

Political Economics and Macroeconomic Policy

Guido Tabellini

Report by Bas van Groezen, Tilburg University*

At the NAKE workshop in Tilburg, professor Guido Tabellini gave a course on political economics, based on the book he is writing with Torsten Persson. The thread of these lectures was to analyse how political incentives, preferences and institutions shape the political outcome and determine government size and the composition of public spending. Starting with a simple basic model, he dealt with several topics concerning political decision making by extending this model each time differently. This resulted in well structured lectures that provided a good overview of some public choice issues. This report will outline these lectures.

1 The basic model of political competition

Professor Tabellini started with a basic (static) model of an economy inhabited by individuals with different incomes. They gain utility from their income and a public good. A government is redistributing income by imposing a proportional income tax on all individuals in order to finance expenditures on public goods or transfers and, possibly, on rents which benefit politicians only. Everybody is assumed to be rational and policy choices are delegated to politicians, who are elected according to majority rule. These politicians can be motivated to seek office for three reasons. First, they could just like to be in office and try to maximize the probability of winning the election for that purpose. Second, being in office could allow one to gain (financial) rents, so politicians will display rent seeking behaviour. Finally, caring for a particular policy outcome may induce people to be eligible for election. Whether or not there is commitment ahead of the elections will turn out to be an important determinant of the political equilibrium. Citizens can participate in the political process by voting, lobbying or protesting. Their preferences can be scaled on a

*Department of Economics, Tilburg University, P.O. Box 90153, 5000 LE Tilburg, Ph: +31-(0)13-466-3255; Fax: +31-(0)13-466-3042; Email: B.J.A.M.vGroezen@kub.nl.

unidimensional line and are single peaked, such that each person has one most preferred policy.

In the case of Downsian competition, there are just two identical candidates who run for office. Hence, the politician who proposes a policy that coincides with the median voter's preferences will be elected, because the median voter is (per definition) the one who can change a minority into a majority. In case of an equal income distribution, a unique (subgame perfect) equilibrium will result as both candidates converge to the socially optimal (utilitarian) policy. After all, any other proposed policy will lead to a victory of the other candidate since he will get more votes. Political competition thus implies optimal government spending. This spending grows if the costs or benefits of the public good increase (Baumol's disease and Wagner's law, respectively).

Now consider an income distribution that is skewed to the right, so the median voter's income is lower than the average (as is the case in most countries). Every tax rate then provides the government higher per capita revenues (and thus more spending on the public good per capita) than the amount of taxes that the median voter pays. This difference causes the median voter to prefer a larger government than before; consequently, more income inequality implies a bigger government. This result, that was described in the well-known article by Meltzer and Richard (1981), can be modified in various ways. The model could be extended to allow for another factor (popularity, ideology) that makes a candidate more or less attractive for certain voters, apart from its proposed policy. A swing voter can then be defined as the one that is indifferent between two parties. Swing voters play an important role in the elections. If the rich, who desire a small government, have relatively many swing voters because they are ideologically homogeneous, candidates will adjust their announced policies in the direction of the preferences of the rich in order to win the election. In that case, more income inequality may *reduce* the size of the government. The same result can arise if one allows for lobbying and the rich can organize themselves better than the poor.

2 Citizen candidates

The basic model can be extended to allow for politicians who would like to achieve a particular policy outcome and for that reason run for office. In case of two candidates, who each prefer a different amount of government spending, there are two opposing forces that determine their proposed policies. On the one hand, there is a centripetal force that drives the party manifesto towards that preferred by the median voter in order to increase

the number of votes. On the other hand, if the candidate's tastes differ from the median voter's, he will try to implement a policy that suits his own preferences best (the centrifugal force). If the first effect dominates, then again the median voter outcome is reached and there is full policy convergence, as in the Downsian model. Of course, this result relies heavily on the assumption that there is commitment ahead of the elections. If politicians have the opportunity to implement another policy than they promised before they were elected, he will do so and just choose what he himself prefers. As voters know this in advance, the candidate with preferences that coincide with those of the median voter will win and we are back at the old equilibrium.

