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Why Are the Poor Conservative?*

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Abstract

The observation that as income inequality gets severer the lower income class become more conservative (Kelly and Enns, 2010) is counter-intuitive in that they vote against a redistribution policy that may be beneficial to themselves. The purpose of this letter is to provide a reasonable set of assumptions, or a simple economic model that predicts such an observation. We show that positional externality can explain the observation. Positional goods are ones whose utility mainly depends on how it compares with others in the same category. When the citizens take the positional competition and their labor productivity randomly adjusted after a new public policy is approved, we show that only the middle income citizens may vote for the redistribution policy while the high and the low income citizens vote against. The poor may vote against the redistribution policy when the expected utility gain of the redistribution in absolute terms is smaller than the disutility of the possibility of losing a relative position due to productivity shock. The productivity shock is not a main driving force of yielding the desirable prediction. We cannot explain the observation by adding productivity shocks only.

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Ⅰ. Introduction

Our research question is originated from Kelly and Enns (2010) who reported that the income inequality makes the lower income class be more conservative, but is well addressed by Thorstein Veblen back in 1899. Why do the poor exhibit the economic conservatism? Given that the observation reported is true, it is a bit of conundrum, because standard economic theories with the assumption of self-interested rational agents cannot predict such a puzzling observation.

Kelly and Enns (2010) hypothesize that the public may be following how media talks about household income inequality and how it relates to government, as opposed to inequality itself. Veblen (1899) has more in-depth analysis, with claiming that "(t)he process of readjustment of the accepted theory of life involves a degree of mental effort... This process requires a certain expenditure of energy, and so presumes, for its successful accomplishment, some surplus of energy beyond that absorbed in the daily struggle for subsistence... The abjectly poor... are conservative because they cannot afford the effort of taking thought for the day after tomorrow... (and they are) incapable of the effort required for the learning and adoption of new habits of thought." From the perspective of economic theorists, Veblen's argument may simply be reduced down to the following statement: Since the lower income class always locate at the boundaries of their constraints, and implementing a redistribution policy is not in their feasible set, they cannot but to be conservative.

We are sympathetic to Veblen's argument and believe his argument is still valid. However, we found that there is no micro-foundation of his argument. Especially in the modern democracy where the voting cost is minimal, we cannot argue that every lower income class is at the boundary of their constraints: Even

if there are some, they should be marginal. Then it is possible for some of the poor to be conservative, but it does not necessarily mean that the poor gets more conservative as the income inequality grows. The purpose of this research project is, therefore, to provide a reliable model that yields such an interesting prediction: the poor and the rich do not support the redistribution policy that offers them some help to the poor. Henceforth we will call this 'the observation.'

We believe that this project can be done by taking 'positional externality' into account. A positional good is defined as "one whose utility depends strongly on how it compares with others in the same category" (Frank, 2008). It is well known that when positional goods and non-positional goods coexist, the negative externality of positional goods[1] steers people to reallocate more of their resources to the positional goods from the non-positional goods.

We hypothesize that the positional concern would play an important role to explain 'the observation' when voters' productivity is randomly adjusted under a new policy. We claim this random adjustment captures an ability of adaptation. Under a new policy, if some of the poor expect to have, in absolute terms, a larger amount of resources for consumption, but have a relatively smaller amount of resources comparing to the status quo policy, they may want to stick into the status quo. The middle income group may prefer the new policy under a reasonable assumption that the utility from the relative rank is represented by an odd function around the median so that the marginal benefit of adopting a new policy is greater than the marginal cost of taking uncertain relative ranks.

1) If one consumes the positional good more, then the utility of some other consumers decreases even though they do not change their consumption levels.

