FEP WORKING PAPERS
FEP WORKING PAPERS

Research Work in Progress

n. 406, March 2011

Efficient redistribution policy: an analysis focused on the quality of institutions and public education

Elena Sochirca [1]
Sandra Tavares Silva [1 2]

[1] Faculdade de Economia, Universidade do Porto
[2] CEF.UP

FEP FACULDADE DE ECONOMIA UNIVERSIDADE DO PORTO

Efficient redistribution policy: an analysis focused on the quality of institutions and public education

Elena Sochirca[*]
Faculdade de Economia da Universidade do Porto
Sandra Tavares Silva[†]
CEF.UP and Faculdade de Economia da Universidade do Porto

Abstract

In this work we intend to study how the quality of the institutional factor may influence the efficiency of redistribution policy specifically associated with human capital accumulation. We develop a conceptual discussion building on the importance of income redistribution for economic growth and the key role of political institutions in securing growth-enhancing redistribution policies. We introduce endogenous growth theory elements into our analysis by considering as a fundamental source of economic growth human capital accumulation, motivated by tax-financed education secured through efficient redistribution policies. We outline crucial insights on the underlying mechanisms, emphasizing however that extensive research on the subject is undoubtedly still required. In particular, we identify the main factors negatively affecting the decisive role of political institutions and, consequently, distorting efficient redistribution policy. We then define a political-economic equilibrium as a combination of intermediately strong state and efficient control-rights institutions, implying simultaneous protection from expropriation and implementation of efficient redistribution policy, conducive to sustained economic growth.

Keywords: redistribution policy, human capital, institutions, taxation, public education, economic growth.
JEL-codes: H23, E24, O43

[**] The author acknowledges financial support from Fundação para a Ciência e Tecnologia (Ph.D. scholarship). e-mail address: 080421001@fep.up.pt
[†] Corresponding author. Address: R. Roberto Frias, 4200-464 Porto, Portugal; +351225571254 (phone); +351225505050 (fax). e-mail address: sandras@fep.up.pt

1. Introduction

The endogenous relationship between political institutions, policy and economic growth is one of the greatest challenges in the new political economy of growth. In this work, based on a comparative critical assessment of an extensive literature covering both political economy and economic growth fields, we attempt to study how the quality of the institutional factor may influence the efficiency of redistribution policy specifically associated with human capital accumulation.

Our conceptual discussion builds on the importance of income redistribution for economic growth and the key role that political institutions have in securing growth-enhancing redistribution policies. With income redistribution being often conceived as one of the key political channels influencing economic performance, the link between income redistribution and economic growth is fundamental for the ongoing debate. While the specific relationship between redistribution and economic growth is endogenously determined by implemented redistribution mechanisms, relevant literature on this particular topic has emphasized a dual effect, reflecting the possibility of an encouraging or an off-putting redistribution effect on growth, and thus making a clear distinction between efficient and inefficient redistribution (Persson and Tabellini, 1992; Alesina and Rodrik, 1992; Perotti, 1992, 1996; Dixit and Londregan, 1995; Saint Paul and Verdier, 1996; Acemoglu and Robinson, 2001).

In line with our research objective and in order to sustain our main argumentation, we introduce the element of endogenous growth theory into our analysis by considering human capital accumulation as a fundamental source of economic growth (e.g., Lucas, 1988). Given the similarity in the proposed effects of both human capital accumulation and efficient redistribution,[3] we focus our research on growth-enhancing, i.e. efficient redistribution policy specifically aimed at stimulating investments in human capital accumulation. We analyse it in terms of the explicit positive externalities that it creates for economic performance, namely, stimulating human capital accumulation through tax-financed education.

Finally, given that in our research context human capital accumulation is provided as a public good, related redistributive implications introduce issues of public provision of a private good into our analytical frame, raising awareness for the conflict of

[3] In particular, decrease inequality, correct possible institutional or economic failures and stimulate investments, improve economic performance and increase growth (e.g. 1996; Dixit and Londregan, 1995; Saint Paul and Verdier, 1996; Drazen, 2000; Acemoglu and Robinson, 2001, Acemoglu, 2009).

interests, and demanding taking into account the role of public authorities, i.e., political institutions.[4] Based on this perspective, we assess how the institutional factor may then distort or render inefficient a mechanism otherwise regarded (in the endogenous growth literature) as growth-enhancing (Persson and Tabellini, 1992; Alesina and Perotti, 1994; Drazen, 2000; Acemoglu and Robinson, 2006; and Acemoglu, 2009).

We conclude that the quality of political institutions crucially determines the efficiency of redistribution policies, commanding the relationship between political institutions, redistribution and economic outcomes. Focusing on the impact of political rivalry, we identify it as the main factor that may negatively affect the expected decisive role of political institutions and, consequently, distort the effects of efficient redistribution policy. Moreover, the conducted analysis suggests that political rivalry not only disfavours the expected impact of political performance on economic outcomes, but also weakens political institutions *per se*. This reasoning naturally raises the issue of weak *versus* strong states, in the sense that inept or unprotected as well as exceedingly controlling institutions might be just as costly to efficient economic performance and long-run growth (e.g. Acemoglu, 2005).

The remainder of this work is organised as follows. Section 2 discusses the link between redistribution and growth, and Section 3 considers, as main building blocks, the relationship between political institutions and redistribution, focusing on social conflict and incentives, and the role of political institutions in defining redistribution policies. Section 4 elaborates on the relation of efficient redistribution to public goods in our research context. A conceptual discussion on the interaction between efficient redistribution, political rivalry and the quality of political institutions through the perspective of human capital accumulation and control-rights institutions is provided in Section 5. Conclusions are presented in Section 6.

2. Redistribution and Economic Growth

In this section, we discuss some of the latest studies on redistribution policies and their impact on economic growth that are relevant for our research objective.

[4] By treating investment into human capital accumulation as a publicly-provided private good, we do not explicitly analyse theoretical aspects of public-goods theory. We simply assume that human capital accumulation results from a publicly-provided private good, since it is financed by tax-revenues generated investments secured by efficient redistribution policy.

Income redistribution is often perceived as one of the key political channels influencing economic performance, regarding which related literature has enhanced a dual effect, as income redistribution may both hinder and stimulate economic growth. More specifically and as will be discussed below, related research distinguishes between efficient and inefficient redistribution, suggesting that the crucial factor determining the particular effect on growth is the aim served by a specific redistribution policy. Therefore, in our analysis we consider efficient and inefficient income redistribution in terms of, respectively, explicit positive or negative externalities that it creates. The latter arise from excessive taxation and from political considerations outweighing economic characteristics; the former generally imply promoting factor accumulation through stimulating investments, thus in particular making efficient redistribution specifically associated with human capital accumulation, our focus of analysis.

Although the objective of our research is not directly related to inefficient redistribution, we believe that a brief presentation of its distinctive features and mechanisms assumes some importance in the view of our subsequent conceptual discussion and analysis of the relationship between redistribution, political institutions and growth. Also, given that most studies on the impact of redistribution policies generally tend to analyse consequences on either productivity or investment, we adopt a similar approach in our presentation of efficient and inefficient redistribution. That is, we consider each type of redistribution depending on its negative or positive impact on either productivity or investment, and consequently on growth. Inefficient redistribution creates distortions by reducing incentives for work or effort, or by compromising and discouraging investment. Symmetrically, efficient redistribution policies may actually have a positive effect on economic growth by stimulating investments and increasing aggregate productivity.

2.1 Inefficient redistribution: productivity and investment channels

Productivity is one of the major economic performance and growth determinants that may be negatively affected by inefficient redistribution mechanisms. Most commonly emphasized by specialised research, these may imply political characteristics outweighing economic considerations, or a politically motivated misallocation of resources. Either one will negatively affect aggregate productivity and consequently growth. For example, favouring political *versus* economic considerations implies that politicians are unable to commit to ignoring the political characteristics and making long-term promises to reward economically efficient choices.[5] As expected in this case, future redistribution policy will favour groups of suitable political characteristics disregarding the efficiency of economic choices made by these groups. Similarly, a politically motivated misallocation of resources will exert a distortionary effect on occupational choices by encouraging individuals to enter a sector where their productivity is likely to be low, thus decreasing aggregate output and consequently, economic growth. Such artificial keeping of workers in an economically disadvantageous industry, and inability to credibly commit to rewarding the move to a more productive occupation can result in serious economic inefficiencies. Anticipation of such a redistributive policy motivated merely by political considerations will reduce or even eliminate economic incentives, which may prevent economically advantageous actions from being taken (Alesina and Perotti, 1994; Dixit and Londregan, 1995; Acemoglu and Robinson, 2001). As it will be discussed in Section 3, from the political economy perspective the referred situations result from an inefficient redistributive policy in most cases motivated simply by the attempt to gain votes.