It would be more realistic to assume that being a candidate involves some costs, as was pointed out by Osborne and Slivinsky (1996) and Besley and Coate (1997). In that case, someone will decide to be a candidate only if these costs are less than the expected gain of running for office. If there is just one candidate, this will be the one with median preferences, at least when the costs of entering the political arena are not too high and the default policy (that will result if nobody enters) is unattractive enough. In case of two candidates, multiple equilibria arise. The policies that are proposed are such that the median voter's preferred policy lies exactly in the middle of these and is sufficiently far removed from it, making entry worthwhile. Each candidate then has a fifty percent chance of winning and the resulting outcome does *not* coincide with the median voter's preferences.

Hence the gains of being a candidate consist of the benefits of being in office and implementing the desired policy, multiplied by the probability of winning. Furthermore, even if a citizen is sure that he will not win the elections, he may decide to be a candidate and incur the costs. His candidacy may take away some votes from the other parties and thus decrease their probability of winning; this urges the other candidates to change the proposed policy in his direction in order to still have some chance of winning the election, bringing the final outcome closer to his preferences.

3 Redistributive policies

Up to this point, government policy took the form of a proportional income tax and provision of a public good, by definition available to all citizens to the same extent. In reality, though, most government spending involves transfers to specific groups in the population. In the second and third lecture, Tabellini therefore dealt with political decision making on redistribution between (two) groups of people. This section briefly summarizes

the main results concerning general transfers, pensions and unemployment insurance.

3.1 General transfers

Consider an economy where individuals differ in productivity, which can be modelled as different time endowments. People divide their available time between leisure and labour effort. The government levies a proportional tax on income and provides a lump sum benefit to all citizens. When voting on the tax rate, individuals take two effects into account: a higher tax rate implies more redistribution from the rich to the poor (which is beneficial to any voter whose income is below average), but at the same time it entails less labour supply, so the tax base shrinks. This means a lower benefit at any given tax rate. A richer voter is more productive, so he weighs the tax base effect of a higher tax rate more heavily and consequently prefers a lower tax rate. The rate preferred by the median voter will be the resulting political outcome. As before, if the income distribution is very much skewed to the right, the tax rate will be high, but if it is considerably skewed to the left (extreme poverty), the median voter prefers less redistribution. If taxes are very distortionary, voters will realize that and choose a lower tax rate.

There seems to be little empirical support for this analysis; yet, in practice, such general transfers hardly exist for most of the redistribution entails transfers between different groups in society, such as pension benefits (transfers between generations) or some kind of insurance (e.g. unemployment benefits).

3.2 Intergenerational transfers

In the third lecture, Tabellini extended the general framework to allow for age heterogeneity. Suppose there are three generations alive at each time: the old, the middle-aged and the young. The government takes care of a pay-as-you-go (PAYG) social security system, the size of which is voted once and for all. If there is no altruism, clearly the old would like a PAYG-tax as high as possible. Young voters, on the other hand, prefer a lower tax rate as they take the costs into account. The poorer a young voter, the higher his preferred tax rate since the pension system also entails intragenerational redistribution. Furthermore, if the (positive) difference between the rate of population growth (implicit return of the PAYG-system) and the interest rate (return to savings) is larger, the young voter would prefer a higher tax rate. The middle-aged prefer a positive tax rate as they are not confronted with a 'full' budget constraint: they are not young any more, so the tax they vote on will not be paid by them during both of their productive periods and still they will receive a

full pension benefit when old.