Ⅱ. The Model

This section will be composed in the following manner: First, we will show that the standard model cannot predict 'the observation.' Second, even after introducing random adjustment in productivity and constraints, still 'the observation' cannot be predicted. Lastly, we introduce the positional concern in the utility function and show that it reasonably predicts 'the observation.' For the sake of simplicity functional forms are specified, but our propositions hold in a more general setup. There are three types of citizens whose type is indexed by θ_i, $i \in \{\mathrm{H},\mathrm{M},\mathrm{L}\}$ with $\theta_H > \theta_M > \theta_L$. The type represents the labor productivity, that is, their output is $y_i = \theta_i l$, where $l \geq 0$ is the amount of the labor supply. Assume that there is a unit mass of population and it consists of 1/3 mass of each type. In a decentralized economy, citizen's preference is represented by the utility function $u_i(c_i, l_i; \theta_i) = \ln(c_i) - l_i^2/2$, where c_i is the consumption level. Each citizen solves the following utility maximization problem.

$$\max u_i(c_i, l_i; \theta_i) = \ln(c_i) - l_i^2/2 \qquad \text{s.t. } c_i \leq \theta_i l_i, \tag{1}$$

or the indirect utility function is $v_i(\theta_i) = \max_{l_i} u_i(\theta_i l_i, l_i; \theta_i)$. In this setup, $l_i^* = 1$ and $v_i(\theta_i) = \ln\theta_i - 1/2$ for all i. Now suppose that a redistribution policy is proposed. A proposed public policy is $((G_i)_{i=\{\mathrm{L},\mathrm{M},\mathrm{H}\}}, t)$, where $G_i \in [0, g]$ is a lump sum transfer to citizen i and $t \in [0,1]$ is a linear tax rate on income. From a citizen's budget balance condition, we have $c_i = G_i + (1-t)\theta_i l_i$. Given t and G_i, we can find the indirect utility function as

$$\nu_i(t, G_i; \theta_i) = \max_{l_i} \mathrm{u_i}(\mathrm{G_i} + (1-\mathrm{t})\theta_i \mathrm{l_i}, \mathrm{l_i}; \theta_i). \tag{2}$$

The government's budget condition given $((G_i),t)$ is $t\sum y_i \geq \sum G_i$. To make the problem simpler, assume that transfers are uniform $G_i = G$ for all i. Consider that this community holds a referendum. These citizens are divided into supporters and opposers of the referendum. If the number of votes in favor of the referendum is at least as big as the number against, the proposed change is approved. To shun additional complexity of voter turnouts, assume that there is no abstention. Then consumers' decision rule, $V_i \in \{\mathrm{S},\mathrm{O}\}$, where $S(O)$ means that consumer i becomes a supporter (opposer) is straightforward:

$$V_i = \begin{cases} S & \text{if} \quad \nu_i(t,G;\theta_i) \geq v_i(\theta_i), \\ O & otherwise. \end{cases} \tag{3}$$

Note that when $t=0$, $\nu_i(t,G;\theta_i) = v_i(\theta_i)$ for all i. For any redistribution policy, the poor will vote for the referendum, while the rich will vote against it.

Proposition 1. For any $t>0$, $V_L = S$ while $V_H = O$.

Proof: Our goal is to show that $y_L^* < y_M^* < y_H^*$. If $y_L^* < y_M^* < y_H^*$, then $y_H^* > (y_L^* + y_M^* + y_H^*)/3 > y_L^*$, and therefore the consumers with θ_H pay a tax more than what they receive, while ones with θ_L pay less than what they receive. The first order condition of the maximization problem is $\dfrac{(1-t)\theta_i}{G+(1-t)\theta_i l_i^*} = l_i^*$. Solving for l_i^*, we have $l_i^* = \dfrac{\sqrt{G^2+4(1-t)^2\theta_i^2}-G}{2(1-t)\theta_i}$ or $y_i^* = \theta_i l_i^* = \dfrac{\sqrt{G^2+4(1-t)^2\theta_i^2}-G}{2(1-t)}$. Since $\theta_H > \theta_M > \theta_L$, it immediately follows that $y_H^* > y_M^* > y_L^*$. Next, we show that $\nu_H(t,G;\theta_H) < v_H(\theta_H)$. Since we know $G+(1-t)\theta_H l_H^* < \theta_H l_H^*$, $\ln(\theta_H l_H^*) - l_H^{*2}/2 > \ln(G+(1-t)\theta_H l_H^*) - l_H^{*2}/2$