Also subject to negative inefficient redistribution effects and at the same time crucial for determining efficient economic performance and growth are investment decisions. In particular, redistribution is inefficient when it discourages factor accumulation by excessive taxation, thus generating low returns on investments and depressing economic growth. Analysing how redistribution affects growth when investments are discouraged by excessive taxation, most seminal studies generally focus on size and functional redistribution, and on single *versus* relative factor endowment (Persson and Tabellini, 1992; Alesina and Rodrik, 1992; Acemoglu, 2009). Their results suggest that distinguishing between size and functional income distribution (additionally distinguishing between a single and a relative – labour and capital – factor endowment) is crucial for the choice of an optimal redistributive policy and for determining the tax rate that maximizes the growth rate of the economy. In either case, their findings generally indicate that a higher (capital) tax rate leads to a lower investment rate and, consequently, to a lower growth rate.

Although the analysis of formal modelling lies outside the scope of this work, it is worth noting that the Median Voter Theorem (MVT) is used as a common tool of

[5] Following Dixit and Londregan (1995), politically successful and economically efficient characteristics generally are distributed quite differently and do not match.

analysis for studying redistributive implications.[6] Particularly relevant for our research objective is this theorem's implication of the equilibrium policy involving inefficient redistribution when political rather than economic characteristics are rewarded, or when size or functional taxes are employed.[7] Since, as a rule, the median voter's income is below the mean, a higher-tax redistribution policy choice will be induced and investments will be discouraged due to a reduction in the after-tax return on capital (e.g. Drazen, 2000; Acemoglu, 2009).[8]

Thus, in general terms, inefficient redistribution creates distortions by reducing incentives for work or effort with a negative impact on aggregate productivity, or by discouraging investment and hampering factor accumulation; in either case, the economic links yields a negative effect on growth. And in the view of the societies' established reliance on redistribution programs, the fundamental question remains how to maximize their efficiency.

2.2 Efficient redistribution: investment channel

Contrarily to inefficient redistribution, efficient income redistribution may yield constructive effects when its instruments are not distortionary, thus creating positive externalities and enhancing economic growth (Perotti, 1992, 1996; Dixit and Londregan, 1995; Saint Paul and Verdier, 1996; Drazen, 2000; Acemoglu and Robinson, 2001, Acemoglu, 2009).[9] Some research suggests that the effect of policy on economic growth is induced primarily through the productivity channel (Rodrik, 1999). However, based on the further presented arguments from related research, we argue that the predominance of the productivity channel for policy effects on growth is more likely to be corroborated when negative effects of redistribution policy on growth are

[6] Developed by Black (1948), this theorem relates the nature of the redistribution program to the characteristics of the electorate and predicts that, provided single-peaked preferences, the equilibrium policy, conditioned by the median voter's income relative to the mean, would be the one preferred by the median voter.

[7] The median voter takes into account its anticipated effect on the identity of the future median voter and thus on the equilibrium policy in the subsequent periods.

[8] A more recent development is the Probabilistic Voting Theory (Lindbeck and Weibull, 1987), which, contrary to MVT, can explain voting choices even when voters' preferences are not single-peaked. Particularly relevant for political economy research topics is that it can explain, based on the degree of homogeneity or dispersion of voters' preferences, why certain social groups are more politically powerful than others.

[9] As in fact the commonly used term itself, i.e. *efficient* redistribution, is suggestive as regards the expected positive results from such redistribution policy.

considered.[10] In what concerns positive effects, we sustain that investment is the key channel for increasing productivity and spurring economic growth. In fact, studies on the subject consentingly suggest that a positive effect on growth may be induced when redistribution is directed at increasing investment in human capital, increasing investment by the poor while preserving investment by the rich, and generally stimulating investment by securing sustainable industrial markets and reducing crime and social instability (Perotti, 1992, 1996; Alesina and Perotti, 1994; Saint Paul and Verdier, 1996; Acemoglu, 2009).

Taking as a working hypothesis one of the key arguments of endogenous growth theory, namely, human capital accumulation as the engine for long-term economic growth (Lucas, 1988; Romer, 1990, Drazen, 2000; Acemoglu, 2009), we construct our analysis of the relationship between redistribution, institutions and economic growth on the basis of efficient redistribution policy specifically associated with stimulating investment in human capital accumulation.[11] In fact, because human capital is seen as an especially important engine of growth in both the theory and empirics of recent growth models (Drazen, 2000; Acemoglu and Robinson, 2001; Acemoglu 2009), there can be a significant positive growth effect and an aggregate welfare gain from redistribution focusing on human capital accumulation. An integration of political economy and endogenous growth thus suggests a positive rather than a negative role for redistribution (Drazen, 2000). In particular, we follow the idea that redistribution aimed at increasing investment in human capital does not hamper factor accumulation, but, on the contrary, encourages it and thus stimulates growth (Perotti, 1992, 1996; Saint Paul and Verdier, 1996; Drazen, 2000; Acemoglu, 2009). In this respect, our discussion on efficient redistribution outlines a view on the normative political economy issue of how, given the existing political constraints, societies can be guided to best achieve specific economic objectives. Also, we believe that public education as an instrument for motivating human capital accumulation is most justifiable in our context, since we

[10] Nonetheless, as we have seen in the previous subsection, apart from negatively affecting aggregate productivity through ill-motivated production and occupational choices, inefficient redistribution may also compromise investment decisions and thus induce just as important negative effects on economic growth through the investment channel.
[11] The idea that the accumulation of human capital, if not distorted, reduces inequality, facilitates efficient economic performance and stimulates economic growth is a widely accepted and scientifically documented view (Perotti, 1996; Saint Paul and Verdier, 1996, Drazen, 2000; Acemoglu, 2009); therefore, we do not debate the usefulness of human capital accumulation.

consider human capital accumulation to be (at least in part) stimulated by public funds, i.e. redistribution collected resources.

By subsidizing research, which is intrinsically associated with human capital, the government can increase the growth rate of the economy (e.g. Romer, 1990; Aghion and Howitt, 1992). Similarly, redistribution is beneficial for growth when implemented aiming at investing in human capital accumulation *via* public education, increasing the economy's human capital stock and having a growth-promoting effect by balancing income levels across dynasties, i.e. decreasing inequality (Saint Paul and Verdier, 1996; Acemoglu, 2009). Also, in support of our view that redistribution associated with investment in human capital accumulation enhances growth, we may refer studies that link economic growth to policy change and technological advance (where human capital is, in effect, the main ingredient), or studies providing empirical evidence on the historical relationship between economic growth, the institutional factor, and educational reforms (Acemoglu and Robinson, 2006; Aghion *et al.*, 2007; Nelson, 2008).

Moreover, defining the link between efficient redistribution and economic growth as a specific structural relationship turns clearer the inherent causality processes (Perotti, 1996). In particular, efficient redistribution aimed at increasing investments in human capital accumulation may have a positive impact on aggregate economic performance in the result of an induced increasing equality effect (Perotti, 1996; Saint Paul and Verdier, 1996; Acemoglu, 2009). This allows us to draw further inference on the fact that efficient redistribution associated with human capital accumulation entails positive effects on inequality, which further strengthens its positive economic impact.[12]

Finally, some of the above referred studies implicitly sustain the idea that, for a positive effect on growth, efficient forms of redistribution should be conditioned on economic actions and not on political characteristics. Independently of the political characteristics of the tax payers, different economic structures induce different effects of redistribution on growth and, in structures where there is government financing of public education, the effect is positive (Perotti, 1992; Dixit and Londregan, 1995; Acemoglu and Robinson, 2001). Thus, efficient redistribution aimed at increasing

[12] Although we do not pursue this idea here, it may be useful for future, more detailed, directed research on the subject.

human capital accumulation may, in fact, help correcting some of the failures of inefficient redistribution, previously discussed.

In sum, when redistribution targets the raise of the possibilities of investing in education, increasing human capital and thus promoting growth, redistributive transfers seem to affect growth positively rather than negatively. An essential condition for that result is for political considerations not to outweigh economic concerns, in which case income redistribution will be efficient in the sense that no production or occupational decisions will be distorted if political power is not contested. In the context of our research, this conclusion offers additional motivation to our interest in the role of political rivalry and the quality of political institutions. In the next section we will develop a critical analysis concerning the idiosyncratic relations between institutions, in the political sense, and redistribution. This will conduct us to our ultimate research goal focused on the role and quality of institutions in stimulating human capital accumulation.