What will be the equilibrium tax? Because every old voter prefers a high tax rate, the resulting tax rate is such that it pleases the median young and the median middle-aged to the same extent (marginally). Every young person prefers a lower tax rate than a middle-aged with the same income, because the young have one extra period during which they must pay the tax, whereas the pension benefits are the same for all. But a poor young prefers a higher tax rate than a richer young individual due to the intragenerational income distribution that the pension scheme brings about. In other words, the same tax rate is preferred by a middle-aged individual and a young individual with an income that is lower than that of the middle-aged. If the interest rate equals the rate of population growth, it can be shown that the size of the government is larger than was the case with general transfers. This is due to the fact that middle-aged and old voters have finite lives and, consequently, do not fully internalize the costs of a higher tax rate. So future generations, who are affected by the tax rate that is decided upon, do not participate in the political process, simply because they do not live yet. Still, their desired tax rate will be the one that is preferred by the young, who do not form a majority. The political outcome then reflects a tax rate that is too high for all future generations.

A higher population growth rate has two opposing effects: on the one hand it implies more young voters, who want a low tax rate. On the other hand, it increases the implicit return of the PAYG-system relative to the interest rate, so everybody would vote for a higher tax.

3.3 Unemployment insurance

Another way in which people differ is in the risk of becoming unemployed and consequently lacking income. In many countries the government therefore provides unemployment insurance. Typically, this gives rise to a conflict of interests between the employed ('insiders') and unemployed ('outsiders'): the employed want less than full insurance, while the outsiders wish more than full insurance since it redistributes from employed to unemployed individuals. If the employed are the largest group in society, majority voting would lead to an insurance scheme that is too small from a social point of view. If the firing rate increases, the unemployment insurance becomes more expensive, so the equilibrium benefit declines and the tax rate increases. The reverse holds for an increasing hiring rate.

Another way in which the government influences the labour market is by imposing firing rules on employers, so that employees are protected from unemployment in some sense. This could be modelled by adding an extra term in the firing rate. As it is more difficult to

dismiss a worker, this has a negative impact on the hiring rate. So the labour market gets less flexible. Overall, how the rate of unemployment is affected by an increasing degree of labour market flexibility is ambiguous, but it is likely that this relation will be negative. The employed form a majority, so their preferences will determine the political outcome. On the one hand, they want to protect their jobs and thus wish a low firing rate. On the other hand, they realize that a high firing rate implies a low hiring rate, which harms them if they happen to become unemployed anyway. The resulting level of protection is too high from a social point of view and, consequently, equilibrium unemployment is above its minimum.

4 Special-interest politics

In the cases described above, every citizen could in principle qualify for a benefit, as long as he satisfied certain criteria (old age, unemployed). In reality the government also provides favours to specific groups (to be modelled as local public goods, i.e., beneficial or available to some individuals only), so that the benefits are concentrated on certain citizens whereas the costs are spread out over the entire population. This section deals with the question what determines the allocation of these favours and its overall size and how to improve decision making.

If each group were to pay for its own (local) public good, the socially optimal outcome would result since voters take all the costs and benefits into account. So full decentralization of decision making would be best. In practice, however, this is not possible. The *common pool problem* leads to overspending on the local public goods. The smaller the group, the more this will be the case. Centralization of decision making would be an alternative, but this causes a conflict of interest: each group wants to spend a lot on its own public good and nothing on those of the others. The next sections describe several alternative institutional settings in which centralized decision making can take place.

4.1 Legislative bargaining

Suppose the political decision making process is as follows. First, each group has a representative who speaks up for the group's interests; out of these representatives, nature picks an agenda setter who subsequently proposes how much to spend on each group. Finally, the legislature, consisting of all representatives, votes yes or no on this proposal (this is the so called *closed rule*: no amendment of the proposal is possible). If it is rejected, i.e., if more than fifty percent of the districts votes against, the status quo will remain.

Clearly, the agenda setter will maximize his own utility subject to the government budget constraint and at least half of the legislature being in favour of it. In order to maximize his own gains, the agenda setter tries to attain a *minimum winning coalition* (in this case 50%+1 of the representatives) and leave as much of the tax revenues to spend on his own group. He will just offer the status quo to the coalition members and zero spending for the others. Thus, his proposal (and the political outcome) consists of ‘buying the votes’ of the ‘cheapest’ groups: small groups and those with a low status quo. Picking an agenda setter who does not gain much utility from spending on his public good and a low status quo helps constraining public spending in this setting.

