Redistributive Tax Policies and Inequality: An Assessment of Recent Country Comparative Studies

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The redistribution puzzle

A well known result from the optimal tax literature is that the optimal tax rate is increasing in the degree of inequality, see Sandmo (1976). The larger the pre-tax income inequality between rich and poor, the larger the gap is in the pre-tax marginal utility of consumption between the two groups, and hence the larger the welfare gains of redistributing income towards the poor should be. If we believe that policies are guided by a welfare maximizing government, welfare economics predicts that larger inequality in pre-tax income distribution will be accompanied by larger transfers to the poor.

A similar prediction can be derived from standard median voter models of taxation, see for instance Roberts (1977) and Meltzer and Richard (1981). In a society with large pre-tax income inequalities, the decisive voter will be poor relative to the average income. Let us assume that taxes are a positive function of income and transfers are distributed, say, on an equal per capita basis. In this case, the larger the pre-tax income inequality in society, the lower the decisive voter's tax price for any given transfer level. We should therefore expect to see more redistribution the larger the pre-tax income gap is between rich and poor.

Empirical observations, however, tell a different story. Consider two countries, the United States and the Netherlands. In the United States, the wage income of a top 10 percent wage earner is almost 6 times that of a worker belonging to the poorest 10 percent of the working population. In the Netherlands, the wage gap measured in this way is less than 2.5. Consider next the amount of redistribution in these two countries, measured as the share of GDP spent on various social programs for the non-aged part of the population. In the Netherlands, this share is around 13 percent and in the United States less than 4 percent. From these figuress we can conclude that the United States is both a more unequal and less redistributive society than the Netherlands.[1]

The same result can be found by comparing government spending as a percentage of GDP (GOV) and income inequality, prior to taxes and transfers, as measured by the Gini-coefficient (GINI) for a number of OECD countries, see table and figure below.

The regression line for these observations in the table is:

$$GOV = 60{,}1 - 0{,}73 \cdot \underset{(-\,1{,}94)}{GINI} + e \qquad R^2 = 0{,}32$$

The t statistic indicates that the coefficient is significantly negative at the 10 percent level.

More systematic empirical investigations in the literature, also offer no strong support for the predicted positive relation between pre-tax inequality and redistribution. For instance, Perotti (1996, p. 172) in a survey of growth, income distribution and democracy, concludes that "there is ... very lit-

[1] The numbers on income inequality and redistribution in this paragraph are collected from Gottschalk and Smeeding (1997).

Government spending and pre-tax income inequality in OECD countries

	GOV	GINI
Australia	32.6	22.7
Belgium	46.7	17
Canada	37.7	28
Germany	43.3	24.3
France	51	26
Italy	44.4	18.5
Spain	38.8	26.3
Sweden	52.7	23.1
United Kingdom	37	34
USA	29.9	34.8

Source: GOV is for the year 2000 and based on OECD Economic Outlook, 2000. GINI are the latest figures reported in Ruiz-Huerta et al., 1999, Table 3, except GINI for the UK, which is found in OECD, 1995, Table 6.5.

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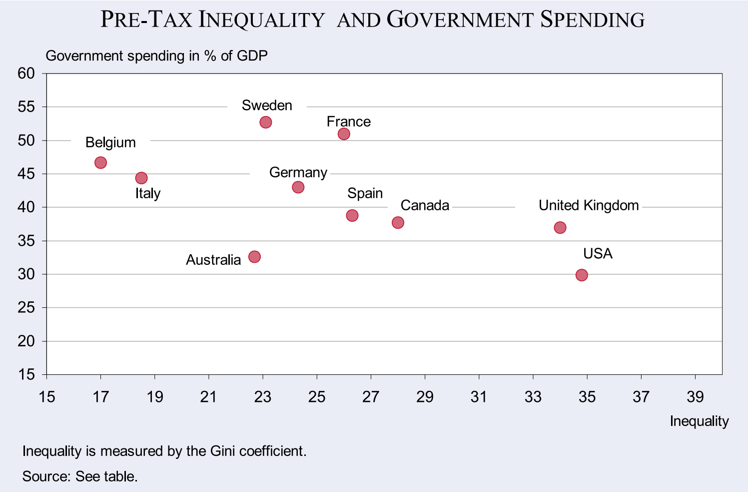

tle evidence of a negative association between equality and fiscal variables in democracies." Even more surprising, a number of studies indicate that countries characterized by a high degree of pre-tax income equality in fact may be more redistributive than less egalitarian societies (Persson, 1995, and Bassett, Burkett and Putterman, 1999). Finally, Horstmann and Scharf (1999) observe that increasing income inequality in the U.S. and other developed countries has been accompanied by increased reliance on local level provision of public goods. Since local communities typically consist of people with relatively similar income levels, fiscal decentralization means less redistribution. In light of the prediction from both welfare economics and median voter models on this subject, these empirical results are puzzling.