3. Political Institutions and Redistribution

From our earlier discussion on the relationship between redistribution and economic growth, based on numerous research findings, we conclude that efficient redistribution does not depress aggregate productivity, increases investment in human capital accumulation and stimulates growth. In this section, our case is to present evidence that the specific relationship between income redistribution and economic growth is endogenously determined by the political processes involved. As we will see, efficient political decisions that secure positive redistribution effects on growth, while avoiding policy failure, prove to be a difficult task in reality.

3.1 Redistribution and political rivalry

We present our analysis of the relationship between efficient redistribution and institutions from the perspective of intrinsic political incentives and social conflict of interests. We should note that, although we do not focus on specific political regimes, the inherent features of our research imply that the assumption of a pro-democratic regime (in which each voter with individual preferences can contribute to the formation of aggregate public policy) seems more appropriate.[13] We believe that the democratic characteristic of struggling to maintain or expand group size in order to guarantee future political power is fully appropriate for defining the role of political institutions in establishing economic policy in general, and the efficiency of redistribution policies in particular (Dixit and Londregan, 1995; Dixit *et al.*, 2000; Acemoglu and Robinson, 2001).[14] We also note that among the vast conceptual variety regarding the widely used term "*institutions*",[15] our main research goal dictates the particular focus on "*property-rights institutions*", which we do not treat in the innovation approach manner, but rather in the political sense. More specifically, following Acemoglu and Johnson (2005) we assume them to determine the vertical links between various social groups, i.e. determine the interactions between groups with different degrees of political power. This particular interpretation has a key importance for our subsequent analysis, and we will later relate it to Rodrik's (2007) discussion on institutions for high-quality growth. Otherwise, in our discussion on political institutions and redistribution we will generally abstract from terminological and ideological issues.

Our focus, thus, is on the view that political institutions are expected to implement efficient redistribution policies that directly contribute to promoting economic growth, and on the analysis of how specific political processes inherent to any regime may distort the efficiency of these interactions. This ideology-neutral approach is additionally motivated by numerous studies suggesting that there are positive efficient mechanisms inherent to any regimes or institutional forms that should be cleverly employed (Przeworski and Robinson, 1993; Scruggs, 2001; Rodrik, 2007; Acemoglu, 2009). Indeed, in the view of the broad class of economic and political institutions, the difference between their various types is not always clear, and thus it is often their combination and not the exclusivity of one or the other that is important (Acemoglu, 2009). Considering the argument that dictatorships are better at mobilizing savings and

[13] Note for example that, following Londregan and Poole (1992), in the case of an authoritarian regime a crucial but sufficient condition for non-distortionary policy would be to have a benevolent ruler, i.e. a ruler concerned with the well-being of the whole society and not just the political elite. Also, the pro-democratic assumption is strongly supported by the MVT largely applied for formalizing analysis of the relationship between political institutions and redistribution. In particular, it brings evidence regarding the key importance of political parties' size and voting options, naturally suggesting democratic societies, in which distributional conflicts are likely to be resolved in a manner that reflects the majority's preferences.

[14] Some of the studies adopting research frameworks of explicit political regimes for relating political institutions and economic outcomes include: Przeworski and Robinson (1993), Alesina and Perotti (1994), and Aghion *et al.* (2007), among many others.

[15] For examples of specific institutional definitions see Alesina and Perotti (1994), Acemoglu and Johnson (2005), Rodrik (2007) and Nelson (2008).

democracies are better at allocating investment, only a combination of a decentralised market mechanisms and strong institutions allows achieving the economic benefits of social stability, investment, and competitiveness (Przeworski and Robinson, 1993; Scruggs, 2001; Rodrik, 2007). By these accounts, economic policy seems to result from considerations crucial for *any* political arrangements and the discussion may be therefore mostly resumed to the problem of policy efficiency as implemented by the prevailing political institutions. As we will show by further arguments from related research, we find these considerations to represent a combination of preference heterogeneity, political power motivations and specific mechanisms of solving the conflicts of interests in the society.

In studying how political institutions may be detrimental to growth, many researchers present arguments invoking property rights, pressures for immediate consumption reducing investments and consequently growth, and the autonomy of political institutions as a crucial factor determining the interest to maximize aggregate output (Przeworski and Robinson, 1993; Acemoglu and Johnson, 2005; Acemoglu and Robinson, 2006; Nelson, 2008; Acemoglu, 2009). Other researchers invoke reasons related to political instability generated by political competition resulting from *ex-ante* or *ex-post* heterogeneity in voters' preferences, the strong impact of which creates a persisting tendency for strategic voting and proves to affect economic outcomes. While political institutions may lead to better economic performance when the more productive group holds the power in the society, political instability induced by strong political competition, on the contrary, is incompatible with an efficient execution of the government's functions as regards economic performance (Persson and Tabellini, 1992: Alesina and Rodrik, 1992; Alesina and Perotti, 1994; Drazen, 2000; Scruggs, 2001; Acemoglu, 2009). Thus, most related studies imply that political power and political competition play a central role in the matter. As both empirical and historical findings suggest, shifts between *de jure* and *de facto* political power seem to occur by the decision of the elite, and the net effect of redistributive policies appears to depend on the perception by the ruling power of the costs of distortionary taxation weighed against the benefits of reduced social tensions (Przeworski and Robinson, 1993; Alesina and Perotti, 1994; Acemoglu and Robinson; 2006). In fact, because equilibrium redistribution policy depends on conflicting interests (aggregated through political incentives and political institutions into public policy) over the distribution of income, in the context of political competition higher taxes will be more appealing, consequently having a direct depressing impact on economic growth (Persson and Tabellini, 1992; Acemoglu, 2009). Thus, being intimately linked with conflicts of interest in the society, political competition will necessarily distort the outcomes of economic policies pursued by the institutions in power, being impossible to isolate the resulting resources distribution from the aggregate economic performance. And given that, as the above referred studies indicate, any political regime is primarily concerned with protecting the interests of the groups that have political power, the resulting allocations are inefficient and often involve different types of distortions when political and economic powers are decoupled.[16] The severity of these distortions (compared to those generated by alternative political powers) or whether a particular set of political institutions may lead to non-distortionary, i.e. efficient, redistribution policies, depends on the details of how it functions, on the technology and factor endowments of the society, and on which groups benefit from these institutions (Dixit and Londregan, 1995; Acemoglu and Robinson, 2001; Aghion *et al.*, 2007; Nelson, 2008; Acemoglu, 2009).

Given the broad range of possible factors that fall under this category of institutional details, we consider it reasonable to aggregately reflect them in the *quality* of institutions, and consequently the quality of implemented policies that determine the nature of economic outcomes resulting from the link between political institutions and redistribution. And in the view of the above discussion, we conclude that the quality of political institutions explaining economic policy success or failure depends, in its turn, on how prevailing institutions manage political competition, which disturbs the balance between political and economic power. Therefore, we identify political competition, or *political rivalry* between the elite and other political groups as a key factor distorting the efficiency of economic allocations and actions, and leading to distortionary policy in general and distortionary redistribution policy in particular. In this respect our reasoning, as regards political rivalry, outlines a view on the positive political economy concern of how political constraints may explain the choice of policies, and thus economic outcomes. In particular, we believe there is a strong negative impact of political rivalry when goals pursued by the political elite, instead of economic efficiency

[16] For example, Alesina and Rodrik (1992) conclude that individuals who have access to productive assets of an economy are more likely to be restrained in their desire to tax them, suggesting that it is easier to avoid damaging conflict over redistribution policies when the economy's assets are widely shared.

considerations, determine the policy choice.[17] Based on our study of related research, we assume that political rivalry may arise in various forms, be it factor price manipulation or political competition and replacement (following the definition of Acemoglu, 2009), or political incentives in public policy and political instability.[18] We believe that political rivalry specifically reflected in the undue use of power by the political elite for increasing its revenues is particularly relevant for our further discussion, especially in the view of the considered link to income redistribution. Such rivalry, as it may be presumed, will distort the outcomes of efficient redistribution, rendering it inefficient, since in this case the elite will necessarily redistribute based on political and not economic characteristics. We will then consider that the effects of political rivalry may be, in general, associated with breaking the balance between political power and economic opportunities, thus negatively affecting the relationship between political institutions, redistribution and economic outcomes, and in particular with generating episodes of expropriation. Expropriation, which we will discuss in more detail in the next section, is interpreted in our research context as the failure to employ the taxes levied through efficient redistribution for the originally intended objectives, instead using them for political rivalry related or generated purposes.

