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**“Competing Pressure Groups, Income Distribution and  
Growth”**

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## “Competing Pressure Groups, Income Distribution and Growth”

“All political systems, however, including dictatorial as well as democratic systems, have been subject to pressure from special interest groups that try to use influence to enhance their welfare”

Becker G.S. (1983) pg. 375

### Abstract

<sup>1</sup>This paper proposes an endogenous growth model that establishes a negative relationship between the concentration of the non cumulative factor, namely land but also natural resources in general, and long run growth and that offers a theoretical background for redistribution policies such as land reform.

The present model has the advantage to link growth to wealth distribution independently of the formal political institution in the economy. In particular building upon some criticisms, both at the empirical and theoretical level, concerning the voting on fiscal policy approach, a different one is suggested here.

The present scheme considers a framework in which two groups of agents, with different initial endowments, exert political pressure for a favourable taxation along the lines suggested by Becker (1983). The model defines an equilibrium growth rate for the output of the economy that is a negative function of the real tax rate on capital returns and ultimately of the fixed factor concentration.

The rationale of the model lays upon the strong belief that the real cleavage in less developed countries is the one between *status quo* rent seeking groups and growth promoting groups.

### INTRODUCTION

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<sup>1</sup>A special thank to Elena Podrecca for the invaluable help. Any errors are mine.

A very recent empirical finding that calls for explanation emerging in the literature of Growth Theory is the positive link between equity in wealth, or income, personal distribution at a point in time and successive long run growth rates in a cross-section of countries. In general, this empirical evidence may not fit well in the theory of Endogenous Growth which focuses on capital accumulation. As Bertola (1993) pointed out, the higher the share of capital the greater is the saving rate of the economy and its growth rate. Thus for realistic personal wealth distribution, usually very skewed to the right, the standard trade off between equity and growth arises. Moreover, the higher the concentration of the cumulative factor the higher should be the degree of appropriation of the externalities so often cited in the literature. Several recent contributions have tried to overcome this apparent discrepancy. In a recent survey, Perotti (1995) listed four approaches to the issue of Income Distribution and Growth: the “fiscal policy” approach, the “socio-political instability” one, the “imperfect capital market” and the “human capital investment and fertility decision” approach. In what follows I will refer to the first approach, due to the contributions of Alesina and Rodrik (1992,1994) , Bertola (1993), Perotti (1993), Persson and Tabellini (1992,1994), among others. The mechanism of the “fiscal policy” approach can be summarised as follows: a tax is levied on the stock of the cumulative factor or on the income flow accruing to it, and the revenues are in part redistributed to individuals who differ in their initial endowments of that same factor. The policy variable, the tax rate or the redistribution parameter or both, is defined through a political process that has been essentially the majority rule in a democratic context. The heterogeneity of endowments creates a link between the distribution of the cumulative factor and the level of taxation which the median voter, the decisive one in a majority system, will choose. A capital poor median voter will prefer a higher capital tax rate, which in turn will discourage accumulation and therefore growth. Hence an unequal distribution of wealth will cause the choice of an higher tax rate on the cumulative factor and a greater government expenditure. Both policies are supposed to discourage growth even if the second can be growth promoting when expenditures in infrastructure and education are considered. The first drawback of this approach, which will refer to as “fiscal policy-median voter” one (FP-MV, from now on) is that the political mechanism operates only in a democratic context, which is not a realistic background of the way many societies of

less developed countries work.<sup>2</sup> Moreover, one has the perception that smaller shares of labor income are associated to lower levels of income and long run growth rates<sup>3</sup> and this casts doubts upon the relevance of the labor-capital conflict especially in less developed countries.

Another drawback is that had the underdeveloped countries grown little due to the populism of their policies they should present at least a more equal distribution of income and wealth whereas the opposite is true. Therefore something went wrong with the redistribution policies as well, something the theory must account for.

A further point is that basing the link between equity and growth upon a particular political regime, namely democracy, produces a testable implication for the implied equity-growth relationship namely that it should be stronger in democracies than in authoritarian regimes. Some recent contributions rejected the former hypothesis questioning the entire “fiscal policy-median voter” mechanism from an empirical point of view (see Alesina and Rodrik, (1994) pg. 480, and Perotti (1994, 1995)) while theoretically the limits of the median-voter approach are well known by the same who proposed it. (see Alesina and Rodrik (1992), Persson and Tabellini (1992)).