4.2 Separation of powers: two-stage budgeting

How does separation of budgetary powers influence the political outcome? Suppose there are three parties and the agenda setter (a^I) proposes a tax rate, and thereby the size of total government spending (G). After that, the legislature votes on approval of this tax and next *another* agenda setter (a^J) proposes an allocation of the revenues to the different groups in society. Finally, the legislature either approves this allocation or not, in which case the budget is split equally among the groups. a^J will propose zero spending to one group and $G/3$ to the other in order to attain a minimum winning coalition for his proposal. This second stage outcome is known in advance by a^I . If a^I is in the coalition (‘residual claimant’), he will fully internalize the costs and benefits of spending in his district. Because both are a third of aggregate benefits/costs, the social optimal outcome is reached. Obviously, if the tax proposer is not in the coalition, he will not gain from the tax revenues and thus tries to minimize the government size.

4.3 Voting and legislative bargaining

Instead of a separation of powers, we could add another election stage. Initially, in each district, individuals (who differ in the extent to which they prefer public goods), choose their representative. Then, an agenda setter is randomly chosen from all these representatives and he proposes the tax rate and composition of government spending. Finally, the legislature can approve this. If it does not, the status quo (very little spending) will remain. Again, the agenda setter will try to achieve a minimum winning coalition. The coalition members he will choose are those that are easiest to please (representatives who care a lot about public spending), because then he will have much left for himself/his own group. As voters in the first stage know this will happen, and realize that if their representative is

not in the coalition they will get nothing for their group, they will choose a representative who values public spending a lot, since he is most likely to be in the coalition (*strategic delegation*). In the end, the agenda setter will be someone who wants high government expenditures, so adding another stage like this worsens the allocation.

4.4 Lobbying and legislative bargaining

Now consider the effects of lobbying if the political process is as follows: first, an agenda setter is chosen. Then, the people from his group can pay him lobby expenditures in order to please him, after which the agenda setter picks coalition members and proposes a policy that is voted on by the legislature. The contributions that the group pays to the representative are higher if he promises to propose a policy that is more beneficial to that group. In order to maximize the contributions he will receive, the agenda setter chooses those as coalition members that represent groups that are easily satisfied. Not being in the coalition implies no public good for the particular group. This leads to Bertrand competition between interest groups: by demanding less (i.e., being easily satisfied) it will be more likely to be in the coalition. In the end this drives the provision of public goods down to zero, except for the agenda setter who gets all tax revenues. Note that no contributions are being paid in this equilibrium. As was shown here, observing no contributions should therefore not lead to the conclusion that lobbying does not matter.

4.5 Political rents

Suppose all citizens are alike and tax revenues can be spent on public goods and rents for politicians (party financing, corruption). There are two parties that each want to maximize the expected gain from being in office. After they have proposed their policies (i.e., the level of public spending and the rents they plan to get), one of the two is elected. In case of identical Downsian candidates, electoral competition leads to rent dissipation (the Chicago view). A different outcome results when there is probabilistic voting. Then parties are uncertain about the probability of winning the elections, because the decision of voters does not depend entirely on the difference between the utilities they get with the two policies that are proposed, but they also care about the candidate himself. Let the probability that party A wins be equal to $\frac{1}{2} + \psi[W(g^A) - W(g^B)]$, where g^I denotes the policy proposal of party I , $W(g^I)$ stands for the utility an individual gets from proposal g^I and $\psi \geq 0$ measures how sensitive the probability of voting is to a difference in utilities from the two policies. If $\psi = 0$ then a candidate always wins with a probability of a half, no

matter how much public spending he promises. This induces the party to increase its rents. The larger is ψ (i.e., the closer p^A is to zero or one, so the less electoral uncertainty), the smaller these rents will be. If politicians attach a high value to just being in office, they are not willing to take a lot of risk to lose the elections, so equilibrium rents decline. The same holds for a small population, since any rent would imply higher costs per person, as the costs of these rents are equally spread out over all citizens. So with electoral uncertainty, the Chicago view does not hold.