In sum, to the extent that redistributive policies are chosen depending on both political interests and incentives that policies are meant to induce, it appears to be directly influenced by political interactions between the elite and other social groups. We believe a crucial aspect of these interactions to be represented by political rivalry, which may considerably weaken the quality of political institutions, fundamental for securing efficient redistribution policies. In Section 4 we will discuss how efficient redistribution, specifically associated with human capital accumulation and assumed to improve economic performance, is conditioned by the ability to overcome political constraints within the existing institutional framework.

---

[17] Note that, in this case, it implies the possibility of consequences typical for inefficient redistribution, i.e. political *versus* economic characteristics, excessive taxation, etc.

[18] More specifically, Acemoglu (2009), distinguishes between political rivalry when enrichment by other groups may pose a threat to elite's ability to use and benefit from their political power in the future (and distortionary taxes are then beneficial for the elite as a way of impoverishing their political competitors); and factor price manipulation, which increases the elite's profits indirectly (when the elite may be engaged in production and recognize that taxes on other producers will reduce the demand for factors and lower their competitors' production level).

3.2 Political institutions and efficient redistribution: relation to public goods and government authority

As previously stated, in this work we focus on efficient redistribution policy specifically aimed at stimulating investments in human capital accumulation. Given that, by our assumption, the latter is a crucial determinant of economic growth, it also plays a decisive role in determining aggregate productivity. The same assumption implies that we are considering complex investment measures, often proved to be most efficiently undertaken by the government, i.e. by political institutions in power (Drazen, 2000; Acemoglu, 2009). Moreover, because our focus is on human capital investments in the form of publicly provided education, aggregate productivity and economic growth through human capital accumulation depends on government investments in public goods. As follows, this implies a strong mobilization of public authorities in what concerns the allocations of taxes between groups to publically finance a private good. Moreover, because public policy emerges when political institutions succeed in aggregating conflicting interests of different social groups and because the division between political and economic power has a decisive role for adopted policies, our analysis on efficient redistribution and political institutions, involving public good features, demands accounting for political incentives of public goods provision, possible conflicts of interests, and as a result, the crucial role of political institutions.

In particular, it may be inferred that the provision by the state of the appropriate amount of public goods depends on whether the politically powerful groups have the incentives to invest in their supply. As it may be presumed, this depends primarily on two conditions: political groups' expected future benefits from such investments, and political interactions and conflicting interests in driving such investments.[19] As regards the first condition, recalling our assumption on human capital accumulation being fundamental for inducing a high rate of economic growth, future benefits from investing in the provision of related public goods would be secured and we should expect the government to have a strong incentive for providing them. However, as to the second condition, political rivalry is likely to distort political interactions and aggravate the conflicts of interests between rivalling groups, consequently distorting the effects of efficient redistribution policy and weakening the government's expected role in

[19] As, for example, in Fisman (2001), who considers investment to be distorted not by redistribution but directly by political relations and argues that, when political interests rather than economic fundamentals are the primary determinant of profitability, distorted investment decisions may be taken.

implementing aggregate investment measures. Given these considerations and in what public goods provision is concerned, governments subjected to frequent destabilizing episodes of political rivalry may become particularly detrimental to economic performance. This raises the issue of weak *versus* strong states, in the sense that government authority affects to a great extent not only the decision to invest in public goods, but the efficiency of such investments as well. In particular, excessively weak governments may not be able to implement efficient redistribution policies, while the uncontrolled power of excessively strong governments may result in expropriation, either of them being just as costly to economic performance (Persson and Tabellini, 1992; Alesina and Rodrik, 1992; Alesina and Perotti, 1994; Dixit and Londregan, 1995; Acemoglu and Robinson, 2001; Acemoglu, 2005; Acemoglu, 2009). On the one hand, if the state is weak the elite anticipate that they will be unable to reap the benefits of their investments in the future, and thus are unwilling to invest in public goods. On the other hand, if the state is too strong, control over taxes imposed on the population is absent, and even when investing in human capital accumulation increases overall benefits, efficient redistribution specifically associated with such investments will be neither required by the elite, nor supported by other social groups, since individuals have little means to control how the elite will actually use the collected tax revenues.

In sum, when aggregate economic effects are targeted by efficient redistribution policy strongly related to public goods provision, either conditioning investments on political interests or limiting the rents that accrue to the state (i.e. hindering efficient redistribution) may lead to the failure of the government to perform its functions in providing public goods, and may have significant negative consequences for aggregate economic performance. The next section provides a closing discussion on these issues.

4. Human Capital Accumulation and Control-Rights Institutions: a Political-Economic Equilibrium

In this section, we conclude our analysis on the relationship between efficient redistribution aimed at investments in human capital accumulation and political institutions, by defining a political-economic equilibrium conditioned on public education fully provided by the government and efficient control-rights institutions, which we will determine in the following discussion. Because the argument in this section merges the key points of our comparative critical assessment of directed research presented separately in previous sections, we open our concluding discussion with a bibliographic summary table (Table 1) and a diagram summarizing the key points of our research (Figure 1). In the following table, we sum up the reviewed research works from the perspective of our reading of the literature, structured as to reflect the line of reasoning that supports our research objective.

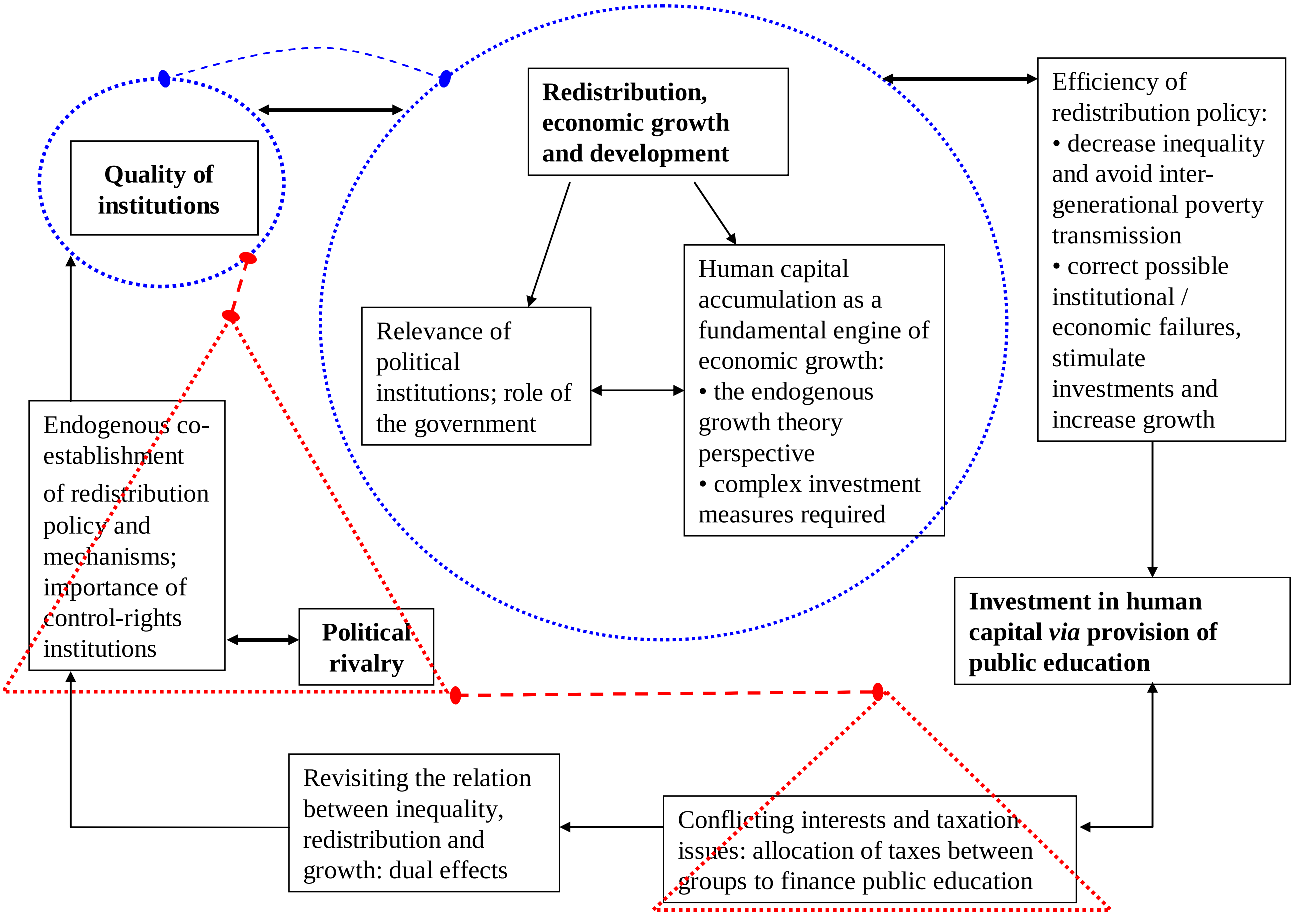
Table 1: Related research categorization based on our research objective