Finally, the entire FP-MV approach could suggest the existence of a sort of trade-off between democracy and growth or might lead one to think that a period of “suspension” of democratic rights is convenient, at least in the first stages of development. This trade-off is indeed very weak both from an empirical point of view and from a historical perspective.

Despite all the drawbacks listed above the majority if not all are to be imputed to the political mechanism chosen. Whereas there is no reason to dismiss the income distribution-fiscal policy channel as a whole. In many countries, particularly in less developed ones, fiscal policy, including price control and foreign exchange control had and still has strong redistribution effects. However these redistributive flows are

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<sup>2</sup>In a way Alesina and Rodrick (1992) themselves underline the point when they write “ *the basic cleavage we choose to emphasise here is that between “labor” and “capital”. This is one of the central cleavages in any **modern** society.*”

<sup>3</sup> The usual reply to this observation is that the labor share includes human capital income. It is indeed surprising that this crucial issue is so easily dismissed.

far from being inspired to ideals of equity. On the contrary they often benefit small groups with implications for growth still to be explored.

In what follows an alternative political mechanism is proposed in which the type of political regime of the economy becomes nonessential. The emphasis here is not on the cleavage between labor and capital, or workers and capitalists, as in FP-MV models, but instead between rent recipient *status-quo* groups and growth promoting capitalists, which is thought to be the crucial conflict in less developed societies.

Democracy becomes in this context one of the many possible sets of rules governing the competition among pressure groups which try to enhance their welfare, perhaps more, surely no less, efficient than authoritarian regimes.

In detail, the model considers a “political mechanism” based upon political pressure groups in line with the model proposed by Becker (1983). Following a common set up in this kind of models, government is supposed to tax one group and redistribute the proceedings to the other one. The direction of redistribution is not *a priori* defined for it depends upon the ability of the two groups to influence the government decision. This influence is thought to be dependent on the relative “political pressure” of the groups which is a function of the resources spent in political lobbying and of the numerousness of the groups’ members. This last variable has opposite effects on influence. On one hand, for a given constant per capita contribution an increase in the number of the members of a group will increase the total resources of the lobby, on the other hand it increases the total costs of producing political pressure and decreases the marginal benefits of all members. Thus, under standard assumptions, the marginal pressure of one unit of political expenditure is a negative function in the numerousness of the group.<sup>4</sup>

Each member of a group is assumed to maximise her inter-temporal utility with respect to an additional control variable besides consumption: the contribution to political lobbying.

Political competition establishes a non-Pareto optimal Cournot-Nash political equilibrium which implies a time invariant fiscal policy parameter that is linked to the relative numerousness of the groups’ and thus to the concentration of the rent bearing resources.

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<sup>4</sup>On the idea that smaller groups are more influential see Olson (1982)

The model defines an equilibrium growth rate for the output of the economy that is a negative function of the real tax rate on capital returns and ultimately of the fixed factor concentration.

It is worth noticing that the concentration is not bad *per se* in this set up, for concentration in capital can be growth promoting whereas what is growth depressing is the concentration in the rent bearing factor, like in the case of latifundium or monopolies in mining.

### The model

The economy is populated by two types of infinitely lived agents, capitalists and rentiers, who, except for their initial endowments of capital and natural resources, typically, but not necessarily land, are identical in all respects. In particular each of them supplies inelastically one unit of labor.

Assuming zero population growth, the following equality holds:

$$(1.1) \quad n^k + n^r = L$$

where the superscripts  $k$  and  $r$  define capitalists and rentiers respectively and  $L$  stands for labor.

Output is produced combining labor, capital ( $K$ ) and natural resources ( $\bar{R}$ ), according to a production function à la Romer (1986):

$$(1.2) \quad Y_t = A_t K_t^\alpha \bar{R}^\beta L^{1-\alpha-\beta}$$

where  $A_t = K_t^\gamma$  and  $\alpha + \gamma = 1$ .

Normalising  $L$  to unity we can express (1.2) in per capita terms as:

$$(1.3) \quad y_t = k_t^\gamma k_t^\alpha R^\beta$$

Being labor endowment the same across individuals, without any implications upon the general results, the analysis will not consider labor income.