We could also consider the case of elections *ex post*. The incumbent politician has two options: either tax the citizens heavily and keep all revenues for himself, in which case he will not be reelected, or take future rents into account that would accrue to him if he were reelected. If these future rents are getting higher, the politician will reduce the current rent. On the other hand, if there are many people to tax, or their individual incomes are high, it becomes more attractive to ‘steal’ from them.

Suppose the incumbent knows the cost of providing the public good, but voters do not. This would make the equilibrium rents higher since the incumbent can pretend to spend a lot of tax money on the public good, whereas in fact he is just pleasing himself. If these costs are higher, he will find it more difficult to please the voters, so he decides to ‘steal’ a lot from the voters and forego reelection (this has become more expensive).

5 Separation of powers: checks and balances

Let the political process be as follows. According to some voting rule the two politicians are appointed executive (X) and legislature (L). X first proposes a tax rate which L either accepts or not. If it is accepted, L suggests how to split the government budget between public goods, rents for X and rents for L . Subsequently, X approves this proposal or not. In case of no approval, the status quo will remain. In the end, there is a separate vote on the reappointment of each candidate. Obviously, if politicians care enough about reelection, equilibrium rents will be very small as voters are assumed to be able to observe the true costs of providing the public good. In fact, separation of powers in itself makes the socially optimal outcome more likely. The reason is that the tax proposer is not the residual claimant on tax revenues. A higher tax would therefore imply higher rents to L , so X does not benefit from that. Hence the only incentive that X faces is reelection, which induces him to propose a tax rate that is as low as possible. Without this separation of powers the rents are much higher because the (single) politician can threaten the voters with maximal skimming of the tax revenues. Note that X and L should not be able to

collude. If the rents accruing to both are decided upon separately, equilibrium rents will be too high from a social point of view. Ergo, the design of the rules is important, not just the mere fact that there are two candidates.

In case the costs of public goods are not known to the voters, the agent who is not the residual claimant (X) will reveal all his information to the public. Then again the socially optimal outcome is reached.

6 Different political regimes

In order to investigate the political equilibria under two different regimes of policy making, Tabellini extended the analysis to allow for redistribution between voters. The simplest way to do that is incorporating group-specific (targeted) benefits, so tax revenues have three destinations: provision of public goods, transfers and rents. The social optimum would be zero rents and equal taxes and benefits for all groups. What are the outcomes in a presidential system, where the agenda setting powers are split and maintained during the legislative process, and in a parliamentary system, where no such separation of powers exists?

Assume there are three groups in society and the presidential political process proceeds as follows. Two agenda setters are appointed; the first (T) decides on the tax rate and subsequently the other (G) proposes how to allocate the accompanying revenues (i.e., when the tax rate is approved by Congress). Finally, Congress votes on this allocation, after which elections are held. In the last stage, G needs another representative to achieve a minimum winning coalition. The less this party demands, the more G can spend for his own group. As was the case with lobbying, the two other parties try to be as attractive to G as possible by demanding slightly less group-specific transfers than the other. The Bertrand competition results in transfers to G 's district only. As G also decides on how much to spend on the public good, he will only take the benefits that this public good gives for his own group members into account, not caring for two thirds of the electorate. Hence, too little will be spent on the public good. Voters in T 's district do not get any transfers, so they will vote for a tax rate as low as possible, i.e., a tax that is just high enough to finance the public good, leaving no room for political rents and transfers. So the presidential system leads to low rents and few redistribution but also to underprovision of the public good.