<table>
<tr><td rowspan="2">1. Political institutions: Impact on economic growth</td><td>Positive impact</td><td>Perotti (1992)*, Alesina and Perotti (1994)*, Perotti (1996)*, Saint Paul and Verdier (1996)*, Drazen (2000)*, Acemoglu and Robinson (2006), Aghion et al. (2007)*, Rodrik (2007)*, Acemoglu (2009)</td></tr>
<tr><td>Negative impact</td><td>Alesina and Rodrik (1992), Persson and Tabellini (1992), Przeworski and Robinson (1993), Dixit and Londregan (1995), Drazen (2000), Dixit et al. (2000), Acemoglu and Robinson (2001), Acemoglu and Robinson (2006), Nelson (2008), Acemoglu (2009)</td></tr>
<tr><td rowspan="2">2. Channel of transmission: redistribution policy</td><td>Efficient redistribution</td><td>Perotti (1992), Perotti (1996), Saint Paul and Verdier (1996), Drazen (2000), Acemoglu (2009).</td></tr>
<tr><td>Inefficient redistribution</td><td>Persson and Tabellini (1992), Alesina and Rodrik (1992), Dixit and Londregan (1995), Drazen, (2000), Acemoglu and Robinson (2001), Acemoglu (2009).</td></tr>
<tr><td colspan="2">3. Political versus economic characteristics</td><td>Dixit and Londregan (1995), Drazen (2000), Dixit et al. (2000), Acemoglu and Robinson (2001), Acemoglu and Robinson (2006), Acemoglu (2009)</td></tr>
<tr><td colspan="2">4. Political rivalry</td><td>Londregan and Poole (1992), Alesina and Perotti (1994), Dixit and Londregan (1995), Drazen (2000), Dixit et al. (2000), Acemoglu and Robinson (2001), Acemoglu and Robinson (2006), Acemoglu (2009)</td></tr>
<tr><td colspan="2">5. Human capital accumulation and economic growth</td><td>Lucas (1988), Perotti (1992), Perotti (1996), Saint Paul and Verdier (1996), Fernandez and Rogerson (1999), Drazen (2000), Blankenau and Simpson (2004), Acemoglu and Robinson (2006), Aghion et al. (2007), Acemoglu (2009)</td></tr>
<tr><td colspan="2">6. Quality of institutions (efficient redistribution, human capital accumulation)</td><td>Przeworski and Robinson (1993), Saint Paul and Verdier (1996), Rodrik (1999), Drazen (2000), Acemoglu and Robinson (2006), Aghion et al. (2007)*, Rodrik (2007), Acemoglu (2009)</td></tr>
</table>

* Provided efficient redistribution policy, political stability and efficient growth-oriented policies implementation
Source: Own elaboration.

Also, in Figure 1, we systematize the key points of the above discussion on redistribution and economic growth and on political institutions and redistribution in an effort to decompose the major complexity of the phenomena under analysis.

Figure 1: Quality of institutional factor and redistribution policies: systematization



Source: Own elaboration.

The above discussion on efficient redistribution, aggregate growth determinants and economic role of public goods provided by the government leads us to specifically select full provision of public education to support our conclusions. We particularly overrule partial subsidization of public education because it involves the need to contribute with individual resources, which would most probably prevent the less economically favoured social groups from entering the program, as the total economic costs for them may exceed economic benefits.[20] As this may partially compromise human capital accumulation, an adverse effect on economic growth would be implied and efficient redistribution would become distortionary and similar to the inefficient

[20] Supported by studies suggesting a negative effect of public education expenditure on redistribution and economic growth in a framework in which private and public investments are inputs to human capital accumulation, i.e. partial subsidization of education (Fernandez and Rogerson, 1999; Blankenau and Simpson, 2004).

one. Because this contradicts our initial assumption of a “positive” efficient redistribution effect, namely, increasing investment in human capital accumulation and promoting growth, we focus on public education with unconstrained access.[21] More specifically, provided unlimited access, public education is by its nature a public good with all education costs fully covered by the government and requiring no private resource input. Since use of such public education is not impeded by class distinctions, i.e. rich or poor, or political characteristics, i.e. elite or opposition, we consider that it creates real possibilities for avoiding redistribution inefficiencies by preventing (at least in certain areas) possible conflicts of interests. We sustain that, in the presence of efficient redistribution and human capital accumulation externalities, the growth rate of the economy may actually increase in the tax rate employed for financing human capital accumulation (see Drazen, 2001). Considering this positive expected outcome, efficient redistribution policy specifically associated with investment in human capital accumulation and the provision of related public goods appears to be a desired feature of growth-enhancing institutions. Having reached this stage in our reasoning, let us now outline a conclusion based on the above-presented discussion, as to what can disturb this outwardly straightforward interpretation.

As we have seen, in a political economy context the politically powerful group has no incentives to invest in the public goods when future rents from these goods are expected to be low or no returns are expected at all. Although this is not likely to happen for the particular reason of human capital accumulation assumed to induce a higher rate of economic growth, which also increases returns on investments, it may nevertheless be a consequence of some negative features of the political processes involved. In particular, as we have previously established, in what public goods provision is concerned, governments subjected to frequent destabilizing episodes of political rivalry may become considerably costly to economic performance. This may happen in the case of either a too weak or a too strong state. The former entails that none of the conflicting political groups is sufficiently strong to gain political control through majority support, and the latter implies that one excessively strong party struggles to keep its political (and economic) control through misguiding practices. Therefore, it can be concluded that only states with intermediate levels of strength may

[21] Provided unlimited access, public education is by its nature a public good with all education costs fully covered by the government and requiring no private resource input.

be most capable and most interested to reap the benefits of efficient redistribution by investing in human capital accumulation. We will come back to this conclusion shortly.

Furthermore, to the extent that we have considered political rivalry to distort efficient redistribution so as it may be associated with expropriation, the case of an excessively strong government is of particular interest for our discussion. In the relationship between social groups with different degrees of political power, the issue of property rights protection is directly relevant. When the political elite is virtually unaffected by the authority of property-rights institutions, the available property rights crucial for stimulating and securing investments may not be sufficient *per se*. Because in our political economy context there are no clearly set boundaries between the political elite and property-rights institutions, it is possible that in some cases they are of the same nature, and efficient separation between *ex-ante* arrangements and *ex-post* distortions (so as to regulate the relationship between state and individuals in order to avoid policy failures and expropriation threats) will be difficult. Since, as discussed in the previous section, we build a relation between political rivalry, expropriation and the distortionary use of efficient redistribution policy, a negative institutional impact is produced through the political rivalry mechanism when property-rights institutions are inefficient on accounts of an excessively strong government. Thus, when the political constraints that the society may impose on the ruling power are relatively inefficient, individual economic and investment decisions are directly affected, and to the extent that the factor affected by distortionary redistribution policy is a major input into the growth process, as is the case for human capital, the effect on growth is clearly adverse. We shall come back to discussing the role that political rivalry and political constraints imposed by the society may have in determining the existence of a political-economic equilibrium.

Within this line of reasoning we believe that *control-rights institutions*, rather than property-rights institutions, should play a key role in our research setting. In particular, following Rodrik (2007), we argue that efficient property-rights institutions should secure adequate control rights rather than just ownership rights, because even when individuals have a certain degree of ownership of property rights they do not always have sufficient control over these rights. In our view, apart from preserving the distinctive feature of property-rights institutions, which is determining the vertical relationships between social groups with different degrees of political power, control-rights institutions may actually constrain the elite in their expropriation intents.[22] Thus, the connotation we attribute to control-rights institutions is a *combination* of specific policy mechanisms (which society has at hand to ensure efficiency and non-distortion) with a hierarchical representation of power. In this sense, in our context an efficient redistribution policy by which taxes are particularly used for stimulating human capital accumulation through public education would enable the tax-payers to eventually control how a part of their income given for tax payments is used, since they are in effect the direct beneficiaries of the public education system provided by the government. Therefore, in the decision to accumulate production factors in general and human capital in particular, we attribute a crucial role to control-rights institutions.