As in Romer (1986), private returns to capital differ from social returns, so that  $\alpha$  and  $\beta$  represent the shares of output that remunerate capital and natural resources.

Indicating with  $\pi$  the profit rate (or rental rate of capital) and with  $r$  the unit income (or rental rate) of natural resources one may write:

$$(1.4) \quad \pi_t k_t = \alpha y_t$$

$$(1.5) \quad r_t R = \beta y_t$$

No-arbitrage in the capital market together with the capital price normalisation requires the interest rate,  $i_t$ , to be equal to profit rate:

$$(1.6) \quad \pi_t = i_t$$

The only mandate of the government in this economy is to raise taxes upon one group and redistribute the proceedings as subsidies to the other group, thus government will not be explicitly modelled.

Taxes and subsidies are supposed to be proportional to income. This, together with the fact that total taxes equal total revenues implies:

$$(1.7) \quad \tau_t^k \pi_t k_t = \tau_t^r r_t R$$

or

$$(1.8) \quad \alpha \tau_t^k = \beta \tau_t^r$$

where  $\tau^k, \tau^r$  are the tax/subsidy rates for the two groups.

Disposable income (net of labor income) to capitalists and rentiers respectively are:

$$(1.9) \quad y_t^k = \pi_t k_t (1 - \tau_t^k) = \alpha (1 - \tau_t^k) y_t$$

$$(1.10) \quad y_t^r = r_t R (1 + \tau_t^r) = \beta (1 + \tau_t^r) y_t$$

Notice that  $\tau^k$  and  $\tau^r$  can be either positive or negative, and thus the direction of redistribution is not unique although a positive capital taxation will be chosen for ease of exposition.

The policy parameters  $\tau^k$  and  $\tau^r$  are the outcome of a political process based on the political pressure ( $P$ ) exerted by each group to influence the government redistribution policy. In particular the two groups use resources of their members in political lobbying, in the effort to increase their share of disposable income. Formally

this is captured by a set up in which tax and subsidy rates are related to political pressures by two “influence functions”. The policy parameters are defined as:

$$(1.11) \quad \beta \tau^r = I^r(P^r, P^k)$$

$$(1.12) \quad \alpha \tau^k = -I^k(P^r, P^k)$$

from (1.8) and from (1.11) and (1.12)

$$(1.13) \quad I^r(P^r, P^k) = -I^k(P^r, P^k)$$

This implies that the political game is zero sum in influence, or in other words that if the influence of one group increases, the influence of the other group will decrease by the same amount. Differentiating (1.13) with respect to  $P^i$  one obtains:

$$(1.14) \quad I_{P^i}^r = -I_{P^i}^k \quad i=k,r$$

In economic terms, increased pressure by capitalists, for example, increases their influence and lowers their taxes, reducing at the same time rentiers’ influence and subsidies.

We assume as in Becker (1983) that:

$$(1.15) \quad I_{P^r, P^k}^r > 0$$

$$(1.16) \quad -I_{P^k, P^r}^k < 0$$

i.e. an increase in the pressure of one group fosters the marginal influence of the pressure of the other group; and also that there are decreasing returns to pressure:

$$(1.17) \quad I_{P^i P^i}^i < 0 \quad i=k,r$$

Political Pressure is assumed to be related to the number of members ( $n$ ) and the total political contribution ( $Cp$ ) by the following “Pressure Function”:

$$(1.18) \quad P^i = P^i(Cp^i, n^i) = P^i(cp^i \cdot n^i, n^i) \quad i=k,r$$

where  $cp^i$  is the individual contribution to the lobby or per member political cost. As in Becker (1983), pressure increases when total expenditures,  $Cp$ , increases but here it is further assumed decreasing returns to total expenditure ( $P_{Cp, Cp}^i$  less than

zero). This hypothesis rules out the possibility of economies of scale in the organisation though plausible in the early stages of development of the lobby. The key assumption concerns the marginal productivity of total expenditure which is assumed to be decreasing in the numerosness of the group. As the number of the group's members increases, the *free-rider* problem, the incentive to shirk the lobby's obligations, becomes more and more severe. In small groups, instead, the incentive to participate actively to the lobby process is large because the marginal influence, as well as the marginal benefit, is greater and it is easier the mutual control of each member. Therefore I assume the marginal pressure of a unit of political expenditure to be a negative function of the numerosness of the group ( $P_{Cp,n}$  less than zero) therefore I can write:

$$(1.19) \quad \frac{\partial P_{Cp^i}}{\partial n^i} = P_{Cp^i, n^i} = cp^i \cdot P_{Cp^i, Cp^i} + P_{Cp^i, n^i} < 0 \quad i=k, r .$$

In what follows I formalise the problem of the representative member of each group omitting the time subscripts for ease of exposition when not strictly necessary.

