact current redistributive preferences. In so doing, it is possible to build on the existing theoretical framework of Downs and Meltzer & Richard by adding a time dimension¹². This, in turn, would present the theoretical and empirical foundations necessary to further investigate a dynamic model in which i) the social welfare optimum is also affected by the sympathy bias; and ii) the sympathy bias need not necessarily be bounded by the social welfare optimum.

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¹² For a preliminary theoretical and empirical investigation into the impact of social mobility on redistributive preferences, see Cramer (2012).

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