

## CHAPTER 5

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# POLITICAL INCOME REDISTRIBUTION

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### 1 INTRODUCTION

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DOUGLASS NORTH has characterized government as possessing a monopoly on the legitimate use of force. This makes the government the primary custodian of property rights, while at the same time leaving it uniquely suited to seize and dispose of individuals' resources. While some resources at the disposition of the government are allocated to the provision of non-excludable "public" goods (lighthouses are a classic if somewhat prosaic example), or to partially excludable goods (transportation networks are subject to congestion, but during off-peak hours they have aspects of public goods), an important element of public policy involves the redistribution of private consumption goods. It is to the last-mentioned class of activity, the political redistribution of income, that this chapter is devoted. I shall take a positive rather than a normative approach to the subject that seeks to explain why we observe the redistributive policies that we do, rather than taking up the related problem of what policies of redistribution should be implemented.

Income redistribution is often associated with action on the part of government, while it is customary to think of policies that preserve the distribution of income arising from the workings of markets and other non-governmental productive activities as being passive ones. Yet any allocation of income requires the active enforcement of property rights by the government, so-called "laissez-faire" policies

\* I am grateful to seminar audience at the Juan March Institute for useful comments.

rely on government action every bit as much as actively redistributive policies. The distribution of income is always political.

In some cases we have governments that are not generally accountable for their actions. In these environments redistribution often amounts to *kleptocracy*, with a dictator, ruling clique, or royal family as the primary recipients of redistribution. Olson (1993) recognized that even in these cases, the kleptocrat may increase the harvest of loot if he can credibly commit to not steal everything.

When government policy is accountable to the general public matters become much more complicated,<sup>1</sup> and it is to income redistribution within a framework of democratic institutions that this chapter is devoted. One important set of analyses not covered here are focused on legislative bargaining, Baron and Ferjohn (1989) being a notable example. Those models focus on the features of legislative organization, and use the division of a prize as a paradigm for legislative decision-making. Because the subject of legislative organization is taken up in detail in other chapters in this volume, I do not concentrate on that important set of models here. Likewise, I do not focus on models of lobbyists, such as Grossman and Helpman (1994), even though the goal of many lobbyists is to influence the political redistribution of income, as such models are also the subject of another chapter in this volume.

This overview begins in Section 2 with a simpler but widely used class of models in which the menu of redistributive options is artificially restricted by limiting taxes and transfers to schemes that make post-tax income a deterministic and non-decreasing function of pre-tax income. Because the functional form relating post-tax to pre-tax incomes lends itself to extensions on other dimensions, for example to modeling public goods provision when individuals can choose to relocate to other jurisdictions, models of this class have become building blocks of the literature on redistributive politics. Attention then turns to competitive models that allow for much greater flexibility in the choice of redistribution schemes, with Section 3 focusing on models that emphasize the potential instability of redistributive politics, while Section 4 considers models with built-in sources of stability. In Section 5 attention turns to several models of redistributive politics that try to explain the choice of redistributive instruments when more efficient alternatives are available. A final section concludes.

## 2 COMPETITION OVER RESTRICTED INCOME TAX SCHEDULES

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If we restrict our attention to redistributive schemes that involve a constant lump-sum payment to everyone, coupled with a linear (Meltzer and Richard 1981), or quadratic (Roemer 1999), tax scheme, then political competition can lead to

<sup>1</sup> Of course, on normative grounds virtually everyone will prefer this complexity to the crass simplicity of a kleptocratic regime.

progressive tax schemes in which those with high incomes subsidize those with lower incomes.

In a classic paper Meltzer and Richard (1981) set forth a simple model of income redistribution that captures the essential trade-off between equality and output maximization that is intrinsic to redistributive schemes. In this model government policy consists of a tax rate  $t$  levied on all income, and a lump-sum egalitarian transfer  $r$ . An individual with a pre-tax income of  $y$  pays  $ty$  in taxes, and receives a transfer of  $r$ , resulting in a post-transfer income of  $c$ :

$$c = y(1 - t) + r \quad (1)$$

Individuals are each endowed with one unit of labor, which they can divide between work and leisure. While they get no direct utility out of work, individuals do enjoy leisure activity, and they enjoy goods consumption.<sup>2</sup> Individuals differ in their workplace productivity, denoted by  $x$ . If an individual with productivity level  $x$  devotes a fraction  $n$  of her time to work, her pre-tax income will be given by  $x$  per unit of time spent working:

$$y = nx \quad (2)$$

In this framework, the government devotes all of tax revenues to financing the lump-sum transfer  $r$ , so each person's transfer is simply their equal share of tax revenues. Individuals recognize that they are small relative to the size of society, and so they treat the lump sum they receive as not depending on their own personal work effort.<sup>3</sup> Thus, all individuals with the same level of productivity have the same preferences concerning taxes and transfers, while the level of transfers,  $r$ , is fully determined by the tax rate  $t$ .

Meltzer and Richard show that in their set-up, an individual's most preferred tax rate depends on her productivity level, and that this preferred rate tends to fall with an individual's own labor market productivity.<sup>4</sup> However, individuals do take the incentive effects of taxation on the labor supply of others into account when evaluating potential tax rates.

Meltzer and Richard argue that in equilibrium competition among political entrepreneurs will lead to a government that implements the preferred tax policy of the voter with the median productivity level  $\hat{x}$ . If the distribution of productivity levels is skewed rightward (so that the median voter has a below-average income) the result will be a positive level of redistributive taxation that stops short of full equalization of incomes. Taxation stops short of full equalization because the median

<sup>2</sup> Technically, Meltzer and Richard assume that individuals' preferences can be represented by a quasi-concave utility function over consumption and leisure time which is increasing in both its arguments.