The representative capitalist is assumed to solve:

$$(1.20) \quad \underset{w.r.t. \ c^k, cp^k}{Max} \int_0^{\infty} U(c_t^k) e^{-\rho t} dt$$

subject to equation (1.12), the equation of motion of capital and the transversality condition:

$$(1.21) \quad \dot{k}_t = \pi_t(1 - \tau^k)k_t - c_t^k n^k - cp_t^k n^k \quad \text{and}$$

$$(1.22) \quad \lim_{t \rightarrow \infty} k_t \mu_t \geq 0$$

Assuming as in Becker (1983) that each group takes the other's political pressure as given, the optimal conditions yield the standard modified Keynes-Ramsey rule, together with optimal condition for political lobbying.

$$(1.23) \quad \frac{\dot{c}^k}{c^k} = \frac{1}{\sigma} [ \pi(1 - \tau^k) - \rho ]$$

$$(1.24) \quad y I_{p^k}^k P_{Cp^k}^k = -1$$

In economic terms the (1.24) equalises the value of one unit of income spent in consumption with one unit spent in political lobbying.

The representative rentier is assumed to solve:

$$(1.25) \quad \underset{w.r.t. c^r, cp^r}{Max} \int_0^{\infty} U(c_t^r) e^{-\rho t} dt$$

subject to equation (1.11) and the inter-temporal budget constraint:

$$(1.26) \quad \int_0^{\infty} (c_t^r + cp_t^r) e^{-it} dt = \int_0^{\infty} \frac{r_t R \cdot (1 + \tau^r)}{n^r} e^{-it} dt$$

As shown in Bertola (1993), solution to problem (1.25) subject to (1.26) implies that none of the income accruing to rentiers is saved along the optimal path. Therefore at all times the representative rentier spends all of his income for consumption and expenditure for political lobbying. The problem therefore reduces to choosing, at each time, the optimal level of political expenditure which solves:

$$(1.27) \quad \underset{w.r.t. cp^r}{MAX}: U\left(\frac{r_t(1 + \tau^r) R}{n^r} - cp_t^r\right)$$

The first order condition is:

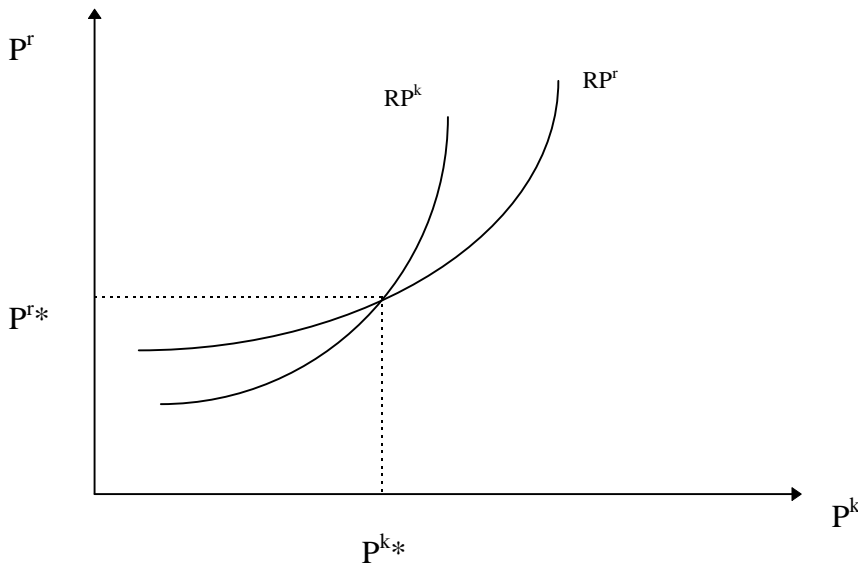
$$(1.28) \quad y_t I_{p^r}^r P_{Cp^r}^r = 1$$