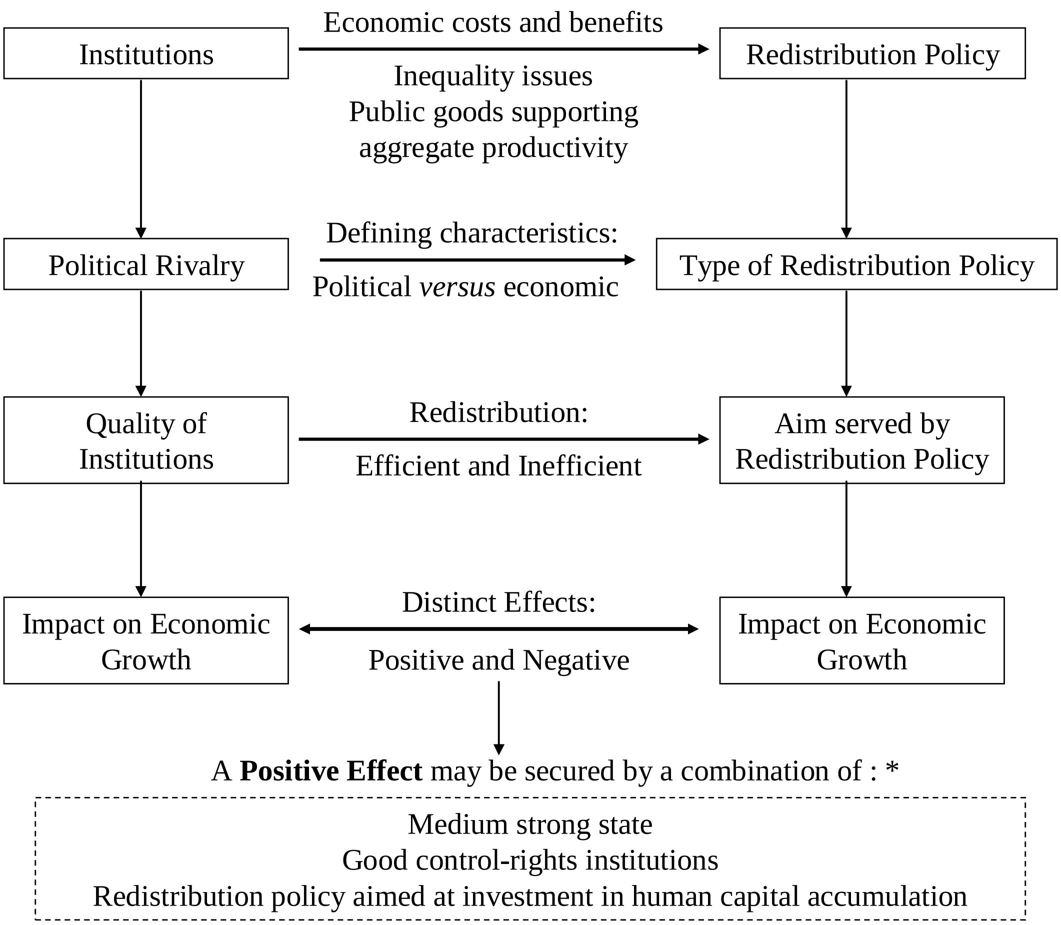
From the above discussion and returning to the government authority issue, it can be concluded that a medium strong state could be most conducive to growth-enhancing efficient redistribution policies. In particular, we argue that it implies well-functioning control-rights institutions, a relatively balanced power distribution between the elite and other groups, and efficient taxation mechanisms with corresponding levels of public goods provision. It also implies that redistribution policy aimed at investments in human capital accumulation is an efficient and a publicly accepted policy, in the sense that its implementation involves none or minimum political and social distortions. In our context, absence of political distortions means that taxation will be fundamentally different from expropriation, since tax-revenues will be directed for public goods provision, from which aggregate benefits may be generated.[23] On its turn, the degree of social distortions is what determines public acceptance or rejection of a particular redistribution policy, and in our case the absence of the former implies the public acceptance of the latter. This arrangement has in fact, strong economic reasons. The mechanism we emphasize in this work is that when taxation revenues are particularly employed for financing human capital accumulation, e.g. through tax-financed public education, increased investment by the direct beneficiaries of redistribution can have a positive effect on those being taxed.[24] Given that the efficiency of political institutions

[22] Recall that in our research context we interpret expropriation as the failure to employ the taxes levied by efficient redistribution for investments in human capital accumulation as originally intended, instead being used for political rivalry related purposes.
[23] As opposed to expropriation, when a share of individuals' income is taken by the government for its own consumption.
[24] For examples see Perotti (1996), Saint-Paul and Verdier (1996), Drazen (2000) and Acemoglu (2009).

has a strong impact on policies that may enhance growth in the presence of positive redistribution externalities (such as investing tax-revenues into human capital accumulation in the form of public education in the presence of an expected positive impact on growth), human capital accumulation itself becomes strongly related to the quality of the institutional factor. This conclusion is also supported by important empirical evidence presented in Acemoglu (2009), inferring that only countries with relatively good institutions have encouraged the majority of the population to accumulate human capital. Therefore, as regards the efficiency of political institutions, we sustain that relatively large investments in human capital accumulation may be a fair sign of higher-quality institutions.

Considering thus the relationship between political institutions, income redistribution and economic growth from the perspective of human capital accumulation (endogenous growth theory) and institutional quality (new political economy), a specific mechanism linking the above-mentioned key components can be outlined. We sustain that there is a continuous twofold interaction linking political institutions and redistribution policy to economic growth, which we define as the “cause-consequence” processes. Separately, each one has its own specific characteristics and their particular combinations induce distinct consequences for each level of interaction specifically and for economic growth generally. It should be noted that the entire process, as well as the final impact on economic growth, is endogenously and gradually determined by each level’s interactive outcomes. Namely, from the political institutions side the “cause-consequence” sequence we build goes through: political institutions – political rivalry – quality of institutions – economic growth. And from the redistribution policy side the sequence is: redistribution policy – type of redistribution – aim served – economic growth. The following figure presents this process in the form of a diagram.

Figure 2: Interaction mechanisms between institutions, redistribution policy and economic growth



* In the particular context of our research.

Source: Own elaboration.

As regards our "cause-consequence" specification, we sustain that the political institutions block is the initiating factor in the sequence, while the redistribution policy block is the reacting one. Initially, political institutions are responsible for developing redistribution policies. Then, political rivalry distortions influence the choice of the various types of redistribution policies with a direct influence on institutional quality and the aim of a chosen redistribution policy type. Here, relevant for the next level of interaction are the predominant characteristics, i.e., political versus economic, jointly determining the efficiency or inefficiency of the implemented redistribution policy and the cumulative, positive or negative, impact on economic growth. We particularly focus on the positive effect, which we consider to result from a combination of medium strong state and good control-rights institutions, generating a balance between political rivalry and people's power, partly secured by redistributive policy aimed at investment in human capital accumulation.

Thus, in the framework of the relationship between efficient redistribution and political institutions that we specifically analyse through the link between human capital accumulation and political rivalry, we arrive at the definition of a political-economic equilibrium. We particularly define it as a combination of a medium strong state, reliable control-rights institutions and efficient redistribution aimed at human capital accumulation such that, on the one hand, individuals have sufficient control-rights to ensure them from expropriation, and, on the other hand, the state is guaranteed to follow on its redistribution policy engagements. In such a political-economic equilibrium, efficient growth-enhancing institutions imply not only that appropriate public good investments will be undertaken to support aggregate productivity, increase human factor accumulation and stimulate growth, but when combined with the above-emphasized importance of control-rights institutions also provide sufficient security of control rights for individuals, thus avoiding expropriation in the form of *ex-post* redistributive distortions. We also emphasize that the existence of this political-economic equilibrium is primarily determined by the key factors of political rivalry and political constraints imposed by the society from the perspective of redistribution policy and human capital accumulation, as discussed above.