Different explanations to the "puzzle"

There are certainly a number of reasons why pre-tax inequality may be associated with little redistribution. First, consider the reverse causality, namely from fiscal variables to pre-tax income distribution. A large share of de facto redistribution probably takes place through measures that equalize people's productivity, most importantly through government investments in health and education. Societies that, for some reason, vote for a large public sector may therefore experience small differences in pre-tax income. Second, pre-tax inequality and redistribution may have a common cause. If for instance a society has strong preferences for equality, this might affect the wage bargaining process and therefore the pre-tax income distribution, as well as the choice of tax policy.

Alternatively, policies of redistribution may not be guided by a welfare maximizing government or the preferences of the less wealthy majority of the population. If people are selfish, and political power is distributed according to people's wallets, then there may well be less redistribution in more inegalitarian societies. Three articles which seek to explain the "redistribution puzzle" along these lines are Persson (1995), Horstmann and Scharf (1999), and Bénabou (2000). Generally speaking, the argument offered in these contributions is as follows. Cooperation between rich and poor in society entails some measure of redistribution. The rich dislike redistribution but cooperation generates benefits to both groups. From the viewpoint of the rich, if the income gap is modest the common benefit of cooperation dominates the cost of redistribution, and hence both groups will agree on the cooperative solution. If the income gap is large, on the other hand, the rich will oppose cooperation. Given that the rich group has sufficient political influence, the result may be limited redistribution.

Our explanation: Inequality and segregation

We offer an alternative explanation to the redistribution puzzle (see Bjorvatn and Cappelen, 2003). The explanation is based on the combined effect of two mechanisms. First, a link between income distribution and residential segregation. Second, a link between residential segregation and attitude formation and thereby the willingness to support redistributive policies. In a model of endogenous choice of location and endogenous aversion against inequality, we demonstrate that large pre-tax differences in income may lead to spatial segregation between rich and poor. Such segregation may reduce the social attachment between the groups in society, and thereby reduce the willingness of the rich to make transfers to the poor. Conversely, societies with small pre-tax differences in income may be characterized by a less segregated population structure and larger transfers to the poor.

The most important difference between our paper and the contributions by Persson, Horstmann and Scharf, and Bénabou is that while in our model, people dislike inequality, in these other papers, rich people do not care about the income level of the poor and can only be induced to give away money as a quid pro quo.

As for empirical support for the two proposed mechanisms, consider first the link between income distribution and residential segregation. Testing the implications of the Tiebout model, a number of studies confirm the existence of a spatial segregation between rich and poor, see for instance Miller (1981), Grubb (1982) and Massey (1996). Jargowsky (1996, 1997) demonstrates that spatial segregation has increased for all ethnic groups in almost all metropolitan areas in the United States during the last three decades. He shows that increased poverty is a significant factor in explaining this development.[2]

Support for the link between residency and empathy can be found in sociological and psychological research. A number of studies find that people tend to make friends with those who live nearby (for instance Festinger, Schachter and Back, 1950, and Nahemow and Lawton, 1975). There is also a large literature on race relations indicating that residential integration between ethnic groups may create greater sympathy across races. In a study of British children's contact with immigrants, Brown and Johnson (1971, p. 311) find that "children with no close contacts with immigrants tend to rely on stereotypes derived from hearsay, or from atypical situations. Such stereotyping, and its associated prejudices, is diminished by close contact with immigrants, since there is then an opportunity to form evaluative judgements which are truly representative of the racial group." The authors also find that attitudes on other races are shaped at an early age.[3]

Although race is not explicitly an issue in the explanation that we offer, there is typically a strong correlation between race and socioeconomic status. Our paper could therefore be interpreted as describing the attitudes of, say, a white middle class towards a colored lower class. More generally, Baumeister and Leary (1995) argue that social attachments are created between people who interact frequently and live close to each other. These authors also find that the childhood years are particularly important in this respect. Finally, Seller (1999) finds that residential inclusion reinforces interests in provision for the disadvantaged, while residential exclusion undermines those interests.

The fundamental feature we attempt to capture in the model is the existence of mechanisms that translate income inequality into social segregation between rich and poor individuals. While we focus on how residential choice may create social segregation, other choices could have the same effect. The choice of location could for example be seen as the choice between public and private schools. If private schools are of higher quality, but also more expensive, than public schools, rich individuals would be more inclined to send their children to private schools. In this way, the school system may constitute a mechanism segregating rich and poor individuals. Differences in the social environment in private and public schools would affect the children's preferences and these preferences would in turn affect the process of redistribution.

[2] For a study of urban segregation in western cities, see Musterd and Ostendorf (1998).
[3] See also Deutsch and Collins (1951). For a survey of the literature on intergroup contact and ethnic relations, see Amir (1976).

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