The entire dynamic of the economy is then defined by (1.23), (1.21), (1.11), (1.12), (1.28), (1.24). In particular, from the political equilibrium, (1.28), (1.24), one gets the optimal levels of political pressures. Given the optimal pressures, equations (1.11), (1.12) give the level of aggregate influence, and thus of the redistribution variables  $\tau^i$  for any level of  $y_t$  and  $k_t$  although (1.8) really implies that there is just one fiscal parameter. Substituting the expression for  $\tau^i$  in relations (1.23) and (1.21) one is left with a system of two differential equations whose solution gives the optimal time paths of the capital stock  $k_t$  and capitalist's consumption  $c_t^k$ . Given these paths one can derive the time paths for all other relevant variables in this economy.

### *The Political Equilibrium*

To understand how the political equilibrium is set and its properties, notice that equation (1.24) implicitly gives, for a given level of  $y$ ,  $n^k$  and  $n^r$ , the optimal level of political expenditure and the implied political pressure by capitalists for any level of pressure by rentiers and equation (1.28) implicitly defines the optimal pressure by rentiers for any value of pressure by capitalists. These “reaction functions” can be drawn on the plane  $P^r, P^k$ :

**Fig. A**



The two reaction functions are positively sloped. To understand why, let's consider the rentiers' reaction function defined in equation (1.28) and an increase in capitalists' pressure. This causes an increase in the marginal productivity of rentiers' pressure,  $I_{P^r}^r$ , for  $I_{P^r P^k}^r$  is greater than zero. Thus for (1.28) to hold the pressure of rentiers must increase in order to lower  $I_{P^r}^r$  compensating the initial disequilibrium, this is so for  $I_{P^r P^r}^r$  is less than zero by (1.17). The same reasoning holds, by symmetry, about the reaction function of capitalists.

In equilibrium the marginal benefit of a unit of political expenditure is equal:

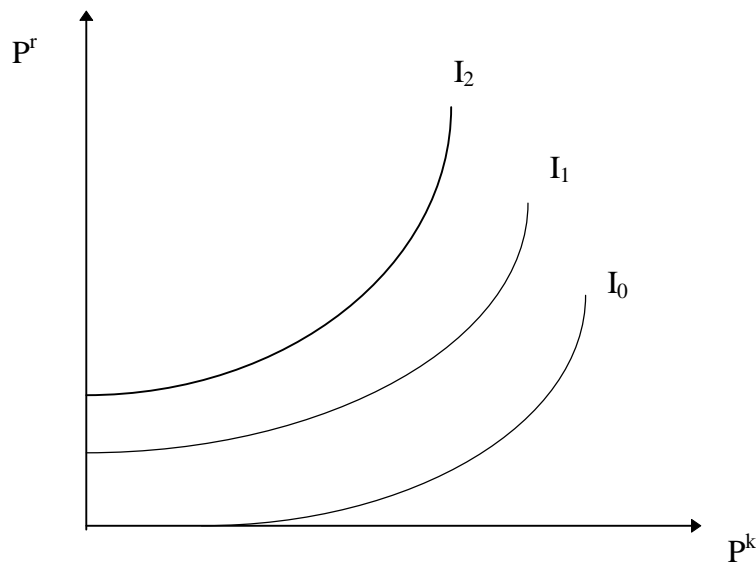
$$(1.29) \quad I_{P^r}^r P_{C P^r}^r = I_{P^k}^k P_{C P^k}^k$$

and there is no incentive for any group to change their pressure.

The Cournot-Nash equilibrium is stable if the reaction function of capitalists is steeper than the one of rentiers as it has been assumed in Fig.1.