In particular, political rivalry may generate imperfections in the functioning of control-rights institutions and introduce expropriation threats, affecting thus the security of investment in human capital accumulation, the efficiency of redistribution policies, and consequently affecting growth. In a dynamic framework, this may occur when pressures from political rivalry introduce previously absent limitations (in some dimension) of the voting rights over redistribution policies. This may result in limited franchise and generate disproportionate weights in the decision process, which will necessarily bias the final policy choice and result in inefficient redistribution (Drazen, 2000).[25] In these circumstances, the well-functioning of control-rights institutions becomes especially important, and the relative degree of constraints on political monopoly power determines the adoption of efficient redistribution policy, thus allowing for a (new) political-economic equilibrium. Relating the efficiency of control-

[25] These limits on voting rights may be imposed based on income or other observable criteria, may depend on the degree of inequality or on factor disproportionate ownership, especially relevant for capital intensive sectors.

rights institutions (from the perspective of political rivalry and expropriation) to the degree of constraints on political monopoly power, we can interpret the implicit economic costs in terms of forgone investments in human capital accumulation and economic growth opportunities. In particular, because political rivalry generates distortions that negatively affect the quality of institutions, the resulting less efficient control-rights institutions will imply that imposing political constraints will present higher social costs, lowering investments and reducing economic growth. This reasoning strongly emphasizes the importance of the quality of political institutions, in the sense that qualitative changes in control-rights institutions will induce level changes in the social costs of political constraints, so that depending on the particular combination of efficient control-rights institutions, the political power of the elite, and the role attributed to efficient redistribution aimed at stimulating investment in human capital accumulation, the above defined political-economic equilibrium may exist. When political rivalry distorts the elite's commitment to the efficient, growth-enhancing redistribution policy, consequently distorting the balance between the key equilibrium components, qualitative changes in control-rights institutions could either help the convergence or induce the divergence from the political-economic equilibrium. We leave the question of whether different equilibrium solutions are possible in such a political economy setting for further, more formalized, research.

5. Concluding remarks

In this paper, based on a comparative critical assessment of an extensive literature covering both political economy and economic growth fields, we have studied how the quality of the institutional factor may influence the efficiency of redistribution policy specifically associated with human capital accumulation. We have seen that efficient redistribution creates positive externalities by enabling investment in human capital accumulation, and is therefore essentially different from inefficient redistribution, which creates negative externalities by lowering factor endowments and decreasing aggregate productivity. Positive redistribution policy effects may be secured when tax-revenues are appropriately allocated to stimulate investment in human capital accumulation in the form of public tax-financed education, increasing productivity and improving aggregate economic performance.

In the decision to accumulate production factors in general and human capital in particular, we have attributed a crucial role to control-rights institutions, which we have defined as a combination of specific policy mechanisms and a hierarchical representation of power. We have also argued that the quality of these institutions is the decisive factor in the final outcome, in the sense that efficient growth-enhancing institutions should not only imply that appropriate public good investments will be undertaken to support aggregate productivity, increase human factor accumulation and stimulate growth, but also provide sufficient security of control rights for individuals, thus avoiding expropriation in the form of *ex-post* redistributive distortions. We have then defined a political-economic equilibrium as a combination of a medium strong state, reliable control-rights institutions and efficient redistribution aimed at human capital accumulation. We also emphasized that its existence is primarily conditioned by political rivalry generating distortions that negatively affect the quality of institutions. We concluded that when political rivalry distorts the elite's commitment to the efficient, growth-enhancing redistribution policy, consequently distorting the balance between the key equilibrium components, qualitative changes in control-rights institutions could either help the convergence or induce the divergence from the defined political-economic equilibrium. We leave the question of whether different equilibrium solutions are possible in such a political economy setting for further, more formalized, research.

We also identify several other possible topics for future work. For example, in alternative to the largely employed Median Voter Theorem, the more recent Probabilistic Voting Theorem could be applied in order to deepen the understanding of mechanisms linking political institutions, inequality and redistribution policies (including publicly provided education) with a direct effect on economic growth. We have also seen that the analysis on the mechanisms of efficient redistribution associated with human capital accumulation goes closely in hand with issues of inequality and its role on economic growth. Therefore, another possible venue of future research could be oriented towards emphasizing the specific effects of inequality in a redistribution aiming at increasing investment in human capital accumulation, which reduces inequality and increases growth. And, as a final point, a challenging task would be to develop an analytical model incorporating the institutional impact mechanisms suggested in this work.

References

Acemoglu, D., 2009. *Introduction to Modern Economic Growth*. Princeton and Oxford: Princeton University Press.

Acemoglu, D., Robinson, J.A., 2006. *Economic Origins of Dictatorship and Democracy*. Cambridge, U.K.: Cambridge University Press.

Acemoglu, D., Johnson, S., 2005. "Unbundling institutions". *Journal of Political Economy*, Vol. 113, No. 5, pp. 949-95.

Acemoglu, D., 2005. "Politics and economics in weak and strong states". *Journal of Monetary Economics*, Vol. 52, pp. 1199-1226.

Acemoglu, D., Robinson, J.A., 2001. "Inefficient redistribution". *The American Political Science Review*, Vol. 95, No. 3, pp. 649-661.

Aghion, P., Howitt, P., 1992. "A model of growth through creative destruction". *Econometrica*, Vol. 60, No. 2, pp. 323-351.

Aghion, P., Alesina, R., Trebbi, F., 2007. "Democracy, technology and growth". *NBER Working Papers*, No. W13180.

Alesina, A., Perotti, R., 1994. "The political economy of growth: a critical survey of the recent literature". *The World Bank Economic Review*, Vol. 8, No. 3, Washington, D.C., World Bank.

Alesina, A., Rodrik, D., 1992. "Distribution, political conflict and economic growth: a simple theory and empirical evidence". In: Cukierman, A., Hercowitz, Z., Leiderman, L. (Eds.), *Political Economy, Growth, and Business Cycles*, MIT Press, Cambridge, MA

Black, D., 1948. "On the rationale of group decision-making". *Journal of Political Economy*, Vol. 56, pp. 23-34.

Blankenau, W., Simpson, N., 2004. "Public education expenditures and growth". *Journal of Development Economics*, Vol. 73, pp. 583-605.

Drazen, A., 2000. *Political Economy in Macroeconomics*. Princeton: Princeton University Press.

Dixit, A., Grossman, G., Gul, F., 2000. "The dynamics of political compromise". *Journal of Political Economy*, Vol. 108, No. 3, pp. 531-568.

Dixit, A., Londregan, J., 1995. "Redistributive politics and economic efficiency". *The American Political Science Review*, Vol. 89, No. 4, pp. 856-866.

Fernandez, R., Rogerson, R., 1999. "Education finance reform and investment in human capital: lessons from California". *Journal of Public Economics*, Vol. 74, pp. 327-350.

Fisman, R., 2001. "Estimating the value of political connections". *The American Economic Review*, Vol. 91, No. 4, pp. 1095-1102.

Lindbeck, A., Weibull, J., 1987. "Balanced-budget redistribution as the outcome of political competition". *Public Choice*, Vol. 52, pp. 273-297.

Londregan, J., Poole, K., 1992. "The seizure of political power and economic growth: some additional evidence". In: Cukierman, A., Hercowitz, Z., Leiderman, L. (Eds.), *Political Economy, Growth, and Business Cycles*, MIT Press, Cambridge, MA.

Lucas, R. E., 1988. "On the mechanics of economic development". *Journal of Monetary Economics*, Vol. 22, pp. 3-42.

Nelson, R., 2008. "What enables rapid economic progress: what are the needed institutions?" *Research Policy*, Vol. 37, No. 1, pp. 1-11.

Perotti, R., 1992. "Income distribution, politics, and growth". *The American Economic Review*, Vol. 82, No.2, Papers and Proceedings of the Hundred and Fourth Annual Meeting of the American Economic Association (May, 1992), pp. 311-316.

Perotti, R., 1996. "Growth, income redistribution, and democracy: what the data say". *Journal of Economic Growth*, Vol.1, pp. 149-187.

Persson, T., Tabellini, G., 1992. "Growth, distribution and politics". *European Economic Review*, Vol. 36, pp. 593–602.

Przeworski, A., Robinson, J., 1993. "Political regimes and economic growth". *Journal of Economic Perspectives*, Vol. 7, pp. 51-69.

Rodrik, D., 1999. "Where did all the growth go? External shocks, social conflict, and growth collapses". *Journal of Economic Growth*, Vol. 4, pp. 385–412.

Rodrik, D., 2007. *One Economics, Many Recipes: Globalization, Institutions and Economic Growth*. Princeton: Princeton University Press.