$= \nu_H(t, G;\theta_H)$. Since $\max_{l_H}\{\ln(\theta_H l_H) - l_H^2/2\} \geq \ln(\theta_H l_H^*) - l_H^{*2}/2$ for any l_H^*, $v_H(\theta_H) > \nu_H(t, G;\theta_H)$. $\nu_L(t, G;\theta_H) \geq v_L(\theta_H)$ can be shown similarly.

Proposition 1 is intuitive: The poor will favor any redistribution policy, while the rich will not. The upshot we want to convey here is that the opinion of the poor is opposite to that of the rich. We did neither consider the optimal policy nor pose the objective of the government, but those additional rigors will not change the result.

Next, following Veblen's argument, we take "some surplus of energy" into account. If a new policy is not accepted, consumer i's productivity remains at θ_i. If a new policy is accepted, each consumer's new productivity is $\theta_i^n = \theta_i + \varepsilon$, where ε is a random variable whose mean is zero and variance is finite. This random adjustment may capture the ability of adaptation: Some may easily ride on the new system and some may not. For example, if a government passes a law that supports lower-income households and those who want to claim the benefit must fill out a completely new set of forms, then some households may have spent more time and energy to claim the benefit than the others. Unless the consumers are extremely risk-averse, this random adjustment would not drastically change the result of Proposition 1. For computational simplicity, assume ε is either $+\epsilon$ or $-\epsilon$ with probability 1/2 each, where $\epsilon > 0$ is sufficiently small. Redefine the indirect utility function as

$$\begin{aligned}\nu_i(t, G_i;\theta_i^n) &= \max_{l_i} E_{\theta_i^n}\left[u_i(G_i + (1-t)\theta_i^n l_i, l_i;\theta_i^n)\right] \\ &= \max_{l_i} \frac{1}{2}\left[u_i(G_i + (1-t)(\theta_i - \epsilon)l_i, l_i)\right. \\ &\qquad \left. + u_i(G_i + (1-t)(\theta_i + \epsilon)l_i, l_i)\right] \qquad (4)\end{aligned}$$

The consumer's decision rule is still the same. Then for any $t > 0$,

we can find a sufficiently small ϵ such that 'the observation' cannot be predicted. We provide the following propositions/corollary without proof.[2)]

Corollary 1. For any $t > 0$, there is $\bar{\epsilon} > 0$ such that for any $\epsilon \leq \bar{\epsilon}$, $V_L = S$ and $V_H = O$.

Propositions 1 and Corollary 1 reiterate our commonsense: Any redistribution policy, even if it may bring some uncertainty, will be supported by the poor and the rich will oppose. Another property we can obtain from this setup is that a sufficiently large ϵ that makes the poor to vote against the referendum implies that the middle class will also vote against it.

Proposition 2. For sufficiently large $\epsilon > 0$ such that $V_L = O$, $V_M = V_H = O$.

That is, if the poor vote against the redistribution policy due to the productivity shocks associated with the policy change, the middle income citizens will also have the same opinion. This is not an interesting observation: When all citizens vote against a proposed policy, it is just not a favorable policy for everyone. Lastly, consider a positional concern by replacing utility function $u_i(c_i, l_i; \theta_i)$ with:

$$u_i(c_i, l_i, R(c_i); \theta_i, \alpha), \tag{5}$$

where $R(c_i) = \int_{\underline{c}}^{c_i} dF(c)$, and $\alpha \geq 0$ is a scaling parameter. $F(c)$ is a cumulative distribution function of population mass in consumption levels. Assume the utility function is given as:

2) Proof is available upon request.