It can be useful to consider the set of all the couples of  $P^k, P^r$  for which the relative pressure is constant. This loci can be defined as “iso-influence curve” and along this curve the aggregate influence is constant and the redistribution policy remains unchanged; graphically:

**Fig. B**

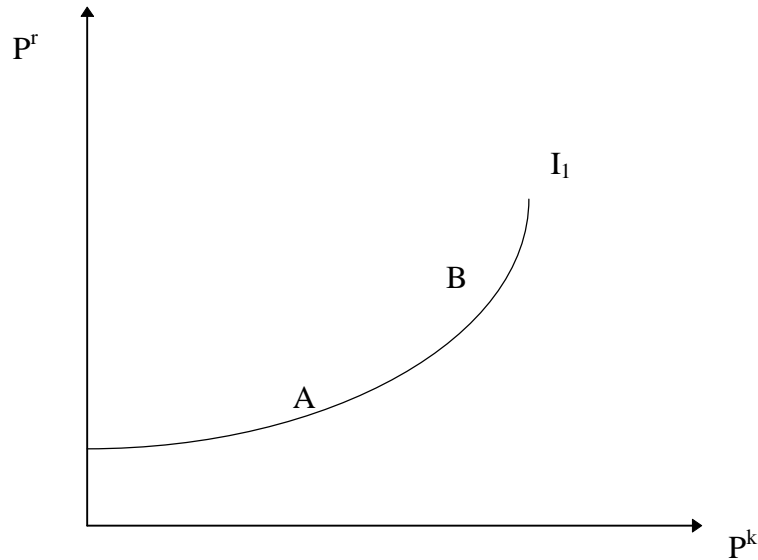


From the iso-influence curves it is possible to infer the direction of redistribution. In detail, from  $I_2$  (in Fig. 2) is clear that as the pressure of capitalists become close to zero the pressure of rentiers tends to be a positive constant. This implies that the relative pressure is in favour of rentiers and that the redistribution policy will shift resources from capitalists to rentiers. The opposite is true when iso-influence  $I_0$  is considered instead.

We may now consider how the political equilibrium changes over time as the economy develops, i.e. as  $y_t$  increases. It is worth noticing that the equilibrium condition (1.29) does not depend on the level of  $y_t$ . An increase of  $y_t$  increases the marginal benefit of one unit of political expenditure to both capitalists and rentiers. Hence, both groups' pressure will go up offsetting each other and leaving the relative pressure constant. The aggregate influence will thus remain unchanged, and

so will the tax and subsidy parameters. Graphically an increase in  $y_t$  shifts both reaction curves to the North-east region of the diagram in Fig. 1; the equilibrium moves along an iso-influence curve, say from point A to point B of fig. 3.

**Fig. C**



As the aggregate influence stays the same as  $y_t$  increases we can conclude that the Policy parameter implied by the political equilibrium  $\tau(\cdot)$  is time invariant and it only depends upon the numerousness of capitalists and rentiers,  $(n^k, n^r)$ , and thus on the implied concentration of the factors of production.

It is possible to show that a lower ratio  $n^k/n^r$  and thus a lower concentration in the endowment of natural resources will imply a lower equilibrium tax rate upon the cumulative factor.

In detail, from (1.28), as  $n^r$  increases, the marginal pressure with respect to total political expenditure,  $P_{Cp^r}^r$ , decreases, hence for (1.28) to hold, the total expenditure and thus the pressure of rentiers must decrease for any level of the capitalists' pressure. This will cause the product  $I_{P^r}^r P_{Cp^r}^r$  to increase re-establishing the equilibrium and graphically corresponds to a shift toward south-east of the rentiers reaction function.

As far as the capitalists' optimal condition, (1.24), is concerned a decrease in the number of capitalists will foster the marginal pressure of a unit of political

expenditure,  $P_{c^k}^k$ , this will augment their pressure via an increase in the expenditure for any level of rentiers' pressure. Graphically this implies a shift of the capitalists' reaction function towards south-east of the graph in fig. a.

Hence the lower the ratio  $n^k/n^r$  the lower will be the relative political pressure of rentiers, their influence and the transfers from capitalists. All this can be depicted as jumps from higher iso-influence lines to a lower one in fig. b. It might be even the case of a redirection in the distribution flows, depending on the significance of the change in  $n^k/n^r$ . Graphically this happens when the new iso-influence line is such as to display an intercept on the horizontal axes.