Now consider a parliamentary system where the government has the power to propose and decide on all policies, so there is no separation of power. As long as a majority in

parliament supports the government, the agenda setting powers are maintained. Coalition members will have a strong incentive to preserve the coalition because a veto of one of them causes a government crisis and harms all members (since it entails new elections and hence a probability of losing legislative power), including the one who vetoed. The policy game can be described as in the presidential system, except for the fact that the legislature (parliament) decides on the tax and expenditures proposals simultaneously. So in the case of three parties, bargaining power is not concentrated at one party but rather at two. This implies an allocation of transfers and public goods that is optimal for a larger part of society than in a presidential system (but still not the social optimum). It would lead to redistribution from the minority to the majority. On the other hand, political rents will turn out to be higher because both coalition members have bargaining power: voters will permit some rents for their particular representative so that he will not cause a government crisis in which case these voters would run the risk of losing the redistribution in their favour. In other words, equilibrium rents are positive because both representatives are residual claimants.

Summarizing, the presidential system leads to low rents, but also to underprovision of the public good and no transfers, whereas a parliamentary system results in high rents, but also a more efficient provision of public goods and transfers to a majority of the population, pleasing a broader group of voters.

7 Dynamic politics: government debt

The lecture on Friday was devoted to dynamic politics. The issue that Tabellini raised was the explanation of rising public debt that many countries experienced in the last decades.

The main feature of public debt is that it entails decision making on government spending in different periods. To analyse this, the model is put in a two-period framework, where the government provides public goods in both periods. As taxes are assumed to be collected in the second period only, it will have to run a deficit in the first period. There are two equally large groups of individuals, who derive utility from private consumption in both periods (as well as leisure in period two) and a group-specific public good. They have the opportunity to save by investing in government bonds. Clearly, the social optimum consists of equal spending on public goods of both types and in both periods (if the gross interest rate is equal to one).

Now consider the case of decentralized decision making. Each group then decides on the amount spent on its own public good. Again, the common pool problem results in too

much spending on each type of public good, but also too much borrowing, because the government debt that is being issued by one group will have to be repaid by all groups one period later. Hence, part of the burden (spending cuts in period two) is shifted to the other, but the other acts similarly, resulting in too much borrowing from a social point of view. This problem gets more serious as the number of groups increases.

Adding political instability will aggravate these results, because then there is a probability that the party that is in office in period one is not reappointed. This means some chance of not having to deal with the burden of increased borrowing at all. In fact, not being reappointed implies a shift of the debt burden to the other party, limiting its ability to implement a policy that is beneficial to its constituency only. Then, government debt may even become a device to constrain the other party in the next period. More political instability thus leads to excessive government borrowing.

In order to study the issue of delayed stabilization, consider the case of fixed tax revenues in each period and too much government spending in period one. Two things can happen: either stabilization is postponed, in which case debt is issued and period-two spending should be cut, or stabilization takes place immediately by cutting period-one spending. Borrowing is costly to both groups, but to a different extent (by assumption). These costs are private information. In the first period, both parties decide on stabilization. If only one party decides to stabilize, stabilization will occur, but it is more costly for this party (one could interpret this as a measure of polarization in the political system). Obviously, if it is more costly (less ‘political cohesion’), stabilization is less likely to occur. Furthermore, if the initial deficit is high, the individual costs of postponement of cuts is getting larger. So if debt is initially high, adjustments are more likely to occur (the recent reforms in Italy are a nice example in this context), whereas a low debt implies a status quo that is not very costly, leaving the incentives to change policy small. Granting financial aid to poor countries should therefore only occur conditional on fiscal reforms. Just decreasing the level of their government debt would merely increase the incentive to postpone stabilization.

References

- Besley, T. and S. Coate (1997), An Economic Model of Representative Democracy, *Quarterly Journal of Economics*, **112**: 85-114.
- Meltzer, A. and S. Richard (1981), A Rational Theory of the Size of Government, *Journal of Political Economy*, **89**: 914-27.

Osborne, M.J. and A. Slivinsky (1996), A Model of Political Competition with Citizen-Candidates, *Quarterly Journal of Economics*, **111**: 65-96.

Persson, T. and G. Tabellini (1999), *Political Economics. Explaining Economic Policy*, MIT Press (forthcoming).