$$u_i(c_i,l_i,R(c_i);\theta_i,\alpha)=\begin{cases}\ln(c_i)-l_i^2/2+\alpha(R(c_i)-1/2)^2, & \text{if } R(c_i)\geq 1/2\\ \ln(c_i)-l_i^2/2-\alpha(R(c_i)-1/2)^2 & \text{otherwise.}\end{cases} \quad (6)$$

Note that α captures how consumers seriously concern for the relative ranks of their consumptions. When $\alpha=0$, it reduced down to the previous model. Keeping-up-with-Joneses (KUJ) utility function may be understood as a special variation of this function, which can be shown as:

$$u_i(c_i,l_i,R(c_i);\theta_i,\alpha)=\ln(c_i)-l_i^2/2-\alpha(c_i-\tilde{c})^2, \quad (7)$$

where $\tilde{c}$ is a comparison point, often described as a mean or a median. It lacks one important feature of positional concern; positional competition. Even at the highest income level, or at the lowest one, people are comparing their positions with the others in the same category, and a little positive deviation from the cohort will make one better off.[3] We claim the KUJ utility can be useful for a representative agent model since the model with KUJ utility eventually predicts the regression to the comparison point for all agents. This limits the possibility of incorporating the feature of positional competition.

Finally, for the poor, new productivity shocks, no matter how small they are, give them a possibility of losing the current position with the 50 percent of chance. This provides our Proposition 3 as follows:

Proposition 3. There exists a tuple $(t,\epsilon,\alpha)\in R^3_{++}$ such that $V_H=O$, $V_M=S$, and $V_L=O$.

3) Bertrand Russell noted "Beggars do not envy millionaires, though of course they will envy other beggars who are more successful." (Russell, 1930, p.90)

The key intuition is that the low income citizens' marginal disutility from losing the relative position may be greater than the marginal utility from the absolute increase of redistributed resources.

Ⅲ. Concluding Remarks

To the best of our knowledge, this is the first trial to incorporate the positional externality in the literature of political economy. The positional concern is hard to be ignored, and to some degree, is essential to our daily lives. However, the toy model in this note imposes many assumptions for computational simplification, and relaxation of those assumptions might beget future research agenda of ours' and our readers'.

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빈곤층의 保守化에 관한 고찰

김 덕 규* · **최 문 섭****

논문초록

경제적 불평등이 심화될수록 저소득층이 보수적이 된다는 관찰(Kelly and Enns, 2010)은 그들에게 유리할 수 있는 소득재분배 정책을 반대한다는 점에서 비직관적이다. 본고의 목적은 이 관찰을 설명할 수 있는 간단한 경제학 모형, 혹은 대중의 선호에 대한 올바른 가정을 제시하는 것이다. 우리는 위치재의 외부 효과를 고려한 모형이 위의 관찰을 상당 부분 설명할 수 있음을 밝혔다. 위치재(Positional goods)는 효용이 같은 집단에 속한 타인과의 상대적 위치의 비교를 통해 많은 부분 결정되는 재화로, 절대적인 재화의 소비량이 늘어나더라도 상대적으로 적은 소비를 하는 경우 전체 효용이 감소할 가능성을 내포한다. 모든 개인이 위치 경쟁을 하고, 새 경제정책을 도입했을 때 개인의 노동생산성이 임의로 교란되는 경우, 적절한 모수집단 안에서 중산층만이 소득 재분배 정책을 지지하고, 고소득층과 저소득층이 정책을 반대하는 현상이 나타날 수 있다. 특히 저소득층의 경우, 소득재분배 정책을 통해 얻게 되는 기대 효용을 노동 생산성의 교란에 의해서 현재의 상대적 위치를 잃었을 때의 비효용이 상쇄할 때 소득재분배 정책을 반대하게 된다. 노동생산성의 교란이 관찰을 주도적으로 이끄는 것은 아니다. 표준적인 모형에 노동생산성의 교란만을 고려했을 때에는 위의 관찰을 설명할 수 없다.

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