### ***The dynamic system***

Let us rewrite the two dynamic equations for capitalists' consumption and the capital stock:

$$(1.30) \quad \frac{\dot{c}^k}{c^k} = \frac{1}{\sigma} [\pi(1 - \tau(n^k, n^r)) - \rho]$$

$$(1.31) \quad \frac{\dot{k}}{k} = \pi(1 - \tau(n^k, n^r)) - \frac{c^k n^k + cp^k n^k}{k}$$

Notice that, from (1.30) capitalists' consumption grows at a constant exponential rate over time. In fact, given that the two factors receive constant income shares and that the particular form of the production function implies a constant capital-output ratio, then by (1.4)  $\pi_t$  is also constant.<sup>5</sup>

Considering the dynamic steady state in which the rate of growth of capital is constant and equal to  $\hat{k}$ , from the law of motion of capital we obtain:

$$(1.32) \quad \frac{n^k cp^k}{k} + \frac{n^k c^k}{k} = \hat{k} - \pi(1 - \tau) = \text{Constant}$$

Equation (1.32) implies that the sum of total capitalists' consumption and total political costs must grow at the same rate as capital. Therefore three possible cases can arise; formally:

$$(1.33) \quad \hat{C}p^k \succ \hat{k} \succ \hat{C}^k$$

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<sup>5</sup>Therefore the interest rate will be constant as well.

$$(1.34) \quad \hat{C}p^k < \hat{k} < \hat{C}^k$$

$$(1.35) \quad \hat{C}p^k = \hat{k} = \hat{C}^k$$

where a hat over a variable defines its growth rate.

The case in (1.34) implies the following:

$$(1.36) \quad \lim_{t \rightarrow \infty} \frac{C^k}{k} = \text{Constant} - \lim_{t \rightarrow \infty} \frac{Cp^k}{k} < 0$$

which is absurd and it can be excluded.

As far as the case implied by (1.33) is concerned the condition implies that

$$(1.37) \quad \lim_{t \rightarrow \infty} \frac{C^k}{k} = \text{Constant} - \lim_{t \rightarrow \infty} \frac{Cp^k}{k} = \text{Constant}$$

but that contradicts the assumptions therefore the case can be excluded as well.

Hence the relevant case is (1.35) and thus along an equilibrium path the capital stock and the capitalists' contribution to their lobby, grow at the same rate as capitalist's consumption.

There is no transitional dynamics, and the economy immediately jumps to its balanced growth path, along which total output, income of the two classes as well as their consumption and political expenditure grow at the same constant rate  $g$  defined by:

$$(1.38) \quad g = \frac{1}{\sigma} \left[ \alpha (1 - \tau^*(n^k, n^r)) R^\beta - \rho \right]$$

Equation (1.38) defines growth as a positive function of the "disposable income share" of capitalists,  $\alpha (1 - \tau^*(n^k, n^r))$ , and the level of natural resources of the economy  $R^\beta$ .

These results are somehow standard for this type of endogenous growth models. As the return on the cumulative factor depends on its share of income, the higher this share the higher the implied growth rate of the economy. Also the term  $R^\beta$  is comparable to analogous scale-effect terms in endogenous growth models.

However, the dependency of the fiscal parameter on the number of capitalists and rentiers,  $(n^k, n^r)$ , indicates that it is not just the level of the fixed factor that matters

here but also its concentration. In this respect the model has interesting implications about the equity-growth issue.

The model implies a negative relationship between the concentration of the rent bearing factor and capital taxation. As the ratio  $n^k/n^r$  declines the real tax rate on capital decreases and it may also become negative, indicating a proportional subsidy to capital. This lower level of taxation on capital returns implies, via (1.38), a higher growth rate of the economy for any level of  $R$ .

The model offers theoretical support for redistribution policies such as land reforms, which are growth promoting in this set up. The non revolutionary experiences of land reforms show that these could have had a double effect. The first has been, of course, to reduce land concentration. However at same time monetary compensation to latifundium landlords has created financial critical mass for investment in industry. Therefore in a sense agrarian reforms have implied lower land concentration as well as higher capital concentration. In the model these considerations are “captured” by a decrease of the ratio  $n^k/n^r$ . The evidence of a relatively small number of strong conglomerates in many fast growing countries can be seen as supportive of the former idea.

It is worth noticing that the market outcome of the model is not Pareto optimal. In particular both groups could lower their political expenditure and increase their consumption level in each instant leaving the result in terms of influence and ultimately of long run growth rate unchanged. This result becomes evident considering an iso-influence line, like in fig. 2, and moving along it toward the south west of the diagram. Along an iso-influence line both pressures and the implied political costs decrease whereas aggregate influence remains unchanged and so does the fiscal parameter.