<sup>3</sup> In Meltzer and Richard's model individuals are part of a continuum, and each person's contribution to tax revenues is effectively zero, so the impact of each person's labor supply decision on the average transfer is literally negligible.

<sup>4</sup> Strictly, if  $t^*(x)$  denotes the preferred tax rate of each individual with productivity level  $x$ , then  $t^*$  is a non-increasing function of  $x$ .

voter recognizes the disincentive effects of a high tax rate. As tax rates rise toward 1 individuals shift away from work and into leisure.

A crucial consideration hinges on whether the median voter works. Among tax rates that dissuade the median voter from work, she will prefer the rate that maximizes the size of the per capita transfer. Above that rate work effort falls off so rapidly that even though people pay a higher tax rate on their remaining work hours, it is not enough to offset the decreased amount of work, and total revenues decline. In this case, the Meltzer and Richard outcome is quite similar to the notion of a “stationary bandit” (Olson 1993), namely a government that seeks to maximize the resources it extracts from the economy, and which sets a tax rate below full confiscation only because to take everything would suffocate individuals’ incentives to produce. However, among voters whose preferred tax rates are below that which would remove them from the labor force, there is an additional impact of an increased tax rate, in that it reduces their pre-tax incomes. So the preferred tax rate is a decreasing function of a worker’s productivity: if the median voter works in equilibrium, then the median tax rate will be lower than the revenue-maximizing level.

This model represented a significant innovation over earlier models. It did not follow Marx (1867) in predicting that, “false consciousness” aside, people would choose to expropriate fully those with more wealth. Neither did it rely on the assumption of a poorly informed electorate, about which I will have more to say later in this chapter. Meltzer and Richard showed that partial income redistribution could be the result of decisions by fully informed voters. The authors were interested in an empirical regularity known as “Wagner’s Law” which held that as incomes rise so does the “taste” for redistributive policies. Meltzer and Richard’s analysis directs attention instead to the degree of income inequality, as measured by the distance between the economy-wide mean income and the income of the median voter, suggesting that periods of rapid economic growth, which Kuznets (1955) predicted would be characterized by increased inequality, would be accompanied by higher rates of taxation when voting rights are universal.

Of course, the Meltzer and Richard framework begs a number of questions. Notably there is the restriction to a linear income tax scheme. One response to this is offered by Roemer (1999) (see his article in this volume) who allows tax and transfer schemes that are quadratic functions of individuals’ pre-tax incomes, though this added complexity (and realism) comes at the price of not allowing for production.

Restricted tax schemes have become standard building blocks from which more complex models of income redistribution are confected. Analysts interested in the distributive impact of some other feature of the political system such as the potential for migration, which is discussed in detail in the chapter by David Wildasin in this volume, have frequently appended a more sophisticated model for political decision-making to a version of Meltzer and Richard’s linear tax scheme.

An interesting case in point is Austen-Smith (2000), who generalizes the Meltzer–Richard model to encompass heterogeneous types of economic activity, and who compares the effects of different electoral systems on the level of redistribution. Austen-Smith’s model generates the prediction that proportional representation

militates in favor of a more equal distribution of income than simple majority rule,<sup>5</sup> a prediction that seems to be borne out empirically (see for example Persson and Tabellini 2000).

### 3 COMPETITION OVER UNRESTRICTED TRANSFER SCHEMES

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The analysis of income redistribution in this context has an interesting parallel in the literature on industrial organization. Bertrand (1883) noted that competition among a finite number of identical sellers possesses a fundamental tendency toward instability: given any prevailing price each seller can capture all of the market by infinitesimally undercutting her competitors' prices. Subsequent analyses by Sraffa (1926), Hotelling (1929), and de Palma et al. (1985) identified conditions under which infinitesimal price reductions result in only infinitesimal changes in market shares, conferring a degree of stability on market outcomes.

One important family of models of income redistribution, which will be examined in this section, possesses an instability similar to that highlighted by Bertrand (1883); in these models redistributive schemes are highly vulnerable to being undercut by competing alternatives that offer infinitesimal improvements to a voting majority.

Models in which decision are made by majority vote without restrictions on the potential allocation of transfers<sup>6</sup> generically fail to possess equilibria for reasons discussed in McKelvey (1976). Working within the framework of cooperative game theory, Aumann and Kurz (1977a) show that this indeterminacy is removed if individuals can destroy their endowments rather than allow them to be distributed to others.

In Aumann and Kurz's model,<sup>7</sup> agents are distributed along a continuum, there is no production, and redistribution is costless, save that each individual can, if she chooses to, destroy her own endowment before redistribution takes place. Total endowments are finite; utility functions (the function for type  $t$  individuals is denoted  $u_t$ ) satisfy some fairly standard regularity conditions.<sup>8</sup> The equilibrium budget must balance. Individuals' ability to destroy their output constrains the benefits that a majority coalition can vote for itself. In equilibrium an individual's allocation will be larger the greater her initial endowment, and the less risk averse she is. The intuition here is that groups of agents engage in brinkmanship, threatening to disrupt

<sup>5</sup> The mechanics of his model hinge crucially on his assumptions about the objectives of the political parties.

<sup>6</sup> With no productive activities and a continuously divisible stock of a single resource this amounts to  $N$  voters selecting a point on an  $N - 1$  dimensional simplex.

<sup>7</sup> This model is discussed in Aumann and Kutz 1977a and fully elaborated in Aumann and Kurz 1977b.

<sup>8</sup> Each agent's utility function is increasing, concave, continuously differentiable, and uniformly bounded.