Romer, P.M., 1990. "Endogenous technological change". *The Journal of Political Economy*, Vol. 98, No. 5, pp. S71-S102.

Saint Paul, G., Verdier, T., 1996. "Inequality, redistribution and growth: a challenge to the conventional political economy approach". *European Economic Review*, Vol. 40, pp. 719-728.

Scruggs, L., 2001. "The politics of growth revisited". *The Journal of Politics*, Vol. 63, No.1, pp. 120-140.

Sylwester, K., 2000. "Income inequality, education expenditures, and growth". *Journal of Development Economics*, Vol. 63, pp. 379-398.

Recent FEP Working Papers

Nº 405	Pedro Campos, Pavel Brazdil and Isabel Mota, "*Comparing Strategies of Collaborative Networks for R&D: an agent-based study*", March 2011
Nº 404	Adelaide Figueiredo, Fernanda Figueiredo, Natália P. Monteiro and Odd Rune Straume, "*Restructuring in privatised firms: a Statis approach*", February 2011
Nº 403	Cláudia M. F. Pereira Lopes, António Cerqueira and Elísio Brandão, "*The financial reporting quality effect on European firm performance*", February 2011
Nº 402	Armando Silva, "*Financial constraints and exports: evidence from Portuguese manufacturing firms*", February 2011
Nº 401	Elena Sochirca, Óscar Afonso and Pedro Mazeda Gil, "*Directed technological change with costly investment and complementarities, and the skill premium*", January 2011
Nº 400	Joana Afonso, Isabel Mota and Sandra Tavares Silva, "*Micro credit and Territory - Portugal as a case study*", January 2011
Nº 399	Gonçalo Faria and João Correia-da-Silva, "*The Price of Risk and Ambiguity in an Intertemporal General Equilibrium Model of Asset Prices*", January 2011
Nº 398	Mário Alexandre Patrício Martins da Silva, "*A Model of Innovation and Learning with Involuntary Spillovers and absorptive capacity*", January 2011
Nº 397	Fernando Governo and Aurora A.C. Teixeira, "*Marketing and technology sophistication as hidden weapons for fostering the demand for 'art house' cinema films: a cross country analysis*", January 2011
Nº 396	Liliana Fernandes, Américo Mendes and Aurora A.C. Teixeira, "*A review essay on child well-being measurement: uncovering the paths for future research*", December 2010
Nº 395	David Nascimento and Aurora A.C. Teixeira, "*Recent trends in the economics of innovation literature through the lens of Industrial and Corporate Change*", December 2010
Nº 394	António Brandão, João Correia-da-Silva and Joana Pinho, "*Spatial competition between shopping centers*", December 2010
Nº 393	Susana Silva, Isabel Soares and Óscar Afonso, "*E3 Models Revisited*", December 2010
Nº 392	Catarina Roseira, Carlos Brito and Stephan C. Henneberg, "*Innovation-based Nets as Collective Actors: A Heterarchization Case Study from the Automotive Industry*", November 2010
Nº 391	Li Shu and Aurora A.C. Teixeira, "*The level of human capital in innovative firms located in China. Is foreign capital relevant*", November 2010
Nº 390	Rui Moura and Rosa Forte, "*The Effects of Foreign Direct Investment on the Host Country Economic Growth - Theory and Empirical Evidence*", November 2010
Nº 389	Pedro Mazeda Gil and Fernanda Figueiredo, "*Firm Size Distribution under Horizontal and Vertical R&D*", October 2010
Nº 388	Wei Heyuan and Aurora A.C. Teixeira, "*Is human capital relevant in attracting innovative FDI to China?*", October 2010
Nº 387	Carlos F. Alves and Cristina Barbot, "*Does market concentration of downstream buyers squeeze upstream suppliers' market power?*", September 2010
Nº 386	Argentino Pessoa "*Competitiveness, Clusters and Policy at the Regional Level: Rhetoric vs. Practice in Designing Policy for Depressed Regions*", September 2010
Nº 385	Aurora A.C. Teixeira and Margarida Catarino, "*The importance of Intermediaries organizations in international R&D cooperation: an empirical multivariate study across Europe*", July 2010
Nº 384	Mafalda Soeiro and Aurora A.C. Teixeira, "*Determinants of higher education students' willingness to pay for violent crime reduction: a contingent valuation study*", July 2010
Nº 383	Armando Silva, "*The role of subsidies for exports: Evidence for Portuguese manufacturing firms*", July 2010
Nº 382	Óscar Afonso, Pedro Neves and Maria Thompsom, "*Costly Investment, Complementarities, International Technological-Knowledge Diffusion and the Skill Premium*", July 2010
Nº 381	Pedro Cunha Neves and Sandra Tavares Silva, "*Inequality and Growth: Uncovering the main conclusions from the empirics*", July 2010

Nº 380	Isabel Soares and Paula Sarmento, "*Does Unbundling Really Matter? The Telecommunications and Electricity Cases*", July 2010
Nº 379	António Brandão and Joana Pinho, "*Asymmetric information and exchange of information about product differentiation*", June 2010
Nº 378	Mónica Meireles, Isabel Soares and Óscar Afonso, "*Economic Growth, Ecological Technology and Public Intervention*", June 2010
Nº 377	Nuno Torres, Óscar Afonso and Isabel Soares, "*The connection between oil and economic growth revisited*", May 2010
Nº 376	Ricardo Correia and Carlos Brito, "*O Marketing e o Desenvolvimento Turístico: O Caso de Montalegre*", May 2010
Nº 375	Maria D.M. Oliveira and Aurora A.C. Teixeira, "*The determinants of technology transfer efficiency and the role of innovation policies: a survey*", May 2010
Nº 374	João Correia-da-Silva and Carlos Hervés-Beloso, "*Two-period economies with private state verification*", May 2010
Nº 373	Armando Silva, Óscar Afonso and Ana Paula Africano, "*Do Portuguese manufacturing firms learn by exporting?*", April 2010
Nº 372	Ana Maria Bandeira and Óscar Afonso, "*Value of intangibles arising from R&D activities*", April 2010
Nº 371	Armando Silva, Óscar Afonso and Ana Paula Africano, "*Do Portuguese manufacturing firms self select to exports?*", April 2010
Nº 370	Óscar Afonso, Sara Monteiro and Maria Thompson, "*A Growth Model for the Quadruple Helix Innovation Theory*", April 2010
Nº 369	Armando Silva, Óscar Afonso and Ana Paula Africano, "*Economic performance and international trade engagement: the case of Portuguese manufacturing firms*", April 2010
Nº 368	Andrés Carvajal and João Correia-da-Silva, "*Agreeing to Disagree with Multiple Priors*", April 2010
Nº 367	Pedro Gonzaga, "*Simulador de Mercados de Oligopólio*", March 2010
Nº 366	Aurora A.C. Teixeira and Luís Pinheiro, "*The process of emergency, evolution, and sustainability of University-Firm relations in a context of open innovation* ", March 2010
Nº 365	Miguel Fonseca, António Mendonça and José Passos, "*Home Country Trade Effects of Outward FDI: an analysis of the Portuguese case, 1996-2007*", March 2010
Nº 364	Armando Silva, Ana Paula Africano and Óscar Afonso, "*Learning-by-exporting: what we know and what we would like to know*", March 2010
Nº 363	Pedro Cosme da Costa Vieira, "*O problema do crescente endividamento de Portugal à luz da New Macroeconomics*", February 2010
Nº 362	Argentino Pessoa, "*Reviewing PPP Performance in Developing Economies*", February 2010
Nº 361	Ana Paula Africano, Aurora A.C. Teixeira and André Caiado, "*The usefulness of State trade missions for the internationalization of firms: an econometric analysis*", February 2010
Nº 360	Beatriz Casais and João F. Proença, "*Inhibitions and implications associated with celebrity participation in social marketing programs focusing on HIV prevention: an exploratory research*", February 2010
Nº 359	Ana Maria Bandeira, "*Valorização de activos intangíveis resultantes de actividades de I&D*", February 2010
Nº 358	Maria Antónia Rodrigues and João F. Proença, "*SST and the Consumer Behaviour in Portuguese Financial Services*", January 2010

Editor: Sandra Silva (sandras@fep.up.pt)
Download available at:
http://www.fep.up.pt/investigacao/workingpapers/
also in http://ideas.repec.org/PaperSeries.html

www.fep.up.pt

Faculdade de Economia da Universidade do Porto
Rua Dr. Roberto Frias, 4200-464 Porto | Tel. 225 571 100
Tel. 225571100 | www.fep.up.pt