The non Pareto optimality of the result suggests that there might be room for welfare enhancing policy intervention. One possible intervention could be setting a ceiling to political contributions for lobbying. Graphically, this policy would have the effect to move the equilibrium along an iso-influence line toward south-west in Fig. 2.

However beneficial, this policy has not “growth” effects for it would not influence the marginal return to capital which ultimately defines the long run growth rate.

As far as the connection between the implications of the model and the empirical literature on the equity-growth issue is concerned, the model is in line with the

empirical results of Persson and Tabellini (1992,1994) who find a positive long run growth elasticity to a land concentration proxy.

With respect to that part of the empirical literature (Alesina and Rodrik (1992,1994) , Perotti (1994, 1995) that underlines the relationship between long run growth rates and equity proxies based on the personal income distribution it must be said that this evidence is not useful to falsify the present model because, here, “concentration” is not bad *per se* but it is growth depressing only when referred to the rent bearing factor. Generally, given the lack of data about personal wealth distribution, personal income distribution is used instead, despite the fact that most of the models of the FP-MV approach refer explicitly to the first not the second. The justification for this procedure lays in the fact that usually the shape of the personal distribution of income reflects the one in wealth and that after all capital is the only wealth in FP-MV models. Nevertheless this point can not be invoked here for in the present context the distinction between “cumulative wealth” and “fixed wealth” is crucial as it is crucial the one between profits and rents.

According to the present model and in contrast with the FP-MV approach, no greater elasticity of growth with respect to equity proxies for democracies is expected, in line with the empirical findings of Alesina and Rodrik (1994), and Perotti (1994, 1995)). This is because the political pressure scheme seems to work in any society and in all regimes. In a sense the strength of the proposed political set up is to be independent from the political regime in the economy.

Nevertheless, in the light of the model some considerations may be done about the Democracy-Growth issue. A vital democratic system with *non pro forma* constitution and counter-balancing powers can be thought, in principle, to be less permeable to the political pressure of lobbies than authoritarian illiberal regimes. Democratic regimes can be expected to be less prone to discriminatory fiscal laws and more capable of regulating highly concentrated sectors. Therefore for the above considerations, given two economies with comparable high level of fixed factor concentration, one democratic and the other non-democratic, a higher real tax rate on capital and a lower growth rate is expected for the non democratic country. On the other hand, in case of comparable high degree of concentration in cumulative factor the same reasoning leads one to expect lower growth rates for democracies than authoritarian regimes. Therefore the model suggest that in testing the Democracy

Growth issue one should control for another dimension, the concentration of productive factors.

## **Conclusions**

Among the models proposed in the literature of Endogenous Growth which try to explain the positive empirical relationship between certain proxies of equity in a time period and successive long run growth in a cross section of countries, the paper focuses on the ones based on the fiscal mechanism. This class of models links equity in wealth and/or income distribution to fiscal policy via the median voter mechanism and in so doing also to the political regime in the economy, namely democracy.

In this paper an alternative political mechanism is proposed that is independent from the political regime in the economy. This mechanism is based upon pressure groups competing to influence the government fiscal policy.

The model links growth to the real tax rate on the cumulative factor which is the outcome of a political game between a rent seeking group and a capitalist growth promoting group. Counterintuitively the smallest group comes out to be the most influent and this creates a link between long run growth and the concentration of the fixed factor of production, land but also natural resources in general.

In this respect, the model provides a theoretical background for redistribution policies such as land reforms which can alter the power ratio in favour of growth promoting groups

As far as the recent empirical literature about the equity growth relationship is concerned, the implications of the model are in line with the contributions of Persson and Tabellini (1992,1994) who found a significant negative elasticity of long run growth to land concentration in a cross section of countries.

Moreover the model, in contrast with the FP-MV approach, does not imply any greater growth elasticity to equity proxies in democracies with respect to authoritarian regimes, in line with the recent empirical findings emerging in the literature. Finally in the present context the relative benefit of a period of suspension of democratic rights in the first stages of development that might be derived by the FP-MV scheme is heavily questioned.

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